

# DIAScreen Software User Manual



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# **Related Documents**

Document Name	Document ID
DIAInstaller User Manual	DIAS-Manual-0005-EN
DIADesigner User Manual	DIAS-Manual-0003-EN
DOPSoft User Manual	DELTA_IAHMI_DOPSOFT_UM
DIADesigner-AX	DIAS-Manual-0014-EN

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# **Table of Contents**

Chapter 1: Overview	1
1.1 DIAStudio Integrated Engineering Software	2
1.1.1 Key Software	2
1.2 DIAScreen Overview	3
1.3 Operating Environment	3
1.4 List of Supported Models	4
Chapter 2: Installation and General Operation	5
2.1 Install, Uninstall and Update DIAScreen	6
2.2 Startup DIAScreen	6
2.2.1 Window Title	11
2.2.2 Menu Bar	11
2.2.3 Toolbar	17
2.2.4 Screen Editing Area	25
2.2.5 Screen Management Window	29
2.2.6 Properties	
2.2.7 Status Bar	31
2.2.8 Output	31
Chapter 3: Basic Editing Functions	
3.1 Menu Bar - File	33
3.1.1 New	33
3.1.2 Open	35
3.1.3 Save	37
3.1.4 Save As	40
3.1.5 Print	41
3.1.6 User Menu Setting	44
3.1.7 Export Element Properties(O)	47
3.1.8 Close	50

	3.1.9 Previously Opened Projects	. 50
	3.1.10 Exit	. 50
3	.2 Menu Bar - Edit	. 50
	3.2.1 New Screen	. 51
	3.2.2 Save Screen Bitmap	. 52
	3.2.3 Undo	. 53
	3.2.4 Redo	. 53
	3.2.5 Delete	. 54
	3.2.6 Cut	. 54
	3.2.7 Сору	. 54
	3.2.8 Paste	. 54
	3.2.9 Duplicate	. 54
	3.2.10 Copy Screen	. 56
	3.2.11 Paste Screen	. 56
	3.2.12 Bring to Front	. 56
	3.2.13 Send to Back	. 56
	3.2.14 Bring Forward	. 57
	3.2.15 Send Backward	. 57
	3.2.16 Select All	. 57
	3.2.17 Paste multiple Element Graphics	. 57
3	.3 Menu Bar - View	. 63
	3.3.1 Toolbar	. 63
	3.3.2 Display Address Information	. 64
	3.3.3 Properties	. 64
	3.3.4 Screen Manager	. 64
	3.3.5 Output Window	. 65
	3.3.6 Grid Setting	. 65
3	.4 Menu Bar - Compile	. 66
	3.4.1 Compile All	. 66

3.5 Menu Bar - Element(O)	67
3.5.1 Geometric Graphic	68
3.5.2 Static Text	77
3.5.3 Numeric/ASCII Display	
3.5.4 Lamp (16x16)	
3.5.5 Bitmap	103
3.5.6 Scale	117
3.5.7 Bar(P)	121
3.5.8 Meter	129
3.5.9 Message Display	141
3.5.10 Button	
3.5.11 RTC(L)	
3.5.12 Multistate Indicator	215
3.5.13 Measurement	
3.5.14 Numeric Input	
3.5.15 Curve	242
3.5.16 X-Y Curve	245
3.5.17 Alarm	249
3.5.18 Slider	
3.5.19 Input List	271
3.5.20 ComboBox	
3.5.21 Delta Products Communication Device Setting	
3.6 Menu Bar - Screen Setting	
3.6.1 Change Screens Condition	
3.6.2 Function Key Setting	
3.6.3 Alarm Buzzer Setting	
3.6.4 Alarm LED Setting	
3.6.5 Write Screen ID Setting	
3.6.6 Hide Screen Setting	303

3	3.6.7 Screen Macro Setting	304
3	3.6.8 Screen Color Setting	310
3.7	' Menu Bar - Global Setting	311
3	3.7.1 User-Defined Direction Keys	312
3	3.7.2 User-Level Password Setting	313
3	3.7.3 System Parameter Setting	317
3	3.7.4 System Change Screens Setting	323
3	3.7.5 System Function Key Setting	324
3	3.7.6 System Alarm Buzzer Setting	326
3	3.7.7 System Alarm LED Setting	329
3	3.7.8 System RTC Setting	330
3	3.7.9 System Power ON Setting	332
3	3.7.10 Global Macro Setting	334
3	3.7.11 Recipe Setting	335
3	3.7.12 Default Screen Color Setting	338
3.8	3 Menu Bar - Communication	339
3	3.8.1 Upload from TP	339
3	3.8.2 Download to TP	339
3	3.8.3 Reset to Factory Setting	340
3	3.8.4 Download Boot Screen	340
3	3.8.5 Download Menu to TP	341
3.9	Menu Bar - Tools	341
3	3.9.1 Basic Setting	342
3	3.9.2 Change TP Type	350
3	3.9.3 AutoSave	352
3	3.9.4 Update System USB Driver	353
3	3.9.5 Language Setting	355
3.1	l0 Menu Bar - Window	360
3	3.10.1 Close Current Window(O)	360

3.10.2 Close All Windows	
3.10.3 Next Window	
3.10.4 Previous Window	
3.10.5 Reset Window Layout	
3.11 Menu Bar - Help	
3.11.1 Help > About	
3.11.2 Help > Software Manual	
3.12 Menu-Options	
3.12.1 Configuration	
3.12.2 Data Exchange Table	
Chapter 4: Tag Sharing	
4.1 Tag Sharing with DIAStudio Programming	
4.1.1 DIA Tag Supports One-to-Many	
4.1.2 DIA Tag Automatic Synchronization	
4.2 OPC UA Client Communication Function	
4.2.1 Support HMI TAG Smart Input Function	
4.3 Data Code Table	
Appendix	
Appendix A: Functions Supported by Models	
A.1 Elements and Supported Models	
A.2 Button Types and Supported Models	
A.3 Screen Setting Menu Items and Supported Models	
A.4 Global Setting Menu Items and Supported Models	
Appendix B: USB Driver	
B.1 Installing USB Driver	

# **Chapter 1: Overview**

### 1.1 DIAStudio Integrated Engineering Software

The DIAStudio is an all-in-one integrated engineering platform, on which users can efficiently develop machinery systems, from product selection, programming, to exporting.

It simplifies the process, and helps to save time and cost for building machinery systems.



Figure 1 - 1: DIAStudio Features

#### 1.1.1 Key Software

The DIAStudio comprises of 6 key software:

- **DIASelector**: quick, easy, smart selection tool.
- **DIADesigner**: Integrated development & engineering software.
- **DIAScreen**: Intuitive visualization software.
- **DIAInstaller:** System installation & update management.
- **COMMGR:** Communication management.
- **DIADesigner-AX**: Motion development and engineering software.

The DIAStudio supports efficient and flexible data transmission between software. It also facilitates for tag sharing between software.

### **1.2 DIAScreen Overview**

The DIAScreen application is a part of DIAStudio software suite. DIAScreen allows user to configure Delta DOP series, TP series and AX-Series HMIs.

The features including:

- Tag sharing with DIADesigner & DIADesigner-AX
- User-friendly editing interface, versatile 3D image library
- Smooth display for meters and other elements
- Faster software download speed
- Improved the output results clearly
- Multi-lingual support with Traditional Chinese, Simplified Chinese and English
- Supports Recipe and Macros
- Ability to set passwords and levels

# **1.3 Operating Environment**

The following table provides the specifications for the DIAScreen operating environment:

Item	System Requirement
Operating System	Windows 7 / 8.1 / 10 Server 2012 R2 32/64 bits
CPU	Intel Celeron 540 1.8GHz (min.) , Intel Core i5 M520 2.4 GHz (min.)
Memory	2GB or above (recommend to use 4GB or above)
Hard Disk Drive	10GB or above
Monitor	Resolution: 1024 x 768 Pixels, 1920 x 1080 Pixels
Keyboard/Mouse	General Keyboard Mouse or Windows compatible device
Printer	Printer with Windows driver (optional for printing of project content)

ltem	System Requirement		
USB	Used in Connection with the device	According to the communication interface	
Ethernet	Used in Connection with the device	provided by the device	
Software	Need to install Microsoft.Net Framework 4.6.2		

# **1.4 List of Supported Models**

DIAScreen supports the following HMI:

Series	Description
AX series	AX-8 series controller soft-HMI
DOP-100 series	Touch-sensitive high-color HMI interface
DOP-H Series (Handheld)	Handheld high-color HMI interface
DXMC series	Motion controller with integrated HMI interface
IMP series	Motion control development platform integrating HMI interface
TP All series	Text-based HMI interface

#### NOTE:

1. DIAScreen supports AX-8 series soft-HMI planning function, please refer to AX-8 series operation manual and DOPSoft operation manual.

2. DIAScreen supports DOP-100 series and DOP-H series HMI planning function, please refer to HMI product operation manual and DOPSoft operation manual.

3. DIAScreen supports DXMC series HMI planning function, please refer to DXMC-P product operation manual and DOPSoft operation manual.

The following chapters will take the TP series as an example to introduce the DIAScreen function.

Chapter 2: Installation and General Operation

### 2.1 Install, Uninstall and Update DIAScreen

Ensure that the host computer follows the minimum criteria mentioned in <u>1.3</u> <u>Operating Environment</u> and DIAInstaller is operating normally on it.

DIAInstaller is a resident program that manages various software of DIAStudio. Users can download, install and update the DIAStudio software in DIAInstaller, and all processes are executed in the background without affecting other operations of the user.

DIAStudio software download and installation tools: https://diastudio.deltaww.com/

Refer to the software download and installation manual to complete the software installation.

		Product Name	Ver	Size	Download/Update	Progress	Install/Uninstall	Install Path Setting
9	i	DIADesigner	0.0	785.7 MB	↓ Download		🛃 Install	🛞 Setting
re List	i	DIASelector	0.0	609.1 MB	<u>↓</u> Download		Lange Install	Setting
్ సిని 0	i	DIAScreen	0.0	2.0 GB	Installed		🔔 Uninstall	Setting
	i	COMMGR	0.0	261.8 MB	🚽 Download		🛃 Install	Setting

Figure 2 - 1: DIAInstaller

# 2.2 Startup DIAScreen

Launch **DIAScreen** by double-clicking on the desktop shortcut icon as shown in the following figure.



#### Figure 2 - 2: DIAScreen shortcut

DIAScreen application opens, as shown in the following figure.



Figure 2 - 3: DIAScreen on launch

Follow these steps to create a new TP series project:

1. Click File > New in the Menu bar, Ctrl+N in keyboard or

Click the D icon from the Standard toolbar

**Result**: The **Project Wizard** window displays as shown in the following figure.

is and the second s	HMI List			
series	Model Type	Resolution	Color	
series P-100 series	AX8_Linux_Series	1024 * 768	65536 Colors	
P-Handheld series IIC series series series	AX8_Windows_Series	1024 * 768	65536 Colors	
	Project Setup			
	Project Name:	NewHMI		
1.000	Screen Name:	Screen_1		
	Screen No.	1		
	Screen ING.			
	Printer:	A NULL		~
	System menu language:	English		~
	HMI Rotation:	0	✓ degree	

Figure 2 - 4: Project Wizard

The following table describes the three main sections of the **Project Wizard** window:

HMI Series	Description
Series	Select AX/DOP-100/DOP-H(Handheld)/DXMC/IMP/TP series
HMI List	Select TP model type
Project Setup	Enter a project name and select the target device

2. When selecting a **TP series** model type, the **Project Wizard** window displays the options as shown in the following figure.

	HMI List				
~	Model Type	Resolution	Color		^
	TP04G	128 * 64	Mono		
	TP02G	160 * 32	Mono		
	TP04G-AL-C	192 * 128	Mono		
	TP04G-AL2	192 * 128	Mono		
	TP04G-BL-C	192 * 128	Mono		
	TP04G-BL-CU	192 * 128	Mono		
	TP04P	192 * 128	Mono		
	TP05G	160 * 160	Mono		
	TP08G	240 * 256	Mono		
	VFD-C KeyPad	128 * 64	Mono		
	TP70P With IO	800 * 480	65536 Colors		
	TP70P-RM0	800 * 480	65536 Colors		
	TP70P-RM1	800 * 480	65536 Colors		~
	Project Name:	NewHMI			]
Autoritation and a second seco	PLC or Inverter Controller	DELTA IA Pr	oduct	~	
		Model Type TP04G TP02G TP04G-AL-C TP04G-AL-2 TP04G-BL-CU TP04G-BL-CU TP04G-BL-CU TP05G TP05G VFD-C KeyPad TP70P-RM0 TP70P-RM0 TP70P-RM1 Project Setup Project Name: PLC or Inverter Controller	Model Type Resolution   TP04G 128 * 64   TP02G 160 * 32   TP04G-AL-C 192 * 128   TP04G-AL-C 192 * 128   TP04G-BL-C 192 * 128   TP04G-BL-CU 192 * 128   TP05G 160 * 160   TP07P-RM0 800 * 480   TP70P-RM1 800 * 480   TP70P-RM1 800 * 480   Project Setup Project Name:   PLC or Inverter Controller DELTATAP	Model Type Resolution Color   TP04G 128 * 64 Mono   TP02G 160 * 32 Mono   TP04G-AL-C 192 * 128 Mono   TP04G-AL-2 192 * 128 Mono   TP04G-BL-C 192 * 128 Mono   TP04G-BL-C 192 * 128 Mono   TP04G-BL-CU 192 * 128 Mono   TP05G 160 * 160 Mono   TP08G 240 * 256 Mono   VFD-C KeyPad 128 * 64 Mono   TP70P-RM0 800 * 480 65536 Colors   TP70P-RN1 800 * 480 65536 Colors   Project Setup Project Name: PLC or Inverter Controller   PLC or Inverter Controller DELTA IA Product	Model Type Resolution Color   TP04G 128 * 64 Mono   TP02G 160 * 32 Mono   TP04G-AL-C 192 * 128 Mono   TP04G-AL-C 192 * 128 Mono   TP04G-BL-C 192 * 128 Mono   TP04G-BL-CU 192 * 128 Mono   TP04G-BL-CU 192 * 128 Mono   TP05G 160 * 160 Mono   TP08G 240 * 256 Mono   VFD-C KeyPad 128 * 64 Mono   TP70P-RM0 800 * 480 65536 Colors   TP70P-RM1 80n * 480 65536 Colors   TP70P-RM1 80n * 480 65536 Colors   Project Setup Project Name: NewHIMI   PLC or Inverter Controller DELTA IA Product ✓

Figure 2 - 5: Project Wizard - TP Series

- 3. Select the TP series model to be planned in the HMI list.
- 4. Enter Project Name and select PLC or Inverter Controller to connect.
- 5. Click on Finish button.

**Result**: A new project is created as shown in the following figure.

R DIAScreen - NewProject - [Screen_0]			- 1	0 X
	)) Screen Setting C2 Setting Communication Tools Window Help			
2000000000000				
Output a ×		Properties		a ×
Message 🔀 Error 💭 Warning 🛛 🛪		Screen_0	2	v 0 🗘
Message		Screen Name Si	Screen_0	
	4			
	· · · · · · · · · · · · · · · · · · ·			
			5	
8		6		
	۲ ۲			
	Screen Management Window 🛛 🕱 🛪			
	eeleen management mineeri 🦷 👻			
	G			
	Boot Screen Screen_0 [] [0]			
		L		
원왕  영왕[[월]  王王부송	Device Type: DELTA IA Product [280, 7] TP Type: TPD4G			_
	Device Type, DELTA OF HOUSE			

Figure 2 - 6: DIAScreen - New Project

The following table describes the default user interface elements.

Legend	Area Name
1	Window title
2	Menu bar
3	Tool bar
4	Screen Editing Area
5	Screen Management window
6	Object Inspection Area
7	Status bar
8	Output

#### 2.2.1 Window Title

The **Window Title** displays the application's icon and name and the buttons to minimize, maximize and close the application as shown in the following figure.

R DIAScreen – D X



#### 2.2.2 Menu Bar

The Menu bar contains eleven different menus. The menu items vary depending on what user is doing in the application. The items that appear gray are not available. Different TP model types support different menu items.

The brief introduction of the Menu bar is given here. Refer <u>Chapter 3: Basic Editing</u> <u>Functions</u> for more information. Menu bar is shown in the following figure.

File Edit View Compile Element(O) Screen Settings Global Settings Communication Tools Window Help

Figure 2 - 8: DIAScreen TP Menu Bar

#### 2.2.2.1 File:

Use the **File** menu to access a file. Refer <u>3.1 Menu Bar - File</u> for more information. File menu is shown in the following figure. File menu is shown in the following figure.

File	Edit View Compile	Element(
	New	Ctrl+N
-	Open	Crtl+0
Ш	Save	Ctrl+S
	Save As	
	Print	÷
	User Menu Setting	۱.
	Export Element Properies	(0)
	Close	
	Exit	

Figure 2 - 9: DIAScreen TP File menu

#### 2.2.2.2 Edit:

The Edit menu provides the functions to edit a project. Refer <u>3.2 Menu Bar - Edit</u> for more information. Edit menu is shown in the following figure.



Figure 2 - 10: DIAScreen TP Edit menu

#### 2.2.2.3 View:

The **View** menu helps to view screens and configure the appearance of a work environment. View menu is shown in the following figure.

View	N	Compile	Element(O)	Screen S
	Т	oolbar		
	D	isplay Addr	ess Informatio	n
$\checkmark$	P	roperties		
Screen Manager				
	Output Window			
	Grid Setting			

Figure 2 - 11: DIAScreen TP View menu

#### 2.2.2.4 Compile:

The **Compile** menu compiles the settings on the screen and a text panel. Refer <u>3.4</u> <u>Menu Bar - Compile</u> for more information. Compile menu is shown in the following figure.

Compile	Element(O)	Screen Settir
🔛 Com	pile All	Ctrl+F7

#### Figure 2 - 12: DIAScreen TP Compile menu

#### 2.2.2.5 Element(O):

The **Element(O)** menu provides the objects to use and edit in a text panel. Different models support different elements. Refer <u>3.5 Menu Bar - Element(O)</u> for more information. Element menu is shown in the following figure.



Figure 2 - 13: DIAScreen TP Element(O) menu

**NOTE**: The **Element** menu items vary depending on the type of TP series text panel user select.

#### 2.2.2.6 Screen Setting:

The **Screen Setting** menu provides the functions to set particular screens in a text panel. Different models support different items. Refer <u>3.6 Menu Bar - Screen Setting</u> for more information. Screen Setting menu is shown in the following figure.



Figure 2 - 14: DIAScreen TP Screen Setting menu

**NOTE**: The Screen Setting menu items vary depending on the type of TP series text panel the user has selected.

#### 2.2.2.7 Global Setting:

The **Global Setting** menu provides the functions to configure the text panel. It is applicable to all the screens in a text panel. However, in the text panel, if the setting for a particular screen conflicts with the settings for all the screens, the settings for the particular screen has priority. Different models support different items. Refer <u>3.7</u> <u>Menu Bar - Global Setting</u> for more information. Global Setting menu is shown in the following figure.



Figure 2 - 15: DIAScreen TP Global Setting menu

**NOTE**: The **Global Setting** menu items vary depending on the type of TP series text panel user select.

#### 2.2.2.8 Communication:

The **Communication** menu provides the functions to download data from the computer to a text panel and upload data from the text panel to the computer. Refer <u>3.8 Menu Bar - Communication</u> for more information. Communication menu is shown in the following figure.



Figure 2 - 16: DIAScreen TP series Communication menu

#### 2.2.2.9 Tools:

Use the **Tools** menu to set up the communications between the computer and a text panel as well as configure the environment in DIAScreen. Different models support different items. Refer <u>3.9 Menu Bar - Tools</u> for more information. Tools menu is shown in the following figure.



Figure 2 - 17: DIAScreen TP Tools menu

#### 2.2.2.10 Window:

The Window menu allows user to rearrange and close windows. Refer <u>3.10 Menu</u> <u>Bar - Window</u> for more information. Window menu is shown in the following figure.



Figure 2 - 18: DIAScreen TP Window menu

#### 2.2.2.11 Help:

The **Help** menu provides information about the version of DIAScreen. Refer <u>3.11</u> <u>Menu Bar - Help</u> for more information. Help menu is shown in the following figure.

Hel	p
Ę.	About
	Software Manual

Figure 2 - 19: DIAScreen TP Help

#### 2.2.3 Toolbar

The DIAScreen has eight different toolbars. User can click icons on the Toolbar to carry out specific edit operations. These are common functions that appear on the Menu bar and the Toolbar. The icons may vary depending what user is doing in DIAScreen. The icons that appear gray are not available for the given mode.

DIAScreen Toolbars are:

- Standard Toolbar
- Zoom Toolbar
- Element Selection Toolbar

- Drawing Toolbar
- Alignment Toolbar
- Font Toolbar
- Picture Toolbar
- Communication Toolbar

#### 2.2.3.1 Standard Toolbar:

The **Standard** Toolbar provides common functions that user will use frequently in DIAScreen. Standard Toolbar is shown in the following figure.



#### Figure 2 - 20: DIAScreen TP Standard Toolbar

The **Standard** Toolbar functions are described in the following table:

Function - Icon	Description
	Click to create new DIAScreen project.
1	Click to open previously created DIAScreen project.
8	Click to save the current DIAScreen project.
ß	Click to export selected screen to bitmap file.
•	Click to undo the last action.
t	Click to redo the previous action.
Ж	Click to cut the selection to the clipboard.
	Click to copy the selection to the clipboard.
	Click to paste the selection from clipboard.
Q	Click to find the specified content.
	Click to create a new screen.

Function - Icon	Description	
	Click to select (open) existing screen.	
	Click to print screens.	
	Click to open the About window.	

#### 2.2.3.2 Zoom Toolbar:

The **Zoom** Toolbar provides common functions to zoom in and zoom out. Zoom Toolbar is shown in the following figure.



#### Figure 2 - 21: DIAScreen TP Zoom Toolbar

The Zoom Toolbar functions are described in the following table:

Function - Icon	Description
400%	Enter the zoom level.
<b>O</b>	Click to zoom in (enlarge).
Q	Click to zoom out (reduce).
Q	Click to zoom in 1:1 ratio.

#### 2.2.3.3 Element Selection Toolbar:

The **Element Selection** Toolbar provides the object icons for the selected model type. Element Toolbar is shown in the following figure.



Figure 2 - 22: DIAScreen TP Element Selection Toolbar

The **Element Selection** Toolbar functions are described in the following table:

Function - Icon	Description
Α	Click to select a Static Text.
N	Click to select a Numeric/ASCII display.
$\bigcirc$	Click to select a Bit Lamp.
	Click to select a Word Lamp.
2	Click to select a Static Bitmap.
秋	Click to select a Dynamic Bitmap.
1.1	Click to select a Scale.
late .	Click to select a Bar.
0	Click to select a Meter.
	Click to select a Message Display.
<b>@</b>	Click to select a Button.
÷i	Click to open RTC window.
$\bigcirc$	Click to select a Multistate Indicator.
	Click to select a Measurement.
0	Click to select a Numeric Input.
$\sim$	Click to select a Curve.
	Click to select a X-Y Curve.
	Click to open <b>Delta Products Communication Device</b> <b>Setting</b> window.
<b>\</b>	Click to select an Alarm function.
	Click to select Slider.
	Click to select Input List.
Ē	Click to select Combobox.

#### 2.2.3.4 Drawing Toolbar:

The **Drawing** Toolbar provides functions to draw simple figures. To draw a simple figure, click a geometric icon on the Toolbar. Drawing Toolbar is shown in the following figure.



Figure 2 - 23: DIAScreen TP Drawing Toolbar

The **Drawing** Toolbar functions are described in the following table:

Function - Icon	Description	
	Click to draw Line.	
	Click to draw Rectangle.	
	Click to draw Rectangle (Solid).	
0	Click to draw Circle (Outline).	
	Click to draw Circle (Solid).	
C	Click to draw Curve.	
$\bigcirc$	Click to draw Chord (Outline).	
$\bigcirc$	Click to draw Chord (Solid).	
Ø	Click to draw Sector (Outline).	
	Click to draw Sector (Solid).	
23	Click to draw Polygon.	
-	Click to change to Width-1.	
-	Click to change to Width-2.	
-	Click to change to Width-3.	
	Click to change to dashed line.	

#### 2.2.3.5 Alignment Toolbar:

The **Alignment** Toolbar provides the functions for adjusting the positions of the objects and for arranging the objects. Alignment Toolbar is shown in the following figure.



Figure 2 - 24: DIAScreen TP Alignment Toolbar

The Alignment Toolbar functions are described in the following table:

Function - Icon	Description		
	Click to group objects.		
<b>N</b>	Click to ungroup objects.		
	Click to bring objects to front.		
2	Click to send objects to back.		
	Click to bring forward.		
F	Click to send backward.		
	Click to move elements one pixel to left.		
-	Click to move elements one pixel to right.		
<b>.</b>	Click to move elements one pixel to up.		
<b>.</b>	Click to move elements one pixel to down.		
<b></b>	Click to align left.		
<b>1</b>	Click to align right.		
	Click to align top.		
	Click to align bottom.		
H	Click to equal horizontal spacing.		
	Click to equal vertical spacing.		

#### 2.2.3.6 Font Toolbar:

The **Font** toolbar provides the functions to set the appearance of the text. Font Toolbar is shown in the following figure.

Figure 2 - 25: DIAScreen TP Font Toolbar

The Font Toolbar functions are described in the following table:

Function - Icon	Description		
10 👻	Select font size.		
The Times New Roman	Select font type.		
A	Click to align text left.		
A	Click to align text horizontal center.		
A	Click to align text right.		
A	Click to align text top.		
æ	Click to align text vertical center.		
Ă	Click to align text bottom.		
<u>A</u>	Click to change text color.		
В	Click to bold the text.		
I	Click to italicize the text.		
U	Click to underline the text.		

#### 2.2.3.7 Picture Toolbar:

The **Picture** Toolbar provides the functions to adjust the positions of the images in an object and to select an image file. Picture Toolbar is shown in the following figure.



#### Figure 2 - 26: DIAScreen TP Picture Toolbar

The **Picture** Toolbar functions are described in the following table:

Function - Icon	Description	
	Click to align picture left.	
	Click to align picture horizontally center.	
	Click to align picture right.	
E	Click to align picture top.	
	Click to align picture vertically center.	
<u>i</u>	Click to align picture bottom.	

#### 2.2.3.8 Communication Toolbar:

The **Communication** Toolbar provides the functions to Compile All, upload and download a project, and to configure basic settings. Communication Toolbar is shown in the following figure.



#### Figure 2 - 27: DIAScreen TP Communication Toolbar

The **Communication** Toolbar functions are described in the following table:

Function - Icon	Description	
	Click to Build All.	
<b>-</b>	Click to upload project from TP series text panel.	
	Click to download project to TP series text panel.	
<b>*</b>	Click to open Basic Setting.	

#### 2.2.4 Screen Editing Area

The **Screen Editing Area** is an area for designing or editing a screen. It is the area displayed on the screen of a Text Panel. Screen Editing Area is shown in the following figure.

↓ Screen_0 ×	⊳
	^
	×

Figure 2 - 28: Screen Editing Area

#### 2.2.4.1 Adding an Element to the Screen Editing Area:

Follow these steps to add an element, for example – a button to a screen:

1. Click Element(O) > Button on the menu bar, or

Click the silicon on the Element Selection Toolbar as shown in the following figure.



Figure 2 - 29: Insert Button

2. In the Screen Editing Area, drag the mouse on the button to set the exact size as shown in the following figure.

4 Screen_0 ×	Į	Screen_0 ×
	\$	

Figure 2 - 30: Insert a Button and dragging

3. Release the mouse cursor.

Result: Button is added to the Screen Editing Area.

#### 2.2.4.2 Resizing the Button:

Follow these steps to resize a button in a screen:

1. Click the button element in the Screen Editing Area as shown in the following
figure.



# Figure 2 - 31: Object which is selected

- 2. Click the frame of the Button.
- 3. Press and hold the left mouse curser and drag vertically or horizontally to resize the Button element as shown in the following figure.



Figure 2 - 32: Object resizing

Double-click an item in the Screen Editing Area, to open the window to set the object properties. For example, the Button settings window is shown in the following figure.

n						
view	Property Text	Appearence	Coordinate	es		
	Button Type: Se	t to On	~			
	Refer Device					
:	Write Address:	M0				
· ~	Interlock Settings					
uage:	Enable Read Address	No	$\sim$			
guage1 ~	Read Address:	M0	N	otify Setting		
ient description:	State:		× 1	Enable Notify Address:	No	~
tton_001				Notify Address:	M0	
	Value Type:	Unsigned 16 Bits		Before/After Writing:	Before Writing	$\sim$
	Value Length:	10 Bits		Reset/Set:	Reset	~
	User Security Level:	0 ~				
					OK	Cano

Figure 2 - 33: Button window

Right-click the Screen Editing Area to display a context menu. Common functions on the Menu bar and Standard Toolbar displays in the context menu. Context menu of the Screen Editing Area is shown in the following figure.

•	Undo	Ctrl+Z
¢	Redo	Ctrl+Y
	Select All	Ctrl+A
C	Copy Screen	
	Delete	Del
Ж	Cut	Ctrl+X
D	Copy(C)	Ctrl+C
C	Paste	Ctrl+V
	Group	
	Ungroup	
C <sub>0</sub>	Change Screens Conditio	n
2	Write Screen ID Settings	
۲	Screen Color(A)	

Figure 2 - 34: Screen Editing Area context menu

## 2.2.5 Screen Management Window

The screens that user created in the TP project display in the Screen Management Window. At least one screen with number 0 exists. Boot Screen is the welcome screen in the Text Panel. Boot screen cannot be added or deleted. When user double-click a screen in the Screen Management Window, it displays in the Screen Editing Area. Screen Management Window is shown in the following figure.



Figure 2 - 35: Screen Management Window

Right-click in the Screen Management Window to display a context menu as below.

New Screen
Edit
Cut
Сору
Paste
Paste the specified screen
Delete
Export
Rename
Set as Default Screen
Function Key
Screensaver Screen
Screen Properties

Figure 2 - 36: Screen Man agement Window context menu

The Screen Management Window has two icons in the upper right corner, to hide and close the **Screen Management Window** as shown in *Figure 2 - 35: Screen* Management Window.

# 2.2.6 Properties

The properties for the objects added to the screens display in the Properties window.

User can directly change the properties of the objects in **Properties** window.

Properties window for TP is shown in the following figure.

State	Graphie_001 {}	<ul> <li>↓</li> <li>↓</li></ul>
1	Read Address	None
]	Invisible Address	None
	Offset Address	
	Read Offset Address	None
	Picture	
	Picture Bank Name	None
	Picture Name	None
	Transparent Effect	No
	Transparent Color	RGB(0, 0
	Others	
	Foreground Color	RGB(180
	Data Type	Word
	Data Format	Unsigned D
	State Counts	1
	Auto Picture Change	No
	Change Time(ms)	500
	Transparent	No
	Transparent	255
Ξ	Coordinates	
	Х	157
	Y	60
	Width	162
	Height	100

Figure 2 - 37: Properties window

If user selects several objects or if user do not select any object, the **Properties** window is blank. Use the two icons on the upper right corner of the **Properties** window to hide and close the Properties window.

## 2.2.7 Status Bar

The **Status** Bar for the selected object includes the Device Type, mouse coordinates, TP Model Type, Caps lock, Number lock and Scroll lock status information.

Download:Ethernet	[484,303]	PAC_IPC_IMP 65536 Colors Rotate 0 degree	CAP NUM SCRI

## Figure 2 - 38: Status Bar

# 2.2.8 Output

The **Output** window displays compiling data and error messages as shown in the following figure.

Output	џ×
📮 Message 🔀 Error 📮 Warning	
Message	
Compiling all data	
Compilation successful	

Figure 2 - 39: Output window

# **Chapter 3: Basic Editing Functions**

# 3.1 Menu Bar - File

This section provides the detailed information about the functions available from the File menu. The File menu functions are:

- New
- Open
- Save
- Save As
- Print
- User Menu Setting
- Export Element Properties
- Close
- Previously opened Projects
- Exit

## 3.1.1 New

User can create a new project in DIAScreen for the TP series text panel from the Menu bar, Toolbar or using keyboard shortcuts.

Follow these steps to create a new project:

1. Click File > New on Menu bar, Ctrl+N in keyboard or

Click the D icon in the Standard Toolbar.

**Result**: The **Project Wizard** window displays as shown in the following figure.

		HMI List			
series	~	Model Type	Resolution	Color	
		AX8_Linux_Series	1024 * 768	65536 Colors	
		AX8_Windows_Series	1024 * 768	65536 Colors	
		Project Setup			
		Project Name:	NewHMI		
THE		Screen Name:	Screen_1		
		Screen No.	1		
		Printer:	ANULL		~
and the second sec		System menu language:	English		~
		HMI Rotation:	0	✓ degree	
		THIN ROUGHUR.			

Figure 3 - 1: Project Wizard

- 2. Select **TP series** in the **Series** field.
- 3. Select the particular **TP Series** from the **HMI List**.
- 4. Enter a name in **Project Name** under **Project Setup**.
- 5. Select the device from the PLC or Inverter Controller drop-down menu.
- 6. Click on Finish button.

**Result**: New TP project is created as shown in the following figure.



Figure 3 - 2: New TP Project

## 3.1.2 Open

User can open a previously created project for the TP series text panel from the Menu bar, Toolbar, or using keyboard shortcuts.

Follow these steps to open a project:

1. Click File > Open on Menu bar, Ctrl+O in keyboard or

Click the kicon in the Standard Toolbar.

**Result**: The **Open** window displays as shown in the following figure.

Open				>
Look in:	Docum	ents	G Ø P III-	
Quick access Desktop Libraries This PC		:1	Date modified 10-10-2018 17:15 13-03-2019 14:29 15-03-2019 12:32 11-03-2019 16:09 30-01-2019 14:54 12-03-2019 18:40 15-03-2019 12:42	Type File folde File folde File folde File folde File folde DPA File
Network	< File <u>n</u> ame: Files of <u>type</u> :	All Project Files (*.dpa; *	✓:*.dps;*.dpb;*.dop;*tpe ✓	> Open Cancel
Version	M	lodel Type		

Figure 3 - 3: Open Project window

- 2. Browse to the file location and select the TP project.
- 3. Click on Open button.

DOPSoft - HMI2 - [Screen 0]						- 0	<b>)</b> >
File Edit View Compile Element(O) Screen Settings Global Sett	ingr Communication Tools	Window Help				- L	, ,
		0000081-	🖪 🖪 🗟 🛦 🖬 🥝		1 🗛 🗖 😕 🗮 🗰 🖡	-	
	ABIUIB					<b>1</b>	
Screen 0 ×				Þ	Properties		
Screen_0 ×				¢	Screen_0		~ 0
				Â	Screen Name	Screen 0	•
					Background Color	RGB(255, 25	55, 255)
						=	
				~			
en Management Window				4 ×	1		
à 👌							
Boot Screen_0							
[] [0]							
1991日18日日(日本中山)18日日日(日本)							
Device Type: DELTA PLC	[585,7]		TP Type:: TP70P-RM2				

Figure 3 - 4: Open Project

**Result:** The Project opens as shown in the above figure.

## 3.1.3 Save

User can save a project in DIAScreen, either from Menu bar, or Toolbar, or using keyboard shortcuts.

Follow the steps to save a project:

1. Click File > Save on Menu bar, Ctrl+S in keyboard or

Click the 💾 icon on the Standard Toolbar.

**Result**: The project is saved.

**NOTE**: If user is saving the project for the first time, the **Save As** window appears as shown in the following figure.

→ 丶 个 🗎 > Th	is PC > Documents >			✓ Ö Search Docu	uments	P
rganize 🔻 New folde						•
🛆 OneDrive	Name	Date modified	Туре	Size		
This PC	Custom Office Templates	10-10-2018 17:15	File folder			
	My Received Files	13-03-2019 14:29	File folder			
3D Objects	Outlook Files	15-03-2019 12:32	File folder			
E Desktop	Project1	11-03-2019 16:09	File folder			
🗧 Documents		30-01-2019 14:54	File folder			
🕹 Downloads	WTP1	12-03-2019 18:40	File folder			
Music	S HMI1	15-03-2019 13:03	DPA File	42 KB		
Pictures	K HMI2	15-03-2019 13:12	DPA File	48 KB		
Videos						
🏪 Local Disk (C:)						
🔜 New Volume (D:						
🛫 INDRD (\\inggnr						
* · · · · · · · · · · · · · · · · · · ·						
File name: HMI3						
Save as type: Delta	Panel Advanced Files (*.dpa)					

Figure 3 - 5: Project Save - first time

 Select a suitable location, enter a project name in the File Name field and click on Save button.

**Result**: The project is saved.

## 3.1.3.1 Create auto Update Data File

Remark: This item is only applicable to DOP-100 series and DXMC series.

The DIAScreen software will automatically compile the current screen data, and then save the file in the specified path. When the HMI detects the external device and there is an automatic update file, it will display the automatic update firmware to update the HMI project.

1. Click on File > Create Auto Update Data file.



Figure 3 - 6: Auto Update File Path

**Result**: It displays the **Setting** window as shown in the following figure.

Settir	ng		×
	Enable Protection		
	Password	12345678	
0	utput Folder		
	C:\	<b>Q</b>	
		OK. Cancel	

Figure 3 - 7: Setting Window

Features	Description
Enable Protection	Enable password protection mechanism
Password	Password protection
Archive folder	The folder path where the update file is expected to be saved

• After setting, compile, the project will be automatically updated to the specified external path.

If the model of the project is DXMC series, after creating the project, set the archive path and execute the compilation. The DIAScreen software will automatically create a folder with the same name as the project under the project path, and save the current screen data update file in this folder. This update file can be directly imported into DXMC model software-DMARS (DELTA Motion and Robot Software) to perform HMI screen update.

Documents Name	^	Date m	I     Image: Imag						- 0	×
R DXMC_T		14-08-2	← → ~ ↑ 📑 > T	'his PC → D	ocuments > DXMC_Test		~ Ö	Search DX	(MC_Test	P
R HMI1.dp		13-08-2 14-08-2	🖈 Quick access		Name	Date modified	Туре		Size	
			Desktop		0.ttf	14-08-2020 11:41	TrueTyp	e font file	395 KB	
		、 I		-	1.ttf	14-08-2020 11:41	TrueTyp	e font file	98 KB	
		1	Downloads	*	1P08NE7S.fwn	14-08-2020 11:41	FWN File	e	32,357 KB	
			Documents	*	EDITOR.SPB	14-08-2020 11:41	SPB File		356 KB	
			E Pictures	*	FontTable.bin	14-08-2020 11:41	BIN File		1 KB	
			This PC		HML.cin	14-08-2020 11:41	CIN File		86 KB	
					HMLIMG	14-08-2020 11:41	Disc Ima	ige File	1 KB	
			3D Objects		HMI.mlu	14-08-2020 11:41	MLU File	e .	1 KB	
			Desktop		PLCComm255.0	14-08-2020 11:41	O File		148 KB	
			Documents							
			🕹 Downloads							
			) Music							
			Pictures							

Figure 3 - 8: The screen is automatically updated

## 3.1.4 Save As

User can save the TP project with a different name or to a different location by clicking File > Save As.

Follow the steps to Save As a project:

1. Click File > Save As on Menu bar.

**Result**: The Save As window displays as shown in the following figure.

						-
→ ~ ↑ 🗎 > Th	iis PC > Documents >			✓ ♂ Search Docume	nts	2
ganize 🔻 🛛 New folde	er					
OneDrive	Name	Date modified	Туре	Size		
This PC	Custom Office Templates	10-10-2018 17:15	File folder			
-	My Received Files	13-03-2019 14:29	File folder			
3D Objects	Outlook Files	15-03-2019 12:32	File folder			
Desktop	Project1	11-03-2019 16:09	File folder			
Documents	- WordToHelp	30-01-2019 14:54	File folder			
Downloads	WTP1	12-03-2019 18:40	File folder			
Music	🛐 HMI1	15-03-2019 13:03	DPA File	42 KB		
Pictures	🕙 HMI2	15-03-2019 13:12	DPA File	48 KB		
Videos						
Local Disk (C:)						
New Volume (D:						
🛫 INDRD (\\inggnr						
×						
File name: HMI3						
6 I D I	Panel Advanced Files (*.dpa)					

Figure 3 - 9: Save As

 Select the location, enter a project name in the File Name field and click on Save button.

**Result**: The project is saved.

# 3.1.5 Print

After user has designed the screens, he/she can print them using the **Print** option on **File** menu. User can print two types of screens:

- General screen
- Boot screen

User can print the general screens and also Boot screen.

# 3.1.5.1 General Screen

Follow the steps to print a TP screen:

1. Click on File > Print > Print TP Screen as shown in the following figure.



Figure 3 - 10: Print TP Screen

**Result**: The **Print TP Screen** window displays as shown in the following figure:

Print TP Screen		×
Print Selection		
Print by Screen	O Print by Picture	
Print Screen Settings		Print Preview
File Name		1 mil 1 loviow
Screen		Print
Screen Title		
Change Screens Condition		
All Element information on Screen		
Print Setup		Cancel

Figure 3 - 11: Print TP Screen window

- 2. Select either **Print by Screen** or **Print by Picture**.
- 3. Select the appropriate print screen settings.
- 4. Click on **Print** button.

Result: The screen prints.

# 3.1.5.2 Boot Screen

The **Print TP Screen** functions are described in the following table:

Function	Description
Print by Screen	Click to print by screen.
Print by Picture	Click to print by picture.
File Name	Click to display project name in the print.
Screen	Click to display screen in the print.
Screen Title	Click to display screen name in the print.

Function	Description
Change Screens Condition	Click to display Screen Change Condition in the print result.
All Element information on Screen	Click to display all element information on screen.
Print Setup	Click to setup print environment.
Print Preview	Click to display a print preview.
Print	Click to print.
Cancel	Click to cancel the print action.

Follow these steps to print a **Boot Screen**:

File	Edit View (	Compile	Element(O)	Screen Settings	G	lobal Settings	communi
	New			Ctrl+N		100%	• 🗨 🔾 🤇
-	Open			Crtl+O		XÄ.	<u>A</u> - B <i>I</i>
巴	Save			Ctrl+S			
	Save As						
	Print			•		Print TP Scr	een
	User Menu Settir	ngs		۰.		Print Boot S	creen
	Export Element F	properies(	0)				
	Close						
	C:\Users\Manjur	hath.Bhat	Documents\ł	HMI2.dpa			
	C:\Users\Manjur	hath.Bhat	Documents\ł	HMI3.dpa			
	C:\Users\Manjur	hath.Bhat	\Documents\H	HMI1.dpa			
	Exit						

Figure 3 - 12: Print Boot Screen

1. Click File > Print > Print Boot Screen as shown in the above figure.

**NOTE**: Refer **Print TP Screen** for more information.

**Result**: The **Boot Screen** prints.

## 3.1.6 User Menu Setting

DIAScreen allows user to select which language to design the menus and the messages with the **User Menu Setting**. In addition to the built-in languages in DIAScreen, user can use other languages.

The **User Menu Setting** on the **File** menu is described with a TP04G panel as an example:

- 1. Create a project with the **TP04G** model type.
- 2. Click the File > User Menu Setting on the Menu bar.

**Result**: A sub-menu displays with the options of TP02, TP04, TP05 and TP08 as shown in the following figure.

File	Edit View Compile Element(O) Screen Settings Global Settings Communication Tools Window Hel	þ
	New Ctrl+N	<ul><li>○○○ 號 -</li></ul>
-	Open Crtl+O	
Ш	Save Ctrl+S	
	Save As	
	Print >	
	User Menu Settings	TP-04(4)
	Export Element Properies(O)	TP-02(2)
	Close	TP-05(5)
	C:/ProgramData/Delta Industrial Automation/HMI/DOPSoft 5.00.00/ScrEditApp/Example/DOP100_FullDemo.dpa	TP-08(8)
	C:/ProgramData/Delta Industrial Automation/HMI/DOPSoft 5.00.00/ScreditApp/Example/DOP100_FullDemo.dpa	
	Exit	

Figure 3 - 13: User Menu Setting

3. Click TP04G.

**Result**: The system prompts user to save the project. Then 21 screens of TP-04 displays in the **Screen Management Window** as shown in the following figure.

	ject - [Screen_0]						-	٥	×
	ompile Element(O) Screen	<u>`</u>		Vindow Help					
4 🖉 🖾 🖾 🖘	📌   X 🗈 🖻 Q   🗟 🗳	400%	200				_		
									^
5.Exit 8	Run								
1 Tran	sfer APP								
1. I Ialik	SIGLALI								
2.Rece	eive APP								r
	<b>-</b> .								
1.Com	Port								
									~
Screen Management Wi	indow								ф >
Screen Management Wi				~			Y		ц >
1.D/LAPP	Rest & Run	2.Contrast 3.P. actilize	6.Language	1.TP046 Protocol	1.BAUDRATE	9600 19200	115200		ф >
1.D/LAPP 2.U/LAPP 3.Copy APP	erst & Run 1.Transfer APP 2.Receive APP	3.BackLight 4.Date/Time	7.Password 8.Start-Up Display	2.RS232 3.RS485	2.DATABIT 3.PARITY	19200 38400	4800 7 BIT		ж > ,
1.D/LAPP 2.U/LAPP	सिक्ष & Run 1. Transfer APP	3.BackLight	7.Password	2.RS232	2.DATABIT	19200	4800		۷ ډ بر ۱
1.D/LAPP 2.U/LAPP 3.Copy APP	erst & Run 1.Transfer APP 2.Receive APP	3.BackLight 4.Date/Time	7.Password 8.Start-Up Display	2.RS232 3.RS485	2.DATABIT 3.PARITY	19200 38400	4800 7 BIT		Д. 3
1.D./L.APP 2.U./L.APP 3.Copy APP 4.TP04G Setup Screen_0	Renk & Run 1. Transfer APP 2. Receive APP 1. Com Port Screen_0 [0]	3.BackLight 4.Date/Time 5.Buzzer Screen_0 [1]	7.Password 8.Start-Up Display 9.Comm. Indicator Screen_0 [2]	2.R5232 3.R5495 1.TPD4G ID Screen_0 [3]	2.DATABIT 3.PARITY 4.STOPBIT Screen_0 [4]	19200 38400 57600 Screen_0 [5]	4800 7 BIT 8 BIT 5 Creen_0 [6]		
1.D/L APP 2.U/L APP 3.Copy APP 4.TP04G Setup Screen_0 0 NONE	Street & Run 1. Transfer APP 2. Receive APP 1. Com Port 01 2. BIT	3.BackLight 4.Date/Time 5.Buzzer Screen_0 [1] 2.WEEK	7.Pastword B.Start-Up Display S.Comm. Indicator Screen_0 [2] 2.SILENT	2.RS232 3.RS485 1.TP04G ID Screen_0 (3) 4.User Define	2.DATABIT 3.PAPITY 4.STOPBIT Screen_0 [4]	19200 38400 57600 Screen_0 [3] Hex Number	4800 7 BIT 8 BIT Screen_0 (6)		Q. :
1.D./L.APP 2.U./L.APP 3.Copy APP 4.TP04G Setup Screen_0	Renk & Run 1. Transfer APP 2. Receive APP 1. Com Port Screen_0 [0]	3.BackLight 4.Date/Time 5.Buzzer Screen_0 [1]	7.Password 8.Start-Up Display 9.Comm. Indicator Screen_0 [2]	2.R5232 3.R5495 1.TPD4G ID Screen_0 [3]	2.DATABIT 3.PARITY 4.STOPBIT Screen_0 [4]	19200 38400 57600 Screen_0 [5]	4800 7 BIT 8 BIT 5 Creen_0 [6]		ж :
1.D/L APP 2.U/L APP 3.Copy APP 4.TP04G Setup Screen_0 0 NONE 0DD	Powers of France	3.BackLight 4.Date/Time 5.Buzzer Screen_0 [1] 2.W/EEK 3.TIME	7.Password 8.Star-Up Display 9.Comm. Indicator 2.SILENT 1.ENGLISH	2.RS232 3.RS485 1.TP04G ID (3) 4.User Define 1.New Password	2.DATABIT 3.PARITY 4.STOPBIT Screen_0 [4] Yes Password Enter	19200 38400 57500 [3] Hex Number Exit	4800 7 BIT 8 BIT Screen_0 (6) Max. Min:		
1.D/L.APP 2.U/L.APP 3.Copy APP 4.TP04G Setup Screen_0 0 NONE 0DD	2BIT Power AFP 2Bit Street AFP 1.Com Port 2BIT Power OFF AFTER MINE)	3.BackLight 4.Date/Time 5.Buzzer Screen_0 [1] 2.W/EEK 3.TIME BATTERY	2.Fastiword B.StarkUp Display S.Comm. Indicator (2) 2.SILENT 1.ENGLISH 2.Triad.Chinese	2.RS232 3.RS485 1.TP04G ID Screen_0 (3) 4.User Define 1.New Password 2.Enable	2.DATABIT 3.PARITY 4.STOPBIT Screen_0 [4] Yes Password Enter 1.TP046 Default	19200 39400 57500 Screen_0 [5] Hex Number Ext Retry	4800 7 BIT 8 BIT Screen_0 [6] Max Mirr. Now.		a :

Figure 3 - 14: Screen Management Setting - User Menu Setting results

**NOTE**: User can edit the menus in the language he/she wants to use. User cannot change the functions and the sizes of the menus. User can only change the language.

 To modify a screen, double-click on any of the items in Screen Management Setting window. For example – Backlight in screen\_0 [1].

**Result**: The **Static Text** window appears as shown in the following figure.

Prop			
BackLight	BackLight		<u> </u>
		□ B □ <i>I</i>	•
		Horiz. alignment:	Align Left $\sim$
ate:	v	Vert. alignment:	Vert. Centering ~
× ×	Process the text of all states		
	Process the text of all states		
State	e Language1		
0	3.BackLight		
lement description:			
Static Text_000			

Figure 3 - 15: Static Text window - User Menu item - Backlight

5. In the window, edit the items using the desired language and click on OK button as shown in the following figure.

Static Text		
Preview	Property Text Coordinates	
	Text	
3.逆光	3.逆光 ^ 8 ~	
	□ <b>B</b> □ <sup><i>I</i></sup> ■ *	
	Horiz. alignment: Align Left ~	
State:	< Vert. alignment: Vert. Centering V	
	Process the text of all states	
	State         Language1           0         3.送光	
Element description: Static Text_000		
-		
	ОК	Cance

Figure 3 - 16: Static Text window - User Menu - Backlight edited

- After user edit the menu, touch 1.D/L AP TP04G <= PC on the screen of the TP04G series text panel. WAIT COMM... displays.
- Click Communication > Download Menu to TP on the Menu bar as shown in the following figure.



Figure 3 - 17: Download Menu to TP

Result: The 21 menus are downloaded to the TP04G series text panel.

**NOTE**: The **Download Menu to TP** is only available when using **User Menu Setting**.

## 3.1.6.1 Post Download Menu to TP:

Touch the **TP04G SETUP** on the main menu displayed on TP04G series text panel screen. Touch Language and press Enter on the panel and then select USER **DEFINE**. After USER DEFINE is selected, the user-defined language can be used.

# 3.1.7 Export Element Properties(O)

User can export the screen's element properties as a .txt file or a .xls file with **Export Element Properties(O)**.

Follow these steps to export the element properties for a screen:

 Click on File > Export Element Properties(O) on the Menu bar as shown in the following figure.

File	Edit	View	Compile	Element(O)	Screen Settings
	New				Ctrl+N
L.	Open				Crtl+0
Ш	Save				Ctrl+S
	Save As	s			
	Print				F
	User M	enu Set	tings		۰
	Export	Elemen	t Properies(	0)	
	Close				
	C:\Use	rs\Manj	unath.Bhat	\Documents\H	HMI2.dpa
	C:\Use	rs\Manj	unath.Bhat	Documents\H	HMI3.dpa
	C:\Use	rs\Manj	unath.Bhat	\Documents\H	HMI1.dpa
	Exit				

Figure 3 - 18: Export Element Properties(O)

**Result**: The **Export Element Properties** window displays as shown in the following figure.

TP Screen	O Boot Screen	○ All Screens							
reen Selection		Element Name	Element Position	Element Size	Element Type	Screen ID	Read Address	Read PLC Station	Road Dort
Screen_0 Screen_1			(118,67)	(96,43)	105	Screen ID 0	Read Address	Read FEC Station	Reau Forc
. Sereen_1		Rectangle(Outline		(72,59)	110	Screen ID 0			
		Circle(Outline)		(64,81)	110	Screen ID 0			
eview									
eview									

# Figure 3 - 19: Export Element Properties window

The **Export Element Properties** window displays the function mentioned in the following table:

Function	Description
TP Screen	Click to select a particular screen in the Screen Selection field.
Boot Screen	Click to select Boot Screen.
All Screens	Click to select elements for all screens in the project.
Screen Selection	<ul> <li>Displays the list of screens in the project:</li> <li>TP Screen</li> <li>Boot Screen</li> <li>All Screens</li> </ul> <b>NOTE:</b> The <b>TP Screen</b> is default value.
Preview	Displays the screen contents in graphic.

2. Select either, TP Screen, Boot Screen, or All Screens.

**NOTE**: If **TP Screen** is selected, user must select a particular screen for which the element property is exported.

3. Click on Export All.

**Result**: The **Export** window displays as shown in the following figure.

Export	×
Exported File Format	
● Text File	OK
⊖ Excel File	Cancel

Figure 3 - 20: Export window

4. Select **Text File** or **Excel File** as the export file format and click on **OK** button.

**Result**: The **Save As** window displays.

5. Select a location, enter a file name and click on **Save** to export the element properties.

## 3.1.8 Close

Click the File > Close to close the current project.

**Result**: Home page of DIAScreen displays.

## **3.1.9 Previously Opened Projects**

A list of previously opened projects displays when user opens **File** menu. Click on a project to open it. An example with list of previously displayed projects are shown in the following figure.

File	Edit	View	Compile	Element(O)	Screen Setting
	New				Ctrl+N
L.	Open				CrtI+O
믭	Save				Ctrl+S
	Save As				
	Print				F
	User M	enu Sett	tings		+
	Export	Element	Properies(	D)	
	Close				
	C:\User	s\Manju	inath.Bhat\	Documents\H	IMI2.dpa
	C:\User	s∖Manju	inath.Bhat\	Documents\H	IMI3.dpa
	C:\User	s\Manju	inath.Bhat\	Documents\H	IMI1.dpa
	Exit				

Figure 3 - 21: List of previously opened projects

### 3.1.10 Exit

Click File > Exit to close the DIAScreen application.

# 3.2 Menu Bar - Edit

This section provides detailed information about the functions available from the Edit

menu. Edit menu functions are:

- New Screen
- Save Screen Bitmap
- Undo
- Redo
- Delete
- Cut
- Copy(C)
- Paste
- Duplicate(M)
- Copy Screen
- Paste Screen
- Bring to Front(T)
- Send to Back(B)
- Bring Forward(U)
- Bring Backward(D)
- Select All

#### 3.2.1 New Screen

User can create a new screen in DIAScreen for TP function from the Edit menu bar or Toolbar.

Follow these steps to create a new screen:

1. Click on Edit > New Screen on the Menu bar, or

Click the 🖪 icon on the Standard Toolbar, or

Click New Screen from the Screen Management Window context menu.

**Result**: The New Screen window displays as shown in the following figure.

Screen_2		
Screen Name	Screen_2	
Screen ID	2	
	OK Cancel	

Figure 3 - 22: New Screen

2. Enter a name in the **Screen Name** field and click on **OK** button.

Result: A new screen is created.

# 3.2.2 Save Screen Bitmap

User can save the current screen to a clipboard or file using the **Save Screen Bitmap** function as shown in the following figure.

The Save Screen Bitmap has two options:

- Save to Clipboard
- Save to File

Edit	View	Compile	Element	t(O)	Screen Settings	Global Settings	с
	New Scr	een			.   🗟 📮   🖶	100%	Ŧ
	Save Scr	een Bitmap			Save to Clipboard	CtrI+Alt+P	٦
•	Undo	(	trl+Z		Save to File	Ctrl+Alt+F	

Figure 3 - 23: Save Screen Bitmap

## 3.2.2.1 Save to Clipboard

 Click on Edit > Save Screen Bitmap > Save to Clipboard on the Menu bar, or

Press the Ctrl+Alt+P keys simultaneously.

**Result**: The current screen is ready to be pasted into an editor, e.g. MS-Paint.

2. Paste the clipboard item to an editor.

### 3.2.2.2 Save to File

 Click on Edit > Save Screen Bitmap > Save to File on the Menu bar, or Press the Ctrl+Alt+F keys simultaneously.

**Result**: The **Save As** window displays.

2. Select a location and click on **Save** to save the file as a .bmp file.

### 3.2.3 Undo

User can undo a previous action in the TP project by clicking Edit > Undo on the Menu bar or by pressing Ctrl+Z keys simultaneously.

**Result**: The previous action is cancelled.

## 3.2.4 Redo

User can redo a previous action in the TP project by clicking Edit > Redo on the Menu bar or by pressing Ctrl+R keys simultaneously.

**Result**: The previous action is redone.

## **3.2.5 Delete**

User can delete elements selected on a screen in the TP project by clicking Edit > **Delete** on the **Menu** bar or by pressing the **Delete** key.

**Result**: The selected elements on the screen is are deleted.

### 3.2.6 Cut

User can cut elements selected on a screen in the TP project by clicking Edit > Cut on the Menu bar or by pressing Ctrl+X in keyboard.

Result: The selected elements on the screen is are cut.

## 3.2.7 Copy

User can copy elements selected on a screen in the TP project by clicking Edit > Copy on the Menu bar or by pressing Ctrl+C in keyboard.

Result: The selected elements on the screen are are copied.

### 3.2.8 Paste

User can paste elements that are cut or copied to a screen in the TP project by clicking Edit > Paste on the Menu bar or by pressing Ctrl+V in keyboard.

**Result**: The selected elements is pasted to the screen.

### 3.2.9 Duplicate

User can create duplicates of an element in the TP project by clicking Edit > Duplicate.

**Result**: Duplicate window displays as shown in the following figure.

Duplicate	×			
Copies				
Horizontal Number	2			
Vertical Number	2			
Spacing (Pixels)				
Horizontal Spacing	2			
Vertical Spacing	2			
Offset Address				
Copies       Horizontal Number     2       Vertical Number     2       Spacing (Pixels)       Horizontal Spacing     2       Vertical Spacing     2				
	OK Cancel			

Figure 3 - 24: Duplicate window

The **Duplicate** window function are described in the following table:

Function	Description
Horizontal Number	Select the check box and enter the number of horizontal copies user need.
Vertical Number	Select the check box and enter the number of vertical copies user need.
Horizontal Spacing	Select the horizontal spacing, in pixels, user need.
Vertical Spacing	Select the vertical spacing, in pixels, user need.
Offset Address	Select the check box to offset address from the copied location.
Horizontal Direction	Select to duplicate in horizontal direction.
Vertical Direction	Select to duplicate in vertical direction.
OK	Click to duplicate.
Cancel	Click to cancel duplication action.

As an example, the copied element is duplicated as shown in the following figure.



Figure 3 - 25: Duplicate result

# 3.2.10 Copy Screen

User can copy all the elements on the current screen by clicking **Edit** > **Copy Screen** or by clicking **Copy Screen** from the screen's context menu.

## 3.2.11 Paste Screen

User can paste all the copied elements to a current screen by clicking Edit > Paste Screen or by clicking Paste Screen from the screen's context menu.

## 3.2.12 Bring to Front

User can bring an element in front of all the other elements by clicking Edit > Bring to Front(T) or by clicking Bring to Front from the element's context menu.

## 3.2.13 Send to Back

User can send an element behind all other elements by clicking Edit > Send to Back(B) or by clicking Send to Back from the element's context menu.

## 3.2.14 Bring Forward

User can bring an element in front of another element that is one layer above it by clicking **Edit > Bring Forward** or by clicking **Bring Forward** from the element's context menu.

## 3.2.15 Send Backward

User can send an element behind another element that is one layer below it by clicking **Edit > Send Backward** or by clicking **Send Backward** from the element's context menu.

### 3.2.16 Select All

User can select all the elements on a screen by clicking Edit > Select All or by pressing Ctrl+A in keyboard.

# 3.2.17 Paste multiple Element Graphics

Remark: This function is applicable to DOP-100 series and AX-8 series.

DIAScreen supports copying and pasting multiple graphics:

 Click Element > Graphic > State Graphic to draw the element as shown in the following figure.



Figure 3 - 26: Draw Element

2. Double-click on the element.

**Result**: The **Status Graphic** window appears as shown in the following figure.

State Graphic						×
Preview	Main	Main-2	Picture	Details	Coordinates	
	Memory	/			Detail	
		.ddress:			Data Type:	Word $\checkmark$
	None				Data Format:	Unsigned Decimal V
	Read C	Offset Address	š:		State Counts:	1
State:						
0 ~	Obda				Auto Picture Change:	No 🗸
Language:	Style		_		Change Time(ms):	500 ~
Language1 ~		ound Color:		•		
	Transp	arent:	No	~		
Element description:						
State Graphic_001						
						OK Cancel

Figure 3 - 27: State Graphic Tab

3. Click on the **Picture** tab and then select the required graphic from the **Picture Bank Name**.



Figure 3 - 28: Graphic library name menu

**Result:** The screen displays the selected graphics as shown in the following figure.



Figure 3 - 29: Graphics

- 4. After repeating step 1 to draw the elements, use the right-click copy and paste function to create the required number of elements.
- 5. Right-click on the element image and click on **Copy Image** from the menu.



Figure 3 - 30: Copy graphics

6. Select all the components, and then right-click.

0										
•	0 0	D	0	0	0	0	0	ø	0	0
Ж	Cut	Ctrl+X		D		D		D		-
	Copy(C)	Ctrl+C		Ŭ		Ŭ		ŭ		°.
	Paste	CtrI+V	0		8		8		0	
	Duplicate									
	Lock Element			D		D		D		D
	Cancel Tab Order									
	Goto Screen		0		8	8	8		0	D
	Edit Image			D		D		D		0
	Cut Image									
	Copy Image				8		8	8		8
	Paste Image									
5	Bring to Front			D		D		D		o
	Send to Bottom		-							
	Bring Forward		0	10	0	0	0	0	0	0
	Send Backward									
36	Group									
M	UnGroup									
	Import from text b									

Figure 3 - 31: Paste Image

7. Click on **Paste Image**.

**Result**: Multiple element images are pasted as shown in the following figure.



Figure 3 - 32: Multiple component graphics
# 3.3 Menu Bar - View

This section provides the detailed information about the functions available in View menu. View menu functions are:

- Toolbar
- Display Address Information
- Properties
- Screen Manager
- Output Window
- Grid Setting

#### 3.3.1 Toolbar

DIAScreen has eight Toolbars and a Status bar. User can display or hide them by clicking View > Toolbar on the Menu bar as shown in the following figure.



Figure 3 - 33: View > Toolbar

A check mark next to its name indicates that the toolbar displays the application. To hide a toolbar, clear the check box.

#### 3.3.2 Display Address Information

In TP70P series models, the address information of each object setting can be displayed or hidden. Click the menu **View > Display Address information**, the upper left corner of all components will display the address information, as shown below



#### Figure 3 - 34: Display Address Information

#### **3.3.3 Properties**

User can switch between displaying or hiding the **Properties** window by clicking the **View > Properties** menu option. A check mark next to the name in the menu indicates that the window is open. Clear the check box to hide the Properties window.

#### 3.3.4 Screen Manager

User can display or hide the Screen Management Window by clicking the View > Screen Manager menu option. A check mark next to the name of Screen Manager indicates that the Screen Management Window is open. Clear the check box to hide the Screen Management Window.

#### 3.3.5 Output Window

User can check the results of the project compilation in the **Output Window**. Output window shows messages, error and warnings. Refer <u>3.4.1 Compile All</u> for more information. Display the Output Window using the **View > Output Window**. A check mark next to the name of the Output Window indicates that the Output Window is open. Clear the check box to hide the Output window.

### 3.3.6 Grid Setting

User can adjust the grid settings from the **Grid Setting** window. Click **View > Grid Setting** to open the Grid Settings window as shown in the following figure.

Grid Setting		×
Show Grid	Spacing Width Height	4
	Ok	Cancel

Figure 3 - 35: Grid Setting window

The Grid Setting window functions are described in the following table:

Function	Description
Show Grid	Select the check box to display grid.
Snap to Grid	Select the check box to snap to grid.
<color pallet=""></color>	Select the grid color(TP70P series).
Spacing Width	Enter the grid horizontal spacing width.
Spacing Height	Enter the grid vertical spacing height.
ОК	Click to change the grid settings.
Cancel	Click to cancel the grid getting action.

# 3.4 Menu Bar - Compile

This section provides detailed information about the functions available in Compile menu. **Compile** Menu function includes:

• Compile All

### 3.4.1 Compile All

After user finish designing the screens and settings functions, user can compile the TP project with the Compile All function. After a project compiles successfully, download it to a TP series text panel.

Follow these steps to compile a project:

1. Click Compile > Compile All on the menu bar, or

Press Ctrl+F7 keys simultaneously, or

Click the 🔛 icon on the Communication toolbar.

Result: A pop-up message displays the completion of compile process.

DIAScreen	×
Compile successfully Memory usage:0%	
ОК	]

Figure 3 - 36: Compile message

Then the **Output** window displays the compile results in **Message**, **Error** and **Warning** tabs as shown in the following figure.

Output			д	×
🛄 Message	Error	💭 Warning	×	
Message				
Compiling al				
Compilation	successfu			
				_
				_
				_
				_
				_

Figure 3 - 37: Output window after compile

2. In case of compilation errors, check the contents in the **Output** window and correct the errors.

# 3.5 Menu Bar - Element(O)

In this section, the detailed information is presented for functions available on the Element(O) menu For a brief description please refer to <u>2.2.2 Menu bar</u>. Different models support different elements. Element(O) Menu functions are:

- Geometric Graphic
- Static Text
- Numeric/ASCII Display
- Lamp(16x16)
- Bitmap
- Scale

- Bar(P)
- Meter
- Message Display
- Button
- RTC(L)
- Range Indicator
- Measurement
- Numeric Input
- Curve
- X-Y Curve
- Alarm
- Slider
- Input List
- ComboBox
- Delta Products Communication Device Setting

# 3.5.1 Geometric Graphic

User can add geometric objects to a screen with the Geometric Graphic element.

Geometric Graphics supported are:

- Line
- Rectangle(Outline)
- Rectangle(Solid)
- Circle(Outline)
- Circle(Solid)
- Curve

- Chord(Outline)
- Chord(Solid)
- Sector(Outline)
- Sector(Solid)
- Polygon

Follow these steps to add a geometric graphic element to a screen for the TP series text panel:

1. Click the Element(O) > Geometric Graphic > Element on the Menu bar, or

Click a Geometric Graphic icon on the Drawing Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

Result: The selected Geometric Graphic element is added to the screen.

**NOTE**: All elements in **Geometric Graphic** menu except **Polygon** can be added with this procedure.

The **Geometric Graphic** elements available for general model TP series text panel is shown in the following figure.



Figure 3 - 38: Element(O) > Geometric Graphic (general models)

The **Geometric Graphic** elements available for the TP70P series text panel are show in the following figure. *Figure 3 - 39: Geometric Graphic* (TP70P series)

Elen	nent(0)	Screen Setting	Global	Setti	ng Communication	Tools
	Geomet	ric Graphic	•		Line	
Α	Static Te	xt			Rectangle(Outline)	
Ν	Numerio	ASCII Display:		0	Circle(Outline)	
	Bitmap		+	$\mathcal{C}$	Curve	
<u>dı</u>	Bar(P)			$\bigcirc$	Chord(OutLine)	
$\odot$	Meter			Ø	Sector(Outline)	
	Message	e Display		얊	Polygon	

Figure 3 - 39: Geometric Graphic (TP70P series)

The **Geometric Graphic** elements for general model and TP70PPP series text panel are shown in the following table:

Geometric Graphic	General Model	TP70PPP series
Line		
Rectangle(Outline)		
Rectangle(Solid)		Not Applicable
Circle(Outline)	0	$\bigcirc$
Circle(Solid)		Not Applicable
Curve		
Chord(Outline)	2	$\square$

Geometric Graphic	General Model	TP70PPP series
Chord(Solid)		Not Applicable
Sector(Outline)		
Sector(Solid)		Not Applicable
Polygon	$\diamond$	

Follow these steps to add a **Polygon** to a screen:

- Click Element(O) > Geometric Graphic > Polygon on the Menu bar, or Click the icon on the Drawing Toolbar.
- 2. Click on the screen and then click each point to form the polygon.
- When user have created the required corners, right-click the mouse to finish.
   Result: The Polygon is added to the screen as shown in the above table.

User can open the property setting windows for the Geometric Graphic elements by double-clicking the element. The property setting window is not available for the general models. For the TP70P series text panel, there are two tabs in the property setting window for all Geometric Graphic element.

- Property
- Coordinates

The **Property** tab in the **Line** element window for the TP70P series text panel is shown in the following figure.

e		
Preview	Property Coordinates	
	Color Setting	
	Solid	
	Background Color:	
	Border Color:	
ate:		
~		
lement description: Line_001		
_		
		OK Cancel

Figure 3 - 40: Line element window - Property tab for TP70P series

The **Property** tab in the **Rectangle(Outline)** element window for the TP70P series text panel is shown in the following figure *Figure 3 - 41: Rectangle(Outline) element window - Property tab for* TP70P series.

Rectangle(Outline)		×
Preview	Property Coordinates Color Setting Solid	
	Background Color:	
State: 0 ~		
Element description: Rectangle(Outline)_002		
		OK Cancel

Figure 3 - 41: Rectangle(Outline) element window - Property tab for TP70P series

The **Property** tab in the **Circle(Outline)** element window for the TP70P series text panel is shown in the following figure.

Circle(Outline)	:	×
Preview	Property Coordinates	
$\sim$	Color Setting	
r i	□ Solid	
$\sim 2$	Background Color:	
<u> </u>	Border Color:	
State:		
0 ~		
Element description: Circle(Outline)_003		
Circle(Outline)_003		
	OK Cancel	

## Figure 3 - 42: Circle(Outline) element window – Property tab for TP70P series

The **Property** tab in the **Curve** element window for the TP70P series text panel is shown in the following figure.

Curve		×
Preview	Property Coordinates	
/	Color Setting	
	Background Color:	
~~	Border Color:	
State:		
0		
Element description:		
Curve_004		
	OK Cance	el 🛛

Figure 3 - 43: Curve element window – Property tab for TP 70 series

The **Property** tab in the **Chord(Outline)** element window for the TP70P series text panel is shown in the following figure.

Chord(Outline)		×
	Property Coordinates Cotor Setting Solid Background Color:	
State:	Border Color:	
0 ~		
Element description:		
Chord(Outline)_005		
		OK Cancel

Figure 3 - 44: Chord(Outline) element window – Property tab for TP70P series

The **Property** tab in the **Sector(Outline)** element window for the TP70P series text panel is shown in the following figure.

Sector(Outline)	,	×
Sector(Outline)  Preview  State:  D  Element description:  Sector(Outline)_006	Property Coordinates Color Setting Solid Background Color: Border Color:	<
	OK Cancel	

## Figure 3 - 45: Sector(Outline) element window – Property tab for TP70P series

The **Property** tab in the **Polygon** element window for the TP70P series text panel is shown in the following figure.

olygon		>
Preview	Property Coordinates	
$\sim$	Color Setting	
$  / \rangle$	Solid	
NZ	Background Color:	
~	Border Color:	
State:		
0	×	
Element description:		
Polygon_006		
		OK. Cancel

Figure 3 - 46: Polygon element window – Property tab for TP70P series

The **Property** tab in the **Geometric Graphic** element's window displays properties as mentioned in the following table:

Function	Description
	Select the check box to enable the solid element (fill).
Solid	
	<b>NOTE</b> : The <b>Solid</b> check box is not selected by default.
Background Color	Select the background color.
Border Color	Select the border color.

Click the **Coordinates** tab to open it. The **Coordinates** tab for all the **Geometric Graphic** elements displays the properties as shown in the following figure.





The **Coordinates** tab in the **Geometric Graphic** element's window displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate of the Geometric Graphic element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate of the Geometric Graphic element. Enter a value to change the Y coordinate.
Width	Displays the width of Geometric Graphic element. Enter a value to change the width.
Height	Displays the height of Geometric Graphic element. Enter a value to change the height.

#### 3.5.2 Static Text

User can add text to a screen using the **Static Text** element.

The **Static Text** element for general model and TP70P series text panel is shown in the following table:

Element	General Model	TP70P Series		
Static Text	TEXT	TEXT		

### 3.5.2.1 Static Text in General Model TP Series Text Panel:

Follow these steps to add a **Static Text** to a screen and edit the properties in a general model TP series text panel:

1. Click on Element(O) > Static Text on Menu bar, or

Click the **A** icon on the **Element Selection** Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The **Static Text** element is added to the screen.

3. Double-click the Static Text element to edit the properties.

**Result**: The **Static Text** window displays as shown in the following figure. The **Property** tab displays by default. The **Static Text** window has three tabs for general model TP series text panel:

- Property
- Text
- Coordinates

tatic Text			>
Preview	Property Text	Coordinates	
	Outline:	Single Border $\checkmark$	
	Text Direction:	From Left to Right $\sim$	
itate:			
) ~			
Element description: Static Text_001			
		OK Canc	-1

Figure 3 - 48: Static Text window – Property tab for general model

The **Property** tab in the **Static Text** window displays properties as mentioned in the following table:

Function	Description						
Outline	Select the desired outline. Options are: • No Border • Single Border • Double Border • Thick Border • Dot Border • Dotted Line Border						
	<b>NOTE</b> : The default value is <b>Single Border</b> .						
Text Direction	<ul> <li>Select the text direction. Options are:</li> <li>From Left to Right</li> <li>From Right to Left</li> <li>From Top to Bottom</li> <li>From Bottom to Top</li> </ul>						

Function	Description
	<b>NOTE</b> : The default value is <b>From Left to Right</b> .

Click the **Text** tab in the **Static Text** window to display the Text tab as shown in the following figure.



Figure 3 - 49: Static Text - Text tab for general model

The **Text** tab in the **Static Text** window displays properties as mentioned in the following table:

Function	Description					
Text field	Enter the text.					
Font Type field	Select the font type.					
Font Size field	lect the font size.					
Bold field	Select the check box to make the text bold.					
Italic field	Select the check box to make the text italic.					
Font Color field	Select the font color of the text.					
Horiz. alignment	Select the horizontal alignment. Options are:					
nonz. alignment	Align Left					

Function	Description					
	Horiz. Centering					
	Align Right					
	<b>NOTE</b> : The default value is Align Left.					
	Select the vertical alignment. Options are:					
	Align Top					
Vert. alignment	Vert. Centering					
vert. alignment	Align Bottom					
	<b>NOTE</b> : The default value is <b>Align Top</b> .					

Click the **Coordinates** tab in the **Static Text** window to display the Coordinates tab as shown in the following figure.

tic Text								
review	Property	Text	Coordinates					
	Coordina	tes						
TEXT		X:	16	-	Y:	11	*	
ᇉᅭᆡ		Width:	40	*	Height:	20	÷	
				•			•	
ate:								
lement description:								
Static Text_001								
							OK	Cance

Figure 3 - 50: Static Text window – Coordinates tab for general model

The **Coordinates** tab in the **Static Text** window displays properties as mentioned in the following table:

Function	Description
х	Displays the X coordinate for the Static Text element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Static Text element. Enter a value to change the Y coordinate.
Width	Displays the Width for the Static Text element. Enter a value to change the width.
Height	Displays the Height for the Static Text element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

## 3.5.2.2 Static Text in TP70P Series Text Panel:

Steps for adding a Static Text element to TP70P series text panel are the same as the steps for the general model TP series text panel. Refer <u>3.5.2.1 Static Text in</u> <u>general model TP series text panel</u>: for more information.

Double-click the Static Text element in the TP70P series text panel to open the **Static Text** window as shown in the following figure. The **Property** tab displays by default. The **Static Text** window has three tabs for TP70P series text panel:

- Property
- Text
- Coordinates

atic Text		
review	Property Text Coordinates	
TEXT	Text Direction: From Left to Right $\checkmark$	
ILXI	Enable 3D Style: Yes 🗸	
ate:	Border Width: 5	
	Border Color:	
	Background Color:	
lement description:		
Static Text_000		
		OK Canc

Figure 3 - 51: Static Text window – Property tab for TP70P series

The **Property** tab in the **Static Text** window displays properties as mentioned in the following table:

Function	Description			
	Select the text direction. Options are:			
	From Left to Right			
	From Right to Left			
Text Direction	From Top to Bottom			
	From Bottom to Top			
	<b>NOTE</b> : The default value is <b>From Left to Right</b> .			
	Select to enable or disable 3D style. Options are:			
	• Yes			
Enable 3D Style	• No			
	<b>NOTE</b> : The default value is <b>Yes</b> .			
	Enter the border width.			
Border Width				
	<b>NOTE</b> : The default value is <b>5</b> .			
Border Color	Select the border color.			

Function	Description
Background Color	Select the background color.

Click the **Text** tab in the **Static Text** window to display the Text tab as shown in the following figure.

Static Text		×
Preview	Property Text Coordinates	
TEXT State:	Text       Image:	
Element description: Static Text_000	State     Language1       0     TEXT	
	OK Cance	el

Figure 3 - 52: Static Text window – Text tab for TP70P series

The **Text** tab in the **Static Text** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description		
Text field	Enter the text.		
Font Type field	Select the font type.		
Font Size field	Select the font size.		
Bold field	Select the check box to make the text bold.		
Italic field	Select the check box to make the text italic.		
Font Color field	Select the font color.		

Function	Description			
Horiz. alignment	<ul> <li>Select the horizontal alignment. Options are:</li> <li>Align Left</li> <li>Horiz. Centering</li> <li>Align Right</li> </ul> NOTE: The default value is Align Left.			
Vert. alignment	<ul> <li>Select the vertical alignment. Options are:</li> <li>Align Top</li> <li>Vert. Centering</li> <li>Align Bottom</li> </ul> <i>NOTE: The default value is Align Top.</i>			

Click the **Coordinates** tab in the **Static Text** window to display the Coordinates tab as shown in the following figure.

Static Text								×
Preview	Property	Text	Coordinates					
	Coordinat	es						
TEXT		X:	336	*	Y:	67	* *	
IEAI		Width:	80	*	Height:	50	* *	
State:								
0 ~								
Element description:								
Static Text_000								
							OK	Cancel

#### Figure 3 - 53: Static Text window – Coordinates tab for TP70P series

The **Coordinates** tab in the **Static Text** window for TP70P series text panel displays properties as mentioned in the following table:

Function	Description
х	Displays the X coordinate for the Static Text element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Static Text element. Enter a value to change the Y coordinate.
Width	Displays the Width for the Static Text element. Enter a value to change the width.
Height	Displays the Height for the Static Text element. Enter a value to change the height.

### 3.5.3 Numeric/ASCII Display

A TP series text panel reads the value from a device and displays it on the screen in the TP series text panel using the **Numeric/ASCII Display** element.

The **Numeric/ASCII Display** element for the general model and TP70P series text panel is shown in the following table:

Element	General Model	eral Model TP70P series		
Numeric/ASCII Display	0	0		

## 3.5.3.1 Numeric/ASCII Display in General Model TP Series Text Panel:

Follow these steps to add a Numeric/ASCII Display element to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Numeric/ASCII Display on the Menu bar, or

Click the Micon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Numeric/ASCII Display element is added to the screen.

3. Double-click the Numeric/ASCII Display element to edit the properties.

**Result**: The Numeric/ASCII Display window for the general model TP series is shown in the following figure. The **Property** tab displays by default. The Numeric/ASCII Display window for general model TP series text panel has two tabs:

- Property
- Coordinates

umeric/ASCII Display Preview	Property Coor	rdinates			3
	Refer Device	unates			
-	Device Address:	D0	Outline:	No Border	$\sim$
0			Font Setting:	5x8	$\sim$
			Horiz. alignment:	Align Left	$\sim$
	Value Type:	Unsigned $\vee$	Leading Zeros:	No	~
) v	Value Length:	16 Bits $\lor$	Arithmetic		
	Value Format				
	Integer Digits	5 ~			
Iement description: Numeric/ASCII Display_00	Fractional Digits	0 ~			
1 7=					
				OK	Cancel

Figure 3 - 54: Numeric/ASCII Display window – Property tab for general model

The **Property** tab in **Numeric/ASCII Display** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description	
Refer Device - Device Address	Select the device address that the text panel reads to display its value.	
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>	

Function	Description
	<ul> <li>ASCII</li> <li>Binary</li> <li>Float</li> <li><i>NOTE: The default value is Unsigned.</i></li> </ul>
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> <li><i>NOTE: The default value is 16 Bits.</i></li> </ul>
Value Format - Integer Digits	<ul> <li>Select the number of integer places. Options are:</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> <li><i>NOTE: The default value is 5.</i></li> </ul>
Value Format - Fractional Digits	Select the number of decimal places. Options are: • 0 • 1 • 2 • 3 • 4 • 5 <b>NOTE:</b> The default value is 0.
Outline	<ul> <li>Select the border type. Options are:</li> <li>No Border</li> <li>Single Border</li> <li>Double Border</li> <li>Thick Border</li> <li>Dot Border</li> <li>Dot Border</li> <li>Dotted Line Border</li> </ul>
Font Setting	Select the font setting. Options are: • 5x8

Function	Description
	• 8x8
	• 8x12
	• 8x16
	<b>NOTE</b> : The default value is <b>5x8</b> .
	Select the horizontal alignment. Options are:
	Align Left
Horiz. alignment	Horizontal Centering
nonz. angriment	Align Right
	<b>NOTE</b> : The default value is <b>Align Left</b> .
	Select whether to display leading zeros or not. Options are:
	• No
Leading Zeros	• Yes
	<b>NOTE</b> : The default value is <b>No</b> .
Arithmetic	Select to perform an arithmetic operation on the device
	address. Click to open <b>Operation Setting</b> dialog box.

User can perform an arithmetic operation in the **Operation Setting** window. Click to select an operator. Click to open **Refer Device** window to set an operand. Click **CLR** to clear the settings.

An example of arithmetic operation to display  $D0 = ((D0 + D1) \times D10)$  is shown in the following figure.

Operation S	Setting	
Operatio	D0=((D0+D1)XD10)	
OP	+ D1	CLR
OP	X D10	CLR
OP		CLR
OP		CLR
		OK

Figure 3 - 55: Operations Setting window

**Example 1**: (Integer Digits and Fractional Digits)

Suppose the value in T0 is 500 (the time interval that T0 measures is 50 seconds).

*Case 1*: If Integer Digits = 3 and Fractional Digits = 0.

Result: 500 displays.

Case 2: If Integer Digits = 3 and if Fractional Digits = 1.

Result: 50.0 displays.

Example 2: (Integer Digits, Fractional Digits and Leading Zeros)
Suppose take a value of 32483 *Case 1*: If Integer Digits = 5, Fractional Digits = 2 and Leading Zeros = No.
Result: 324.83 displays.

Case 2: If Integer Digits = 5, Fractional Digits = 2 and Leading Zeros = Yes. Result: 00324.83 displays. Click the **Coordinates** tab in the **Numeric/ASCII Display** window to display the Coordinates tab as shown in the following figure.

Numeric/ASCII Display								×
Preview	Property Coordina	Coord	inates					
0		X: Width:	33	• •	Y: Height:	34	* *	
State:								
Element description: Numeric/ASCII Display_0(								
							OK	Cancel

# Figure 3 - 56: Numeric/ASCII Display window – Coordinates tab for general model

The **Coordinates** tab in the **Numeric/ASCII Display** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Numeri/ASCII Display element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Numeric/ASCII Display element. Enter a value to change the Y coordinate.
Width	Displays the width for the Numeric/ASCII Display element. Enter a value to change the width.
Height	Displays the height for the Numeric/ASCII Display element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

## 3.5.3.2 Numeric/ASCII Display in TP70P Series Text Panel:

The procedure to add a **Numeric/ASCII Display** element in TP70P series text panel is same as that of general model TP series text panel. Refer <u>3.5.3.1 Numeric/ASCII</u> <u>Display in general model TP series text</u> panel: for more information.

The **Numeric/ASCII Display** window for the TP70P series text panels displays as shown in the following figure. The **Property** tab displays by default. The Numeric/ASCII Display window has two tabs for the TP70P series text panel:

- Property
- Coordinates

Numeric/ASCII Display				×
Preview	Property Cod	rdinates		
	Refer Device			
0	Read Address:	D0	Font Setting:	Font
			Horiz. alignment:	Align Left $\checkmark$
	Value Type:	Unsigned $\checkmark$	Leading Zeros:	No ~
State:	Value Length:	16 Bits $\checkmark$		
•	Value Format		Enable 3D Style:	Yes 🗸
	Integer Digits	5 ~	Border Width:	5
Element description:	Fractional Digits	0 ~	Color Setting	
Numeric/ASCII Display_00			Border Color:	
			Font Color:	
			Background Color:	· · ·
				OK Cancel

Figure 3 - 57: Numeric/ASCII Display window – Property tab for TP70P series

The **Property** tab in the **Numeric/ASCII Display** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device -Device Address	Select the device address that the text panel reads to display its value.
Value Type	<ul> <li>Select the datatype of the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> <li>Binary</li> <li>Float</li> </ul> <i>NOTE: The default value is Unsigned.</i>
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> <li><i>NOTE: The default value is 16 Bits</i>.</li> </ul>
Value Format - Integer Digits	<ul> <li>Select the number of integer places. Options are:</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> </ul> NOTE: The default value is 5.
Value Format - Fractional Digits	<ul> <li>Select the number of decimal places. Options are:</li> <li>0</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> </ul> NOTE: The default value is 0.
Font Setting	Click to open the Font Setting dialog box. User can set the following properties: • Font • Size • Bold

Function	Description		
	Italics		
	Click OK to save settings.		
	Select the horizontal alignment. Options are:		
Horiz. alignment	Align Left		
	Horizontal Centering		
	Align Right		
	<b>NOTE</b> : The default value is <b>Align Left</b> .		
	Select whether to display leading zeros. Options are:		
	• No		
Leading Zeros	• Yes		
	<b>NOTE</b> : The default value is <b>No</b> .		
Color Setting –	Select the border color.		
Border Color			
Color Setting – Font Color	Select the font color.		
Color Setting – Background Color	Select the background color.		

Click the **Coordinates** tab in the **Numeric/ASCII Display** window to display the Coordinates tab as shown in the following figure.

umeric/ASCII Display								
Preview	Property	Coord	inates					
	Coordina	les						
0		X:	269	-	Y:	142	÷	
v j		Width:	95	* *	Height:	29	÷	
tate:								
) ~								
Element description:								
Numeric/ASCII Display_00								

Figure 3 - 58: Numeric/ASCII Display window – Coordinates tab for TP70P series

The **Coordinates** tab in the **Numeric/ASCII Display** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
х	Displays the X coordinate for the Numeric/ASCII Display element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Numeric/ASCII Display element. Enter a value to change the Y coordinate.
Width	Displays the width for Numeric/ASCII Display element. Enter a value to change the width.
Height	Displays the height for Numeric/ASCII Display element. Enter a value to change the height.

5. Set the properties as per user's requirements and click on OK button.

#### 3.5.4 Lamp (16x16)

User can show the state(s) of a Boolean/multiple state variable with the Lamp element. User can add a Lamp element to the screen by clicking **Element(O)** > **Lamp(16x16)**. TP series supports two types of Lamps:

- Bit Lamp (for Boolean variable)
- Word Lamp (for variable with multiple states)

The options to add a Lamp element from menu bar are shown in the following figure.



Figure 3 - 59: Lamp(16x16) options

#### 3.5.4.1 Bit Lamp in General Model TP Series Text Panel:

Follow these steps to add a Bit Lamp to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Lamp(16x16) > Bit Lamp on the Menu bar, or

Click the O icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The **Bit Lamp** element is added to the screen as shown in the following figure.



Figure 3 - 60: Bit Lamp

3. Double-click the Bit Lamp element to edit the properties.

**Result**: The **Bit Lamp** window displays as shown in the following figure. The **Property** tab is the default tab in the Bit Lamp window. The Bit Lamp window has two tabs for general model TP series text panel:

- Property
- Coordinates

Bit Lamp					×
Preview	Property Coord	dinates			
$\sim$	Refer Device		Bitmap Setting		
$r \rightarrow 1$	Device Address:	M0	ON Bitmap:	O ~	
	Device Address:		OFF Bitmap:	0 v	
$\sim 2$				<u> </u>	
State:					
•					
Element description:					
Bit Lamp_001					
				OK Ca	ncel

Figure 3 - 61: Bit Lamp window – Property tab for general model

The **Property** tab in the **Bit Lamp** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Device Address	Select the device address that has the images user want to display.
Bitmap Setting – ON Bitmap	Select the image to display when the value of the variable is 1.
Bitmap Setting – OFF Bitmap	Select the image to display when the value of the variable is 0.

Click on the **Coordinates** tab in the **Bit Lamp** window to display the Coordinates tab as shown in the following figure.



Figure 3 - 62: Bit Lamp window – Coordinates tab for general model

The **Coordinates** tab in the **Bit Lamp** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description			
X	Displays the X coordinate for the Bit Lamp element. Enter a value to change the X coordinate.			
Function	Description			
----------	---			
Y	Displays the Y coordinate for the Bit Lamp element. Enter a value to change the Y coordinate.			
Width	Displays the width of the Bit Lamp element.			
	<b>NOTE</b> : Width is read-only.			
	Displays the height of the Bit Lamp element.			
Height				
	<b>NOTE</b> : Height is read-only.			

4. Set the properties as per user's requirements and click on OK button.

# 3.5.4.2 Word Lamp in General Model TP Series Text Panel:

Follow these steps to add a Word Lamp to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Lamp(16x16) > Word Lamp on the Menu bar, or

Click the **b** icon on the **Element Selection** Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Word Lamp element is added to the screen.

NOTE: Bit Lamp and Word Lamp images look similar.

3. Double-click the Word Lamp element to edit the properties.

**Result**: The **Word Lamp** property window is shown in the following figure. The Word Lamp window has two tabs for general model TP series text panel:

- Property
- Coordinates

The **Property** tab is the default tab in the Word Lamp window.

Word Lamp				)
Preview	Property Coordinates			
$\cap$	Refer Device Device Address: D0	Value Type: Value Length:	Unsigned ~ 16 Bits ~	
State:	Range Value Sequence	Bitmap:	<u> </u>	
	All States Table			
	State Device Value >= Range Value 0 0			
Element description:	1 0			
Word Lamp_002	2 0			
	3 0 4 0			
	Reference Value			
			OK	Cancel

Figure 3 - 63: Word Lamp window – Property tab for general model

The **Property** tab in the **Word Lamp** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device -Device Address	Select the device address that has the images user want to display.
Range Value Sequence - From Max to Min	Select to define range values in descending order.
Range Value Sequence - From Min to Max	Select to define range values in ascending order.
All States Table	Enter the values for states from state0 to state4.
All States Table - Reference Value	Click the <b>Reference Value</b> button to open <b>Range</b> <b>Value Reference Value</b> dialog box. Enter the <b>Range</b> <b>Limit</b> for <b>Lower Bound</b> and <b>Upper Bound</b> .
Value Type	<ul> <li>Select the variable datatype. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>

Function	Description
	<b>NOTE</b> : The default value is <b>Unsigned</b> .
Value Length	<ul><li>Select the Bit Length. Options are:</li><li>16 Bits</li><li>32 Bits</li></ul>
	<b>NOTE</b> : The default value is <b>16 Bits</b> .
Bitmap	Select the image from the drop down menu for the different states.
State	Select the state value from the drop down menu for the desired states.

The value in a device address is compared to the values corresponding to **state0** to **state4**. If the device address's value is greater than or equal to the value of a state, the **Word Lamp** corresponding to the state displays on the text panel screen.

There are five states (state0 ~ state4). User can set the images and the range values for the four states. If the value in the device address is greater than or equal to a range value, the image corresponding to the state displays on the screen.

### Example:

**Range Value Sequence = From Max to Min**, **state 0** = 300, **state 1** = 100.

*Case 1*: Variable value is greater than or equal to 300.

**Result**: image corresponding to state0 displays.

*Case 2*: Variable value is more than 100 and less than 300.

**Result**: Image corresponding to state1 displays.

Click on the **Coordinates** tab in the **Word Lamp** window to display the Coordinates tab as shown in the following figure.

Vord Lamp								>
Preview	Property	Coordi	nates					
$\sim$	Coordina	tes						
r n		X:	89	÷	Y:	14	*	
		Width:	16	- -	Height:	16	*	
$\sim 2$		Willin.	10	Y	Tioigin.		T	
State:								
U V								
Element description:								
Word Lamp_004								
							ОК	Cancel

Figure 3 - 64: Word Lamp window – Coordinates tab for general model

The **Coordinates** tab in the **Word Lamp** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
X	Displays the X coordinate for the Word Lamp element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Word Lamp element. Enter a value to change the Y coordinate.
Width	Displays the width for the Word Lamp element
	<b>NOTE</b> : Width is read-only.
	Displays the height for the Word Lamp element
Height	
	<b>NOTE</b> : Height is read-only.

4. Set the properties as per user's requirements and click on OK button.

#### 3.5.5 Bitmap

User can add a bitmap to a screen with the **Bitmap** element. The DIAScreen supports two types of bitmaps as displayed

- Static Bitmap
- Dynamic Bitmap



Figure 3 - 65: Bitmap options

#### 3.5.5.1 Static Bitmap:

User can add a bitmap that is static in nature with the Static Bitmap element.

An example of Static Bitmap is shown in the following figure.



Figure 3 - 66: Static Bitmap

Static Bitmap in General Model TP Series Text Panel:

Follow these steps to add a Static Bitmap to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Bitmap > Static Bitmap on the Menu bar, or

Click the Relevant the Element Selection Toolbar.

2. Click the screen and drag the mouse cursor to the required dimensions.

Result: The Static Bitmap element is added to the screen.

3. Double-click the Static Bitmap to edit the properties.

**Result**: The **Static Bitmap** window displays as shown in the following figure. The Property tab is the default tab of Static Bitmap window. Static Bitmap window has two tabs for general model TP series text panel:

- Property
- Coordinates

Static Bitmap		×
Preview	Property Coordinates Bitmap Read Clear Picture	
State:		
Element description:		
Static Bitmap_003		
	OK Cancel	

Figure 3 - 67: Static Bitmap window – Property tab for general model

The **Property** tab in the **Static Bitmap** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
	Click to display the <b>Open</b> window to select a location and the .bmp file to display.
Bitmap Read	<b>NOTE</b> : Bitmap images are available in: < drive>\Program Files (x86)\Delta Industrial Automation\ DIAStudio\DIAScreen\ScrEditApp\TPSeries\BmpGroup\ <folders></folders>
Clear Picture	Click to delete the current bitmap.

Click on the **Coordinates** tab in the **Static Bitmap** window to display the Coordinates tab as shown in the following figure.

Preview		Coordina						
Treview	Property	Coordina	ates					
	Coordina	tes						
		X:	54	*	Y:	8	•	
		Width:	16	*	Height:	16	* *	
State:								
0 ~								
Element description:								
Static Bitmap_006								

Figure 3 - 68: Static Bitmap window – Coordinates tab for general model

The **Coordinates** tab in the **Static Bitmap** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
X	Displays the X coordinate for the Static Bitmap element. Enter a value to change the X coordinate.

Function	Description
Y	Displays the Y coordinate for the Static Bitmap element. Enter a value to change the Y coordinate.
Width	Displays the width for the Static Bitmap element
	<b>NOTE</b> : Width is read-only.
	Displays the height for the Static Bitmap element
Height	
	<b>NOTE</b> : Height is read-only.

4. Set the properties as per user's requirements and click OK button.

# Static Bitmap in TP70P Series Text Panel:

The procedure to add a Static Bitmap element in TP70P series text panel is same as that of Static Bitmap element to a general model TP series text panel. Refer <u>Static</u> <u>Bitmap in general model TP series text panel</u>: for more information.

The **Static Bitmap** window for TP70P series text panel is shown in following figure. The Property tab displays by default. The Static Bitmap window has two tabs for TP70P series text panel:

- Property
- Coordinates

review	Property Coordinates	
	Bitmap Setting	
	From File Clear Picture	
	Use HMI Picture Bank	
	None	
ite:	None	
~		
~		
ement description:		
lement description: Static Bitmap_001		

Figure 3 - 69: Static Bitmap window – Property tab for TP70P series

The **Property** tab in the **Static Bitmap** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Bitmap Settings – From File	Click to display the <b>Open</b> window to select a location and the .bmp file to display. <b>NOTE</b> : Bitmap images are available in:
FIOITI FILE	<pre><drive>\Program Files (x86)\Delta Industrial Automation\ DIAStudio\DIAScreen\ScrEditApp\TPSeries\BmpGroup\<folders></folders></drive></pre>
Bitmap Settings – Clear Picture	Click to delete the current bitmap.
Use HMI Picture Bank	Select a picture bank and an image in the picture bank.

Click the **Coordinates** tab in the **Static Bitmap** window to display the Coordinates tab as shown in the following figure.

c Bitmap								
eview	Property	Coordi	nates					
	Coordinat	es						
		X:	452	•	Y:	87	•	
		Width:	83	* *	Height:	59	- -	
		WILLIL.	05	Ŧ	rieigiu.	55	Y	
te:								
~								
ement description:								
tatic Bitmap_010								
							OK	Cancel

Figure 3 - 70: Static Bitmap window – Coordinates tab for TP70P series

The **Coordinates** tab in the **Static Bitmap** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Static Bitmap element. Enter value to change the X coordinate.
Y	Displays the Y coordinate for the Static Bitmap element. Enter value to change the Y coordinate.
Width	Displays the width for the Static Bitmap element. <b>NOTE</b> : Width is read-only.
	Displays the height for the Static Bitmap element.
Height	Displays the height for the State Dithap element.
	<b>NOTE</b> : Height is read-only.

5. Set the properties as per user's requirements and click on OK button.

#### 3.5.5.2 Dynamic Bitmap:

User can add a bitmap that is dynamic in nature using the **Dynamic Bitmap** element. The value in a device address is compared to the values corresponding to a state. If the value in the device address is greater than or equal to the value of the state, the image corresponding to the state displays on the text panel screen. A dynamic image is different from a static image because the Dynamic Bitmap image corresponds to a state.

### Dynamic Bitmap in General Model TP Series Text Panel:

Follow these steps to add a Dynamic Bitmap to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Bitmap > Dynamic Bitmap on the Menu bar, or

Click the <sup>3</sup> icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the desired requirements.

**Result**: The Dynamic Bitmap element is added to the screen.

3. Double-click the Dynamic Bitmap to edit the properties.

**Result**: The **Dynamic Bitmap** window displays as shown in the following figure.

The Dynamic Bitmap window has two tabs for general model TP series text panel:

- Property
- Coordinates

The **Property** tab displays by default.

Preview	Property Coordinates			
	Refer Device			
	Device Address: M0	Value Type:	Unsigned $\vee$	
	Bit O Value	Value Length:	16 Bits 🗸	
	() bit () value		10 Bits V	
		State Counts:	2 *	
tate:				
) ~		Bitmap Read	Clear Picture	
-				
-				
-				
-				
-				
-				
-				
Element description:				

Figure 3 - 71: Dynamic Bitmap window – Property tab for general model

The **Property** tab in the **Dynamic Bitmap** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device – Device Address	Select the device address that has the images user want to display.
Refer Device - Bit	Select <b>Bit</b> if the variable is a Boolean datatype.
Refer Device - Value	Select Value if the variable has multiple states.
Bitmap Read	Click to display the <b>Open</b> window to select the location and .bmp file to display. <b>NOTE</b> : Bitmap images are available in: <drive>\Program Files (x86)\Delta Industrial Automation\</drive>
	DIAStudio\DIAScreen\ScrÉditApp\TPSeries\BmpGroup\ <folders></folders>
Clear Picture	Click to delete the current bitmap.

If user select **Bit**, select images corresponding to values 0 and 1. If user select **Value**, then user can set up to a maximum of 255 states.

If **Value** is selected, the **Dynamic Bitmap** window displays the **Property** tab as shown in the following figure.

Preview	Property Coordinates		
	Refer Device Device Address: D0	Value Type: Value Length:	Unsigned $\checkmark$ 16 Bits $\checkmark$
State:	Range Value Sequence	State Counts:	2
0 ~	O From Min to Max	Bitmap Read	Clear Picture
Element description: Dynamic Bitmap_001	All States Table           State         Device Value >= Range Value           0         0           1         0   Reference Value		

## Figure 3 - 72: Dynamic Bitmap window – Property tab (Value) for general model

If user select Value, the Property tab in the Dynamic Bitmap window displays extra properties as mentioned in the following table:

Function	Description
Range Value Sequence - From Max to Min	Select to define range values in the descending order.
Range Value Sequence - From Min to Max	Select to define range values in the ascending order.
All States Table	Enter the values for state0 to stateN, where N = (State Counts -1).

Function	Description
All States Table - Reference Value	Click Reference Value open the Range Value Reference Value dialog box. Enter the Range Limit for Lower Bound and Upper Bound.
Value Type	<ul> <li>Select the variable datatype. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>
	<b>NOTE</b> : The default value is <b>Unsigned</b> .
Value Length	<ul><li>Select the bit length here. Options are:</li><li>16 Bits</li><li>32 Bits</li></ul>
	<b>NOTE</b> : The default value is <b>16 Bits</b> .
State Counts	Select the number of states.
	<b>NOTE</b> : The default value is <b>2</b> .

When user selects **Bit** or **Value** and click **Bitmap Read**, a **File Open** dialog will be displayed. User needs to select the .bmp files to be displayed for the particular state.

User can set the images corresponding to the states and set the range values for the states. If the value in the device address is greater than or equal to a range value, the image corresponding to the state for the range value displays.

### Example:

**Range Value Sequence = From Max to Min**, **state 0** = 300, **state 1** = 100.

*Case 1*: Variable value is greater than or equal to 300.

**Result**: Image corresponding to state0 displays.

*Case 2*: Variable value is more than 100 and less than 300.

**Result**: Image corresponding to state1 displays.

Click on the **Coordinates** tab in the **Dynamic Bitmap** window to display the Coordinates tab as shown in the following figure.

Dynamic Bitmap								×
Preview	Property	Coordin	nates					
	Coordinat	ies						
		X:	56	•	Y:	11	* *	
		Width:	16	×	Height:	16	×	
State:								
0 ~								
Element description: Dynamic Bitmap_005								
							OK (	Cancel

Figure 3 - 73: Dynamic Bitmap window – Coordinates tab for general model

The **Coordinates** tab in the **Dynamic Bitmap** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Dynamic Bitmap element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Dynamic Bitmap element. Enter a value to change the Y coordinate.
Width	Displays the width for the Dynamic Bitmap element. <b>NOTE</b> : Width is read-only.
Height	Displays the height for the Dynamic Bitmap element.
	<b>NOTE</b> : Height is read-only.

4. Set the properties as per user's requirements and click on OK button.

### Dynamic Bitmap in TP70P Series Text Panel:

Procedure to add a Dynamic Bitmap element to TP70P series text panel is the same as to add Dynamic Bitmap element to a general model TP series text panel. Refer <u>Dynamic Bitmap in general model TP series text panel:</u> for more information.

The **Dynamic Bitmap** window for the TP70P series text panel is shown in the following figure. The Dynamic Bitmap window has two tabs for TP70P series text panel:

- Property
- Coordinates

The **Property** tab displays by default.

Dynamic Bitmap		×
Preview	Property Coordinates	
	Change State by © Refer Device ○ Automatic Control State Counts: 2 Bitmap Setting From File Clear Picture	
	Refer Device	
State:	Device D0	
	Value Type: Signed V	
	Value Length: 16 Bits ~	
Element description:		
Dynamic Bitmap_001		
	OK	Cancel



The **Property** tab in the **Dynamic Bitmap** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Change State by – Refer Device	Select the device address for animation of bitmap.
Change State by – Automatic Control	Select to do change state by automatic control.
Refer Device - Device	Select the device address that has the images user want to display.
Refer Device – Value Type	<ul> <li>Select the variable datatype. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> NOTE: The default value is Unsigned.
Refer Device – Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE:</b> The default value is 16 Bits.
State Counts	Select the number of states.
Bitmap Setting – From File	Click to display the <b>Open</b> window to select the location and the .bmp file to display. <b>NOTE</b> : Bitmap images are available in: <drive>\Program Files (x86)\Delta Industrial Automation\ DIAStudio\DIAScreen\ScrEditApp\TPSeries\BmpGroup\<folders></folders></drive>
Bitmap Setting – Clear Picture	Click to delete the current Bitmap.
User HMI Picture Bank	Click to select the picture bank and an image in the picture bank

**NOTE**: The Change State by and HMI picture bank options are only available for the TP70P series.

The Change State by property has the following options:

- Refer Device
- Automatic Control

The default value is **Refer Device**. If user change the option to **Automatic Control**, then the **Property** tab displays as shown in the following figure.

ynamic Bitmap		
Preview	Property Coordinates	
	Change State by O Refer Device ©[Automatic Control]	State Counts: 2 •
State:	Automatic Control	Use HMI Picture Bank
0 ~	Time 1 *10 ms	None
Element description:		
Dynamic Bitmap_001		
		OK Cancel

Figure 3 - 75: Dynamic Bitmap window – Property tab – Automatic Control for TP70P series

When user select **Automatic Control**, an additional property displays in the **Property** tab as mentioned in the following table:

Function	Description
Automatic Control - Time	Enter a time with the multiplication factor of 10ms.

**NOTE**: For the **Automatic Control** option, user need to select a value in the **Time** field that has a multiplication factor of 10ms.

Click on the **Coordinates** tab in the **Dynamic Bitmap** window to display the **Coordinates** tab.

The **Coordinates** tab in the **Dynamic Bitmap** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Dynamic Bitmap element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Dynamic Bitmap element. Enter a value to change the Y coordinate.
Width	Displays the width for the Dynamic Bitmap element. Enter a value to change the width.
Height	Displays the height for the Dynamic Bitmap element. Enter a value to change the height.

5. Set the properties as per user's requirements and click on OK button.

### 3.5.6 Scale

User can add a scale to a screen with the **Scale** element.

Follow these steps to add a Scale to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Scale on the Menu bar, or

Click the 🔜 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Scale element is added to the screen.



Figure 3 - 76: Scale element

3. Double-click the Scale element to edit the Scale properties.

**Result**: The Scale window is displayed as shown in the following figure.

The Scale window has two tabs for general model TP series text panels:

- Property
- Coordinates

The **Property** tab is displayed by default.

Scale				×	(
Preview	Property Coord	inates			
0 25 50 75100	Scale Position:	Top 🗸	Font Setting:	5x8 ~	
	Direction:	Forward Directio 🗸	Scale Mark Number:	5	
State:	Value Type: Value Length:	Signed $\checkmark$ 16 Bits $\checkmark$	Subscale Mark Number:	2	
	Maximum:	100			
Element description: Scale_001	Minimum:	0			
				OK. Cancel	

Figure 3 - 77: Scale window – Property tab for general model

The **Property** tab in the **Scale** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description						
	Select the Scale position. Options are:						
	• Тор						
	Bottom						
Scale Position	• Left						
	Right						
	<b>NOTE</b> : The default value is <b>Top</b> .						
	Select the scaling direction. Options are:						
	Forward Direction						
Direction	Reverse Direction						
	<b>NOTE</b> : The default value is <b>Forward Direction</b> .						
	Select the value length. Options are:						
	• 16 Bits						
Value Length	• 32 Bits						
	<b>NOTE</b> : The default value is <b>16 Bits</b> .						
	Enter the maximum value for the Scale.						
Maximum	NOTE: The default value is 100						
	<b>NOTE</b> : The default value is <b>100</b> .						
Minimum	Enter the minimum value for the Scale.						
Winning	<b>NOTE</b> : The default value is <b>0</b> .						
	Select the font setting. Options are:						
	• 5x8						
	• 8x8						
Font Setting	• 8x12						
	• 8x16						
	<b>NOTE</b> : The default value is <mark>5x8</mark> .						
Scale Mark	Enter the intervals between the major tick marks.						
Number	<b>NOTE</b> : The default value is <b>5</b> .						
Subscale Mark	Enter the intervals between the minor tick marks.						
Number	<b>NOTE</b> : The default value is <b>2</b> .						

Click on the **Coordinates** tab in the **Scale** window to display the Coordinates tab as shown in the following figure.

Scale								×
Preview	Property Coordina	Coord tes	inates					
0 25 50 7100		X: Width:	<b>5</b> 0	• •	Y: Height:	22 18	* *	
State: 0 ~								
Element description: Scale 006								
							OK	Cancel

Figure 3 - 78: Scale window – Coordinates tab for general model

The **Coordinates** tab in the **Scale** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Scale element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Scale element. Enter a value to change the Y coordinate.
Width	Displays the width for the Scale element. Enter a value to change the width.
Height	Displays the height for the Scale element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

### Example:

Scale Position = Top, Direction = Forward Direction, Minimum = 0, Maximum = 100. Font Setting = 5x8, Scale Mark Number = 5 and Subscale Mark Number = 4 displays as shown in the following figure.



Figure 3 - 79: Scale element

## 3.5.7 Bar(P)

User can display the value of a variable in a bar with the **Bar** element.

The Bar element for general model and TP70P series text panel is shown in the following table:

Element	General Model	TP70P series		
Bar				

3.5.7.1 Bar Element in General Model TP Series Text Panel:

Follow these steps to add a Bar element to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Bar(P) on the Menu bar, or

Click the **L**icon on the **Element Selection** Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

Result: The Bar element is added to the screen.

3. Double-click the Bar element to edit the Bar properties.

**Result**: The **Bar** window is displayed as shown in the following figure. The Bar window has two tabs for general model TP series text panel:

- Property
- Coordinates

The **Property** tab is displayed by default.

Bar						×
Preview	Property Co	ordinates				
	Refer Device					
	Device Address:	D0		Orientation:	From Bottom to Top $\sim$	]
	Value Type:	Unsigned	~			
State:	Value Length:	16 Bits	$\sim$			
0 ~	Maximum	65535				
	Minimum	0				
Element description:						
Bar_008						
					OK Ca	ancel



The **Property** tab in the **Bar** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Device Address	Select the device address whose value user want to display.
Value Type	<ul> <li>Select the datatype of the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>
	<b>NOTE</b> : The default value is <b>Unsigned</b> .
Value Length	<ul><li>Select the Bit Length. Options are:</li><li>16 Bits</li><li>32 Bits</li></ul>
	<b>NOTE</b> : The default value is <b>16 Bits</b> .
Maximum	Enter the maximum value. <b>NOTE</b> : The default value is 65535.
Minimum	Enter the minimum value. <i>NOTE: The default value is 0</i> .
Orientation	<ul> <li>Select the orientation of the Bar element. Options are:</li> <li>From Bottom to Top</li> <li>From Top to Bottom</li> <li>From Right to Left</li> <li>From Left to Right</li> </ul> <b>NOTE:</b> The default value is From Bottom to Top.

Click on the **Coordinates** tab in the **Bar** window to display the Coordinates tab as shown in the following figure.

Bar								×
Preview	Property	Coordi	nates					
	Coordinat	es						
		X:	95	• •	Y:	26	÷	
		Width:	8	•	Height:	31	• •	
State:								
0 ~								
<b>-</b>								
Element description: Bar_008								
Dai _000								
							OK	Cancel

Figure 3 - 81: Bar window - Coordinates tab for general model

The **Coordinates** tab in the **Bar** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Bar element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Bar element. Enter a value to change the Y coordinate.
Width	Displays the width for the Bar element. Enter a value to change the width.
Height	Displays the height for the Bar element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

### 3.5.7.2 Bar Element in TP70P Series Text Panel:

Steps to add a Bar element to the TP70P series text panel are the same as the steps to add a Bar element to the general model TP series text panel. Refer <u>3.5.7.1 Bar</u> <u>element in general model TP series text</u> panel: for more information.

The **Bar** window for TP70P series is displayed as shown in the following figure. The Bar window displays two tabs for TP70P series text panel:

- Property
- Coordinates

The **Property** tab is displayed by default.

Bar				×
Preview	Property Co	oordinates		
	Refer Device			
	Read Address:	D0	Enable 3D Style:	Yes 🗸
			Border Width:	5
	Value Type:	Unsigned $\checkmark$		
State:	Value Length:	16 Bits $\checkmark$	Border Color:	•
0 ~			Foreground Color:	
	Maximum	65535	Background Color:	· ·
	Minimum	0	High Range Color:	
Element description:			Low Range Color:	
Bar_004	High Limit	65535	Target Value Setting	
	Low Limit	0	Enable Target D	eviation Value
			Target	0
	Orientation:	From Bottom to Top $\sim$	Deviation	0
			Target Color	· · ·
				OK Cancel

Figure 3 - 82: Bar window - Property tab for TP70P series

The **Property** tab in the **Bar** window for the TP70P series text panel displays properties as shown in the following table:

Function	Description		
Refer Device – Device Address	Select the device address whose value user want to display.		
Value Type	<ul> <li>Select the datatype of the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE</b> : The default value is Unsigned.		
Value Length	Select the Bit Length. Options are: • 16 Bits • 32 Bits <b>NOTE</b> : The default value is 16 Bits.		
Maximum	Enter the maximum value. <i>NOTE: The default value is 65535.</i>		
Minimum	Enter the minimum value. <i>NOTE: The default value is 0.</i>		
High Limit	Enter high limit value. <b>NOTE</b> : The default value is <mark>65535</mark> .		
Low Limit	Enter low limit value. <i>NOTE: The default value is 0</i> .		
Orientation	<ul> <li>Select the orientation of the Bar element. Options are:</li> <li>From Bottom to Top</li> <li>From Top to Bottom</li> <li>From Right to Left</li> <li>From Left to Right</li> </ul> <b>NOTE:</b> The default value is From Bottom to Top.		
Enable 3D Style	<ul> <li>Select to enable or disable the 3D style. Options are:</li> <li>Yes</li> <li>No</li> </ul> <b>NOTE</b> : The default value is Yes.		

Function	Description
Border Width	Select the border width.
Border Color	Select the border color.
Foreground Color	Select the foreground color.
Background Color	Select the background color.
High Range Color	Select the high range color.
Low Range Color	Select the low range color.
Target Value Setting - Enable Target Deviation Value	Select the check box to enable <b>Target Deviation</b> value settings. <b>NOTE</b> : <b>Target Deviation</b> is not selected by default.
Target Value Setting - Target	Enter the Target value.
Target Value Setting - Deviation	Enter the Deviation value.
Target Value Setting - Target Color	Select the Target color.

If the value of the variable is less than the Lower Limit, then the Bar's foreground color changes from the Foreground Color to Low Range Color. If the value of the variable is greater than the High Limit, the Bar's foreground color changes from the Foreground Color to High Range Color.

If the value of the variable is in the range of (Target – Deviation) or (Target + Deviation) and the Enable Target Deviation Value is set, then the Bar's foreground color changes from Foreground Color to Target Color.

### Example:

**Target Value = 50, Deviation = 5.** 

If the value of the variable is in the range of 45 to 55, the Bar's foreground color is set to the **Target Color**.

If the value of the variable is in the range of (Target – Deviation) to (Target + Deviation) and is less than the Low Limit, the Bar's foreground color is set to the Low Range Color. If the value of the variable is in the range of (Target – Deviation) to (Target + Deviation) and is greater than High Limit, then the Bar's foreground color is set to the High Range Color.

Click the **Coordinates** tab in the **Bar** window to display the Coordinates tab as shown in the following figure.

Preview	Property	Coordi	nates					
	Coordina	ates						
		X:	666	-	Y:	36	•	
		Width:	42	•	Height:	179	* *	
State:								
0 ~								
Element description:								
Bar_012								

Figure 3 - 83: Bar window - Coordinates tab for TP70P series

The **Coordinates** tab in the **Bar** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
X	Displays the X coordinate for the Bar element. Enter a value to change the X coordinate.

Function	Description
Y	Displays the Y coordinate for the Bar element. Enter a value to change the Y coordinate.
Width	Displays the width for the Bar element. Enter a value to change the width.
Height	Displays the height for the Bar element. Enter a value to change the height.

#### 3.5.8 Meter

User can add the value of a variable to a screen using the pointer of a dial meter pointer with the **Meter** element.

The Meter element for general model and TP70P series text panel is shown in the following table:

Element	General Model	TP70P series
Meter		65335 49151016383 32767

### 3.5.8.1 Meter Element in General Model TP Series Text Panel:

Follow these steps to add a Meter to a screen and edit the properties in a general model TP series text panel:

1. Click Element(O) > Meter on the Menu bar, or

Click the *icon* on the **Element Selection** Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

Result: The Meter element is added to the screen.

3. Double-click on the Meter element to edit the Meter properties.

**Result**: The Meter window is displayed as shown in the following figure. The Meter window has two tabs for general model TP series text panel:

- Property
- Coordinates

The **Property** tab is displayed by default.

ter				
review	Property Coor	dinates		
$\sim 1$	Refer Device		Style	
( <sup>50</sup> )	Device Address:	D0	300 Degree	◯ 360 Degree
Ŀ <sup>®</sup> Y	Value Type:	Unsigned $\checkmark$	Font Setting:	5x8 ~
ate:	Value Length:	16 Bits $\checkmark$		
~			Scale Mark Number:	3
	Integer Digits	3 ~	Subscale Mark Number:	2
	Fractional Digits	0 ~		
lement description: Meter_001	Maximum	100		
_	Minimum	0		
				OK Cance

Figure 3 - 84: Meter window – Property tab for general model

The **Property** tab in **Meter** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Device Address	Select the device address whose value user want to display.
Value Type	<ul><li>Select the datatype of the variable. Options are:</li><li>Unsigned</li></ul>

Function	Description	
	<ul> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>	
Value Length	<ul><li>NOTE: The default value is Unsigned.</li><li>Select the bit length. Option is:</li><li>16 Bits</li></ul>	
Integer Digits	<ul> <li>Select the number of integer places. Options are:</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> </ul> NOTE: The default value is 3.	
Fractional Digits	Select the number of decimal places. Options are: • 0 • 1 • 2 • 3 • 4 • 5 <b>NOTE</b> : The default value is 0.	
Maximum	Enter the maximum value for the Meter's scale. <b>NOTE</b> : The default value is 100.	
Minimum	Enter the minimum value for the Meter's scale. <b>NOTE</b> : The default value is <b>0</b> .	
Style – 300 Degree	Click to select 300-degree Meter. <b>NOTE</b> : The 300 Degree option is checked by default.	
Style – 360 Degree	Click to select 360-degree Meter.	
Font Setting	Select the Font Setting. Options are: • 5x8	

Function	Description
	• 8x8
	• 8x12
	• 8x16
	<b>NOTE</b> : The default value is <b>5x8</b> .
Scale Mark	Enter the precision of main scale for the Meter.
Number	<b>NOTE</b> : The default value is <b>3</b> .
Subscale Mark	Enter the precision of subscale for the Meter.
Number	<b>NOTE</b> : The default value is <b>2</b> .

## Example: (300 Degree and 360 Degree Meters)

Sample Meter elements with 300 Degree and 360 Degree for general models are shown in the following figure.



Figure 3 - 85: Meters - 300 and 360 Degrees for general model

## Example:

Style = 360 Degree, Minimum = 0, Maximum = 100, Font Setting = 5x8, Scale Mark Number = 5 and Subscale Mark Number = 4 is shown in the following figure.



Figure 3 - 86: Meter – example for general model

Click the **Coordinates** tab in the **Bar** window to display the Coordinates tab as shown in the following figure.



Figure 3 - 87: Meter window – Coordinates tab for general model

The **Coordinates** tab in the **Meter** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
X	Displays the X coordinate for the Meter element. Enter value to change the X coordinate.

Function	Description
Y	Displays the Y coordinate for the Meter element. Enter value to change the Y coordinate.
Width	Displays the width for the Meter element.
	<b>NOTE</b> : Width is read-only.
	Displays the height for the Meter element.
Height	
	<b>NOTE</b> : Height is read-only.

4. Set the properties as per user's requirements and click on OK button.

# 3.5.8.2 Meter Element in TP70P Series Text Panel:

The procedure to add a Meter element to a TP70P series text panel is same as the adding Meter element to a general model TP series text panel. Refer <u>3.5.8.1 Meter</u> <u>element in general model TP series text</u> panel: for more information.

The Meter window in the TP70P series is shown in the following figure. The Meter window has four tabs for TP70P series text panel:

- Property
- Appearance
- Constraint
- Coordinates

The **Property** tab is displayed by default.
r					
view	Property	Appearence	Constraint	Coordinates	
65.35	Refer Device				
o 16383-	Read Addre	ss: D0			
0 16383					
	Value Type	Unsigned	~		
	Value Leng	th: 16 Bits	~		
~	Value Setting				
	-				
	Maximum	65535			
	Minimum	0			
on:					
					OK. Cancel

Figure 3 - 88: Meter window – Property tab for TP70P series

The **Property** tab in the **Meter** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device – Read Address	Select the device address whose value user want to display.
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE:</b> The default value is Unsigned.
Value Length	Select the bit length. Option is: • 16 Bits
Value Setting – Maximum	Enter the maximum value for the Meter's scale. <b>NOTE</b> : The default value is 65535.

Function	Description
Value Setting –	Enter the minimum value for the Meter's scale.
Minimum	<b>NOTE</b> : The default value is <b>0</b> .

Click on the **Appearance** tab in the **Meter** window of the TP70P series text panel to display the contents as shown in the following figure.

Meter					×
Preview	Property	Appearance	Constraint	Coordinates	
65535	Angle Settin	g		Background Setting	
49151 0 16383	Start Angle	. 0		Border Color:	•
	End Angle	360		Background Color:	
32767				Transparent Color:	· ·
State:	Font Settin	ng:	Font	Show Full Circle:	Yes $\checkmark$
0 ~	Font Colo	c 📃	•	Scale	
	Show Valu	e: Yes	~	Show Scale:	Yes 🗸
Element description:				Scale Mark Number:	4
Meter_013				Subscale Mark	2
				Mark Color:	· · ·
				Pointer Setting	
				Pointer Width	2 ~
				Pointer Color:	
					OK Cancel

Figure 3 - 89: Meter window - Appearance tab for TP70P series

The **Appearance** tab in the **Meter** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
	Enter the start angle value.
Angle Settings – Start Angle	<b>Example</b> : The 12:00 position is 0 angle, and the 3:00 position is 90 angle.
Angle Settings – End Angle	Enter the end angle value.

Function	Description
Font Settings	Click to open the Font Setting dialog box to set the following properties: • Font • Size • Bold • Italics Click on OK to save the settings.
Font Color	Select the font color for Scale Mark Number field.
Show Value	<ul> <li>Select whether to display or hide the text near Scale Mark Number. Options are:</li> <li>Yes</li> <li>No</li> </ul> <i>NOTE: The default value is Yes.</i>
Background Settings – Border Color	Select the border color of the meter (dial color).
Background Settings – Background Color	Select the background color of the meter.
Background Settings – Transparent Color	Select the transparent color. <b>NOTE</b> : If the <b>Transparent Color</b> is the same as the <b>Background Color</b> , the Meter's background color is transparent.
Background Settings – Show Full Circle	<ul> <li>Select to display the meter in a circle or angular format. Options are:</li> <li>Yes</li> <li>No</li> <li>If Circle is set to Yes, then the circular dial displays in the meter. If Circle is set to No, then the area between End Angle and Start Angle is not displayed to users.</li> <li>NOTE: The default value is Yes.</li> </ul>
Scale – Show Scale	Select whether to display or hide the scale. Options are: • Yes • No

Function	Description
	<b>NOTE</b> : The default value is <b>Yes</b> .
Scale – Scale Mark Number	Select the required number of scale marks.
	<b>NOTE</b> : The default value is <b>4</b> .
Scale – Subscale Mark Number	Select the required number of subscale marks.
	<b>NOTE</b> : The default value is <b>2</b> .
Scale – Mark Color	Select the color of the scale marks.
Pointer Settings – Pointer Width	Select the width of the pointer width.
	<b>NOTE</b> : The default value is <b>2</b> .
Pointer Settings – Pointer Color	Select the color of the pointer.

Click the **Constraint** tab in the **Meter** window of the TP70P series text panel to display the contents as shown in the following figure.

leter						
Preview	Property	Appearence	Constraint	Coordinates		
65535	Enable R	ange Setting				
49151 0 16383	High l	Limit	55535		•	
32767	Low I	.imit [	)		·	
tate:	Inside				•	
Element description:						
-						
-						
-						
Element description: Meter_001						
Element description: Meter_001						

Figure 3 - 90: Meter window – Constraint tab for TP70P series

The **Constraint** tab in the **Meter** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Enable Range Setting	Select the check box to enable the constraint setting. Clear the check box to disable the constraint setting.
	<b>NOTE</b> : The <b>Enable Range Setting</b> is disabled by default.
High Limit and <i>Color field</i>	Enter a high limit range. Select a color for the region between the High Limit and the Maximum value.
Low Limit and <i>Color field</i>	Enter a low limit range. Select a color for the region between the Minimum and the Low Limit.
Inside Color field	Select a color for the region between Low Limit and High Limit.

Click the **Coordinates** tab in the **Meter** window for the TP70P series text panel to display the contents as shown in the following figure.

Meter							×
Preview	Property	Appearance	Constraint	Coordinate	s		
65133 49151 0 16383 32767 State:	Coordinat		A T	Y: Height:	42	* *	
0 ~ Element description: Meter_013							
Meter_013							
						OK (	Cancel

Figure 3 - 91: Meter window - Coordinates tab for TP70P series

The **Coordinates** tab in the **Meter** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Meter element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Meter element. Enter a value to change the Y coordinate.
Width	Displays the width for the Meter element. <b>NOTE</b> : Width is read-only.
Height	Displays the height for the Meter element <b>NOTE</b> : Height is read-only.

### Example:

Minimum = 0, Maximum = 100, Start Angle = 200, End Angle = 160, Show Value = Yes, Circle = Yes, Scale Mark Number = 4 and Subscale Mark Number = 4, Pointer Width = 3, Enable Range Setting = selected, High Limit = 80, Low Limit = 20 with the Font Color (RGB) = (0,0,0), Border Color = (192,192,0), Background Color = (255,255,255), Transparent Color = (255,0,128), Mark Color = (0,0,0), Pointer Color = (100,100,0), High Limit Color = (255,0,0), Low Limit Color = (0,0,255), and Inside Color = (255,225,0) is shown in the following figure.



Figure 3 - 92: Meter - TP70P series – example

### 3.5.9 Message Display

User can display the state of a variable on a screen in a message using the **Message Display** element.

The Message Display element for general model and TP70P series text panel is shown in the following table:

Element	General Model	TP70P series		
Message Display	Message Display	Message Display		

### 3.5.9.1 Message Display Element in General Model TP Series Text Panel:

Follow these steps to add a Message Display to a screen and edit the properties in a general model TP series text panel:

1. Click on the Element(O) > Message Display on the Menu bar, or

Click the 🛄 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

Result: The Message Display element is added to the screen.

3. Double-click the Message Display element to edit the Message Display.

**Result**: The Message Display window displays as shown in the following figure. The Message Display window has three tabs for the general model TP series text panel:

- Property
- Text
- Coordinates

The **Property** tab displays by default.

sage Display			
review	Property Text Coordinates		
	Refer Device		
	Device Address: M0	Value Type:	Unsigned $\vee$
	● Bit ○ Value	Value Length:	16 Bits $\vee$
ite:		State Counts:	2
~		Static	Blink O Moving Sign
		Direction:	From Bottom to Top $ \smallsetminus $
		Interval(ms):	500 ~
ement description:			
/lessage Display_001			

Figure 3 - 93: Message Display window – Property tab (Bit) for general model

The **Property** tab in the **Message Display** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Device Address	Select the device address based on which message user want to display.
Refer Device – Bit	Select <b>Bit</b> if there are only two states for which messages are displayed. <b>NOTE</b> : The default value is <b>Bit</b> .
Refer Device - Value	Select Value, if there are multiple states for which messages are displayed.
Static	Select if user want a static message display. <b>NOTE</b> : The default value is <b>Static</b> .
Blink	Select if user want a blinking message display.
Moving Sign	Select if user want a scrolling message display.
Direction	Select the direction of the scrolling message display. Options are:

Function	Description					
	From Bottom to Top					
	From Top to Bottom					
	From Left to Right					
	From Right to Left					
	<b>NOTE</b> : The <b>Direction</b> is enabled only if <b>Moving Sign</b> is selected. The default value is <b>From Bottom to Top</b> .					
	Select an interval in milliseconds for the display animation. Options are:					
	• 500					
	• 1000					
Interval(ms)	• 1500					
	• 2000					
	• 2500					
	<b>NOTE</b> : The default value is <b>500</b> .					
State	Select the state number for which user want to assign properties.					

If user select **Value**, the **Property** tab in the **Message Display** window displays as shown in the following figure.

Message Display				×	
Preview	Property Text	t Coordinates			
	Refer Device				
Message Display	Device Address:	D0	Value Type:	Unsigned $\checkmark$	
message Display	Bit	Value	Value Length:	16 Bits $\checkmark$	
	Range Value Seque	ence	State Counts:	2	
State:	From Max to From Min to		Static	) Blink O Moving Sign	
	All States Table		Direction:	From Bottom to Top $$	
	State Device	e Value >= Range Value	Interval(ms):	500 ~	
Element description:	0 0				
Message Display_000	1 0				
		Reference Value	]		
				OK Cancel	

Figure 3 - 94: Message Display window - Property tab (Value) for general model

When user select Value, the Property tab in the Message Display window for general model TP series text panel displays extra properties as mentioned in the following table:

Function	Description
Range Value Sequence - From Max to Min	Select to define the range values in descending order.
Range Value Sequence - From Min to Max	Select to define the range values in ascending order.
All States Table	Enter the values for each state from state0 to stateN, where $N = (State Counts -1)$ .
All States Table - Reference Value	Click the button to open the <b>Range Value Reference</b> <b>Value</b> dialog box to enter the <b>Range Limit</b> for the <b>Lower</b> <b>Bound</b> and <b>Upper Bound</b> .
Value Type	<ul> <li>Select the variable datatype. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> NOTE: The default value is Unsigned.
Value Length	<ul> <li>Select the bit length here. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : The default value is 16 Bits.
State Counts	Select the number of states.

Click the **Text** tab in the **Message Display** window for the general model TP series text panel to display the contents as shown in the following figure.

age Display						
view	Propert	y Text Coordinates				
	Text					
			Times New Roman	× 10	~	
			<b>■ B ■</b> <i>I</i>	<b>— •</b>		
te:			Horiz. alignment:	Align Left	$\sim$	
(e: ~			Vert. alignment:	Align Top	~	
		Process the text of all states				
	Chatta .					
	State 0	Language1				
ment description:	1					
fessage Display_001						
						-
				OK	Cano	0

Figure 3 - 95: Message Display window – Text tab for general model

The **Text** tab in the **Message Display** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Text field	Enter the text to display in the message display for a particular state.
Process the text of all states	Click to use the text in the text field for all the states.
Font type field	Select the font type.
Font size field	Select the font size.
Bold check box	Select to bold the font.
Italics check box	Select to italicize the font.

Click the **Coordinates** tab in the **Message Display** window for the general model TP series text panel to display the contents as shown in the following figure.

flessage Display								×
Preview	Property	Text	Coordinates					
	Coordina	ites						
		X:	10	-	Y:	10	*	
		Width:	63		Height:	8		
		width:	03	•	Height:	•	* *	
State:								
0 ~								
Element description:								
Message Display_001								
							OK	Cancel

#### Figure 3 - 96: Message Display window – Coordinates tab for general model

The **Coordinates** tab in the **Message Display** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Message Display element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Message Display element. Enter a value to change the Y coordinate.
Width	Displays the width for the Message Display element. Enter a value to change the width.
Height	Displays the height for Message Display element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

### 3.5.9.2 Message Display Element in TP70P Series Text Panel:

The procedure for adding a Message Display element to a TP70P series text panel is same as for the general model TP series text panel. Refer <u>3.5.9.1 Message</u> <u>Display element in general model TP series text panel</u>: for more information. For the TP70P series, the **Message Display** window displays the properties as shown in the following figure. The Message Display window has four tabs for TP70P series text panel:

- Property
- Text
- Appearance
- Coordinates

The Property tab displays by default.

Message Display					×
Preview	Property Text	Appearence Coor	dinates		
	Refer Device		State Counts:	2	
	Read Address:	M0			
	Bit	○ Value			
	Value Type:	Unsigned $\vee$			
State: 0 ~	Value Length:	16 Bits 🗸 🗸			
	Static				
	OBlink				
Element description:	O Moving Sign				
Message Display_001	Direction:	From Bottom to T $ \sim $			
	Interval(ms):	500 ~			
				OK Ca	ncel

## Figure 3 - 97: Message Display window – Property tab (Bit) for TP70P series

The **Property** tab in the **Message Display** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Read Address	Select the device address based on which the message user want to display.
Refer Device – Bit	Select <b>Bit</b> if there are only two states for which messages are displayed.

Function	Description
	<b>NOTE</b> : The default value is <b>Bit</b> .
Refer Device - Value	Select Value, if there are multiple states for which messages are displayed.
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE</b> : The default value is Unsigned. This field is enabled only when Value is selected.
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : The default value is 16 Bits. This field is enabled only when Value is selected.
State Counts	Select the number of state counts. <b>NOTE</b> : The <b>State Counts</b> is enabled only if <b>Value</b> is selected.
Range Value Sequence – From Max to Min	Select the range value sequence from maximum value to minimum value. <b>NOTE</b> : The <b>Range Value Sequence</b> field is available only when <b>Value</b> is selected. If <b>Value</b> is selected, the default value is <b>From Max to Min</b> .
Range Value Sequence – From Min to Max	Select the range value sequence from minimum value to maximum value. <b>NOTE</b> : The <b>Range Value Sequence</b> field is enabled only if <b>Value</b> is selected.
All States Table	Enter the value for each state. <b>NOTE</b> : The number of <b>States</b> is set in <b>State Counts.</b>
Static	Select if user want a static message display. <i>NOTE: The default value is Static.</i>
Blink	Select if user want a blinking message display.

Function	Description						
Moving Sign	Select if user want a scrolling message display.						
Direction	<ul> <li>Select the direction of the scrolling message display. Options are:</li> <li>From Bottom to Top</li> <li>From Top to Bottom</li> <li>From Left to Right</li> <li>From Right to Left</li> </ul> <b>NOTE:</b> The Direction is enabled only if Moving Sign is selected. The default value is From Bottom to Top.						
Interval(ms)	Select an interval in milliseconds for the display animation. Options are: • 500 • 1000 • 1500 • 2000 • 2500 <b>NOTE</b> : The default value is 500.						
State	Select the state for which user want to assign properties.						

When user select Value, the **Property** tab in the **Message Display** for the TP70P series text panel displays the contents as shown in the following figure.

	Property Text	Appearence Coor	dinates
	Refer Device		State Counts: 2
	Read Address:	D0	
	OBit	Value	Range Value Sequence
			From Max to Min
	Value Type:	Unsigned $\checkmark$	○ From Min to Max
~	Value Length:	16 Bits 🗸	All States Table
Ť			State Device Value >= Range Va
	Static		0 0
	OBlink		1 0
n:	O Moving Sign		
001	Direction:	From Bottom to T $ \sim $	
	Interval(ms):	500 ~	
			Reference

# Figure 3 - 98: Message Display window – Property tab (Value) for TP70P series

The **Property** tab in the **Message Display** window for the TP70P series text panel displays extra properties as mentioned in the following table:

Function	Description				
Range Value Sequence -From Max to Min	Select to define the range values in descending order.				
Range Value Sequence -From Min to Max	Select to define the range values in ascending order.				
All States Table	Enter the values for each state from state0 to stateN, where N = (State Counts -1).				
All States Table - Reference Value	Click the button to open <b>Range Value Reference Value</b> dialog box to enter the <b>Range Limit</b> for <b>Lower Bound</b> and <b>Upper Bound</b> .				
Value Type	<ul> <li>Select the variable datatype. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>				

Function	Description				
	<b>NOTE</b> : The default value is <b>Unsigned</b> .				
	Select the bit length. Options are: • 16 Bits				
Value Length	• 32 Bits				
	<b>NOTE</b> : The default value is <b>16 Bits</b> .				
State Counts	Select the number of states.				

Click the **Text** tab in the **Message Display** window for the TP70P series text panel to display the contents as shown in the following figure.

Message Display		×
Preview	Property Text Appearence Coordinates	
	Text	
	Times New Roman V 16 V	
	□ B □ <sup>7</sup> ■ •	
State:	Horiz, alignment: Align Left 🗸 🗸	
0 ~	Vert. alignment: Align Top 🗸	
	Process the text of all states	
	State Language1	
Element description:	0	
Message Display_001	<u> </u>	
	OK Can	cel

Figure 3 - 99: Message Display window – Text tab for TP70P series

The **Text** tab in the **Message Display** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Text field	Enter the text to display in the message display for a particular state.

Function	Description
Process the text of all states	Click to copy the text in text field and paste in the text field for all states.
Font type field	Select the font type.
Font size field	Select the font size.
Bold check box	Select to bold the font.
Italics check box	Select to italicize the font.
Font Color field	Select the font color.

Click the **Appearance** tab in the **Message Display** window for the TP70P series text panel to display the contents as shown in the following figure.

ew	Property	Text	Appearence	Coordinate	S	
	Enable 3	D Style:	Yes	~	Background Color:	
	Border V	Vidth:	5	-		
	Border C	olor:		•		
~						
t description: age Display_001						
20 Dishtay_001						

Figure 3 - 100: Message Display window – Appearance tab for TP70P series

The **Appearance** tab in the **Message Display** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description						
Enable 3D Style	<ul><li>Select to enable or disable the 3D style. Options are:</li><li>Yes</li><li>No</li></ul>						

Function	Description						
	<b>NOTE</b> : The default value is <b>Yes</b> .						
Border Width	Select the border width.						
	<b>NOTE</b> : The default value is <b>5</b> .						
Border Color	Select the border color.						
Background Color	Select the background color.						

Click the **Coordinates** tab in the **Message Display** window for the TP70P series text panel to display the contents as shown in the following figure.

ssage Display								×
Preview	Property	Text	Appearence	Coor	dinates			
	Coordina	ites						
		X:	32	<b>^</b>	Y:	44	* *	
		Width:	304	-	Height:	42	*	
ate:								
~								
ement description:								
Message Display_001								
· · · · -								
							OK	Cancel

Figure 3 - 101: Message Display window – Coordinates tab for TP70P series

The **Coordinates** tab in the **Message Display** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description					
x	Displays the X coordinate for the Message Display element. Enter a value to change the X coordinate.					

Function	Description
Y	Displays the Y coordinate for the Message Display element. Enter a value to change the Y coordinate.
Width	Displays the width for the Message Display element. Enter a value to change the width.
Height	Displays the height for the Message Display element. Enter a value to change the height.

### 3.5.10 Button

Use the **Button** element to perform the following actions:

- Turn a device on and off
- Reset a button
- Start and stop a pulse
- Toggle the button
- Perform momentary action and multi-state operations
- Input a value
- Set a constant value
- Increment and decrement the value of a variable
- Go to a screen
- Set passwords
- Scroll a screen
- Set the RTC and PLC Link settings
- Set the Recipe Write/Read settings

The Button element for general model and TP70P series text panel is shown in the following table:

Element	General Model	TP70P series
Button		

The functions of Button elements are described in the following table:

Button Type	Functions
Set to On	When user press the button, the device address linked to the button turns ON. Once the button is released, the device address remains ON.
Set to Off	When user press the button, the device address lined to the button turns of OFF. Once the button is release, the device address remains OFF.
Pulse On	When user press the button, a signal going from low to high value is sent to the device address linked to the button.
Pulse Off	When user press the button, a signal going from high to low value is sent to the device address linked to the button.
Maintained	When user press the button, the device address linked to the button turns ON. Once the button is released, the device address remains ON. When user press the button again, the device address turns OFF and remains OFF once the button is released.
Momentary	When user press the button, the device address linked to the button turns ON. Once the button is released, the device address turns OFF.
Multistate	When user press the button, the state of the device address linked to the button changes. User can select the Bit option, Value option, or the LSB option.
Set Value	When user press the button, a dialog box opens to enter a value that is written to the device address linked to the button.
Set Constant	When user press the button, a constant value is written to the device address linked to the button.
Increment	When user press the button, the value of the device address linked to the button increments by one.
Decrement	When user press the button, the value of the device address linked to the button decrements by one.
Goto Screen	When user press the button, the specified screen opens.

Button Type	Functions
Set password	When user press the button, a dialog box opens to change the user level and password.
Screen Scroll	When user press the button, the screen scrolls up or down.
Recipe Write/Read	When the button is pressed, the Recipe writes or read from the device address linked to the button.
RTC Setting	When the button is pressed, the RTC dialog box displays to perform RTC settings.

**NOTE**: Refer <u>A.2 Button Types and supported Models</u> to check the Button types supported in TP series text panel.

### 3.5.10.1 Button Element in General Model TP Series Text Panel:

Follow these steps to add a Button to a screen and edit the properties in a general model TP series text panel:

1. Click on the Element(O) > Button on the Menu bar, or

Click the 🔹 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Button element is added to the screen.

3. Double-click on the Button element to edit the Button properties.

**Result**: The **Button** window displays as shown in the following figure. The Button window has four tabs for the general model TP series text panel:

- Property
- Text
- Appearance
- Coordinates

The **Property** tab displays by default.

Preview	Property Text	Appearance Coo	ordinates	
	Button Type: Set to	On ~		
	Refer Device			
	Write Address:	M0		
itate:	Enable Read Address:	No v		
U V	Read Address:			
	Enable Function Key:	No v	Notify Setting	
Element description:	Function Key:	~	Enable Notify Address:	No ~
Button[Set to On]_002			Notify Address: Before/After Writing:	Before Writing $\checkmark$
	Value Type:	Unsigned $\vee$	Reset/Set:	Reset ~
	Value Length:	16 Bits $\lor$		
	User Security Level:	0 ~		

Figure 3 - 102: Button window - Property tab - Set to On for general model

**NOTE**: If the **Button Type** is set to - **Set to On**, **Set to Off**, **Pulse On**, **Pulse Off**, **Momentary**, the **Property** tab in the **Button** window displays the properties as shown in the above figure. If user selects **Momentary**, he/she cannot select a user level.

The **Property** tab in the **Button** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Button Type	Select the button type. Options are: • Set to On • Set to Off • Pulse On • Pulse Off • Maintained • Momentary • Multistate • Set Value • Set Constant

Function	Description
	<ul> <li>Increment</li> <li>Decrement</li> <li>Goto Screen</li> <li>Set password</li> <li>Screen Scroll</li> <li>Recipe Write/Read</li> <li>RTC Setting</li> </ul>
Refer Device - Device Address	<b>NOTE</b> : The default value is <b>Set to On</b> . Select the device address that the Button element writes to.
Refer Device – Enable Read Address	Select to enable a device register to start reading the value. Options are: • No • Yes <b>NOTE</b> : The default value is No.
Refer Device – Read Address	Select the device address that the button reads from to get a value. This field is enabled only when the <b>Enable Read</b> Address is set to Yes.
Enable Function Key	<ul> <li>Select whether to enable or disable the function key. Options are:</li> <li>No</li> <li>Yes</li> </ul> <b>NOTE</b> : The default value is No.
Function Key	Select the function key from the drop-down list. <b>NOTE</b> : This field is enabled when <b>Enable Function Key</b> is set to <b>Yes</b> .
Value Type	<ul> <li>Select the datatype of the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE</b> : The default value is Unsigned.
Value Length	Select the bit length. Options are: • 16 Bits

Function	Description
	• 32 Bits
	<b>NOTE</b> : The default value is <b>16 Bits</b> .
	Select the user security level. Options are: • 0
	• 1
	• 2
	• 3
User Security Level and select	• 4
field	<b>NOTE</b> : The default value is <b>0</b> .
	Click the button to open the User-Level Password Setting window to set the passwords for various user levels.For the setting method, refer to <u>3.7.2 User-Level Password Setting</u>
	Select to enable notify address. Options are:
Notify Setting – Enable Notify Address	<ul><li>No</li><li>Yes</li></ul>
	<b>NOTE</b> : The default value is <b>No</b> .
Notify Setting –	Select the notify address.
Notify Address	<b>NOTE</b> : This is enabled if the <b>Enable Notify Address</b> is set to <b>Yes</b> .
	Select when to send notification. Options are:
Notify Setting – Before/After Writing	Before Writing
	After Writing
	<b>NOTE</b> : This field is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> . The default value is <b>Before Writing</b> .
	Select to set the variable. Options are:
	• Reset
Notify Setting – Reset/Set	• Set
	<b>NOTE</b> : This field is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> . The default value is <b>Reset</b> .

When the **Button Type** is set to **Multistate**, the **Property** tab in the **Button** window displays as shown in the following figure.

Element description: Button[Set to On]_002	Preview	Property Text Appearance Coord	linates
Image: Sement description:     Write Address:     M0     Image: Sement description:       Button[Set to On]_002     Enable Function Key:     Image: Sement description:       Value Type:     Image: Sement description:     Set Sement description:		Button Type: Multistate ~	-
write Address:     M0      O Previous State       ate:     Enable Read Address:     No     State Counts:     2       Read Address:       State Counts:     2       Enable Function Key:       Notify Address:        Butten[Set to On_002     Value Type:      Before Writing       Reset/Set:     Reset/Set:     Reset/Set:     Reset/Set:		Refer Device	Change to
Enable Read Address:     No       Read Address:     No       Read Address:     No       Enable Function Key:     No       Function Key:     No       Value Type:     Reset Address:		Write Address: M0	Q
ement description: Lutton[Set to On]_002   Enable Function Key: No  Enable Notify Address: No  Notify Address: No  Notify Address: Instead  Reset/Set: Re			State Counts: 2
ment description: Function Key. Value Type: Value Type: Reset/Set: Reset			Notify Setting
Value Type: Value Type: ResetSet: Reset	-		
Reset/Set: Reset		Value Type:	Before/After Writing: Before Writing $\checkmark$
			Reset/Set: Reset ~
User Security Level: 0 v		User Security Level: 0 ~	

Figure 3 - 103: Button window - Property tab - Multistate for general model

The **Property** tab in the **Button** window for the **Multistate** Button Type displays extra properties as mentioned in the following table:

Function	Description
Multi-State Setting – Bit	Select the <b>Bit</b> option to set the <b>State Counts</b> to 2. The states are state0 and state1.
Multi-State Setting – Value	Select the Value option to set State Counts up to a maximum of 255 states. The states are from state0 to (State Counts -1)
Multi-State Setting – LSB	Select the LSB option to set <b>States Counts</b> to 16. The available states are 1(2 <sup>0</sup> ), 2(2 <sup>1</sup> ), 4(2 <sup>2</sup> ), 8 162 State Counts -1
Change to – Next State	Select to change to next state.
Change to – Previous State	Select to change to previous state.
State Counts	Select the number of state counts. The count depends on the Multi-State Setting.

When the **Button Type** is set to **Set Value**, the **Property** tab in the **Button** window displays as shown in the following figure.

			Value Format		
	Button Type: Set Va	lue 🗸	Integer Digits	5	$\sim$
	Refer Device		Fractional Digits	0	$\sim$
	Write Address:	D0	Maximum	65535	
ate:	Enable Read Address:	No v	Minimum	0	
· · ·	Read Address:				
			Notify Setting		
lement description:	Enable Function Key:	No ~	Enable Notify Address:	No	$\sim$
Button[Set to On]_002	Function Key:	~	Notify Address:		
			Before/After Writing	Before Writing	$\sim$
	Value Type: Value Length:	Unsigned ~ 16 Bits ~	Reset/Set:	Reset	$\sim$
	User Security Level:	0 ~			

# Figure 3 - 104: Button window - Property tab - Set Value button type for general model

The **Property** tab in the **Button** window for the **Set Value** Button Type displays extra properties as mentioned in the following table:

Function	Description
Value Format – Integer Digits	<ul> <li>Select the number of integer places. Options are:</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> </ul> NOTE: The default value is 5.
Value Format – Fractional Digits	<ul><li>Select the number of decimal places. Options are:</li><li>0</li><li>1</li></ul>

Function	Description		
	• 2		
	• 3 • 4		
	• 4		
	<b>NOTE</b> : The default value is <b>0</b> .		
Value Format –	Enter the maximum value for the set value.		
Maximum <b>NOTE</b> : The default value is 65535.			
Value Format - Minimum	Enter the minimum value for the set value.		
wiininnum	<b>NOTE</b> : The default value is <b>0</b> .		

# Example:

*Case 1*: If Integer Digits = 3, Fractional Digits = 2, Maximum = 5000, Minimum = 0, the maximum set value possible is 50.00

*Case 2*: If Integer Digits = 3, Fractional Digits = 2, Maximum = 500, Minimum = 0, the maximum set value possible is 5.00

When the **Button Type** is set to **Set Constant**, the **Property** tab in the **Button** window displays as shown in the following figure.

N	Property	Text	Appearance	Coordina	ates		
	Button Ty	ype: Set	Constant	~	Constant Setting		
	Refer Devic	ce .					
	Write Ado	iress:	D0				
	Enable Re	ad Addres	No	$\sim$			
~	Read Add	ress:					
					Notify Setting		
scription:	Function	nction Key	/: No	~	Enable Notify Address:	No	~
et to On]_002	1 diction	y.			Notify Address:		
	Value Typ	be:	Unsigned	$\sim$	Before/After Writing: Reset/Set:	Before Writing Reset	
	Value Len	gth:	16 Bits	$\sim$	Resettler:	Reset	
	User Secu	rity Level:	0 ~				

# Figure 3 - 105: Button window - Property tab - Set Constant Button Type for general model

The **Property** tab in the **Button** window for the **Set Constant** Button Type displays extra properties as mentioned in the following table:

Function	Description
Constant Setting	Enter the value that is written to the device address when user press the set constant button type

When the **Button Type** is set to **Increment** or **Decrement**, the **Property** tab in the **Button** window displays as shown in the following figure.

eview	Property	Text	Appearance	Coordin	ates		
	Button Ty Refer Devic Write Add	-	ment D0		Increment/Decrement Set Step Value Limit	1 65535	
ate: V	Enable Re Read Add	ad Address	No	×			
Element description: Button[Set to On] 002	Enable Fu	nction Key Key:	No	<b>&gt;</b>	Notify Setting Enable Notify Address: Notify Address:	No	~
	Value Typ Value Len		Unsigned 16 Bits	~	Before/After Writing: Reset/Set:	Before Writing Reset	~ ~
	User Secu	rity Level:	0 ~				

# Figure 3 - 106: Button window - Property tab – Increment Button Type for general model

The **Property** tab in the **Button** window for the **Increment/Decrement** Button Type displays extra properties as mentioned in the following table:

Function	Description
Increment/Decrement Setting – Step Value	Enter the value that is added to the existing value when the button is pressed.
	<b>NOTE</b> : The default value is <b>1</b> .
	Set the maximum increment value.
Increment/Decrement Setting - Limit	<b>NOTE</b> : If user select <b>Increment</b> , the default value is <b>65535</b> . If user select <b>Decrement</b> , the default value is <b>0</b> .

### Example:

*Case 1*: If the **Button Type** selected is **Increment**, **Step Value**=10, **Limit**=1000, initial value is 10

**Result**: Values are available from 20, 30, 40,...to limit 1000.

*Case 2*: If the **Button Type** selected is **Decrement**, **Step Value**=10, **Limit**=0, initial value is 100

**Result**: Values are available from 90, 80, 70,...to limit 0.

When the **Button Type** is set to **Goto Screen**, the **Property** tab in the **Button** window displays as shown in the following figure.

Button[Set to On]		×
Preview	Property     Text     Appearance     Coordinates       Button Type:     Goto Screen     Goto Screen Setting       Refer Device     Write Address:     0	
0 V Element description. Button[Set to On]_002	Enable Function Key:     No       Function Key:     No       Function Key:     No	
	Value Type:     Sefore/After Writing     Before/After Writing       Value Length:     Reset/Set:     Reset       User Security Level:     0	
	OK Can	el

# Figure 3 - 107: Button window - Property tab - Go to Screen Button Type for general model

The **Property** tab in the **Button** window for the **Goto Screen** Button Type displays extra properties as mentioned in the following table:

Function	Description
Goto Screen Setting - Screen	Select the screen to navigate to when this button is pressed.

When the **Button Type** is set to **Set password**, the **Property** tab in the **Button** window displays as shown in the following figure.

	Property	Text	Appearance	Coordinat	es		
	Button T	vpe: Set 1	password	~			
	Refer Devi	æ					
	Write Ad	lress:					
	Enable Re	ad Address	No	$\sim$			
	Read Add	ress:					
	Facht F	nction Key			lotify Setting		
cription:	Function		/: No	~	Enable Notify Address:	No	
					Notify Address: Before/After Writing:	Before Writing	
	Value Tyj	ie:		$\sim$	Reset/Set:	Reset	
	Value Ler	gth:		$\sim$			
	User Secu	rity Level:	0 ~				

# Figure 3 - 108: Button window - Property tab - Set password Button Type for general model

In the runtime operation of the HMI, when the **Set password** button is pressed, a window displays, to set the user level and password.

When the **Button Type** is set to **Screen Scroll**, the **Property** tab in the **Button** window displays as shown in the following figure.

		0. 11		Screen Scroll		
	Button Type: Screen	Scroll	~	Scroll Type	Scroll Up	$\sim$
	Refer Device			Scroll Lines	1	•
	Write Address:					
ate:	Enable Read Address:	No	$\sim$			
~	Read Address:					
				Notify Setting		
	Enable Function Key:	No	$\sim$	Enable Notify Address:	No	
ement description: Button[Set to On] 001	Function Key:		$\sim$	Notify Address:		
				Before/After Writing	Before Writing	
	Value Type:		$\sim$	Reset/Set:	Reset	$\sim$
	Value Length:		$\sim$			
	User Security Level:	0 ~				

# Figure 3 - 109: Button window - Property tab - Screen Scroll Button Type for general model

The **Property** tab in the **Button** window for the **Screen Scroll** Button Type displays extra properties as mentioned in the following table:

Function	Description
	Select the direction of the scroll when the button is pressed. Options are:
Screen Scroll –	Scroll Up
Scroll Type	Scroll Down
	<b>NOTE</b> : The default value is <b>Scroll Up</b> .
Screen Scroll – Scroll Lines	Select the number of lines to scroll up or down.

When the **Button Type** is set to **RTC Setting**, the **Property** tab in the **Button** window displays as shown in the following figure.

Button[Set to On]		×
Preview	Property     Text     Appearance     Coordinates       Button Type:     REFC Setting	
State: 0 ~	Write Address:	
Element description: Button[Set to On]_001	Enable Function Key: No  Function Key: No  Voltify Address: No  Voltify Address:  Before/After Writing  Effore/After Writing	
	Value Length: User Security Level: 0 v	
	OK Car	cel

Figure 3 - 110: Button window - Property tab - RTC Setting Button Type for general model

In the runtime operation of the HMI, when the **RTC Setting** button is pressed, a window is displayed, to set the year, the month, the day, the week, and the time of the clock in the general model TP series text panel.

When the **Button Type** is set to **PLC Link Setting**, the **Property** tab in the **Button** window is displayed.

In the runtime operation of the HMI, when the PLC Link Setting button is pressed, a window is displayed, to set the PLC Link.

When the **Button Type** is set to **Recipe Write/Read**, the **Property** tab in the **Button** window is displayed as shown in the following figure.

eview	Property Text Appearance Coor	rdinates
	Button Type: Recipe Write/Read	Recipe Read/Write Setting
	Refer Device	Read
	Write Address: D0	
ite:	Enable Read Address: No 🗸	
	Read Address:	
	Enable Function Key: No V	Notify Setting
ement description: Button[Set to On]_001	Function Key:	Enable Notify Address: No 🗸
	Value Type:	Before/After Writing: Before Writing $\vee$
	Value Length:	Reset/Set: Reset ~
	User Security Level: 0 ~	

#### Figure 3 - 111: Button window - Property tab - Recipe Write/Read Button Type for general model

The **Property** tab in the **Button** window for the **Recipe Write/Read** Button Type displays extra properties as mentioned in the following table:

Function	Description
Recipe Read/Write Setting	<ul><li>Select to write or read the recipe. Options are:</li><li>Write</li><li>Read</li></ul>
	<b>NOTE</b> : The default value is <b>Write</b> .

**NOTE**: Before using this function, users have to create a recipe. Refer <u>3.7.11 Recipe</u> <u>Setting</u> for more information.

Click on the **Text** tab in the **Button** window for the general model TP series text panel to display the contents as shown in the following figure.

Button[Set to On]						×
Preview	Propert	y Text	Appearance	Coordinates		
State:	Text			Times New Roman       B     I       Horiz alignment:     Vert. alignment:	Sx8	> > >
Element description: Button[Set to On]_000	State 0 1	Process the te	ext of all states			
					OK	Cancel

Figure 3 - 112: Button window - Text tab for general model

The **Text** tab in the **Button** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description				
Text field	Select the text to display in the Button.				
Process the text of all states	Click to copy the text in text field and paste in the text field for all states.				
Font size field	<ul><li>Select the font size from the drop-down menu. Options are:</li><li>5x8</li><li>8x8</li></ul>				

Function	Description
	• 8x12
	• 8x16
	<b>NOTE</b> : The default value is <b>5x8</b> .
	Select the horizontal alignment. Options are:
	Align Left
Horiz. alignment	Horiz. Centering
nonz. alignment	Align Right
	<b>NOTE</b> : The default value is <b>Horiz. Centering</b> .
	Select the vertical alignment. Options are:
Vert. alignment	Align Top
	Vert. Centering
	Align Bottom
	NOTE: The default value is Vort Contoring
	<b>NOTE</b> : The default value is <b>Vert. Centering</b> .

Click on the **Appearance** tab in the **Button** window of the general model TP series text panel to display the contents as shown in the following figure.

Button[Set to On]							×
Preview	Property	Text	Appearance	Coordinates	s		
	Button St	tyles:	Single Border	~	tmap Alignment Align Center V	Align Center	~
State: 0 ~				[	Bitmap Read	Clear Picture	
Element description: Button[Set to On]_000							
						ок с	ancel

Figure 3 - 113: Button window - Appearance tab for general model
The **Appearance** tab in the **Button** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Button Styles	<ul> <li>Select the border type. Options are:</li> <li>No Border</li> <li>Single Border</li> <li>Double Border</li> <li>Circle Border</li> <li>Hide</li> </ul>
	<b>NOTE</b> : The default value is <b>Single Border</b> . Select the vertical alignment. Options are:
Bitmap Alignment	<ul> <li>Align Top</li> <li>Align Center</li> <li>Align Bottom</li> </ul> <i>NOTE: The default value is Align Center.</i> Select the horizontal alignment. Options are: <ul> <li>Align Left</li> <li>Align Center</li> <li>Align Right</li> </ul> <i>NOTE: The default value is Align Center.</i>
Bitmap Read	Click to display the <b>Open</b> window to select a location and a .bmp file of the Bitmap <b>NOTE</b> : Bitmap images are available in: <drive>\Program Files (x86)\Delta Industrial Automation\ DIAStudio\DIAScreen\ScrEditApp\TPSeries\BmpGroup\<folders></folders></drive>
Clear Picture	Click to delete the current bitmap

Click the **Coordinates** tab in the **Button** window of the general model TP series text panel to display the contents as shown in the following figure.



Figure 3 - 114: Button window - Coordinates tab for general model

The **Coordinates** tab in the **Button** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Button element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Button element. Enter a value to change the Y coordinate.
Width	Displays the width for the Button element. Enter a value to change the width.
Height	Displays the height for the Button element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK.

## 3.5.10.2 Button Element in TP70P Series Text Panel:

The procedure for adding a Button element to a TP70P series text panel is same as steps for the general model TP series text panel. Refer <u>3.5.10.1 Button element in</u> <u>general model TP series text panel</u>: for more information.

For TP70P series, the **Button** window displays the properties as shown in the following figure. The Button window has four tabs for the TP70P series text panel:

- Property
- Text
- Appearance
- Coordinates

The **Property** tab displays by default.

view	Property Text Appearance Coordinates	
	Button Type: Set to On	
	Refer Device	
	Write Address: M0	
e:	Interlock Setting	
	Enable Read Address: No ~	
	Read Address:	
	State: Enable Notify Address: N	∛o ∨
ment description:	Notify Address:	
atton_009	Value Type: Unsigned Before/After Writing: E	Before Writing 🗸
	Value Length: 16 Bits ~	leset v
	User Security Level: 0 v	

Figure 3 - 115: Button window - Property tab for TP70P series

The **Property** tab in the **Button** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description			
Button Type	Select the button type. Options are: • Set to On • Set to Off • Pulse On • Pulse Off • Maintained • Momentary • Multistate • Set Value • Set Constant • Increment • Decrement • Goto Screen • Set password • RTC Setting			
Refer Device - Device Address	<b>NOTE:</b> The default value is <b>Set to On</b> . Select the device address that the Button element writes to.			
Interlock Settings – Enable Read Address	<ul> <li>Select to enable a device register to start reading the value.</li> <li>Options are: <ul> <li>No</li> <li>Yes</li> </ul> </li> <li>NOTE: The default value is No.</li> </ul>			
Interlock Settings – Read Address	Click button to open the <b>Refer Device</b> dialog box to select the variable that works as interlock for the <b>Numeric Input</b> controls.			
Interlock Settings - State	Select the OFF(0) or ON(1) state of the <b>Read Address</b> at which interlock can be applied to the <b>Numeric Input</b> controls. Options are: • OFF • ON			

Function	Description
	<b>NOTE</b> : The default value is <b>OFF</b> .
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE</b> : The default value is Unsigned.
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : The default value is 16 Bits.
User Security Level and select field	<ul> <li>Select user security level. Options are:</li> <li>0</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> </ul> NOTE: The default value is 0. Click button to open the User-Level Password Setting dialog box to set the passwords for various user levels.
Notify Setting – Enable Notify Address	<ul> <li>Select to enable notify address. Options are:</li> <li>No</li> <li>Yes</li> <li><i>NOTE: The default value is No.</i></li> </ul>
Notify Setting – Notify Address	Select the notify address. <b>NOTE</b> : This field is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> .
Notify Setting – Before/After Writing	<ul> <li>Select to notify before writing or after writing. Options are:</li> <li>Before Writing</li> <li>After Writing</li> </ul> <b>NOTE</b> : This field is enabled if Enable Notify Address is set to Yes. The default value is Before Writing.

Function	Description					
	Select to set the variable. Options are:					
	Reset					
Notify Setting – Reset/Set	• Set					
	<b>NOTE</b> : This field is enabled if the <b>Enable Notify Address</b> is set to <b>Yes</b> . The default value is <b>Reset</b> .					

**NOTE**: Other properties in the **Property** tab for the TP70P series panel are the same as those in the **Property** tab for the general model TP series text panel.

Click on the **Text** tab in the **Button** window of the TP70P series text panel to display the contents as shown in the following figure.

Preview	Property Text Appearance	Coordinates	
	Text		
		Times New Roman 🗸	10 ~
	3	□ <b>B</b> □ <i>I</i> ■ ▼	
		Horiz. alignment: Horiz. Centering	~
State:		Vert. alignment: Vert. Centering	$\sim$
0	Process the text of all states		
	State Language1		
Element description:	1		
Button_009			

Figure 3 - 116: Button window - Text tab for TP70P series

The **Text** tab in the **Button** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description			
Text field	Select the text to display in the Button.			
Process the text of all states	Click to copy the text in text field and paste in the text field for Il the states.			
Font type field	Select the font type.			
Font size field	Select the font size.			
Bold check box	Select to bold the font.			
Italics check box	Select to italicize the font.			
Font Color field	Select the font color.			
Horiz. alignment	<ul> <li>Select the horizontal alignment. Options are:</li> <li>Align Left</li> <li>Horiz. Centering</li> <li>Align Right</li> </ul> <b>NOTE:</b> The default value is Horiz. Centering.			
Vert. alignment	<ul> <li>Select the vertical alignment. Options are:</li> <li>Align Top</li> <li>Vert. Centering</li> <li>Align Bottom</li> </ul> <b>NOTE:</b> The default value is Vert. Centering.			

Click on the **Appearance** tab in the **Button** window of the TP70P series text panel to display the contents as shown in the following figure.

ton				
review	Property Text	Appearance Co	ordinates	
	Enable 3D Style: Border Width:	Yes ~	Bitmap Alignment Align Center  V Align Cert	iter 🗸
	Border Color:	· · ·		
te:	Button State Color Set	tting	Bitmap	
~	Button State:	Button Up 🛛 🗸 🗸	From File Clear	Picture
	Background Color:	· · ·	Use HMI Picture Bank	~
ment description: utton_009			None	
unon_009				
			OK	Car

Figure 3 - 117: Button window - Appearance tab for TP70P series

The **Appearance** tab in the **Button** window for the TP70P series text panel displays extra properties compared to the **Appearance** tab in general model TP series text panel as mentioned in the following table:

Function	Description				
	Select to enable or disable the 3D style. Options are:				
	• Yes				
Enable 3D Style	• No				
	<b>NOTE</b> : The default value is <b>Yes</b> .				
	Select the border width.				
Border Width					
	<b>NOTE</b> : The default value is <b>15</b> .				
	Select the border color.				
Border Color					
	<b>NOTE</b> : This field is enabled when <b>Enable 3D</b> <b>Style</b> is set to <b>No</b> .				
	Select the button state. Options are:				
Button State Color Setting – Button State	Button Up				
	Button Down				

Function	Description				
	Disable				
	<b>NOTE</b> : The default value is <b>Button Up</b> .				
Button State Color Setting – Background Color	Select the background color for the button.				
Use HMI Picture Bank and select field	Click to select a picture bank and an image in the bank.				

Click the **Coordinates** tab in the **Button** window of the TP70P series text panel to display the contents as shown in the following figure.

Button								×
Preview	Property	Text	Appearance	Coord	dinates			
	Coordina	tes						
		X:	477	<b>•</b>	Y:	241	-	
		Width:	156	÷	Height:	51	•	
		widdii.	150	•	rieight.		•	
State:								
0 ~								
Element description:								
Button_009								
							OK C	ancel

Figure 3 - 118: Button window - Coordinates tab for TP70P series

The **Coordinates** tab in the **Button** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Button element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Button element. Enter a value to change the Y coordinate.

Function	Description				
Width	Displays the width for the Button element. Enter a value to change the width.				
Height	Displays the height for the Button element. Enter a value to change the height.				

## 3.5.10.3 Multiple Actions Button

Remark: This function is applicable to DOP-100 series and AX-8 series models.

The Multiple actions button provides a variety of button behaviors. The user can define (1) the action to be performed after pressing the button, (2) the action to be performed after releasing the button, and (3) the action to be performed after pressing the button continuously. This function can be used to replace complicated procedures written by macro trigger buttons.

The button behavior provided by the Multiple actions includes the following:



Figure 3 - 119 : Buttons provided by Multiple actions buttons

## Remark:

- Press action, release action and continuous pressing action, each action can add up to 32 new actions, so a Multiple Actions button can perform up to 32\*3 actions.
- 2. The system directory can only be used as the last action (other actions cannot be added later).
- 3. One Multiple actions button can only have one-page change action, including Goto Screen and previous page.

Please refer to the following steps to create a Multiple actions button :

- On the menu, click Element > Button > Multiple actions or click the button on the component selection toolbar > Multiple actions.
- 2. Click anywhere in the editing area of the screen and drag out the appropriate size and release the mouse.
- 3. Double-click the Multiple actions button component on the screen, and the property window will display as shown below.

Multiple actions										×
Preview	Main	Main-2	Text	Picture	De	tails	Macro	Coordinates	5	
	Style					Action				
	Style:		St	andard ∨		Actio	on when pres	sed:		
	Foregr	ound Color:	E	•		Actio	on when relea	sed:		
	Filled :	style:	G	radient 🗸 🗸						
State:	Use Te	ext Pic:	N	o ~		Actio	on when long	pressed:		
0 ~						Long	pressed time	0		$\sim$
Language:										
Language1										
Element description: Multiple actions_004										
Withinple actions_004										
								0	K (	Cancel

Figure 3 - 120 : Multiple actions button window

4. Set the action when it is pressed, No. 1 is set as the added value, the write memory address is \$10, the addition and subtraction number is 3, and the upper and lower limits are 100, as shown in the figure below.

on List			Detail	- Crow	_
lumber	Action Name	Add >	Write Address:	\$10	
1	Increment - \$10		Write Offset Address:	None	
2	Decrement - S20	Delete			
			Data Type:	Word	×
		Up	Data Format:	Unsigned Decimal	~
		Down	Increase Decrease:	3	
			Limit	100	٦
		Copy			
		Paste			

Figure 3 - 121: Action setting when pressed (1)

 Continue to set the action when pressing, No. 2 is set to the reset state, the write memory address is \$20, and the total number of states is set to 3, as shown below

Action when pressed				×
Action List           Number         Action Name           1         Increment - \$10           2         Multistate - \$20	Add → Delete Up Down Copy Paste	Detail Write Address: Write Offset Address: Data Type: Data Format: State Counts: Sequence:	\$20 None Word Unsigned Decimal 3 Next State	

Figure 3 - 122: Action setting when pressed (2)

 Set the action when releasing is to change the screen to Screen\_2, as shown below.

Action when released				×
Action List		Detail		
Number         Action Name           1         Goto Screen - Screen_2	Add >	Function: Goto Screen:	Goto Screen Screen 2	~
	Delete	Close Subscreen	_	
	Up Down	(The button is only subscreen)	y vano in	

Figure 3 - 123: Action setting when releasing

7. The action of setting the continuous pressing is a constant value, and the continuous pressing time is 3 seconds. Set the write memory address to \$30 and the set value to 5000, as shown below °

Action when long pressed:	Set Constant - \$30
Long pressed time:	3 ~

Figure 3 - 124: Long pressed

Action when long pressed Action List		Detail	×
Number     Action Name       1     Set Constant - \$30	Add > Delete	Write Address: Write Offset Address: Data Type:	\$30 None Word ~
	Up Down	Data Format: Set value:	Unsigned Decimal ~ 5000

Figure 3 - 125: Action setting for continuous pressing

 Create two numerical display components, respectively set the read memory address to \$10 to display the value change after the addition action is executed; and set the read memory address to \$30 to show the constant value action is executed Value change.

Numeric Display	
Preview	Main Main-2 Text Details
	Memory
1234	Read Address: \$30
	Read Offset Address:
	None

Figure 3 - 126: Create two numerical display components

 Create a reset button, set the write memory address to \$20, the total number of states to 3, and the switching sequence to the next state. And set the foreground color of the component in state 0, 1, 2.

Status	Component foreground color
0	0
1	1
2	2

Multistate			×
Preview	Main Main-2 Text Picture	Details Macro	Coordinates
	Nemory	Detail	
	Write Address:	Data Type:	Word $\sim$
	Read Address:	Data Format:	Unsigned Decimal V
	None	State Counts:	3
State:	Write Offset Address:	Sequence:	Next State $\lor$
2 ~	None		

Figure 3 - 127: Set MultiState

10. Add Screen\_2, create a table component and a screen change button, and set the screen to switch to Screen\_1.

en_1 Sc	reen_2 ×		
			Screen_1

Figure 3 - 128: Switch screen to Screen\_1

#### Result:

• Press the Multiple Actions button, the actions of the added value and the reset state will be executed.



Figure 3 - 129: The actions of added value and recovery state will be executed

• Release the Multiple actions button, the screen change action will be executed, and the HMI screen has been switched to Screen\_2.



Figure 3 - 130: Switch to Screen\_2

• Switch the screen to Screen\_1, press and hold the Multiple actions button for 3 seconds, the action of setting the constant value will be executed. Because the Multiple Actions button is not only pressed for 3 seconds, but also executed the pressed action, so the added and re-state actions will also be executed.



Figure 3 - 131: Switch screen to Screen\_1

Functions in the Property tab of Multiple Actions window are described in the table below:

Features	Description
Preview	The Multiple actions button can only be used to view the display data of multiple languages, because this component does not have multiple status attributes.
Main	<ul> <li>Style: Set component style, component foreground color, fill style and use text map.</li> <li>Action: Set the action when pressing, the action when releasing, the action of continuous pressing, the time of continuous pressing.</li> </ul>
Main Two	Set transparency, turn on smooth animation, turn on anti- aliasing °
Text	Set the text content / font / size / color / format / zoom / alignment type to be displayed.
Picture	Set graphics library name, alignment style, graphics extension mode, specify graphics transparent color.
Advanced	Set the effective level, effective bit, invisible bit, user authority, and set the lowest authority after input.
Macro	Set pre-execution macro and post-execution macro.
Position	X-Y coordinate value and width and height settings of button components.

Multiple actions				×
Preview	Main Main-2	Text Picture I	Details Coordinates	
	Style		Action	
	Style:	${\rm Standard}  \lor $	Action when pressed:	
	Foreground Color:	•	Action when released:	
	Filled style:	Gradient ~	Action when long pressed:	
State:				0 ~
0 ~				
Language: English V				
English 🗸				
Element description:				
Multiple actions_008				
				OK Cancel

• General tab function description



Features	Description
Action when	<ul> <li>Refers to the action to be performed after pressing the Multiple actions button.</li> </ul>
pressed	<ul> <li>The actions supported by the action when pressed are as follows.</li> </ul>

Features	Description
	Action when pressed X
	Action List Detail
	Number       Add       Set to On         Delete       Maintained         Multistate       Set Constant         Increment       Down         Down       Decrement         Goto Screen       Set Low Security         System Menu       Report List         Paste       Screen Capture         Remove Storage       Import/Export Recipe         Language Change       Delay
	Before to the action to be performed after releasing the Multiple
Action when released	<ul> <li>Refers to the action to be performed after releasing the Multiple actions button.</li> <li>The behavior supported by the action when released is the same as the action when pressed.</li> </ul>
Action when long pressed	<ul> <li>Refers to the action to be performed after continuously pressing the Multiple actions button.</li> <li>Need to match the setting of continuous pressing time, the continuous pressing action will take effect.</li> <li>The button behavior supported by the continuous pressing action is the same as the action when pressed and released.</li> </ul>
	Continuous pressing threshold time can be set from 0 to 10 seconds Long pressed time:
Long pressed time	1 2 3 4 5 6 7 8 9 10



Features	Descr	iption
	Filled style:	Gradient ~ Gradient Fixed
	Gradient	Fixed
	Multiple Actions	Multiple Actions
	Preview Main Main-2 Text P	icture Details Coordinates
	Delta	Ariai ✓ 12 ✓ B I U ■ 100% ✓
		Horiz alignment: Horiz Centering V
	State:	Vert. alignment: Vert. Centoring V
	Process the text of all states Language:	Process text properties of all states
	English Chinese English 王lement description:	
	It can be used to record the action This description will be written into to let the user know the action perfe	the CSV file of the operation log
	Time Date Level Screen Desc	
	1 13:37:54 55/2016 8 Screen_22 Leve 2 13:37:56 55/2016 8 Screen_22 Leve	
Componen	3 13:38:19 5/5/2016 8 Screen_22	Level Switch 8 4
ť	4 13:38:21 5/5/2016 4 Screen_22 Leve 5 13:38:21 5/5/2016 4 Screen_22 Leve	d 2 Btn [Set Val 0 1 d 2 Btn Set Val 1 0
description	6 13:38:22 5/5/2016 4 Screen_22 Leve	d 4 Btn Set Val 0 1
	7 13:38:23 5/5/2016 4 Screen_22 Leve	
	8 13:38:31 5/5/2016 4 Screen_22 9 13:38:35 5/5/2016 8 Screen_22 \$100	A 0.0150 (2010) 004

Multiple actions								×
Preview	Main	Main-2	Text	Picture	Details	Macro	Coordinates	
	Style							
	Transj	parent:	25	5 🚔				
	Smoot	h animation:	No	• v				
	Anti-a	liasing:	Ye	s v				
State:								
Language:								
Languager								
Element description:								
Multiple actions_004								
							OK	Cancel

• Main-2 tab function description



Features	Description
Transparent	The default transparency is 255, the minimum is 50, and the maximum is 255, which can be adjusted by the user. The smaller the value, the higher the transparency of the component.
Smooth animation	This component cannot enable smooth animation.
Anti-aliasing	This component cannot turn on anti-aliasing.

• Description of the content tab function

ultiple actions	
Preview	Main Main-2 Text Picture Details Macro Coordinates
	Text
	Arial V [16] V
	Horiz. alignment: Horiz. Centering ~
itate:	
0 ~	< Vert. alignment: Vert. Centering <
	Process the text of all states Process text properties of all states
anguage:	
Language1 🗸 🗸	State Language1
·	0
Element description: Multiple actions_004	
Multiple actions_004	
	OK Cancel

Figure 3 - 134 : Multiple actions button window Text tab

Features	Description
Text	The user can enter the text message to be displayed in the text box.

Features	Description		
	Multiple actions       X         Preview       Main       Main_2       Text       Picture       Details       Macro       Coordinates         Image:       Image:		
Text property	As long as it is a component that can input any text, user can click the component on the screen and press the blank key on the keyboard to edit and input text immediately. User can set the text-related attributes, including setting the text font, text size, text color, the scale of the text to be zoomed, the alignment displayed, and whether the text is bold/italicized/underlined.		
Edit Multilanguage Text	If the user has added multi-language data, then user can enter this text page to edit the multi-language text data, as shown in the text attribute diagram, user can enter English words in the English field.		

• Picture

Aultiple actions	>
Preview	Main Main-2 Text Picture Details Macro Coordinates
	Picture
	Picture Bank Name: None
	Alignment (Hori/Vert.): Horiz: Centering $\checkmark$ / Vert. Centering $\checkmark$
	Stretch Mode: Actual Size Process pictures of all states
State:	Transparent Color: No 🗸 🎽
Language:	
Language1 $\lor$	
Element description: Multiple actions_003	
	OK Cancel

Figure 3 - 135: Multiple actions button window Picture tab

Features	Description
Picture Bank Name	The default graphic library name is <b>None</b> . If the user wants to set a customized graphic display, he can click to pull down the graphic library built in the software and select the desired graphic.



Features	Description							
	The alignment of the set graphics can be set through the alignment options.							
Alignment	Alignm Strate-	Bank Name: SModernButton.pib ~ ent (Hori/Vert.): Align Right ~	X acro Coordinates					
	maintaining set.	sion mode is divided in g the proportion, and th	he actual size can be					
	Stretch All	Stretch 1:1	Actual Size					
Stretch Mode	If you select Stretch All, the picture fills the full element display area.	If you select Stretch 1:1, the picture displays in 1:1 size based on the element width and length.	If you select Actual Size, regardless of the element size, the picture displays in its actual size in the element display area.					
	means that and the gra After check processed reduce time	selects the graphics put t the component has maphics may not extend king this function, all gr instead of setting them e-consuming editing.	nultiple state values, to the entire area. raphics can be					

Features	Description
Transparent Color	This function can specify a color in the graph and make it transparent. Represents if using the transparent color icon of the selected graphics Click the white part of the calendar, the software will skip the white part of the picture and become a transparent color, which means it is the foreground color of the component.

Multiple actions									×
Preview	Main	Main-2	Text	Picture	Details	Macro	Coordinat	tes	
Preview          Image:         Language:         Language1         Element description:         Multiple actions_004	Other Interle Interle Interle Invisi User S Set Lo	Main-2 ock State: ock Display N ock Address: ble Address: Security Leve ow Security: fier +	vlode: L:	On Show Ele None 0 No	ement	Macro		tes	
								OK	Cancel

• Description of Details tab function

Figure 3 - 136: Multiple actions button window Details tab

Features	Description
Interlock State	The interlock state bit is mainly used to allow the user to operate a component through this bit, and must be used with the effective level. If the effective level is set to OFF, it means that the effective bit can be operated when the effective level is OFF; on the contrary, if the effective level is set to ON, it means that the effective bit is in the state of ON Before operation. Its behavior is as follows: 1. Please create a button first and set its address to \$8.0, then set
	the effective bit in the Multiple actions button to \$8.0.



Features	Description
User Security Level	<ul> <li>Use this function to set the authority of the components pressing action, and it can only be used if it is higher than or equal to the set authority.</li> <li>After setting the user authority level, the password input window will pop up when pressing the component to confirm whether the authority level password is correct.</li> </ul>
Set Low Security	Set the lowest authority after input. If it is set to YES, the HMI will automatically set the use authority to the lowest after each input. When the component is pressed next time, it will ask for the password again and ask for the corresponding authority level password.
Modifier + Hot Key	Modifier + Hot Key: Shift < + None None F1 F2 F3 F4 F5 F6 F7 F8 F9 <

• Function description of macro tab

Multiple actions							×
Preview	Main Ma	in-2 Text	Picture	Details	Macro	Coordinates	
	1						^
State:							
0 ~							
Language:							
Language1 $\vee$							
Element description:							
Multiple actions_004							
							~
	< Before Execute 1	Macro After F	secute Macro				>
	Delote Execute I	viacio rinci L.	icosto iviaci0				
						OK	Cancel

Figure 3 - 137: Multiple actions button window Macro tab

Features	Description
Before Execute macro	When the user touches the button element, the command in this macro will be executed first before the button action is executed. But if the state of the button is not changed by touch (using external controller commands or other macro changes), the macro command will not be executed.

Features	Description
	Maintained Button Trigger ON / Input Numeric Before Execute Macro Button triggered ON and numeric written Trigger OFF / Input Numeric Before Execute Macro Button triggered OFF and numeric written Maintained Button triggered OFF and numeric written
After Execute macro	When the user touches the button element, the button will be executed first, and then this macro command will be executed. But if the state of the button is not changed by touch (using external controller commands or other macro changes), the macro command will not be executed.



• Function description of Coordinates tab

Multiple actions								×
Preview	Main	Main-2	Text	Picture	Details	Macro	Coordinates	
	Coordi				1			
		X:	488	* *		74	•	
		Width:	73	* *	Height	79	•	
State:								
0 ~								
Language:								
Language1 $\vee$								
Element description:								
Multiple actions_004								
							OK	Cancel

Figure 3 - 138: Multiple actions button window Coordinates tab

Function	Description
Х	Displays the X coordinate of the upper left corner of the element.
Y	Displays the Y coordinate of the upper left corner of the component
Width	Displays the width of an element. Enter a value to change the width.
Height	Displays the height of an element. Enter a value to change the height.

# 3.5.11 RTC(L)

User can display a real time clock on the screen of a TP series text panel using the RTC element, the time on the real time clock is written to a related device connected
to the equipment or the time in a related device connected to the equipment is read and displayed on the screen of the TP series text panel.

The RTC element for general model and TP70P series text panel is shown in the following table:

Element	General Model	TP70P series
RTC	HH:MM:SS	hh:mm:ss

## 3.5.11.1 RTC Element in General Model TP Series Text Panel:

Follow these steps to add the RTC element to a screen and edit the properties in a general model TP series text panel:

1. Click the Element(O) > RTC(L) on the Menu bar, or

Click the 🛄 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The RTC element is added to the screen.

3. Double-click the RTC element to edit the RTC element properties.

**Result**: The **RTC** window displays as shown in the following figure. The **RTC** window has two tabs for general model TP series text panel:

- Property
- Coordinates

The **Property** tab displays by default.

Preview	Property Coordinates		
	Write		
HH:MM :SS		Outline:	No Border 🗸 🗸
	Device Address: D0	Font Setting:	5x8 ~
	Time Association	Horiz. alignment:	Align Left $\sim$
State:			
0 ~	TP RTC Time	● Time (	) Day () Date
	○ PLC Time		
Element description:			
RTC_001			

Figure 3 - 139: RTC window – Property tab for general model

The **Property** tab in the **RTC** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description		
Write	Select to enable the RTC to write to the device.		
Device Address	Click to open the <b>Refer Device</b> window to select the variable address for the device.		
Time Association – TP RTC Time	Select, to write the time/day/date of the RTC in the TP series text panel to the related devices and display on the screen in the TP series text panel.		
Time Association – PLC Time	Select, to read the time/day/date in the related devices and display on the screen in the TP series text panel.		
Outline	<ul> <li>Select the border type. Options are:</li> <li>No Border</li> <li>Single Border</li> <li>Double Border</li> <li>Thick Border</li> <li>Dot Border</li> <li>Dotted Line Border</li> </ul>		

Function	Description
	<b>NOTE</b> : The default value is <b>No Border</b> .
	Select the font setting. Options are:
	• 5x8
Foot Sotting	• 8x8
Font Setting	<ul> <li>8x12</li> <li>8x16</li> </ul>
	• 8×10
	<b>NOTE</b> : The default value is <b>5x8</b> .
	Select the horizontal alignment. Options are:
	Align Left
Horiz. Alignment	Horizontal Centering
	Align Right
	<b>NOTE</b> : The default value is <b>Align Left</b> .
	Select to display the RTC time.
Time	
	Example: HH:MM: SS
	Select to display the RTC day.
Day	-
	Example: SUN.
	Select to display the RTC date.
Date	Example: YYYY/MM/DD.

Click on the **Coordinates** tab in the **RTC** window of the general model TP series text panel to display the contents as shown in the following figure.



Figure 3 - 140: RTC window – Coordinates tab for general model

The **Coordinates** tab in the **RTC** window for general model TP series text panel displays properties as mentioned in the following table:

Function	Description
х	Displays the X coordinate for the RTC element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the RTC element. Enter a value to change the Y coordinate.
Width	Displays the width for the RTC element. Enter a value to change the width.
Height	Displays the height for the RTC element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

### 3.5.11.2 RTC Element in TP70P Series Text Panel:

The procedure to add a RTC element in the TP70P series text panel is same as that for the general model TP series text panel. Refer <u>3.5.11.1 RTC element in general</u> <u>model TP series text panel</u>: for more information.

The **RTC** window for the TP70P series displays as shown in the following figure. The RTC window has three tabs for TP70P series text panel:

- Property
- Appearance
- Coordinates

The **Property** tab is the default tab.

RTC		×
Preview	Property Appearence Coordinates	
hh:mm:ss	Device Address: D0	
	Time Association	
State: 0 ~	TP RTC Time	
	○ PLC Time	
Element description: RIC_001		
	OK Cancel	

Figure 3 - 141: RTC window – Property tab for TP70P series

The **Property** tab in the **RTC** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Write	Select to enable RTC write to the device.
Device Address	Click to open <b>Refer Device</b> window to select the variable address for the device.
Time Association – TP RTC Time	Select, to write the time/day/date of RTC in the TP series text panel to the related devices and display on the screen in the TP series text panel.
Time Association – PLC Time	Select, to read the time/day/date in the related devices and display on the screen in the TP series text panel.

Click the **Appearance** tab in the **RTC** window of the TP70P series text panel to display the contents as shown in the following figure.

RTC		×
Preview	Property Appearence Coordinates	
hh:mm:ss	● Time ○ Day ○ Date	Enable 3D Style: Yes  Border Width: 5
State:	Font Setting: Font	Color Setting
0 ~	Horiz. alignment: Align Left $\vee$	Border Color:
	Vert. alignment: Vert. Centering $\sim$	Font Color:
		Background Color:
Element description:		
		OK Cancel

Figure 3 - 142: RTC window – Appearance tab for TP70P series

The **Appearance** tab in the **RTC** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Time	Select to display the RTC time.

Function	Description
	Example: HH:MM: SS.
	Select to display the RTC day.
Day	Example: SUN.
	Select to display the RTC date.
Date	Example: YYYY/MM/DD.
Font Settings	Click to open Font Setting window to set the following properties: • Font • Size • Bold • Italics Click OK to save settings.
Horiz. Alignment	<ul> <li>Select the horizontal alignment. Options are:</li> <li>Align Left</li> <li>Horizontal Centering</li> <li>Align Right</li> </ul> <b>NOTE:</b> The default value is Align Left.
Vert. alignment	<ul> <li>Select the vertical alignment. Options are:</li> <li>Align Top</li> <li>Vert. Centering</li> <li>Align Bottom</li> </ul> <b>NOTE:</b> The default value is Align Top.
Enable 3D Style	<ul> <li>Select to enable or disable 3D style. Options are:</li> <li>Yes</li> <li>No</li> <li>NOTE: The default value is Yes.</li> </ul>
Border Width	Select the border width. <b>NOTE</b> : The default value is 5.
Color Setting - Border Color	Select the border color.

Function	Description
Color Setting - Border Color	Select the font color.
Color Setting - Background Color	Select the background color.

Click the **Coordinates** tab in the **RTC** window of the TP series text panel to display the contents as shown in the following figure.

RTC								×
Preview	Property	Appear	ence	Coordinates				
	Coordinat	es						
hh:mm:ss		X:	75	÷	Y:	35	•	
		Width:	103	*	Height:	50	•	
State:								
0 ~								
Element description:								
RTC_001								
							OK	Cancel

Figure 3 - 143: RTC window – Coordinates tab for TP70P series

The **Coordinates** tab in the **RTC** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
X	Displays the X coordinate for the RTC element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the RTC element. Enter a value to change the Y coordinate.
Width	Displays the width for the RTC element. Enter a value to change the width.

Function	Description
Height	Displays the height for the RTC element. Enter a value to change the height.

#### 3.5.12 Multistate Indicator

User can add a multistate image or text to a screen using the Multistate Indicator element.

3.5.12.1 Multistate Indicator in General Model TP Series Text Panel:

Follow these steps to add a Multistate Indicator element to the screen in a general model TP series text panel:

1. Click the Element(O) > Multistate Indicator on the Menu bar, or

Click the O icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Multistate Indicator element is added to the screen.

3. Double-click on the Multistate Indicator element to edit the properties.

**Result**: The **Multistate Indicator** window displays as shown in the following figure.

The Multistate Indicator window has three tabs for general model TP series text panel:

- Property
- Text
- Coordinates

The **Property** tab is the default tab.

ate Indicator				
iew	Property Text Coordinates			
	Refer Device	State Counts:	2	*
	Device Address: M0			
	● Bit ○ Value			
	Value Type: Unsigned ~			
~	Value Length: 16 Bits ~	I		
	Bitmap Read Clear Picture			
ent description:				
ltistate Indicator_001				

# Figure 3 - 144: Multistate Indicator window – Property tab (Bit) for general model

The **Property** tab in the **Multistate Indicator** window for the general mode TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Device Address	Select the device address that user want to display.
Refer Device – Bit	Select Bit if there are only 2 states. <i>NOTE: The default value is Bit.</i>
Refer Device - Value	Select Value, if there are multiple states.
Bitmap Read	Click to display the <b>Open</b> window to select a location and a .bmp file for the Bitmap.
Clear Picture	Click to delete the current Bitmap.

If user select **Bit**, user can select images corresponding to the values of 0 and 1. If user select **Value**, user can set up to a maximum of 255 states.

If user select Value, the Multistate Indicator window displays the Property tab as shown in the following figure.

ltistate Indicator				
Preview	Property Tex	t Coordinates		
eq	Refer Device Device Address:	D0	State Counts: 2	•
	OBit	<ul> <li>Value</li> </ul>	Range Value Sequence From Max to Min	
ate:	Value Type:	Unsigned $\sim$	○ From Min to Max	
	Value Length:	16 Bits $\lor$	All States Table	
			State Device Value >= Range 0 0	Value
	Bitmap Read	Clear Picture	1 0	
lement description:				
Multistate Indicator_002				
			Referen	ce Value

# Figure 3 - 145: Multistate Indicator – Property tab (Value) for general model

The **Property** tab in the **Multistate Indicator** window for the general model TP series text panel displays **Value** properties as mentioned in the following table:

Function	Description
Range Value Sequence -From Max to Min	Select to define range values in descending order.
Range Value Sequence -From Min to Max	Select to define range values in ascending order.
All States Table	Enter the values for states from state0 to stateN, where N = ( <b>States Counts</b> -1).
All States Table Reference Value	Click the button to open Range Value Reference Value dialog box. Enter the Range Limit for Lower Bound and Upper Bound.

Click the **Text** tab in the **Multistate Indicator** window in the general model TP series text panel to display the contents as shown in the following figure.

	Proper	v Text	Coordinates			
	Flopen	y Text	Coordinates			
	Text					
				1		
				Times New Roman	~ 10	) ~
					<b>—</b>	
				Horiz. alignment:	Align Left	$\sim$
				Vert. alignment:	Align Top	~
~				vert. augument.	Angn Top	
		Process the t	ext of all states			
				-		
	State	Language1				
	0					
ent description:	1					
ltistate Indicator_002						

Figure 3 - 146: Multistate Indicator – Text tab for general model

The **Text** tab in the **Multistate Indicator** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Text field	Enter the text.
Process the text of all states	Click to copy the text in text field to paste in all the state.
Font Type field	Select the font type.
Font Size field	Select the font size.
Bold field	Select to bold the text.
Italic	Select to italicize the text.

Click the **Coordinates** tab in the **Multistate Indicator** window for the general model TP series text panel to display the contents as shown in the following figure.

ltistate Indicator							
review	Property	Text	Coordinates				
	Coordina	tes					
			50	n	16		
		X:		-		÷	
		Width:	63 ÷	Height:	33	-	
ate:							
× .							
ement description:							
Multistate Indicator_002							
						OK	Cancel

Figure 3 - 147: Multistate Indicator – Coordinates tab for general model

The **Coordinates** tab in the **Multistate Indicator** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
X	Displays the X coordinate for the Multistate Indicator element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Multistate Indicator element. Enter a value to change the Y coordinate.
Width	Displays the width for the Multistate Indicator element. Enter a value to change the width.
Height	Displays the height for the Multistate Indicator element. Enter a value to change the height.

4. Set the properties as per user's requirements and click OK.

## 3.5.12.2 Multistate Indicator in TP70P Series Text Panel:

The steps for adding a Multistate Indicator element in the TP70P series text panel are the same as the steps for the general model TP series text panel. Refer <u>3.5.12.1</u> <u>Multistate Indicator in general model TP series text panel</u>: for more information.

The **Multistate Indicator** window for the TP70P series text panel is shown in the following figure. The Multistate Indicator window has four tabs for the TP70P series text panel:

- Property
- Text
- Appearance
- Coordinates

The **Property** tab is the default tab.

lultistate Indicator							
Preview	Property	Text	Appearance	Coordina	ates		
	Refer Devic	e			State Counts:	2	* *
	Read Addre	ess:	М0				Ŭ
	• Bit	0	Value				
tate:	Value Type:		Unsigned	$\sim$			
) ~	Value Lengtl	h:	16 Bits	$\sim$			
Element description:							
Multistate Indicator_001							
							_
						OK	Cance

Figure 3 - 148: Multistate Indicator – Property tab (Bit) for TP70P series

The **Property** tab in the **Multistate Indicator** window for the TP70P series text panel displays properties as same as general model.

The **Property** tab in the **Multistate Indicator** window for the TP70P series text panel displays Value properties as mentioned in the following table:

Function	Description				
Range Value Sequence - From Max to Min	Select to define range values in descending order.				
Range Value Sequence - From Min to Max	Select to define range values in ascending order.				
All States Table	Enter the values for states from state0 to stateN, where N = ( <b>States Counts</b> -1).				
All States Table - Reference Value	Click the button to open Range Value Reference Value dialog box. Enter the Range Limit for Lower Bound and Upper Bound.				

Click the **Text** tab in the **Multistate Indicator** window of the TP70P series text panel to display the contents as shown in the following figure.

ultistate Indicator		
Preview	Property Text Appearance Coordinates	
	Text	
eq	req Times New Roman 🗸	16 ~
	□ B □ <sup>1</sup>	
	Horiz. alignment: Align Left	~
tate:	Vert. alignment: Align Top	$\sim$
	Process the text of all states	
	State Language1	
	0 req	
lement description:	1 req	
Multistate Indicator_001		

Figure 3 - 149: Multistate Indicator – Text tab for TP70P series

The **Text** tab in the **Multistate Indicator** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description					
Text field	Enter the text.					
Process the text of all states	Click to copy the text in text field to be past in all the states.					
Font Type field	Select the font type.					
Font Size field	Select the font size.					
Bold field	Select to bold the text.					
Italic	Select to italicize the text.					
Horiz. alignment	<ul> <li>Select the horizontal alignment. Options are:</li> <li>Align Left</li> <li>Horiz. Centering</li> <li>Align Right</li> </ul> <b>NOTE</b> : The default value is Align Left.					
Vert. alignment	<ul><li>Select the vertical alignment. Options are:</li><li>Align Top</li></ul>					

Function	Description					
	<ul><li>Vert. Centering</li><li>Align Bottom</li></ul>					
	<b>NOTE</b> : The default value is <b>Align Top</b> .					

Click the **Appearance** tab in the **Multistate Indicator** window of the TP70P series text panel to display the contents as shown in the following figure.

9W	Property	Text	Appearance	Coordinate	s	
	Enable 3D Border Wi		Yes 5		rom File	Clear Picture
	Border Co	lor:		•	Use HMI Picture Ban None None	k ~
~	Style: Backgroun	ıd Color:	Standard	✓ ✓ Bitr	none Alignment	
nt description: istate Indicator 001				А	lign Top 🗸 🗸	Align Left

Figure 3 - 150: Multistate Indicator – Appearance tab for TP70P series

The **Appearance** tab in the **Multistate Indicator** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Enable 3D Style	<ul> <li>Select enable or disable the 3D style. Options are:</li> <li>Yes</li> <li>No</li> </ul> <b>NOTE</b> : The default value is Yes.
Border Width	Select the border width.

Function	Description
	<b>NOTE</b> : The default value is <b>5</b> .
Border Color	Select the border color.
Background Color	Select the background color.
Style	<ul> <li>Select the style. Options are:</li> <li>Standard</li> <li>Round</li> </ul> <b>NOTE</b> : The default value is Standard.
Background Color	Select the background color.
Bitmap Setting – From File	Click to display the <b>Open</b> window to select a location and a .bmp file for the Bitmap.
Bitmap Setting – Clear Picture	Click to delete the current Bitmap.
User HMI Picture Bank	Click to select picture bank and an image in the picture bank.
Bitmap Alignment	Select vertical and horizontal alignment <b>NOTE</b> : The default values are Align Top and Align Left.

Click the **Coordinates** tab in the **Multistate Indicator** window of the TP70P series text panel to display the contents as shown in the following figure.



Figure 3 - 151: Multistate Indicator - Coordinates tab for TP70P series

The **Coordinates** tab in the **Multistate Indicator** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Multistate Indicator element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Multistate Indicator element. Enter a value to change the Y coordinate.
Width	Displays the width for the Multistate Indicator element. Enter a value to change the width.
Height	Displays the height for the Multistate Indicator element. Enter a value to change the height.

#### 3.5.13 Measurement

User can display engineering unit on the screen of the TP series text panel using the **Measurement** element.

Follow these steps to add a Measurement element to a screen and edit the properties in a general model TP series text panel:

1. Click the Element(O) > Measurement on the Menu bar, or

Click the 📥 icon on the Element Selection Toolbar.

Result: The Measurement element is added to the screen.

A sample Measurement for general models is shown in the following figure.

КΜ

Figure 3 - 152: Measurement

2. Double-click the Measurement element to edit the properties.

**Result**: The Measurement window displays as shown in the following figure. The Measurement window has two tabs for the general model TP series text panel:

- Property
- Coordinates

The Property tab is the default tab.

Measurement		
Preview	Property Coordinates	
n an tao an	Measurement Type: Length ~	
VM.		
PA L' LI	Measurement Units : KM 🗸	
State:		
0 ~		
Element description:		
Measurement_001		
_		
		OK Cancel

Figure 3 - 153: Measurement window - Property tab for general model

The **Property** tab in the **Measurement** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Measurement Type	<ul> <li>Select the measurement type. Options are:</li> <li>Length</li> <li>Square Measure</li> <li>Volume/Solid Measure</li> <li>Weight</li> <li>Speed</li> <li>Time</li> <li>Temperature</li> </ul>
Measurement Units	Select the measurement units. Options available depends on the Measurement Type. Options available for Length are:

Function	Description
	KM
	M CM
	MM
	MILE
	FT
	IN
	Options available for Square Measure are:
	KM <sup>2</sup>
	M <sup>2</sup> CM <sup>2</sup>
	CM MILE <sup>2</sup>
	MILE <sup>-</sup> FT <sup>2</sup>
	IN <sup>2</sup>
	Options available for Volume/Solid Measure are:
	M <sup>8</sup>
	CM <sup>3</sup>
	FT <sup>3</sup>
	IN <sup>3</sup>
	Options available for Weight are:
	kg
	g
	mg
	b
	Options available for Speed are:
	KM/SEC
	™sec F∑sec
	SEC MILE/ SEC
	_∕sec
	Options available for <b>Time</b> are:
	ms
	S
	min
	h
	Options available for Tomporature are:
	Options available for Temperature are:
	°C °F
	'

Click the **Coordinates** tab in the **Measurement** window of the general model TP series text panel to display the contents as shown in the following figure.

feasurement								×
Preview	Property	Coordi	nates					
	Coordinat	tes						
17 M I		X:	37	-	Y:	13	•	
N. 1711								
		Width:	16	A. W	Height:	10	*	
itate:								
0 ~								
Element description:								
Measurement_001								

### Figure 3 - 154: Measurement window - Coordinates tab for general model

The **Coordinates** tab in the **Measurement** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
X	Displays the X coordinate for the Measurement element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Measurement element. Enter a value to change the Y coordinate.
Width	Displays the width for the Measurement element. <b>NOTE</b> : Width is read-only.
Height	Displays the height for the Measurement element. <b>NOTE</b> : Height is read-only.

3. Set the properties as per user's requirements and click OK Button.

#### 3.5.14 Numeric Input

User can write a value to a related device address in the TP series text panel using the **Numeric Input** element.

The Numeric Input element for the general model and TP70P series text panel is shown in the following table:

Element	General Model	TP70P series
Numeric Input	######	++++++++++

#### 3.5.14.1 Numeric Input Element in General Model TP Series Text Panel:

Follow these steps to add a Numeric Input element to a screen and edit the properties in a general model TP series text panel:

1. Click the Element(O) > Numeric Input on the Menu bar, or

Click the disconting on the Element Selection Toolbar.

- Click the screen and drag the mouse to the required dimensions.
   Result: The Numeric Input element is added to the screen.
- 3. Double-click the Numeric Input element to edit the properties.

**Result**: The Numeric Input window displays as shown in the following figure. The Numeric Input window has two tabs for the general model TP series text panel:

- Property
- Coordinates

The **Property** tab is the default tab.

review	Property Coordina	ates		
	Refer Device		Style	
	Write Address:	D0	Outline:	No Border $\sim$
	Enable Read Address:	No ~	Font Setting:	5x8 ~
	Read Address:		Horiz. alignment:	Horiz. Centering $\sim$
ite:	Enable Function Key:	No v	Vert. alignment:	Vert. Centering $\sim$
	<ul> <li>Function Key:</li> </ul>	$\sim$		
	Arithmetic		Notify Setting	
	Value Type:	Unsigned $\checkmark$	Enable Notify Address:	No ~
ement description:	Value Length:	16 Bits $\checkmark$	Notify Address:	
Jumeric Input_001	Value Setting		Before/After Writing:	Before Writing $\sim$
	Integer Digits	5 ~	Reset/Set:	Reset $\lor$
	Fractional Digits	0 ~		
	Maximum	65535	User Security Level:	0 ~
	Minimum	0		

# Figure 3 - 155: Numeric Input window - Property tab for general model

The **Property** tab in the **Numeric Input** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Device Address	Select the device address to write the value.
	Select to enable a device register to start reading the value. Options are:
Refer Device –	• No
Enable Read Address	• Yes
	<b>NOTE</b> : The default value is <b>No</b> .
Refer Device – Read Address	Select the device address to read the value. This field is enabled only when the <b>Enable Read Address</b> is set to <b>Yes</b> .
Enable Function	Select whether to enable or disable the function key.
Key	<b>NOTE</b> : The default value is <b>No</b> .
	Select the function key from the drop-down menu.
Function Key	<b>NOTE</b> : This field is enabled when <b>Enable Function Key</b> is set to <b>Yes</b> .

Function	Description
Arithmetic	Select the check box to perform an arithmetic operation on the device address. Click to open the <b>Operation Setting</b> dialog box.
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> NOTE: The default value is Unsigned.
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : The default value is 16 Bits.
Value Setting – Integer Digits	<ul> <li>Select the number of integer places. Options are:</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> <li><i>NOTE</i>: The default value is 5.</li> </ul>
Value Setting – Fractional Digits	Select the number of decimal places. Options are: • 0 • 1 • 2 • 3 • 4 • 5 <b>NOTE</b> : The default value is 0.
Value Setting - Maximum	Enter the maximum value of the numeric input. <i>NOTE: The default value is</i> 65535.
Value Setting – Minimum	Enter the minimum value of the numeric input. <i>NOTE: The default value is 0.</i>

Function	Description
	Select the border type. Options are:
	No Border
	Single Border
	Double Border
Style – Outline	Thick Border
	Dot Border
	Dotted Line Border
	<b>NOTE</b> : The default value is <b>No Border</b> .
	Select the Font Setting. Options are:
	• 5x8
Otale Faint	• 8x8
Style – Font Setting	• 8x12
Cotting	• 8x16
	<b>NOTE</b> : The default value is <b>5x8</b> .
	Select the horizontal alignment. Options are:
	<ul> <li>Align Left</li> </ul>
Style – Horiz.	Horiz. Centering
alignment	Align Right
	<b>NOTE</b> : The default value is <b>Horiz. Centering</b> .
	Select the vertical alignment. Options are:
	<ul> <li>Align Top</li> </ul>
Style – Vert.	Vert. Centering
alignment	Align Bottom
	5
	<b>NOTE</b> : The default value is <b>Vert. Centering</b> .
	Select to enable the notify address. Options are:
Notify Setting –	• No
Enable Notify Address	• Yes
	<b>NOTE</b> : The default value is <b>No</b> .
	Select the notify address.
Notify Setting – Notify Address	<b>NOTE</b> : This is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> .

Function	Description		
Notify Setting – Before/After Writing	<ul> <li>Select to notify before writing or after writing. Options are:</li> <li>Before Writing</li> <li>After Writing</li> </ul> <b>NOTE:</b> This is enabled if Enable Notify Address is set to Yes. The default value is Before Writing.		
Notify Setting – Reset/Set	<ul> <li>Select to set or reset the variable. Options are:</li> <li>Reset</li> <li>Set</li> <li>NOTE: This is enabled if Enable Notify Address is set to Yes. The default value is Reset.</li> </ul>		
User Security Level	Select the user security level. Options are: • 0 • 1 • 2 • 3 • 4 <b>NOTE</b> : The default value is <b>0</b> . Click icon to open <b>User-</b> <b>Level Password Setting</b> window to set the passwords for various user levels.For the setting method, refer to <u>3.7.2</u> <u>User-Level Password Setting</u>		

Click the **Coordinates** tab in the **Numeric Input** window of the general model TP series text panel to display the contents as shown in the following figure.

meric Input								
review	Property	Coordi	nates					
	Coordina	tes						
######		X:	22	-	Y:	19	-	
		Width:	70	•	Height:	29	*	
te:								
~								
ement description:								
umeric Input_001								
							OK	Cancel

Figure 3 - 156: Numeric Input window - Coordinates tab for general model

The **Coordinates** tab in the **Numeric Input** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Numeric Input element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Numeric Input element. Enter a value to change the Y coordinate.
Width	Displays the width for the Numeric Input element. Enter a value to change the width.
Height	Displays the height for the Numeric Input element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

### 3.5.14.2 Numeric Input Element in TP70P Series Text Panel:

The steps for adding a Numeric Input element in the TP70P series text panel are the same as the steps for the general model TP series text panel. Refer <u>3.5.14.1</u> <u>Numeric Input element in general model TP series text panel</u>: for more information.

The **Numeric Input** window in the TP70P series text panel is shown in the following figure. The Numeric Input window has three tabs in the TP70P series text panel:

- Property
- Appearance
- Coordinates

The **Property** tab is the default tab.

Numeric Input					×
Preview	Property Appeara	ance Coordinates			
	Refer Device		Value Setting		
	Write Address:	D0	Integer Digits	5 ~	
******	Enable Read Address:	No ~		+	
	Read Address:		Fractional Digits	0 ~ <= 5	
State:	Interlock Setting		Maximum	65535	
0 ~	Enable Read Address:	No 🗸	Minimum	0	
	Read Address:		Minimum	v	
	State:	$\sim$	Notify Setting		
Element description:					
Numeric Input_001	Leading Zeros:	No ~	Enable Notify Address:	No ~	
			Notify Address:		
	Value Type:	Unsigned $\checkmark$	Before/After Writing:	Before Writing $\sim$	
	Value Length:	16 Bits $\vee$	Reset/Set:	Reset $\vee$	
	User Security Level:	0 ~			
				OK Can	cel

Figure 3 - 157: Numeric Input window – Property tab for TP70P series

The **Property** tab in the **Numeric Input** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description
Refer Device - Device Address	Select the device address to write the value.
Refer Device – Enable Read Address	<ul> <li>Select to enable a device register to start reading the value.</li> <li>Options are:</li> <li>No</li> <li>Yes</li> <li><i>NOTE</i>: The default value is No.</li> </ul>
Refer Device – Read Address	Select the device address to read the value. This field is enabled only when the Enable Read Address is set to Yes.
Interlock Settings – Enable Read Address	<ul> <li>Select to enable a device register to start reading the value. Options are:</li> <li>No</li> <li>Yes</li> </ul> <b>NOTE</b> : The default value is No.
Interlock Settings – Read Address	Click button to open the <b>Refer Device</b> window to select the interlock for the <b>Numeric Input</b> controls. <i>NOTE: The Read Address is disabled by default</i> .
Interlock Settings - State	<ul> <li>Select the OFF(0) or ON(1) state of the Read Address in which to apply the interlock to the Numeric Input controls. Options are:</li> <li>OFF</li> <li>ON</li> <li>NOTE: The default value is OFF.</li> </ul>
Leading Zeros	Select to enable or disable leading zeros. <i>NOTE: The default value is No.</i>
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> <li>ASCII</li> <li>Binary</li> <li>Float</li> </ul>

Function	Description
	<b>NOTE</b> : The default value is <b>Unsigned</b> .
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> <li><i>NOTE</i>: The default value is 16 Bits.</li> </ul>
User Security Level	Select the user security level. Options are: • 0 • 1 • 2 • 3 • 4 <b>NOTE</b> : The default value is <b>0</b> . Click on the button to open <u>User-Level Password Setting</u> window to set the passwords for various user levels. For the setting method, refer to <u>3.7.2 User- Level Password Setting</u>
Value Setting – Integer Digits	<ul> <li>Select the number of integer places. Options are:</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> </ul> NOTE: The default value is 5.
Value Setting – Fractional Digits	Select the number of decimal places. Options are: • 0 • 1 • 2 • 3 • 4 • 5 NOTE: The default value is 0.
Value Setting - Maximum	Enter the maximum value for the numeric input. <i>NOTE: The default value is</i> 65535.

Function	Description
Value Setting – Minimum	Enter the minimum value for the numeric input.
Minimum	<b>NOTE</b> : The default value is <b>0</b> .
	Select to enable the notify address. Options are:
Notify Setting –	• No
Enable Notify Address	• Yes
	NOTE: The default value is No.
Notify Setting –	Select the notify address.
Notify Address	<b>NOTE</b> : This is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> .
	Select to notify before writing or after writing. Options are:
Notify Setting –	Before Writing
Before/After Writing	After Writing
	<b>NOTE</b> : This is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> . The default value is <b>Before Writing</b> .
	Select to set or reset the variable. Options are:
	Reset
Notify Setting – Reset/Set	• Set
	<b>NOTE</b> : This is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> . The default value is <b>Reset</b> .

Click the **Appearance** tab in the **Numeric Input** window of the TP70P series text panel to display the contents as shown in the following figure.

eview		
eview	Property Appearence Coordinates	
	Style	
<del>////////</del>	Font: Times New Roma 🗸	
	Size: 16	
	10 0	
te:	Horiz. alignment: Horiz. Centering ~	
	Vert. alignment: Vert. Centering ~	
	Enable 3D Style: Yes ~	
ment description:	100	
umeric Input_003	Border Width: 5	
	Border Color:	
	Font Color:	
	Background Color:	

Figure 3 - 158: Numeric Input window - Appearance tab for TP70P series

The **Appearance** tab in the **Numeric Input** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description		
Style – Font	Select the font type.		
Style – Size	Select the font size.		
Style – Bold	Select to bold the number.		
Style – Italic	Select to italicize the number.		
Style – Horiz. alignment	<ul> <li>Select the horizontal alignment. Options are:</li> <li>Align Left</li> <li>Horiz. Centering</li> <li>Align Right</li> </ul> <b>NOTE</b> : The default value is Align Left.		
Style – Vert. alignment	<ul> <li>Select the vertical alignment. Options are:</li> <li>Align Top</li> <li>Vert. Centering</li> <li>Align Bottom</li> </ul> <b>NOTE:</b> The default value is Align Top.		

Function	Description		
Style – Enable 3D Style	<ul> <li>Select to enable or disable 3D style. Options are:</li> <li>Yes</li> <li>No</li> </ul> <b>NOTE</b> : The default value is Yes.		
Style – Border Width	Select the border width. <b>NOTE</b> : The default value is <b>5</b> .		
Style – Border Color	Select the border color.		
Style – Font Color	Select the font color.		
Style – Background Color	Select the background color.		

Click the **Coordinates** tab in the **Numeric Input** window of the TP70P series text panel to display the contents as shown in the following figure.

lumeric Input							
Preview	Property	Appearance	Coordinates				
	Coordina	tes					
		X: 160	÷	Y:	95	* *	
*******		Width: 320		Height:	184	÷	
			•	10-But.		•	
State:							
0 ~							
Element description:							
Numeric Input_001							
						OK	Cancel
						OK	Cancel

#### Figure 3 - 159: Numeric Input window – Coordinates tab for TP70P series

The **Coordinates** tab in the **Numeric Input** window for the TP70P series text panel displays properties as mentioned in the following table:

Function	Description		
x	Displays the X coordinate for the Numeric Input element. Enter a value to change the X coordinate.		
Y	Displays the Y coordinate for the Numeric Input element. Enter a value to change the Y coordinate.		
Width	Displays the width for the Numeric Input element. Enter a value to change the width.		
Height	Displays the height for the Numeric Input element. Enter a value to change the height.		

#### 3.5.15 Curve

User can represent the values in registers by displaying two curves on the screen of a TP series text panel with the **Curve** element.

Follow these steps to add a Curve element to a screen and edit the properties in a general model TP series text panel:

1. Click the Element(O) > Curve on the Menu bar, or

Click the Micon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Curve element is added to the screen.

3. Double-click the Curve element to edit the properties.

**Result**: The **Curve** window displays as shown in the following figure. The **Curve** window has two tabs for general model TP series text panel:

- Property
- Coordinates

The **Property** tab is the default tab.
Dentem			
Preview	Property Coor	dinates	
	Refer Device		
	Device Address:	D0	
	Vertical Max:	1000	
	Vertical Min:	0	
itate:	Horizontal Max:		
	Horizontal Min:		
Element description:			
Curve_001			

Figure 3 - 160: Curve window - Property tab for general model

The **Property** tab in the **Curve** window for the general TP series text panel displays properties as mentioned in the following table:

Function	Description
Device Address	Select the device address that user want to display in the Curve.
Vertical Max	Enter the maximum value to be read.
Vertical Min	Enter the minimum value to be read.
Horizontal Max	Not available.
Horizontal Min	Not available.

**NOTE**: If the value in the register is not in the range of the Vertical Min ~ Vertical Max values, it will not be represented by a point on the Curve.

The rule of the sampling points:

Suppose the Device Address is D0. The number of points that are stored depends on the value in D0. The maximum number of points that can be sampled is 100. The odd register numbers (D1, D3,...) are in a group, and the even register numbers (D2, D4,...) are in another group. Two curves are drawn.

### Example:

- D0: Number of points stored
- D1: First point of the first curve
- D2: First point of the second curve
- D3: Second point of the first curve
- D4: Second point of the second curve

The series of values are represented by curves displayed on the screen of a TP series text panel.

Click the **Coordinates** tab in the **Curve** window of the general model TP series text panel to display the contents as shown in the following figure.

Curve								×
Preview	Property	Coordi	nates					
	Coordina	les						
		X:	22	*	Y:	20	×	
			49			25		
		Width:	49	•	Height:	25	•	
State:								
0 ~								
Element description:								
Curve_001								
							OK	Cancel



The **Coordinates** tab in the **Curve** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Curve element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Curve element. Enter a value to change the Y coordinate.
Width	Displays the width for the Curve element. Enter a value to change the width.
Height	Displays the height for the Curve element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

# 3.5.16 X-Y Curve

User can represent the values in registers by an X-Y curve on the screen of a TP series text panel with the X-Y Curve element.

Follow these steps to add a X-Y Curve element to a screen and edit the properties in a general model TP series text panel:

1. Click the Element(O) > X-Y Curve in Menu bar, or

Click the 🔲 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The X-Y Curve element is added to the screen.

3. Double-click the X-Y Curve element to edit the properties.

**Result**: The X-Y Curve window displays as shown in the following figure. The X-Y Curve window has two tabs for general model TP series text panel:

• Property

Coordinates

The **Property** tab is displayed by default.

Preview	Property Coor	dinates	:
	Refer Device		
	Read Address:	D0	
	Vertical Max:	1000	
	Vertical Min:	0	
State: 0 ~	Horizontal Max:	1000	
	Horizontal Min:	0	
Element description:			
X-Y Curve_002			
			OK. Cancel

Figure 3 - 162: X-Y Curve window - Property tab for general model

The **Property** tab in the **X-Y Curve** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
Device Address	Select the device address in which the number of points to be displayed in the Curve has to be stored.
Vertical Max	Enter the maximum value that can be plotted along the vertical axis.
Vertical Min	Enter the minimum value that can be plotted along the vertical axis.
Horizontal Max	Enter the maximum value that can be plotted along the horizontal axis.
Horizontal Min	Enter the minimum values that can be plotted along the horizontal axis.

**NOTE**: If the value in the register is not in the range of the Vertical Min ~ Vertical Max or in the range of the Horizontal Max ~ Horizontal Min values, it is not represented by a point in the X-Y Curve.

The rule of sampling points:

Suppose the **Read Address** is D0. The number of points which are stored depends on the value in D0. The maximum number of points that can be sampled is 100. D1 and D2 define the x-coordinate and y-coordinate of the first point, D3 and D4 define the x-coordinate and y-coordinate of the second point, and so on. An X-Y Curve is drawn.

- D0: Number of points stored
- D1: X-coordinate of the first point on the X-Y Curve
- D2: Y-coordinate of the first point on the X-Y Curve
- D3: X-coordinate of the second point on the X-Y Curve
- D4: Y-coordinate of the second point on the X-Y Curve

The series of values are represented by an X-Y curve displayed on the screen of a TP series text panel.

Click on the **Coordinates** tab in the **X-Y Curve** window of the general model TP series text panel to display the contents as shown in the following figure.



Figure 3 - 163: X-Y Curve window - Coordinates tab for general model

The **Coordinates** tab in the **X-Y Curve** window for the general model TP series text panel displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the X-Y Curve element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the X-Y Curve element. Enter a value to change the Y coordinate.
Width	Displays the width for the X-Y Curve element. Enter a value to change the width.
Height	Displays the height for the X-Y Curve element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

# 3.5.17 Alarm

DIAScreen supports three types of Alarm functions for the TP70P series text panels as shown in the following figure.

- Active Alarm List
- Alarm History Table
- Alarm Moving Sign

	Geometric Graphic	<b>۵%</b>	- 🕀 🔍 🖉					
A	Static Text	7 7	ABIU	-				
Ν	Numeric/ASCII Display							
	Bitmap							
dı.	Bar(P)							
0	Meter							
••••	Message Display							
0	Button					🞽 🏝		
1	RTC(L)				OR	<b>_</b>	Active Alarm List	
0	Range Indicator					s 🖉 💆	Alarm History Table	
0	Numeric Input					_	Alarm Moving Sign	
	Alarm		Active Alarm List					_
	Slider	2	Alarm History Table					
Ż	Input List	2	Alarm Moving Sign					
	ComboBox							

Figure 3 - 164: Alarm element

# 3.5.17.1 Active Alarm List:

An Alarm list must be used with a System Alarm Buzzer as mentioned in section <u>3.7.6 System Alarm Buzzer Setting</u>. If an alarm condition is met, the current active alarm displays. The Alarms display in the TP70P series text panel with the Active Alarm List element.

Follow these steps to add an Active Alarm List to a screen and edit the properties in a TP70P series text panel:

1. Click the Element(O) > Alarm > Active Alarm List on the Menu bar, or

Click the 🞽 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Active Alarm List element is added to the screen.

A sample Active Alarm List displays as shown in the following figure.

mm/dd/yyyy hh:mm:ss event

Figure 3 - 165: Active Alarm List

3. Double-click the Active Alarm List element to edit the properties

**Result**: The Active Alarm List window displays as shown in the following figure.

The Active Alarm List window has two tabs:

- Property
- Coordinates

The **Property** tab is displayed by default.

ctive Alarm List			>
Preview	Property Coordinates		
mm/dd/yyyy hh:mm:ss event	Time Format: hh.mm:ss > Date Format: mm/dd/yyyy >	Enable 3D Style: Yes  Border Width: 5	
State:	Display Order	Color Setting	
) v	Date Date	Border Color:	
	Time Event	Background Color:	
	☑ Event v	Font Color:	
lement description:		Text Setting	
Active Alarm List_001	System Alarm Buzzer	Font Setting: Font	
		OK Cane	el

Figure 3 - 166: Active Alarm List window - Property tab for TP70P series

The **Property** tab in the **Active Alarm List** window displays properties as mentioned in the following table:

Function	Description					
	Select the time format. Options are:					
	hh:mm:ss					
	• hh:mm					
Time Format	• ss:hh:mm					
	• hh					
	<b>NOTE</b> : The default value is <b>hh:mm:ss</b> .					
	Select the date format. Options are:					
	• mm/dd/yyyy					
	• dd/mm/yyyy					
Date Format	• yyyy/mm/dd					
	• yyyy/dd/mm					
	<b>NOTE</b> : The default value is <b>mm/dd/yyyy</b> .					
Display Order –	Select to display or hide the Date.					
Display Order –						
	<b>NOTE</b> : The <b>Date</b> is selected by default.					

Function	Description					
Display Order – Time	Select to display or hide the Time					
Time	<b>NOTE</b> : The <b>Time</b> is selected by default.					
Display Order – Event	Select to display or hide the Event.					
	<b>NOTE: Event</b> is selected by default.					
Display Order - Selection field	Use the up and down arrows to select the order in which to display the <b>Date</b> , <b>Time</b> and <b>Event</b> .					
	<b>NOTE</b> : <b>Date, Time, Event</b> is the default order.					
	Select to enable or disable the 3D style. Options are:					
Enable 3D Style	<ul><li>Yes</li><li>No</li></ul>					
	<b>NOTE</b> : The default value is <b>Yes</b> .					
	Select the border width.					
Border Width						
Color Cotting	<b>NOTE</b> : The default value is <u>5</u> .					
Color Settings – Border Color	Select the border color.					
Color Settings – Background Color	Select the background color.					
Color Settings – Font Color	Select the font color.					
System Alarm Buzzer	Click to open the System Alarm Buzzer Setting dialog box.					
Text Settings – Font Settings - Font	Click Font to open the Font Setting dialog box to set the following properties: • Font • Size • Bold • Italics Click on OK to save settings.					

Click the **Coordinates** tab in the **Active Alarm List** window of the TP70P series text panel to display the contents as shown in the following figure.

Active Alarm List								×
Preview	Property	Coord	inates					
mm/dd/yyyy hlummuss event		X: Width:	<b>79</b> 256	•	Y: Height:	66 35	•	
State: 0 ~								
Element description: Active Alarm List_001								
							OK	Cancel

Figure 3 - 167: Active Alarm List window - Coordinates tab for TP70P series The Coordinates tab in the Active Alarm List window displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate of the Active Alarm List. Enter a value to change the X coordinate.
Y	Displays the Y coordinate of the Active Alarm List. Enter a value to change the Y coordinate.
Width	Displays the width of active alarm list. Enter a value to change the width.
Height	Displays the height of active alarm list. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

# 3.5.17.2 Alarm History Table:

A historical alarm is used with the system alarm buzzer as mentioned in section <u>3.7.6 System Alarm Buzzer Setting</u> If the value in the selected device address is set

to 1, it clear all the historical records. A historical alarm shows up to a maximum of 256 records. After 256<sup>th</sup> record, the next record replaces the very first record shown in the historical alarm. User can display historical alarms in a TP70P series text panel with the Alarm History Table element.

Follow these steps to add an Alarm History Table to a screen and edit the properties in a TP70P series text panel:

1. Click the Element(O) > Alarm > Alarm History table on Menu bar, or

Click the 🛃 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Alarm History Table element is added to the screen.

A sample Alarm History Table displays as shown in the following figure.

mm/dd/yyyy hh:mm:ss event

Figure 3 - 168: Alarm History Table

3. Double-click the Alarm History Table element to edit the properties.

**Result**: The Alarm History Table window displays as shown in the following figure. The Alarm History Table window has two tabs:

- Property
- Coordinates

The **Property** tab is displayed by default.

Preview	Property Coordinates		
nm/dd/yyyy hh:mm:ss event	Time Format: hh mm:ss Date Format: mm/dd/yyy	<ul> <li>✓ Enable 3D Style:</li> <li>y ✓ Border Width:</li> </ul>	Yes V
itate:	Display Order	Color Setting	
0 ~	✓ Date Date Time Event	Border Color: Background Color:	· · ·
	Event .	V Font Color:	•
Element description: Alarm History Table 002		Text Setting	
	System Alarm Buzzer	Font Setting:	Font
	Refer Device Read Address: D0		
	Set to 1 : Clear Alarm		

# Figure 3 - 169: Alarm History Table window - Property tab for TP70P series

The **Property** tab in the **Alarm History Table** window displays properties as mentioned in the following table:

Function	Description						
	<ul><li>Select the time format. Options are:</li><li>hh:mm:ss</li></ul>						
	• hh:mm						
Time Format	• ss:hh:mm						
	• hh						
	<b>NOTE</b> : The default value is <b>hh:mm:ss</b> .						
	Select the date format. Options are:						
	• mm/dd/yyyy						
	• dd/mm/yyyy						
Date Format	• yyyy/mm/dd						
	• yyyy/dd/mm						
	<b>NOTE</b> : The default value is <b>mm/dd/yyyy</b> .						
Display Order – Date	Select to display or hide the Date.						

Function	Description
	NOTE: Date is selected by default.
Display Order –	Select to display or hide the <b>Time</b> .
Time	<b>NOTE</b> : <b>Time</b> is selected by default.
Display Order – Event	Select to display or hide the <b>Event</b> .
	<b>NOTE</b> : Event is selected by default.
Display Order - Selection field	Use the up and down arrows to select the order in which to display the <b>Date</b> , <b>Time</b> and <b>Event</b>
	<b>NOTE</b> : <b>Date</b> , <b>Time</b> , <b>Event</b> is the default order.
Enable 3D Style	<ul><li>Select to enable or disable the 3D style. Options are:</li><li>Yes</li><li>No</li></ul>
	<b>NOTE</b> : The default value is <b>Yes</b> .
Border Width	Select the border width.
Dorder Width	<b>NOTE</b> : The default value is <b>5</b> .
Color Settings – Border Color	Select the border color.
Color Settings – Background Color	Select the background color.
Color Settings – Font Color	Select the font color.
System Alarm Buzzer	Click to open the System Alarm Buzzer Setting dialog box.
Text Settings – Font Settings - Font	Click Font to open the Font Setting dialog box to can set the following properties: • Font • Size • Bold • Italics Click OK to save settings.
Refer Device – Read Address	Select the variable reference address. If the value in the selected device address is 1, clear all historical records.

Click the **Coordinates** tab in the **Alarm History Table** window of the TP70P series text panel to display the contents as shown in the following figure.

Alarm History Table								×
Preview	Property	Coordin	nates					
	Coordinat	es						
mm/dd/yyyy hh:mm:ss event		X: Width:	<b>35</b> 253	•	Y: Height:	134 32	A •	
State:								
Element description: Alarm History Table_002								
							OK	Cancel

# Figure 3 - 170: Alarm History Table window - Coordinates tab for TP70P series

The **Coordinates** tab in the **Alarm History Table** window displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate of the Alarm History Table element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate of the Alarm History Table element. Enter a value to change the Y coordinate.
Width	Displays the width of Alarm History Table element. Enter a value to change the width.
Height	Displays the height of Alarm History Table element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

When system conditions are met, the message in Alarm History Table appears in chronological order. Red or green color LEDs display to the left side of the alarm

messages. The red color LED is the time the alarm condition is met and the green color LED is the time the alarm condition releases. An example of Alarm History Table display is shown in the following figure.



Figure 3 - 171: Alarm History Table - example

# 3.5.17.3 Alarm Moving Sign:

A scrolling alarm is used with a system alarm buzzer as mentioned in section <u>3.7.6</u> <u>System Alarm Buzzer Setting</u>. If an alarm condition is met, a scrolling alarm appears and the text corresponding to the condition scrolls in the direction set. User can add a scrolling alarm to a TP70P series text panel screen with the Alarm Moving Sign element.

Follow these steps to add an Alarm Moving Sign to a screen and edit the properties in a TP70P series text panel:

- Click the Element(O) > Alarm > Alarm Moving Sign on the Menu bar, or Click the sicon on the Element Selection Toolbar.
- 2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Alarm Moving Sign element is added to the screen.

A sample Alarm Moving Sign displays as shown in the following figure.

# mm/dd/yyyy hh:mm:ss event



3. Double-click the Alarm Moving Sign element.

**Result**: The Alarm Moving Sign window displays as shown in the following figure. The Alarm Moving Sign window has two tabs:

- Property
- Coordinates

The **Property** tab displays by default.

eview	Property Coordinat	es		
a dal faran biyana ayan t	Time Format:	hh:mm:ss ~	Enable 3D Style:	Yes 🗸
	Date Format:	mm/dd/yyyy ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Border Width:	5
	Display Order		Color Setting	
te:	Date Da		Border Color:	•
	☐ Time Time	le	Background Color:	
	Event Event	v	Font Color:	
			Text Setting	
ement description: .larm Moving Sign 003	System Alarm Buzzer		Horiz. alignment:	Align Left $\sim$
	Moving Sign		Vert. alignment:	Align Top $\sim$
	Direction:	From Bottom to ' $\sim$	Font Setting:	Font
	Interval(ms):	50 ~		
	Points per time:	1		

# Figure 3 - 173: Alarm Moving Sign window - Property tab for TP70P series

The **Property** tab in the **Alarm Moving Sign** window displays properties as mentioned in the following table:

Function	Description							
Time Format	<ul> <li>Select the time format. Options are:</li> <li>hh:mm:ss</li> <li>hh:mm</li> <li>ss:hh:mm</li> <li>hh</li> <li><i>NOTE: The default value is hh:mm:ss.</i></li> </ul>							
Date Format	<ul> <li>NOTE: The default value is hh:mm:ss.</li> <li>Select the date format. Options are: <ul> <li>mm/dd/yyyy</li> <li>dd/mm/yyyy</li> <li>yyyy/mm/dd</li> <li>yyyy/dd/mm</li> </ul> </li> <li>NOTE: The default value is mm/dd/yyyy.</li> </ul>							
Display Order – Date	Select to display or hide the Date <b>NOTE</b> : Date is selected by default.							
Display Order – Time	elect to display or hide the <b>Time</b> OTE: Time is selected by default.							
Display Order – Event	Select to display or hide the <b>Event</b> NOTE: The Event is selected by default.							
Display Order - Selection field	Use the up and down arrows to select the order in which to display of Date, Time and Event. <b>NOTE:</b> Date, Time, Event is the default order.							
Enable 3D Style Select to enable or disable the 3D style. Options are: • Yes • No								
Border Width	NOTE: The default value is Yes.         Select the border width.         NOTE: The default value is 5.							
Color Settings – Border Color	Select the border color.							

Function	Description					
Color Settings – Background Color	Select the background color.					
Color Settings – Font Color	Select the font color.					
System Alarm Buzzer	Click to open the System Alarm Buzzer Setting window.					
Text Settings – Horiz. alignment	<ul> <li>Select the horizontal text alignment. Options are:</li> <li>Align Left</li> <li>Horiz. Centering</li> <li>Align Right</li> </ul> <b>NOTE: Horiz. alignment</b> is disabled when <b>Direction</b> is set to From Left to Right or From Right to Left. The default value is Align Left.					
Text Settings – Font Settings - Font	Click on Font to open the Font Setting dialog box to set the following properties: Font Size Bold Italics Click OK to save settings.					
Direction	<ul> <li>Select the alarm text scroll direction. Options are:</li> <li>From Bottom to Top</li> <li>From Top to Bottom</li> </ul>					
Interval(ms)	Set the time interval in ms for scrolling. Options are: • 50 • 100 • 200					

Function	Description						
	• 2000						
	• 2500						
	<b>NOTE</b> : The default value is <b>50</b> .						
Points per time	Select the moving distance for every move.						

Click on the **Coordinates** tab in the **Alarm Moving Sign** window of the TP70P series text panel to display the contents as shown in the following figure.

Alarm Moving Sign								×
Preview	Property	Coordi	nates					
	Coordina	tes						
		X:	86	•	Y:	190	-	
mm/dd/ssay hh-mm-cc.avent		Width:	250	*	Height:	31	÷	
				•			•	
State:								
Element description:								
Alarm Moving Sign_003								
							OV	Grant
							OK	Cancel

# Figure 3 - 174: Alarm Moving Sign window - Coordinates tab for TP70P series

The **Coordinates** tab in the **Alarm Moving Sign** window displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate of the Alarm Moving Sign element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate of the Alarm Moving Sign element. Enter a value to change the Y coordinate.

Function	Description
Width	Displays the width of Alarm Moving Sign element. Enter a value to change the width.
Height	Displays the height of Alarm Moving Sign element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

# 3.5.17.4 Alarm Enable Function

Remark: This function is only applicable to DOP-100 series and AX-8 series.

The alarm function has a new enable function. User can click on the enable function for individual alarms. If the alarm is not checked, the alarm rule will not be executed when it is downloaded into the HMI.

When using the alarm function, enter the alarm from the project tree.

The alarm setting is mainly to set the following attributes:

- monitor address
- sampling period
- maximum number of records that can be accessed
- power-off holding area setting
- alarm revolving lights related settings
- output to CSV file
- and to edit the content of the alarm message to be displayed and other related attributes.

roject	7 × 4	🛿 Screen_1 🛛 🔊 Ala	rm ×					Þ
<b>a</b> • =		🗶 👱 🟯 🛛 16 🖙	"hr Arial	× 100% ×	20 🗣	😂 🖋		
⊡ <mark></mark>	4	Detail Properties						Þ
— 1 Communication	No.	Enable Message Co	ontent Category	Trigger Condition	Monitor Ac	Text Color	Alarm Screen	1
	1		0	On		RGB(0, 0, 0)	None	
Alarm	2		0	On		RGB(0, 0, 0)	None	
	3		0	On		RGB(0, 0, 0)	None	
Multi-language	4		0	On		RGB(0, 0, 0)	None	
Account Settings	5		0	On		RGB(0, 0, 0)	None	
X Configuration	6		0	On		RGB(0, 0, 0)	None	
	7		0	On		RGB(0, 0, 0)	None	
	8		0	On		RGB(0, 0, 0)	None	
Program	9		0	On		RGB(0, 0, 0)	None	
Main	10		0	On		RGB(0, 0, 0)	None	
	11		0	On		RGB(0, 0, 0)	None	
	12		0	On		RGB(0, 0, 0)	None	
	13		0	On		RGB(0, 0, 0)	None	
			-	-				>

Figure 3 - 175: Alarm

Features	Description
No.	Represents the number of alarm messages, and supports up to 8192 alarms.
Enable	User can enable this alert rule after download. <i>NOTE</i> : By default, alarm is disabled.
Message Content	The user can write the content of the alarm message to be displayed in the message content field. User can modify the message content directly in the field. Provide "%d1" format string, add the message content such as Alarm%d1, but it needs to be used with the monitoring address.
Category	It represents the category to which the alarm number belongs, and has the concept of a group. • The range of category support is 1 ~ 4095. • User can use the batch tool to set the category number quickly. • Steps to set alarm category Settings: • Steps to set alarm category Settings: • Set starting alarm number, example: 1 • Set ending alarm number, example: 10 • Set the category ID, example: 5 and click Press Batch Setting. Now, the alarm number 1-10 is defined as group 5.

Features		De	escripti	on		
	А	arm Category Setti	ngs	×		
		Starting Alarm Nu				
		Ending Alarm Nu Category ID	mber	4096 🗘		
			Batch Settin	g		
		Alarm No.	Category 0	^		
		2	0	_		
		4 5	0	_		
		6 7	0			
		8	0	_		
		10 11	0			
		12 13	0	~		
				Close		
					1	
	<b></b>					
Tuinunu	Trigger condition setti ON: If Trigger Conditi	•				
Trigger Condition	triggered).	tion is out t		(when the k	sit is 0. Alarm is	
	OFF: If Trigger Condition is set to OFF, (when the bit is 0, Alar triggered)					
Monitor Address	The monitor address is used to display customized alarm message content. Click to display watch address setting.Add "%d1" after the entered message such as Alarm in the message content field. When the value of the monitoring address is 10, the alarm message displayed in the historical alarm table is Alarm10.					
Text color	The text color is the c The default color is bl		text dis	played in th	e alarm message.	
Alarm Screen	Set the screen needs select the other scree				gered, the user can	

Features	Description						
	Text Color	Alarm Screen					
	RGB(0, 0, 0)	2 - Screen_2					
	RGB(0, 0, 0)	None					
	RGB(0, 0, 0)	1 - Screen_1 2 - Screen_2					
Mail	The mail data function can send an personnel at the same time when a with the <b>Options &gt; Configuration</b>	n alarm occurs. It needs to be used					

After setting the alarm-related configuration, select the alarm-related component on the screen, fill in the content of the message address and uncheck the alarm to enable the function. When compiling, the software will skip this item and no error message will be generated. As shown in the figure below, the alarms that are also enabled will not appear on the display of the alarm element.

Project a	X	Screen_	1 🦲 Alarm 🗙						Þ
🖆 - =	1 in 12	* * *	16 Tr Arial		- 100% -	204	😝 <i>8</i>		
	^	Detail	Properties						Þ
- Instory Buffer	No.	Enable	Message Content	Category	Trigger Condition	Monitor Ac	Text Color	Alarm Screen	^
- 🜏 Multi-language	1			0	0n		RGB(0, 0, 0)	None	
- Account Settings	2			- 0	On		RGB(0, 0, 0)	None	
Configuration Text Bank	3		-	0	On		RGB(0, 0, 0)	None	
	4			0	On		RGB(0, 0, 0)	None	
Program	5			0	On		RGB(0, 0, 0)	None	
Main	6		1	0	On		RGB(0, 0, 0)	None	
Project Address	7			0	On		RGB(0, 0, 0)	None	
Project Address	8			0	On		RGB(0, 0, 0)	None	
Output a	× 9		1	0	On		RGB(0, 0, 0)	None	
Message 🔀 Error 🔍 Warning 🛛 🗴	10			0	On		RGB(0, 0, 0)	None	
Message	^ 11		1	0	On		RGB(0, 0, 0)	None	
Compiling Background Macro OK	12			0	On	[	RGB(0, 0, 0)	None	
Compiling Clock Macro OK	13			0	On		RGB(0, 0, 0)	None	
Screen : 1	< 11	L-9-							>
Compiling Screen Open Macro OK Compiling Screen Close Macro OK		Aanagement	110- days	_	_	_	_		
Compling Selection Cycle Hacro OK	Screen	nanagement	window						4 2
Create Font success	1 🗠								^
· · · · · · · · · · · · · · · · · · ·									

Figure 3 - 176: Alarm activation related interface

**NOTE**: For detailed alarm settings, please refer to the DELTA\_IA-HMI\_DOPSOFT\_UM alarm display chapter

### 3.5.18 Slider

User can write a value to a related device address by moving the indicator on a slider displayed on a TP70P series text panel. To add a slider to the screen, use the Slider element.

Follow these steps to add a Slider to a screen and edit the properties in a TP70P series text panel:

1. Click on the Element(O) > Slider on the Menu bar, or

Click the 🔤 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

Result: The Slider element is added to the screen.

A sample Slider displays as shown in the following figure.



Figure 3 - 177: Slider

3. Double-click the Slider element to edit the properties.

**Result**: The **Slider** window displays as shown in the following figure. The Slider window has three tabs:

- Property
- Appearance
- Coordinates

The **Property** tab is displayed by default.

W	Property	Appearence	Coordinates		
	Refer Devic	e			
	Write Addr	nss: D0		Value Type:	Unsigned
_	Interlock			Value Length:	16 Bits
		ead Address: No	~		
	Enable R	ead Address: No		Max/Min Value Setti	ng
	Read Ad	dress:		Maximum	65535
~	State:		$\sim$	Minimum	0
n:					
					OK C

Figure 3 - 178: Slider window - Property tab for TP70P series

The **Property** tab in the **Slider** window displays properties as mentioned in the following table:

Function	Description				
Refer Device – Write Address	Click button to open the <b>Refer Device</b> window to select the variable that the Slider value is written to.				
Value Type	<ul><li>Select the value type. Options are:</li><li>Unsigned</li><li>Signed</li><li>Hex</li><li>BCD</li></ul>				
	<b>NOTE</b> : The default value is <b>Unsigned</b> .				
Value Length	<ul> <li>Select the value length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <i>NOTE: The default value is 16 Bits.</i>				
Refer Device – Interlock Settings	<ul><li>Select to enable a device register to start reading the value.</li><li>Options are:</li><li>No</li></ul>				

Function	Description
<ul> <li>Enable Read</li> <li>Address</li> </ul>	• Yes
	<b>NOTE</b> : The default value is <b>No</b> .
Refer Device – Interlock Settings – Read Address	Click the button to open the <b>Refer Device</b> window to select the variable that works as an interlock for the <b>Slider</b> controls.
	NOTE: The Read Address is disabled by default.
Refer Device – Interlock Settings – State	<ul> <li>Select the OFF(0) or ON(1) state of the Read Address at which interlock is applied to the Slider controls. Options are:</li> <li>OFF</li> <li>ON</li> </ul>
	<b>NOTE</b> : The default value is <b>OFF</b> .
Max/Min Value Settings – Maximum	Enter the maximum value for the Slider control. <b>NOTE</b> : The default value is 65535.
Max/Min Value Settings - Minimum	Enter the minimum value for the <b>Slider</b> control <b>NOTE</b> : The default value is <b>0</b> .

Click the **Appearance** tab in the **Slider** window of the TP70P series text panel to display the contents as shown in the following figure.

Slider		×
Preview	Property Appearence Coordinates	
	Color Setting Thumb Color:	
	Thumb Color:	
State: 0 ~	Direction: Horizontal ~	
Element description: Slider_004		
	OK. Can	:e1

Figure 3 - 179: Slider window - Appearance tab for TP70P series

The **Appearance** tab in the **Slider** window displays properties as mentioned in the following table:

Function	Description			
Color Settings – Thumb Color	Select the slider thumb (pointer) color.			
Color Settings – Track Color	Select the slider track color.			
Direction	Select the Slider direction.			
	<b>NOTE</b> : The default value is <b>Horizontal</b> .			

Click the **Coordinates** tab in the **Slider** window of the TP70P series text panel to display the contents as shown in the following figure.



Figure 3 - 180: Slider window - Coordinates tab for TP70P series

The **Coordinates** tab in the **Slider** window displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Slider element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Slider element. Enter a value to change the Y coordinate.
Width	Displays the width for the Slider element. Enter a value to change the width.
Height	Displays the height for the Slider element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

# 3.5.19 Input List

User can write a value to a related device address by entering a string value on the TP70P series text panels with the **Input List** element.

Follow these steps to add an Input List to a screen and edit the properties in a TP70P series text panel:

1. Click the Element(O) > Input List on the Menu bar, or

Click the 🖾 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The Input List element is added to the screen.

A sample Input List displays as shown in the following figure.



Figure 3 - 181: Input List

3. Double-click the Input List element to edit the properties.

**Result**: The Input List window is displayed as shown in the following figure. The Input List window has four tabs:

- Property
- Appearance
- Items
- Coordinates

The **Property** tab is displayed by default.

eview	Property Appearence Items Coordinates	
	Refer Device	
	Write Address: D0	
	Interlock Setting	
	Enable Read Address: No ~	
e: ~	Read Address:	
	State:	
	Value Type: Unsigned ~	
ment description: put List 005	Value Length: 16 Bits ~	
	Keyboard Setting English V	

Figure 3 - 182: Input List window - Property tab for TP70P series

The **Property** tab in the **Input List** window displays properties as mentioned in the following table:

Function	Description
Refer Device – Write Address	Click button to open the <b>Refer Device</b> window to select the variable in which the <b>Input List</b> value is written to.
Interlock Settings – Enable Read Address	<ul> <li>Select to enable a device register to start reading the value.</li> <li>Options are: <ul> <li>No</li> <li>Yes</li> </ul> </li> <li>NOTE: The default value is No.</li> </ul>
Interlock Settings – Read Address	Click button to open the <b>Refer Device</b> window to select the variable that works as an interlock for the <b>Input List</b> entry. <b>NOTE</b> : The <b>Read Address</b> is disable by default.
Interlock Settings - State	<ul> <li>Select the OFF(0) or ON(1) state of the Read Address in which the interlock is applied to the Input List. Options are:</li> <li>OFF</li> <li>ON</li> </ul>

Function	Description
	<b>NOTE</b> : The default value is <b>OFF</b> .
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> <li>Float</li> </ul> <b>NOTE</b> : The default value is Unsigned.
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : The default value is 16 Bits.
Keyboard Setting	<ul> <li>Select the language for the keyboard. Options are:</li> <li>English</li> <li>Chinese (Traditional)</li> <li>Chinese (Simplified)</li> </ul> <b>NOTE</b> : The language that is installed with the system is the default value.

Click the **Appearance** tab in the **Input List** window of the TP70P series text panel to display the contents as shown in the following figure.

List		
view	Property Appearence Items Coordinates	
	Enable 3D Style: Yes 🗸	
	Border Width: 5	
	Border Color:	
$\sim$	Font Color:	
	Background Color:	
cription: 005		
, 		
	Γ	OK Cancel

Figure 3 - 183: Input List window - Appearance tab for TP70P series

The **Appearance** tab in the **Input List** window displays properties as mentioned in the following table:

Function	Description
Enable 3D Style	<ul> <li>Select to enable or disable the 3D style. Options are:</li> <li>Yes</li> <li>No</li> </ul> <b>NOTE</b> : The default value is Yes.
Border Width	Enter the border width. <i>NOTE: The default value is 5.</i>
Border Color	Select the border color.
Font Color	Select the font color.
Background Color	Select the background color.

Click the **Items** tab in the **Input List** window of the TP70P series text panel to display the contents as shown in the following figure.

Input List							×
Preview	Property	Appearence	Items	Coordinate	S		
	ID	Value			Text		
L1							
State:							
Element description: Input List_005							
	Add a	row	Insert a rov	v	Delete a row	Cle	ear all
						OK	Cancel

Figure 3 - 145: Input List window - Items tab for TP70P series

The **Items** tab in the **Input List** window displays properties as mentioned in the following table:

Function	Description
Add a row	Click to add a row to the item list. Enter a value and corresponding text that is written to the Write Address when the value is entered in the Input List.
Insert a row	Click to insert a row above the selected row.
Delete a row	Click to delete the selected row.
Clear All	Click to delete all records.

Click the **Coordinates** tab in the **Input List** window of the TP70P series text panel to display the contents as shown in the following figure.



Figure 3 - 146: Input List window - Coordinates tab for TP70P series

The **Coordinates** tab in the **Input List** window displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the Input List element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the Input List element. Enter a value to change the Y coordinate.
Width	Displays the width for the Input List element. Enter a value to change the width.
Height	Displays the height for the Input List element. Enter a value to change the height.

4. Set the properties as per user's requirements and click on OK button.

### 3.5.20 ComboBox

User can write a value to a related device address by selecting an item in a combo box displayed on the TP70P series text panel. Use the **ComboBox** element to add a combo box to a screen.

Follow these steps to add a ComboBox to a screen and edit the properties in a TP70P series text panel:

1. Click the Element(O) > ComboBox on the Menu bar, or

Click the 🗐 icon on the Element Selection Toolbar.

2. Click the screen and drag the mouse to the required dimensions.

**Result**: The ComboBox element is added to the screen.

A sample ComboBox displays as shown in the following figure.



Figure 3 - 184: ComboBox

3. Double-click on the ComboBox element.

**Result**: The **ComboBox** window displays as shown in the following figure. The ComboBox window has four tabs:

- Property
- Appearance
- Items
- Coordinates

The **Property** tab displays by default.
review	Property	Appearence	Items	Coordinates	
	Refer Devi	e			
T	Write Add	ress:	00		
	Interlock	Setting			
	Enable Re	ad Address:	No	$\sim$	
ite:	Read Add	1855:			
	State:	1		~	
	Value Typ	e: [	Unsigned	~	
ement description:	Value Len		16 Bits	~	
ComboBox_006					

Figure 3 - 185: ComboBox window - Property tab for TP70P series

The **Property** tab in the **ComboBox** window displays properties as mentioned in the following table:

Function	Description
Refer Device – Write Address	Click — button to open the <b>Refer Device</b> window to select the variable in which the <b>ComboBox</b> value is written to.
Interlock Settings – Enable Read Address	<ul> <li>Select to enable a device register to start reading the value.</li> <li>Options are:</li> <li>No</li> <li>Yes</li> </ul>
	<b>NOTE</b> : The default value is <b>No</b> .
Interlock Settings – Read Address	Click — button to open the <b>Refer Device</b> window to select the variable that works as an interlock for the <b>ComboBox</b> controls.
	<b>NOTE</b> : The <b>Read Address</b> is disable by default.
Interlock Settings - State	Select the OFF(0) or ON(1) state of the <b>Read Address</b> in which the interlock is applied to the <b>ComboBox</b> controls. Options are: • OFF
	• ON

Function	Description
	<b>NOTE</b> : The default value is <b>OFF</b> .
Value Type	<ul> <li>Select the datatype for the variable. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> <li>Float</li> </ul> NOTE: The default value is Unsigned.
Value Length	<ul> <li>Select the bit length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> <li><i>NOTE: The default value is 16 Bits.</i></li> </ul>

Click on the **Appearance** tab in the **ComboBox** window of the TP70P series text panel to display the contents as shown in the figure.

ComboBox		×
Preview	Property Appearence Items Coordinates	
	Enable 3D Style: Yes 🗸	
	Border Width: 5	
State:	Border Color:	
0 ~	Font Color:	
	Background Color:	
Element description:		
ComboBox_006		
	OK OK	Cancel

Figure 3 - 186: ComboBox window - Appearance tab for TP70P series

The **Appearance** tab in the **ComboBox** window displays properties as mentioned in the following table:

Function	Description
Enable 3D Style	<ul><li>Select to enable or disable the 3D style. Options are:</li><li>Yes</li><li>No</li></ul>
	<b>NOTE</b> : The default value is <b>Yes</b> .
Border Width	Enter the border width.
	<b>NOTE</b> : The default value is <b>5</b> .
Border Color	Select the border color.
Font Color	Select the font color.
Background Color	Select the background color.

Click the **Items** tab in the **ComboBox** window of the TP70P series text panel to display the contents as shown in the following figure.

ComboBox				×
Preview	Property Appearer	nce Items Coordi	inates	
	ID Value	Text	Language	
State:				
0 ~				
Element description: ComboBox_006				
	Add a row	Insert a row	Delete a row	Clear all
				OK Cancel

Figure 3 - 187: ComboBox window - Items tab for TP70P series

The **Items** tab in the **ComboBox** window displays properties as mentioned in the following table:

Function	Description
Add a row	Click to add a row to the Item List. Enter a value and a corresponding text that is written to the <b>Write Address</b> when the value is selected in the ComboBox.
Insert a row	Click to insert a row above the selected row.
Delete a row	Click to delete a selected row.
Clear All	Click to delete all records.

Click the **Coordinates** tab in the **ComboBox** window of the TP70P series text panel to display the contents as shown in the following figure.

Preview	Property	Appea	rence Ite	ms Co	ordinates			
	Coordin	ates						
•	ā	X:	417	*	Y:	226	•	
	2	Width:	189	*	Height:	42	×	
State:								
0 ~	1							
Element description:								
ComboBox_006								

Figure 3 - 188: ComboBox window - Coordinates tab for TP70P series

The **Coordinates** tab in the **ComboBox** window displays properties as mentioned in the following table:

Function	Description
x	Displays the X coordinate for the ComboBox element. Enter a value to change the X coordinate.
Y	Displays the Y coordinate for the ComboBox element. Enter a value to change the Y coordinate.
Width	Displays the width for the ComboBox element. Enter a value to change the width.
Height	Displays the height for the ComboBox element. Enter a value to change the height.

## 3.5.21 Delta Products Communication Device Setting

User can set the input parameters in the equipment connected to a TP04G text panel in DIAScreen using the **Delta Products Communication Device Setting** feature.

User can launch the Delta Products Communication Device Setting window by clicking the 📧 icon on the Element Selection Toolbar.

The **Delta Products Communication Device Setting** window is shown in the following figure.

ontroller		Address(0 ~ 255)	TP COM Port
VFD-VE	~	1	COM1 ~
arameter Group			
20 - Commo	on Parameters		~
- Command Wri	ite only (20-00)		
Freq. comman	d (20-01)		
- External excep	tion setting (20-02)		
- Status monitor	r Read only (21-00)		
- LED status (2	1-19)		
	nmand (F) (21-02)		
Owhere Courses	ncy (H) (21-03)		
Output neque	ncy (11) (21-05)		
Output curren	t (AXXX.X) (21-04)		
Output curren DC-BUS Volt	t (AXXX.X) (21-04) age (UXXX.X) (21-05)		
Output curren DC-BUS Volt Output voltag	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-06)		
Output curren DC-BUS Volt Output voltag Current step n	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-06) number of Multi-Step Speed	Operation (21-07)	
Output curren DC-BUS Volt Output voltag Current step n Counter value	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-06) number of Multi-Step Speed (21-09)	-	
Output curren DC-BUS Volt Output voltag Current step n Counter value	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-06) number of Multi-Step Speed	-	
Output curren DC-BUS Volt Output voltag Current step n Counter value	t (AXXX X) (21-04) age (UXXX X) (21-05) e (EXXX X) (21-06) number of Multi-Step Speed (21-09) n display. (Pr 00.04) (21.16)	-	Parameter Address
Output curren     DC-BUS Volt     Output voltag     Current step n     Counter value     Multi-function	t (AXXX X) (21-04) age (UXXX X) (21-05) e (EXXX X) (21-06) number of Multi-Step Speed (21-09) n display. (Pr 00.04) (21.16)	-	Parameter Address H2000
Output curren DC-BUS Volt Output voltag Current step n Counter value Multi-function	t (AXXXX) (21-04) age (UXXXX) (21-05) e (EXXXX) (21-05) e (EXXXX) (21-06) unumber of Multi-Step Speed (21-09) display. (Pr.00.04) (21.16) g () Write	Parameter Number	
Output curren     DC-BUS Volt     Output voltag     Current step n     Counter value     Multi-function ead/Write Settin     Read	t (AXXXX) (21-04) age (UXXXX) (21-05) e (EXXXX) (21-05) e (EXXXX) (21-06) unumber of Multi-Step Speed (21-09) display. (Pr.00.04) (21.16) g () Write	Parameter Number	
Output curren     DC-BUS Volt     Output voltag     Current step n     Counter value     Multi-function     Read lement Type: Se	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-05) e (EXXX.X) (21-06) umber of Multi-Step Speed (21-09) n display. (Pr 00-04) (21-16) g	Parameter Number	
Output curren     DC-BUS Volt     Output voltag     Output voltag     Current step n     Counter value     Multi-function     ead/Write Settin     Read lement Type: Se     Bit 0~1	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-05) e (EXXX.X) (21-06) undisolary (Pr 00.04) (21.16) g	Parameter Number	
Output curren     DC-BUS Volt     Output voltag     Output voltag     Current step n     Counter value     Multi-function     ead/Write Settin     Read lement Type: Se     Bit 0~1	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-05) e (EXXX.X) (21-06) undisolary (Pr 00.04) (21.16) g	Parameter Number	
Output curren     DC-BUS Volt     Output voltag     Output voltag     Current step n     Counter value     Multi-function     ead/Write Settin     Read lement Type: Se     Bit 0~1	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-05) e (EXXX.X) (21-06) undisolary (Pr 00.04) (21.16) g	Parameter Number	
Output curren     DC-BUS Volt     Output voltag     Output voltag     Current step n     Counter value     Multi-function     ead/Write Settin     Read lement Type: Se     Bit 0~1	t (AXXX.X) (21-04) age (UXXX.X) (21-05) e (EXXX.X) (21-05) e (EXXX.X) (21-06) undisolary (Pr 00.04) (21.16) g	Parameter Number	

Figure 3 - 189: Delta Products Communication Device Setting window

Select the equipment connected to a TP04G text panel from the **Controller** dropdown menu. Enter the equipment address in the **Address** field and then select the communication port connected to the equipment from the **TP Com Port** drop-down menu. The equipment selected in the Controller determines the **Parameter Group** parameters.

After selecting a particular group and a parameter, the Delta Product Communication Device Setting window displays whether the parameter is **Read** or **Write**, **Parameter Number**, **Parameter Address**, and **Element Type**. Click **OK** to insert the object set related to the selected parameter. The corresponding element will be added to the screen and the element property window will be displayed in DIAScreen.

view	Property Coo	rdinates			
	Refer Device				
	Device Address:	\$2100	Outline:	No Border	
		VFD-VE	Font Setting:	5x8	
			Horiz. alignment:	Align Left	
	Value Type:	Unsigned $\checkmark$	Leading Zeros:	No	
e: ~	Value Length:	16 Bits $\lor$	Arithmetic		
	Value Format				
	Integer Digits	5 ~			
nent description: meric/ASCII Display 00	Fractional Digits	0 ~			

Figure 3 - 190: Delta Products Communication Device Setting window -Numeric Display

Button[Set to On]		×
Preview	Property Text Appearence Coordinates	
	Button Type: Set to On V	
	Refer Device	
	Write Address: \$2002	
State:	VID-VE	
0 ~		
	Enable Function Key: No	
Element description:	Enable Notity Address: No	$\sim$
Button[Set to On]_001	Function Key: Votify Address:	
	Before/After Writing: Before Writing	$\sim$
	Value Type: Unsigned Reset/Set: Reset	$\sim$
	Value Length: 16 Bits ~	
	User Security Level: 0 ~	
	ОК	Cancel

Figure 3 - 191: Delta Products Communication Device Setting window - Button

# 3.6 Menu Bar - Screen Setting

This section provides the detailed information about the functions available on the Screen Setting menu.For more details refer to 2.2.2 Menu bar. The Screen Setting menu functions are:

- Change Screens Condition
- Function Key Setting
- Alarm Setting
- Alarm LED Setting
- Write Screen ID Setting
- Hide Screen Setting
- Screen Macro Setting

Use the Screen Setting functions to configure the screens on a TP series text panel. Each individual page on a TP series can be set and therefore the TP series text panel can operate conveniently. Some functions are supported only in some models. Refer <u>*A.3 Screen Setting Menu Items and supported Models*</u> for more information.

#### 3.6.1 Change Screens Condition

Use the **Change Screens Condition** to set the conditions for navigating to a particular screen. Once the condition is met, the target screen displays on the TP series text panel.

Follow these steps to configure the Change Screens Condition:

1. Click Screen Setting > Change Screens Condition on the Menu bar, or

Click Change Screens Condition on the screen's context menu.

**Result**: The **Change Screens Condition Settings** window is shown as in the following figure.

Refer Device	Delete	
M0	Add	
Conditional Settings	Update	
⊕ Bit ○ Value		
Goto V		
ON / OFF Settings		
⊙ OFF ○ ON		

## Figure 3 - 192: Change Screens Condition Settings window

The **Change Screens Condition Settings** window displays the properties as shown in the following table:

Property/Field	Description
Enable	Select the check box to enable the Change Screens Condition Settings options.
Refer Device	Click button to open the <b>Refer Device</b> window to select the device address.
Conditional Settings – Bit	Select <b>Bit</b> if the change screen condition is based on an ON or OFF condition. Select <b>ON</b> or <b>OFF</b> condition in <b>ON</b> / <b>OFF Settings</b> .
Conditional Settings – Value	Select Value if the change screen condition is based on a value. Select the – Value Type, Value Length, Conditional operator and Condition in Value Setting.
Goto	Select the screen user want to navigate to.
ON / OFF Settings - ON	Select ON condition for ON / OFF settings.

Property/Field	Description
ON / OFF Settings - OFF	Select <b>OFF</b> condition for ON / OFF settings.
Delete	Select a condition on the Condition display area and click <b>Delete</b> to remove it.
Add	Click to add the condition to the Condition display area. <b>NOTE</b> : User can set up to 20 conditions.
Update	Select a condition in the Condition display area and click Update to modify the condition.
Close	Click to close the Change Screens Condition Settings window.

When Value is selected in Conditional Setting field, the Change Screens

**Condition Settings** window displays the value properties as shown in the following figure.

Enable		
Refer Device	Delete	
D0	Add	
Conditional Settings	Update	
O Bit  Value		
Goto 0 ~		
Value Settings		
Value Type Value Type		
Value Length 16 Bits ~		
Conditional		
= ~ 0		

Figure 3 - 193: Change Screens Condition Setting window - Value

The **Change Screens Condition Settings** window displays the **Value** properties as shown in the following table:

Property/Field	Description
Value Type	<ul> <li>Select the value type. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE</b> : The default value is Unsigned.
Value Length	Select the value length. Options are: <ul> <li>16 Bits</li> <li>32 Bits</li> </ul> <li><i>NOTE: The default value is 16 Bits.</i></li>
Conditional operator	<pre>Select the conditional operator. Options are:     =     &gt;     &lt;     &lt;     &gt;     &lt;     &gt;=     &lt;     &lt;=     != NOTE: The default value is =.</pre>
Conditional Value	Enter the conditional parameter value.

2. Set the properties as per user's requirements and click Close.

## Example 1:

Change Screens Condition Setting with the Refer Device value M0 = OFF, Goto

= Screen0 displays on the screen as shown in the following figure.

Enable			
Refer Device	Delete Add	M0 == OFF Goto Screen 0	
Conditional Setting (a) Bit O Value Goto 0 ~	Update		
ON / OFF Setting OFF ON			

Figure 3 - 194: Change Screens Condition Setting - Example - Bit

#### Example 2:

**Change Screens Condition Setting** with the **Refer Device** value D0, **Value Type** = Unsigned, **Value Length** = 16 Bits, **Conditional operator** = >, **Conditional value** = 100, **Goto** = Screen0 displays on the screen as shown in the following figure.

Refer Device		D0 > UnInt(100) Goto Scree	n 0
Keler Device	Delete		
D0	Add		
Conditional Setting	Update		
◯ Bit			
Goto 0 ~			
Goto 0 ~			
Goto 0 V			
Value Setting			
Value Setting Value Type Unsigned ✓			
Value Setting			
Value Setting Value Type Unsigned ~			

Figure 3 - 195: Change Screens Condition Setting - example - Value

**NOTE**: Once the Change Screens Condition is set, the **Change Screens Condition** icon on the menu bar and the screen's context menu displays as shown in the following figure.



Figure 3 - 196: Change Screens Condition Setting – enabled

#### 3.6.2 Function Key Setting

User can set the functions corresponding to function keys on a TP series text panel for a screen with the **Function Key Setting**. When a function key is pressed, it enables the function corresponding to the key.

Follow these steps to configure the Function Key Setting:

1. Click Screen Setting > Function Key Setting on the Menu bar, or

Click Function Key Setting on the screen's context menu.

**Result**: The Function Key Setting window displays as shown in the following figure.

Enable						
-1	<b>^</b>					Apply
-2		Button Type	~			
3						Clear Settings
-4		Refer Device				
-5						
Num0		Write Address				
Num1						
lum2		Enable Read Address	No ~			
Num3						
Num4		Read Address	***			
Num5						
Num6				Notify Setting		
Num7		Value Type	$\sim$			
Num8				Enable Notify Address	No ~	
Num9		Value Length	$\sim$	Notify Address		
Shift				HOLLY ADDRESS	•••	
JP	The function key cannot be define			Before/After Writing	Before Writing $\vee$	
DOWN	The function key cannot be define	User Permission	0 ~			
	~	User remission	• •	Reset	Reset 🗸	

Figure 3 - 197: Function Key Setting window

The **Function Key Setting** window displays the properties as shown in the following table:

Property/Field	Description	
Enable	Select the check box to enable the Function Key Setting options.	
Function Key box	Select the Function Key to edit the settings.	
Button Type	Select the button type. Options are: Set to On Set to Off Pulse On Pulse Off Maintained Momentary Multistate Set Value Set Constant Increment Decrement Goto Screen Password Setting Screen Scroll Recipe Write/Read <b>NOTE</b> : The screen displays the button's properties to the right of this field.	
Write Address	Select the device address to write the value.	
Enable Read Address	<ul> <li>Select to enable a device register to start reading the value. Options are:</li> <li>No</li> <li>Yes</li> </ul> <b>NOTE</b> : The default value is No.	
Read Address	Select the device address to read the value. This field is enabled only when the <b>Enable Read Address</b> is set to <b>Yes</b> .	
Value Type	<ul> <li>Select the value type. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>	

Property/Field	Description
	<b>NOTE</b> : This field is enabled based on the selected <b>Button Type</b> . The default value is <b>Unsigned</b> .
	Select the value length. Options are:
	• 16 Bits
Value Length	• 32 Bits
	<b>NOTE</b> : This field is enabled based on the selected <b>Button Type</b> . The default value is <b>16 Bits</b> .
	Select the user permission. Options are:
	• 0
	• 1
User Permission	• 2 • 3
	• 4
	<b>NOTE</b> : The default value is <b>0</b> .
	Select to enable the notify address. Options are:
	• No
Enable Notify Address	• Yes
	<b>NOTE</b> : The default value is <b>No</b> .
	Select the notify address.
Notify Address	<b>NOTE</b> : This field is enabled if the <b>Enable Notify</b> <b>Address</b> property is set to <b>Yes</b> .
	Select to notify before writing or after writing. Options
	are: Before Writing
Before/After Writing	After Writing
	5
	<b>NOTE</b> : This is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> . The default value is <b>Before Writing</b> .
	Select to set or reset the variable. Options are:
	Reset
Reset	• Set
	<b>NOTE</b> : This is enabled if <b>Enable Notify Address</b> is set to <b>Yes</b> . The default value is <b>Reset</b> .
Apply	Click to apply the changes.
Clear Settings	Click to change settings back to the default values.

Property/Field	Description
Close	Click to close the Function Key Setting window.

2. Set the properties as per user's requirements and click on Close button.

**NOTE**: Once the **Function Key Settings** is set, the Function Key Setting icon on the menu bar and the screen's context menu displays as shown in the following figure.



Figure 3 - 198: Function Key Setting - enabled

#### 3.6.3 Alarm Buzzer Setting

User can set the alarm buzzer for a screen with the Alarm Buzzer Setting. If the condition is met, the alarm buzzer for the TP series text panel will activates.

Follow these steps to configure Alarm Buzzer Setting:

1. Click on the Screen Setting > Alarm Buzzer Setting on the Menu bar, or

Click Alarm Buzzer Setting on the screen's context menu.

**Result**: The **Alarm Buzzer Setting** window display as shown in the following figure.

m Buzzer Setting	
Enable	
Refer Device	
🖲 Bit 🔷 Value	
Value Setting	ON / OFF Setting
Value Type	∽ ● OFF
Value Length	✓ ○ ON
Conditional Value	×
	OK Cancel
	OK. Cancel

Figure 3 - 199: Alarm Buzzer Setting window

The **Alarm Buzzer Setting** window displays the properties as shown in the following table:

Property/Field	Description	
Enable	Click the check box to enable the Alarm Buzzer Setting options.	
Refer Device	Click — button to open the <b>Refer Device</b> window to choose the device address.	
Bit	Select Bit if the Alarm Buzzer Condition is based on an ON or OFF condition in ON / OFF Settings.	
Value	Select Value if the Alarm Buzzer Condition is based on a value. Select the – Value Type, Value Length, Conditional operator and Condition in Value Setting.	
ON / OFF Settings – OFF	Select OFF condition for ON / OFF Settings. <b>NOTE</b> : This field is enabled if the <b>Refer Device</b> is a <b>Bit</b> . This field is selected by default.	
ON / OFF Settings - ON	Select ON condition for ON / OFF Settings. <b>NOTE</b> : This field is enabled if the <b>Refer Device</b> is a <b>Bit</b> .	

Property/Field	Description	
Value Type	<ul> <li>Select the value type. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul>	
	<b>NOTE</b> : This field is enabled only if the <b>Refer Device</b> is a <b>Value</b> . The default value is <b>Unsigned</b> .	
Value Length	<ul> <li>Select the value length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : This field is enabled only if the Refer Device is a Value. The default value is 16 Bits.	
Condition <i>operator</i>	Select the conditional operator. Options are: • = • > • < • < • >= • <= • != NOTE: This field is enabled only if the Refer Device is a Value. The default value is =.	
condition value	Enter the conditional parameter value. <b>NOTE</b> : This field is enabled only if the <b>Refer Device</b> is a <b>Value</b> .	
ОК	Click to save the settings and close the Alarm Buzzer Setting window.	
Cancel	Click to cancel the action and close the window.	

# 2. Set the properties as per user's requirements and click on OK button.

### Example:

Alarm Buzzer Setting with Refer Device value D0, Value Type = Unsigned, Value Length = 16 Bits, Conditional operator = >, Conditional value = 100 displays on the screen as shown in the following figure.

Alarm Buzzer Setting	×
Enable	
Refer Device	
D0	
⊖ Bit ● Value	
Value Setting	ON / OFF Setting
Value Type Unsigned $\checkmark$	OFF
Value Length 16 Bits $\checkmark$	O ON
Conditional Value > ~	100
	OK Cancel

Figure 3 - 200: Alarm Buzzer Setting - example

**NOTE**: Once the **Alarm Buzzer Setting** is set, the Alarm Settings icon on the menu bar and the screen's context menu displays as shown in the following figure.

¥	Alarm Settings
	Alarm Settings

Figure 3 - 201: Alarm Buzzer Setting - enabled

#### 3.6.4 Alarm LED Setting

User can set the Alarm LED on a TP series text panel using the Alarm LED Setting. When the condition for the alarm is met, the alarm LED on the TP series text panel blinks.

Follow these steps to configure the Alarm LED Setting:

1. Click the Screen Setting > Alarm LED Setting on the Menu bar, or

Click Alarm LED Setting on the screen's context menu.

**Result**: The **Alarm LED Setting** window displays as shown in the following figure.

rm LED Setting	
Refer Device	
. ● Bit ○ Value	
Value Setting	ON / OFF Setting
Value Type 🗸 🗸 🗸	• OFF
Value Length 🗸 🗸 🗸 🗸 Value Length	OON
Conditional Value	
	OK. Cancel

Figure 3 - 202: Alarm LED Setting window

The **Alarm LED Setting** window displays the properties as shown in the following table:

Property/Field	Description	
Enable	Select the check box to enable the Alarm LED Setting options.	

Property/Field	Description	
Refer Device	Click the button to open the <b>Refer Device</b> window to choose the device address.	
Bit	Select Bit if the Alarm LED condition is based on an ON or OFF condition in ON / OFF Settings.	
Value	Select Value if the Alarm LED condition is based on a value. Select the – Value Type, Value Length, Conditional operator and Condition in Value Setting.	
ON / OFF Settings – OFF	Select <b>OFF</b> condition for ON / OFF Settings. <b>NOTE</b> : This field is enabled only if the <b>Refer Device</b> is a <b>Bit</b> . This field is selected by default.	
ON / OFF Settings – ON	Select ON condition for ON / OFF Settings. <b>NOTE</b> : This field is enabled only if the <b>Refer Device</b> is a <b>Bit</b> .	
Value Type	<ul> <li>Select the value type. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE</b> : This field is enabled only if the Refer Device is a Value. The default value is Unsigned.	
Value Length	<ul> <li>Select the value length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : This field is enabled only if the Refer Device is a Value. The default value is 16 Bits.	
Condition Value operator	Select the conditional operator. Options are: • = • > • < • < • >= • <= • != NOTE: This field is enabled only if the Refer Device is a Value. The default value is =.	

Property/Field	Description	
	Enter the conditional parameter value.	
conditional value	<b>NOTE</b> : This field is enabled only if the <b>Refer Device</b> is a <b>Value</b> .	
ОК	Click to save the settings and close the Alarm LED Setting window.	
Cancel	Click to cancel the action and close the window.	

2. Set the properties as per user's requirements and click on OK Button.

#### Example:

Alarm LED Setting with Refer Device value D0, Value Type = Unsigned, Value Length = 16 Bits, Conditional operator = !=, Conditional value = 100 displays on the screen as shown in the following figure.

arm LED Setting				
Enable				
Refer Device				
D0				
O Bit	Value			
Value Setting			ON / OFF Setting	
Value Type	Unsigned	~	• OFF	
Value Length	16 Bits	$\sim$	⊖ on	
Conditional Value			100	
Conditional Value	i=	~	100	

Figure 3 - 203: Alarm LED Setting – example

**NOTE**: Once the **Alarm LED Settings** is set, the Alarm LED Settings icon on the menu bar and the screen's context menu displays as shown in the following figure.



#### Figure 3 - 204: Alarm LED Setting - enabled

#### 3.6.5 Write Screen ID Setting

User can write the number assigned to the screen that is opened on a TP series text panel using the **Write Screen ID Setting**. When a screen is open, the screen's number is written to a variable address.

Follow these steps to configure the Write Screen ID Setting:

1. Click the Screen Setting > Write Screen ID Setting on the Menu bar, or

Click Write Screen ID Setting on the screen's context menu.

**Result**: The Write Screen ID Setting window is displayed as shown in the following figure.

Write Screen ID	Settings	x
Enable		
Write Address		
D0		
	OK	Cancel

Figure 3 - 205: Write Screen ID Setting window

The **Write Screen ID Settings** window displays the properties as shown in the following table:

Property/Field	Description
Enable	Select the check box to enable the Write Screen ID Setting feature.
Write Address	Click the button to open the <b>Refer Device</b> window to select the device address in which the opened screen number is written to.

#### Example:

Write Screen ID Setting with Write Address = D10 displays as shown in the following figure.

Write Screen ID	Settings	×
Enable		
Write Address		
D10		
	OV	Const
	OK	Cancel

Figure 3 - 206: Write Screen ID Setting - example

**NOTE**: Once the Write Screen ID Settings is set, the Write Screen ID Settings icon on the menu bar and the screen's context menu displays as shown in the following figure.



Figure 3 - 207: Write Screen ID Setting - enabled

#### 3.6.6 Hide Screen Setting

User can display screens on the TP text panel series by pressing the Up or the Down key on the panel. User can hide the edited screen using the Hide Screen Setting.

Follow these steps to configure the Hide Screen Setting:

 Click the Screen Setting > Hide Screen Setting on the Menu bar, or Click Hide Screen Setting on the screen's context menu.

**Result**: The screen does not display on the TP series text panel.

2. Click the Screen Setting > Hide Screen Setting on the Menu bar again, or

Click Hide Screen Setting on the screen's context menu again.

**NOTE**: This function switches between hiding or displaying the screen.

**Result**: The screen displays in the TP series text panel.

**NOTE**: Once the **Hide Screen Setting** is set, the Hide Screen Setting icon on the menu bar displays as shown in the following screen.



Figure 3 - 208: Hide Screen Setting - enabled

A screen which is hidden using **Hide Screen Setting** can be displayed using **Change Screens Condition Setting**.

#### 3.6.7 Screen Macro Setting

User can set a macro for a screen using the **Screen Macro Setting**. If the macro is set for a screen, then the program executes continuously when the screen displays.

Follow these steps to configure the Screen Macro Setting:

 Click the Screen Setting > Screen Macro Setting on the Menu bar, or Click Screen Macro Setting on the screen's context menu.

**Result**: The Screen Macro Setting window displays as shown in the following figure.



Figure 3 - 209: Screen Macro Setting window

The **Screen Macro Setting** window displays the properties as shown in the following table:

lcon	Function	Description
1	Open	The Open function is equivalent to the action of import. The software provides *.mrc formats for opening. User can import edited macros to reduce the time for repeated editing. Click to open a Macro (*.mrc) file.
8	Save	The Save function is equivalent to the action of export. The software can save the macro in *.mrc format only. User can save the edited macros for backup or for use of other screens. Click to save a Macro file.
Ð	Update	Click to update a Macro file. The Update function updates the modified macro contents and check the macro syntax as well. If user close the macro edit window without executing update the software informs user that the macro is changed.



Input Address		×
_Type Bit ↓ ● Word	Address	
	Input	Cancel

1. Click on the 🛅 icon.

**Result:** The Macro Command window is displayed as shown in the following figure.

Macro Command	×
<u>E</u> dit Command( <u>C</u> )	
1 4 4 + ×	
Double Word Signed	
Command D NOP	
Variables Contents Description	
Update Macr	os

Figure 3 - 210: Macro Command window

The Macro Command window displays the properties as shown in the following table:

Icon/Field/Property	Description
î Edit – Up	Click to move a macro command up.
🖡 Edit – Down	Click to move a macro command down.

	Click the <b>Update</b> button to check whether the syntax of macro command is correct. If there are syntax errors, an error message displays.				
🖘 Edit – Update	DIAScreen X Invalid Var1 Do you want to modify? ок				
🕈 Edit – Insert	Insert (add) a line of macro command. The new macro command is inserted above the selected macro command.				
× Edit – Delete	Delete the selected macro command. If there are other macro commands below the deleted one, they move up automatically. If the cursor has selected a line without a macro command, the delete action is invalid.				
Double Word		l is operated with 32 bits d 16 bits if it is not chec			
Signed	The command is operated with signed number if <b>Signed</b> is checked and unsigned number if it is not checked.				
	Click to add arithmetic macro command. Options are:				
	Command	Expression	NOTE		
	ADD	Var3 = Var1 + Var2	addition		
Command – Arithmetic	SUB	Var3 = Var1 - Var2	subtraction		
	MUL	Var3 = Var1 - Var2	multiplication		
	DIV	Var3 = Var1 / Var2	division		
	MOD	Var3 = Var1 % Var2	remainder		
	Click to add logical macro command. Options are:				
Command –	Command	Expression	NOTE		
Logical Operation	AND	Var3 = Var1 & Var2	AND		
	OR	Var3 = Var1   Var2	OR		
	XOR	Var3 = Var1 ^ Var2	XOR		

		NOT		NOT Var1	NOT	
		SHR	1	Var1 >> Var2	right shift	
		SHL		Var1 < <var2< td=""><td>left shift</td></var2<>	left shift	
	Cl	ick to add c	lata transf	fer command. (	Options are:	
Command –	С	ommand	Express	Expression		
Data Transfer	MOV		Var1 -> \	Var1 -> Var3		
	В	MOV	Var1(Va	r2 bytes)-> Var	3(Var2 bytes)	
Command – Compare Operation		ick to add c e:	compare o	peration comm	nand. Options	
		Comman	d	Expression		
		IF ==		IF Var1 == Va	ar2	
		IF !=		IF Var1 != Var2		
	IF >			IF Var1 > Var2		
		IF >=		IF Var1 >= Var2		
		IF <		IF Var1 < Var2		
		IF <=		IF Var1 <= Var2		
		ELSEIF =	:=	ELSEIF Var1	==Var2	
	ELSEIF !=			ELSEIF Var1		
		ELSEIF >		ELSEIF Var1 >Var2		
		ELSEIF >		ELSEIF Var1		
		ELSEIF <		ELSEIF Var1		
		ELSEIF <		ELSEIF Var1		
		IF AND ==0		IF (Var1 & Var2)== 0		
		IF AND !=0		IF (Var1 & Var2)!= 0		
		IF ==ON		IF Var1 == O		
		IF ==OFF		IF Var1 == O		
		ELSEIF A			I & Var2) == 0	
	ELSEIF AN		ND !=	ELSEIF (Var1	I & Var2) != 0	
		ELSEIF =	=ON	ELSEIF Var1	== ON	
		ELSEIF =	=OFF	ELSEIF Var1	== OFF	
		ELSE		ELSE		
		ENDIF		ENDIF		

Command – Bit Operation	<ul><li>Click to add bit operation command. Options are:</li><li>SETB</li><li>CLRB</li></ul>
Command - Other	Click to add other commands. Options are: • NOP • END

**NOTE**: Click **Command** button to select command with input instruction.

#### 3.6.8 Screen Color Setting

User can change the background color of the screen in a TP series text panel using the **Screen Color Setting**.

Follow these steps to configure the Screen Color Setting:

1. Click on the Screen Setting > Screen Color Setting on the Menu bar, or

Click Screen Color Setting on the context menu.

**Result**: The Screen Color Setting window displays as shown in the following figure.

Screen Color Settings	×
Screen Color	•
OK	Cancel

Figure 3 - 211: Screen Color Setting window

2. Click the Screen Color drop-down menu to choose a color.

**Result**: The **Color** window displays as shown in the following figure.

Color				?	×
Basic colors(B):					
Custom colors(C):					
		Let a let	160 0 0		255 255
HMI Colors(H)	Color  Solid(O)	Lum(L):	240	Blue(U):	255
Decimal O Hexadecimal     65535		Add Custom (	Colors(A)	)	
			OK	Ca	ncel

Figure 3 - 212: Color window

- Select the required color or define a custom color by selecting the RGB values.
- 4. Click **OK** button on the **Color** window to save the color selection.
- 5. Click OK button on the Screen Color Setting window.

Result: The screen's background color is set.

## 3.7 Menu Bar - Global Setting

This section provides the detailed information about the functions available on the Global Setting menu.For more details refer to 2.2.2 Menu bar The Global Setting menu allows user to set the functions for a TP series text panel as a whole. Different models support different functions. The Global Setting menu functions are:

- User-Defined Direction Keys
- User-Level Password Setting
- System Parameter Setting
- System Change Screen Setting
- System Function Key Setting
- System Alarm Buzzer Setting
- System Alarm LED Setting

- System RTC Setting
- System Power ON Setting
- Global Macro Setting
- Recipe Setting
- Default Screen Color Setting

## 3.7.1 User-Defined Direction Keys

If user set the **Hide Screen Setting** on a TP series text panel, the hidden screens do not display on the text panel. To display the hidden screens, use the **User-Defined Direction Keys** setting.

Follow these steps to configure the User-Defined Direction Keys:

1. Click the Global Setting > User-Defined Direction Keys on the Menu bar.

**Result**: A Confirm window is displayed as shown in the following figure.



Figure 3 - 213: Confirm window

 Click on Yes button to display the hidden screens in the text panel. Select No to cancel the action and the screens remain hidden.

**Result**: When the User-Defined Direction Keys is activated, a check mark appears next to the Global Setting > User-Defined Direction Keys as shown in the following figure.

Global Settings Communication
User-Defined Direction Keys

#### Figure 3 - 214: User-Defined Direction Keys – enabled

**NOTE**: Click **User-Defined Direction Keys** to toggle between the enabling and disabling the function.

3.7.2 User-Level Password Setting

User can set passwords belonging to different levels with the User-Level Password Setting.

Follow these steps to configure the User-Level Password Setting:

 Click on the Global Setting > User-Level Password Setting on the Menu bar.

**Result**: The **User-Level Password Setting** window is displayed as shown in the following figure.

User Level	Password Setti	ngs				×
	Password	User Level		Password	User Level	
1	000000	0 ~	6	000000	0 ~	
2	000000	0 ~	7	000000	0 ~	
3	000000	0 ~	8	000000	0 ~	
4	000000	0 ~	9	000000	0 ~	
5	000000	0 ~	10	000000	0 ~	
			E	OK	Cancel	

Figure 3 - 215: User-Level Password Setting window

If the User-Level Password is set for an element, the system asks user to type the password when user presses the element's function key. If user type inputs a password of the same user level or a password for a higher user level, the element is enabled. Select 0 in a User Level drop down menu to disable the user level. The user levels are arranged in ascending order from 1 to 4. The user level password must include six numerals.

NOTE: User cannot enter 000000 as a password.

- 2. Select a User Level and enter a Password.
- 3. Click on **OK** button to save the settings or **Cancel** to cancel the action.

### 3.7.2.1 LUA program password setting

**Remark**: This function is only applicable to DOP-100 series and AX-8 series.

The user can set the password protection for the LUA program. Each program (Prog) can be set with its own password, and the protected program can be opened normally after entering the correct password. This password executes the procedure to export/import, and the password will not be cleared or changed after archiving/opening the old file.

After the user has completed the program, please follow the steps below to set the password:

1. Right-click on the program to protect with password

Result: Context menu of Program is displayed!

2. Click **Protection** on the context menu of the program.

**Result:** The **Enable Protection** pop-up is displayed!

- Enter the password user want to set (the maximum characters are limited to 8 digits, numbers: 0~9, letters are limited to English A~F).
- After completing the password setting, the color of the Prog pattern changes from blue to red and the protection item shows a check mark. (Please refer to Figure 3-192 for this status).


Figure 3 - 216: Program setting password protection

Follow the steps to open the protected program (Prog) file:

- 1. Double-click on the Protected program (Prog) on left mouse button.
- 2. Enter the correct password.
- 3. Open the file.

**Result**: After entering the correct password, the program is displayed to user.



Figure 3 - 217: Open a protected program

Follow the steps to remove the password protection:

- 1. Right click on the protected program.
- 2. Click Protection on the context menu of the protected program.

**Result**: Displays the **Enable Protection** window, then enter password.

3. Enter the correct password.

On inputting a correct password, the color of the Prog pattern changes from red to blue, and the protected icon against the item is also removed. (Please refer to Figure 3-190 for this status).





# 3.7.3 System Parameter Setting

User can set the system parameters in a TP series text panel using the **System Parameter Setting**.

## 3.7.3.1 System Parameter Setting for general models except TP04P

This section provides the system parameter settings for TP04G, TP04G-AL-C, TP04G-AL2, TP04G-BL-C, TP04G-BL-CU, TP05G and TP08G series of TP text panels.

Click the Global Setting > System Parameter Setting on the menu bar.

**Result**: The **System Parameter Setting** window is displayed as shown in the following figure.

uto Goto Screen and Backlight Control	
Enable	
Refer device of auto Goto	Refer device of Backlight
ead/Write Block Setting	
Read Block (PLC => TP)	
PLC Address	Length 8 🔦
TP Address	
Write Block (TP => PLC)	
PLC Address	Length 8
TP Address	

# Figure 3 - 219: System Parameter Setting window – general models except TP04P

The **System Parameter Setting** window displays the properties as shown in the following table:

Property/Field	Description
Enable	Select the check box to enable the Auto Goto Screen and Backlight Control.
Refer Device of auto Goto	Click the button to open the <b>Refer Device</b> window to select the variable.
Refer Device of Backlight	Displays the address of the device address that controls the backlight illumination of a TP series text panel. <b>NOTE</b> : This is a read-only field. Its value = (Refer Device of auto Goto +1).
Read Block (PLC => TP)	Select the checkbox to enable reading data from the PLC to the TP.
PLC Address (Read Block)	Enter the starting PLC address from which the values are read to the TP.

Property/Field	Description
TP Address (Read Block)	Enter the starting TP address to which the values are written to.
Length (Read Block)	Enter the number device addresses to be read.
Write Block (TP => PLC)	Select the checkbox to enable writing from the TP to the PLC.
PLC Address (Write Block)	Enter the starting PLC Address to which the values are written to.
TP Address (Write Block)	Enter the starting TP Address from which the values are written to the PLC.
Length (Write Block)	Enter the number of registers to write (length).

After a value is written to the address set in the **Refer Device of auto Goto** field, the screen specified by the value displays. If the register value set in **Refer Device of auto Goto** field is greater than the number of screens in the text panel, the present screen displays. After a value is written to the register in the **Refer Device of auto Goto** field, it becomes 0xFFFF whether or not the screen specified by the value displays. The register that controls the backlight illuminating the screen of a TP series text panel is the device address following the device address set in the **Refer Device of auto Goto** field. By default, its address is (*Refer Device of auto Goto*+1). If the first bit (bit0) in the device address that controls the backlight will always illuminate the TP series text panel screen. If the first bit (bit0) in the device address text panel is 0, the backlight will last for a specified time.

After user select the **Read Block (PLC => TP)** checkbox, user must select a register in the **PLC Address** field, a register in the **TP Address** field and a value in the **Length** field. When the text panel operates, the value in the *N* device addresses starting from the device address set in the **PLC Address** field will be written to the *N* device addresses starting from the device address set in the **TP Address** field, where N = value selected in the **Length** (*Read*) field. After user select the Write Block (TP > PLC) checkbox, user must select a register in the PLC Address field, a register in the TP Address field and a value in the Length field. When the text panel operates, the values in the *N* device addresses starting from the device address set in the TP Address field will be written to the *N* device addresses starting from the device address set in the PLC Address field, where N = value selected in the Length (*Write*) field.

## 3.7.3.2 System Parameter Setting for TP04P and TP70P series:

This section provides the System Parameter Setting for the TP04P and TP70P series of TP text panels.

Click the Global Setting > System Parameter Setting on the Menu bar.

**Result**: The **System Parameter Setting** window displays as shown in the following figure.

ystem Parameter Setting	×
Auto Goto Screen and Backlight Control	
Enable	
Refer device of auto Goto	Refer device of Backlight
Read/Write Block Setting	
Read Block Address	
Read Start Address	Length 2
Write Start Address	
Write Block Address	
Write Start Address	Length 2
Read Start Address	
	OK Close

Figure 3 - 220: System Parameter Setting - TP04P and TP70P series

The **System Parameter Setting** window for TP04P and TP70P TP text panels displays the properties as shown in the following table:

Property/Field	Description
Enable	Select the check box to enable the Auto Goto Screen and Backlight Control options.
Refer Device of auto Goto	Click the button to open the <b>Refer Device</b> window to select the variable.
Refer Device of Backlight	Displays the device address that controls the backlight illumination of a TP series text panel.
	<b>NOTE</b> : This is a read-only field. Its value = ( <b>Refer</b> <b>Device of auto Goto</b> +1).
Read Block Address	Select the checkbox to enable reading.
Read Start Address (Read Block Address)	Enter the starting address (source) of the Read Block.
Write Start Address (Read Block Address)	Enter the starting address (target) of the Read Block.
Length (Read Block Address)	Enter the number of device addresses to read.
Write Block Address	Select the checkbox to enable writing.
Write Start Address (Write Block Address)	Enter the starting address (target) of the Write Block.
Read Start Address (Write Block Address)	Enter the starting address (source) of the Write Block.
Length (Write Block Address)	Enter the number of device addresses to write.

After a value is written to the device address set in the **Refer Device of auto Goto** field, the screen specified by the value displays. If the device address value in the **Refer Device of auto Goto** field is greater than the number of text panel screens, the present screen displays. After a value is written to the device address set in the **Refer Device of auto Goto** field, it will become 0xFFFF whether or not the screen indicated by the value displays. The device address that controls the backlight illuminating the screen of a TP series text panel is the device address following the device address set in the **Refer Device** of auto Goto field at the **Refer Device** of auto Goto is the backlight illuminating the screen of a TP series text panel is the device address following the device address set in the **Refer Device of auto Goto** field. By default, its address is

(*Refer Device of auto Goto*+1). If the first bit (bit0) in the device address that controls the backlight illuminating the screen of a TP series text panel is 1, the backlight will always illuminate the TP series text panel screen. If the first bit (bit0) in the device address that controls the backlight illuminating the TP series text panel screen is 0, the backlight will last for the specified time.

After user select the **Read Block Address** checkbox, user must select a related device address in the **Read Start Address** field, a related device address in the **Write Start Address** field and a value in the **Length** field. When the text panel operates, the value in the *N* device addresses starting from the device address set in the **Read Start Address** field will be written to the *N* device addresses starting from the device addresses starting from the device address set in the **Write Start Address** field will be written to the *N* device addresses starting from the device address set in the **Write Start Address** field, where *N* = value selected in the **Length** (*Read*) field.

After user select the Write Block Address checkbox, user must select a related device address in the Write Start Address field, a related device address in the Read Start Address field and a value in the Length field. When the text panel operates, the value in the *N* device addresses starting from the device address set in the Read Start Address field will be written to the *N* device addresses starting from the device addresses starting from the device address set in the device address set in the Write Start Address field, where N = value selected in the Length (*Read*) field.

**NOTE**: Once the **System Parameter Setting** is set, the System Parameter Setting icon on the menu bar and the screen's context menu displays as shown in the following figure.

System Parameter Setting

Figure 3 - 221: System Parameter Setting - enabled

# 3.7.4 System Change Screens Setting

With the Screen Setting > Change Screens Condition Setting, set the conditions to go from the current screen to a particular screen. Set the conditions to go to a particular screen for all screens with the System Change Screens Setting.

Follow these steps to configure the System Change Screens Setting:

 Click the Global Setting > System Change Screens Setting on the Menu bar.

**Result**: The **System Change Screens Setting** window is displayed as shown in the following figure.

tem Change Screens Settings		
Refer Device	Delete Add Update	
Onditional Settings <ul> <li>Bit</li> <li>Value</li> <li>Goto</li> <li>0</li> <li>✓</li> </ul>		
ON / OFF Settings OFF ON		

Figure 3 - 222: System Change Screens Setting window

**NOTE**: The properties in the **System Change Screens Setting** window are the same as the properties for the **Change Screen Condition Setting**. Refer <u>3.6.1</u> <u>Change Screens Condition</u> for more information.

If the conditions set in the **Change Screen Condition Setting** window conflicts with the conditions set in the **System Change Screen Setting** window, the conditions in the **Change Screen Condition Setting** are given preference.

**NOTE**: User can set up to 20 conditions in the **System Change Screen Setting** window. Once the **System Change Screens Setting** is set, the System Change Screens Setting icon on the menu bar displays as shown in the following figure.



Figure 3 - 223: System Change Screens Setting - enabled

## 3.7.5 System Function Key Setting

With the Screen Setting > Function Key Setting, user set the functions for the function keys on a TP series text panel screen. User configure the functions keys for all screens with the System Function Key Setting.

Follow these steps to configure the System Function Key Setting:

1. Click Global Setting > System Function Key Setting on the Menu bar.

**Result**: The **System Function Key Setting** window displays as shown in the following figure.

Enable						
-1	^	Button Type	~			Apply
-3						Clear Settings
-4		Refer Device				orear oorenigo
5						
lum0		Write Address				
lum1						
lum2		Enable Read Address	No ~			
lum3						
lum4		Read Address				
lum5						
lum6				Notify Setting		
lum7		Value Type	$\sim$	T		
lum8				Enable Notify Address	No ~	
lum9		Value Length	$\sim$	Notify Address		
hift						
IP	The function key cannot be define			Before/After Writing	Before Writing $ \smallsetminus $	
OWN	The function key cannot be define	User Permission	0 ~		-	
				Reset	Reset $\lor$	

Figure 3 - 224: System Function Key Setting window

**NOTE**: The properties in the **System Function Key Setting** are the same as the **Function Key Setting** properties. Refer <u>3.6.2 Function Key Setting</u> for more information.

If the functions corresponding to the function keys set in the **Function Key Setting** window conflicts with the functions corresponding to the function key in the **System Function Key Setting** window, the **Function Key Settings** are given preference.

**NOTE**: Once the **System Function Key Setting** is set, the System Function Key Setting icon on the menu bar displays as shown in the following figure.



Figure 3 - 225: System Function Key Setting - enabled

## 3.7.6 System Alarm Buzzer Setting

With the Screen Setting > Alarm Buzzer Setting, user set the alarm buzzer for a TP series text panel screen. User can set the alarm buzzer for all screens with the System Alarm Buzzer Setting.

## 3.7.6.1 System Alarm Buzzer Setting for General Model TP Series Text Panels:

Follow these steps to configure the System Alarm Buzzer Setting for a general model TP series text panel:

1. Click the Global Setting > System Alarm Buzzer Setting on the Menu bar.

**Result**: The **System Alarm Buzzer Setting** window is displayed as shown in the following figure.

Enable			
Refer Device			
⊚ Bit ○ Value			
Value Setting		ON / OFF Setting	
Value Type	$\sim$	) OFF	
Value Length	$\sim$	○ ON	
Conditional Value	~		
or or annear annear a naciale	~		

Figure 3 - 226: System Alarm Buzzer Setting window for general models

**NOTE**: The properties in the **System Alarm Buzzer Setting** window are the same as the properties for the **Alarm Buzzer Setting**. Refer <u>3.6.3 Alarm Buzzer Setting</u> for more information. If the condition set in the Alarm Buzzer Setting window is different from the condition set in the System Alarm Buzzer Setting window, then both conditions can be used to trigger the alarm buzzer for the TP series text panel.

3.7.6.2 System Alarm Buzzer Setting for TP70P Series Text Panels:

In the case of TP70P series text panel, user can set up to 20 Alarm conditions in the **System Alarm Buzzer Setting** window.

Follow these steps to configure the System Alarm Buzzer Setting in a TP70P series text panel:

1. Click the **Global Setting > System Alarm Buzzer Setting** on the **Menu** bar.

**Result**: The **System Alarm Buzzer Setting** window is displayed as shown in the following figure.

Conditional Setting	Delete All Add Update
Bit Value Value Setting Value Type Value Length Conditional Value 0 After Writing	Update
Value Setting Value Type Value Length Conditional Value 0 After Writing 0	
Value Length Conditional Value Conditional Value 0 0 0 0 0 0 0 0 0 0	
Conditional Value  Conditional Value  After Writing	Deed
= V 0	reset
	Set
● OFF ○ ON	
ID Trigger condition Notify Address Alarm Text	

Figure 3 - 227: System Alarm Buzzer Setting window - TP70P series

The **System Alarm Buzzer Setting** window for TP70P series text panel has the additional properties mentioned in the following table:

Property/Field	Description
Text	Enter the alarm message user want to display.
Notify	Select the check box to write the Alarm value to an address.
	<b>NOTE</b> : This field is unchecked by default.
Address field	Select the notify address. Click the button to open the <b>Refer Device</b> dialog box to select the variable.
	<b>NOTE</b> : This field is enabled if the <b>Notify</b> property is selected.
Before Writing	Select the check box to Notify before writing the alarm value.
	<b>NOTE</b> : This field is enabled if the <b>Notify</b> check box is selected. <b>Before Writing</b> is selected by default.
	Select the check box to Notify after writing the alarm value.
After Writing	<b>NOTE</b> : This field is enabled if the <b>Notify</b> check box is selected. <b>After Writing</b> is not selected by default.
	Select the check box to reset the Notify variable.
Reset	<b>NOTE</b> : This field is enabled if the <b>Notify</b> check box is selected. The <b>Reset</b> is selected by default.
	Select the check box to configure the Notify variable.
Set	<b>NOTE</b> : This field is enabled if the <b>Notify</b> check box is selected. <b>Set</b> is not selected by default.
Delete	Select a condition and click <b>Delete</b> to delete the condition.
Delete All	Click to delete all the conditions.
Add	Click to add a condition.
Update	Select a condition and click Update to edit the condition.

**NOTE**: Once the **System Alarm Buzzer Setting** is set, the System Alarm Buzzer icon on the menu bar displays as shown in the following figure.



## Figure 3 - 228: System Alarm Buzzer Setting - enabled

## 3.7.7 System Alarm LED Setting

With the Screen Setting > Alarm LED Setting, user set the alarm LED on a TP series text panel. User can set the alarm LED for all screens with the System Alarm LED Setting.

Follow these steps to configure the System Alarm LED Setting:

1. Click the Global Setting > System Alarm LED Setting on the Menu bar.

**Result**: The **System Alarm LED Setting** window is displayed as shown in the following figure.

Refer Device			
● Bit       ○ Value			
Value Setting		ON / OFF Setting	
Value Type	$\sim$	) OFF	
Value Length	~	○ ON	
Conditional Value	~		

Figure 3 - 229: System Alarm LED Setting window

**NOTE**: The properties in the **System Alarm LED Setting** are the same as the properties for the **Alarm LED Setting**. Refer <u>3.6.4 Alarm LED Setting</u> for more information.

If the condition set in the Alarm LED Setting window is different from the condition set in the System Alarm LED Setting window, then both conditions can be used to trigger the alarm LED for the TP series text panel.

**NOTE**: Once the **System Alarm LED Setting** is set, the System Alarm LED Settings icon on the menu bar is displayed as shown in the following figure.



Figure 3 - 230: System Alarm LED Setting - enabled

## 3.7.8 System RTC Setting

User can write the time, week, and date in a TP series text panel to a device address with the **System RTC Setting**.

Follow these steps to configure the System RTC Setting:

1. Click the **Global Setting > System RTC Setting** on the **Menu** bar.

**Result**: The **System RTC Setting** window displays as shown in the following figure.

System RTC Set	tings	×
Enable		
Write Address		
D0		
	OK	Cancel

Figure 3 - 231: System RTC Setting window

The **System RTC Setting** window displays the properties as shown in the following table:

Property/Field	Description
Enable	Select the check box to enable the RTC settings.
Write Address	Click the button to open the <b>Refer Device</b> dialog box to select the variable in which the RTC can write to.

# Example:

In the **System RTC Setting** window, the **Write Address** D10 is displayed as shown in the following figure.

System RTC Setti	ings	×
🗹 Enable		
Write Address		
D10		
	OK	Cancel

## Figure 3 - 232: System RTC Setting - example

**NOTE**: Once the **System RTC Setting** is set, the System RTC Setting icon on the menu bar is displayed as shown in the following figure.

16	System RTC Settings
----	---------------------

Figure 3 - 233: System RTC Setting – enabled

## 3.7.9 System Power ON Setting

User can send a command to a variable address after the system is powered on with the **System Power ON Setting**.

Follow these steps to configure the System Power ON Setting:

1. Click the **Global Setting > System Power ON Setting** on the **Menu** bar.

**Result**: The **System Power ON Settings** window is displayed as shown in the following figure.

m Power ON Settings		
Enable		
Refer Device	Time Interval	
	500ms ~	
. ● Bit ○ Value		
Value Settings	ON / OFF Settings	
Value Type	✓ ● OFF	
Value Length	~ () ON	
Numeric		
	OK Ca	ancel

Figure 3 - 234: System Power ON Settings

The **System Power ON Settings** window displays the properties as shown in the following table:

Property/Field	Description
Enable	Select the check box to enable the System Power On Settings.
Refer Device	Click the button to open the <b>Refer Device</b> dialog box to select the variable.

Property/Field	Description
Bit	Select Bit to select the ON or OFF condition in ON / OFF Settings.
Value	Select Value to select the – Value Type, Value Length and enter the Numeric in Value Settings.
ON / OFF Settings – OFF	Select <b>OFF</b> condition in the ON / OFF Settings. <b>NOTE</b> : This field is enabled only if the <b>Bit</b> option is selected. The field is ticked by default.
ON / OFF Settings – ON	Select ON condition in the ON / OFF Settings. <b>NOTE</b> : This field is enabled only if the <b>Bit</b> option is selected.
Value Type	<ul> <li>Select the value type. Options are:</li> <li>Unsigned</li> <li>Signed</li> <li>Hex</li> <li>BCD</li> </ul> <b>NOTE</b> : This field is enabled only if Value option is selected. The default value is Unsigned.
Value Length	<ul> <li>Select the value length. Options are:</li> <li>16 Bits</li> <li>32 Bits</li> </ul> <b>NOTE</b> : This field is enabled only if Value option is selected. The default value is 16 Bits.
Numeric	Enter the value to write to the variable during system power on. <b>NOTE</b> : This field is enabled only if <b>Value</b> option is selected.
Time Interval	Select the amount of time after the system power on to wait to send the Bit/Value command.
ОК	Click to save the settings and close the System Power On Setting window.
Cancel	Click to cancel the action and close the window.

**NOTE**: Once the **System Power ON Setting** is set, the System Power ON Setting icon on the menu bar is displayed as shown in the following figure.



# Figure 3 - 235: System Power ON Setting - enabled

## 3.7.10 Global Macro Setting

With the Screen Setting > Screen Macro Setting, user can set the macros on a screen in the TP series text panel. User can set the macros for all screens with the Global Macro Setting.

Follow these steps to configure the Global Macro Setting:

1. Click the Global Setting > Global Macro Setting on the Menu bar.

**Result**: The **Global Macro Setting** window displays as shown in the following figure.

💽 [Global Macro]		_		×
🚔 💾 🛐   💥 📭 💼   💷 📸   🕬   [Global Macro]			•	
1	^	Recent	Macros	Δ.
		[Global I	Macro]	
	20			
	10000			
	~			
<	>			

Figure 3 - 236: Global Macro Setting window

**NOTE**: The properties in the **Global Macro Setting** window are the same as the properties in the **Screen Macro Setting window**. Refer <u>3.6.7 Screen Macro Setting</u> for more information.

If the macro is set in both the Screen Macro Setting window and the Global Macro Setting window, then the macro in Screen Macro Setting window executes first.

**NOTE**: Once the **Global Macro Setting** is set, the Global Macro Setting icon on the menu bar is displayed as shown in the following figure.

평 Global Macro Setting

Figure 3 - 237: Global Macro Setting - Enable

**NOTE**: The **Global Macro Setting** is applicable only to the TP05G and TP08G series text panels.

## 3.7.11 Recipe Setting

A recipe is composed of several groups of parameters. Different products correspond to different parameters. If a recipe number changes, the parameters to which it corresponds to will also change. For example, a bread producer needs different proportions of ingredients (such as - sugar, cream, and flour) for different breads (such as - toast and cream buns). In a recipe table, the rows represent recipe numbers and the columns represent ingredient types. The value selected in the **Recipe Group (rows)** is the number of recipes (the number of bread types), and the value selected in the **Recipe Length (columns)** is the number of ingredient types. The number of items in a recipe.

Click the **Global Setting** > **Recipe Setting** to open the **Recipe Setting** window as shown in the following figure.

Enable	Recipe Refer Device	Recipe Setting         0           Recipe Length (columns)         0           Recipe Group (rows)         0	* *	Create
cipe Content				
			^	Open
				Save
				Reset
				Clear
				Export
				Import
			¥	
<			>	

Figure 3 - 238: Recipe Setting window

The **Recipe Setting** window properties are described in the following table:

Property/Field	Description
Enable	Select the checkbox to enable recipe settings.
Recipe Refer Device	Click the button to open <b>Refer Device</b> dialog box. The value in the device address selected indicates a recipe. <b>Example</b> : A 0 indicates first recipe, 1 indicates second recipe and so on.
Recipe Length (columns)	Enter the number of ingredients. <i>NOTE: Maximum recipe length is 32.</i>
Recipe Group (rows)	Enter the number of recipes. <b>NOTE</b> : Maximum recipe group is 125.
Create	Click to create the recipe table in the <b>Recipe Content</b> area.
Open	Click to open a recipe file (*.rcp).
Save	Click to save the recipe file (*.rcp).
Reset	Click to reset the recipe data to factory settings.
Clear	Click to clear the data set.

Property/Field	Description		
Export	Click to export recipe table file (*.csv).		
Import	Click to import recipe table file (*.csv).		
ОК	Click to save data.		
Cancel	Click to cancel the actions.		

Here is an example of 3 group of recipe with 3 elements for each as below.



Figure 3 - 239: Recipe Content

If user want to read/write a recipe, he/she have to use a button or function key. Refer <u>3.7.5 System Function Key Setting</u>, <u>3.6.2 Function Key Setting</u> and <u>3.5.10 Button</u> sections for more information. Select the **Recipe Write/Read** from the **Button Type** drop-down menu. If user select the **Write** option, the N<sup>th</sup> recipe in the TP series text panel is written to the related device address set. If user select the **Read** option, then the value in the related device address set is written to the N<sup>th</sup> recipe in the TP series text panel. *N* is the values in the device address selected in the **Refer Device** section.

## 3.7.12 Default Screen Color Setting

With the Screen Setting > Screen Color Setting, user can set the screen's background color from a screen in TP series text panel. User can set the default screen color for all screens with the Default Screen Color Setting.

Follow these steps to configure the Default Screen Color Setting in a TP70P series text panel:

Click the Global Setting > Default Screen Color Setting on the Menu bar.

**Result**: The **Default Screen Color Setting** window is displayed as shown in the following figure.

Default Screen Color Settings ×
Screen Color
OK Cancel

Figure 3 - 240: Default Screen Color Setting window

**NOTE**: The properties for the **Default Screen Color Setting** are the same as the properties for the **Screen Color Setting**. Refer <u>3.6.8 Screen Color Setting</u> for more information.

**NOTE**: The **Default Screen Color Setting** is applicable only to TP70P series text panels.

# 3.8 Menu Bar - Communication

This section provides detailed information about the functions available on the Communication menu. For more details refer to <u>2.2.2 Menu bar</u> Communication Menu functions are:

- Upload from TP
- Download to TP
- Reset to Factory Setting
- Download Boot Screen
- Download Menu to TP

## 3.8.1 Upload from TP

If user want to edit a TP series text panel project in DIAScreen, upload the project from the TP series text panel using the **Upload from TP**.

1. Click the Communication > Upload from TP on the Menu bar, or

Click the 🔄 icon on the Communication Toolbar.

# 3.8.2 Download to TP

After editing a TP series text panel project in DIAScreen, download the project to the TP series text panel using **Download to TP**.

1. Click the Communication > Download to TP on the Menu bar, or

Click the 🔄 icon on the Communication Toolbar.

## 3.8.3 Reset to Factory Setting

If user want to restore the TP series text panel to its factory settings, use the **Communication > Reset to Factory Setting**.

## 3.8.4 Download Boot Screen

If user want to download the Boot Screen to the TP series text panel, use **Communication > Download Boot Screen**.

#### Pre-requisite:

To download the boot screen to a TP series text panel, user must open the **Boot Screen**. If any other screen is opened, the Download Boot Screen option appears grayed out.

Follow these steps to download the Boot Screen to TP series text panel:

1. Click **Communication > Download Boot Screen** on the menu bar.

**Result**: DIAScreen displays the confirmation message.

- If user is using one of the following models, then touch 1. D/L AP TP model
   type <= PC on the screen of the text panel screens:</li>
  - TP02G series text panel
  - TP04G series text panel
  - TP-04G-AL-C series text panel
  - TP04G-AL2 series text panel
  - TP05G series text panel
  - TP08G series text panel
  - VFD-C series keypad

**Result**: WAIT COMM... is displayed on the text panel screen, and a window displaying the progress percentage of the Boot Screen download appears in the DIAScreen.

**NOTE**: If user is using a TP series text panel that is not mentioned in the above list, the DIAScreen detects that the firmware in the TP series text panel is old, and prompts user to update the firmware.

## 3.8.5 Download Menu to TP

Follow these steps to download the User Menu to the TP series text panel:

 If user want to download the User Menu in DIAScreen to the TP series text panel, execute the User Menu Setting <u>3.1.6 User Menu Setting</u> and then click on Communication > Download Menu to TP.

**NOTE**: If any other screen is opened, then **Download Menu to TP** appears grayed out.

2. Touch 1. D/L AP TP model type <= PC on the text panel screen.

**Result**: WAIT COMM... is displayed on the text panel screen, and the window showing the progress percentage of the User Menu download appears in the DIAScreen.

**NOTE**: If DIAScreen detects that the firmware in the TP series text panel is old, it prompts user to update the firmware.

# 3.9 Menu Bar - Tools

This section provides detailed information about the functions available on the Tools menu.For more details refer to <u>2.2.2 Menu bar</u> Tools menu functions are:

- Basic Setting
- Change TP Type

- AutoSave
- Update System USB Driver
- Language Setting

## 3.9.1 Basic Setting

User can configure basic communication settings on the text panel with the **Basic Setting**.

Follow these steps to configure the Basic Setting in a text panel:

1. Click on the Tools > Basic Setting on the Menu bar, or

Click the 💁 icon on the Communication Toolbar.

**Result**: The **Basic Setting** window displays as shown in the following figure.

sic Settings			>
PC<=>TP Communication Protocol	PC<=>TP Communica	tion Protocol	
TP Other Settings	HMI Station	1	
	PC COM Port	COM3	
	Baud Rate	115200 ~	
		ОК	Cancel

## Figure 3 - 241: Basic Setting window – PC < = > TP Communication Protocol

The **Basic Setting** window supports the following functions:

• PC<=>TP Communication Protocol

- TP<=>PLC Communication Protocol
- TP Other Settings

**NOTE**: The items that can be set vary with the model used.

## 3.9.1.1 PC<=>TP Communication Protocol:

User can set the communication between a TP series text panel and the computer with **PC**<=>**TP Communication Protocol**.

The **PC**<=>**TP** Communication Protocol tab properties in the **Basic Setting** window are mentioned in the following table:

Property/Field	Description
HMI Station	Select the HMI station address that is set in the TP series text panel.
	<b>NOTE</b> : Range is 1 to 255 and the default value is <b>1</b> .
PC COM Port	Select the communication port of the PC that is connected to the TP series text panel
	Select the baud rate.
Baud Rate	<b>NOTE</b> : Range is 9600 to 115200 and the default value is <b>115200</b> .

## 3.9.1.2 TP<=>PLC Communication Protocol:

User can set the communication between a TP series text panel and the device (PLC) connected to the TP series text panel with **TP<=>PLC Communication Protocol**.

Click the **TP<=>PLC Communication Protocol** in the **Basic Setting** window.

**Result**: The **TP<=>PLC Communication Protocol** tab properties display (except TP04P) as shown in the following figure.

sic Settings				
PC<=>TP Communication Protocol	TP<=>PLC Communica	ation Protocol		
	Element Properties			
	Default COM Port		Default PL	C Station
	(COM1(R\$232)		1	* *
	) COM2(R\$485)			
				Apply
	COM1 COM2			
	R\$232			
	Baud Rate	9600	~	
	Data Length	7	~	
	Parity Bits	Even	~	
	Stop Bits	1	~	
			OK	Cancel

Figure 3 - 242: Basic Setting window - TP < => PLC Communication Protocol (general model except TP04P)

The TP<=>PLC Communication Protocol tab properties in the Basic Setting

window are described in the following table:

Property/Field	Description
Default COM Port	Select the <b>Default COM Port</b> check box to select the COM port.
	<b>NOTE</b> : The <b>Default COM Port</b> is selected by default.
	Select <b>COM1 Port</b> if the connection is through COM1 port.
COM1(RS232)	
	<b>NOTE</b> : The <b>COM1(RS232)</b> is selected by default.
COM2(RS485)	Select COM2 Port if the connection is through COM1 port.
Default PLC Station and Station address	Select the <b>Default PLC Station</b> check box and choose the station address.

Property/Field	Description
	<b>NOTE</b> : The <b>Default PLC Station</b> is unchecked by default. The station address field is enabled only when Default PLC Station is selected. Default PLC Station value is 1.
Apply	Click to save the settings
Baud Rate	Select the baud rate for COM port in bits per second. Options are: • 4800 • 9600 • 19200 • 38400 • 57600 • 115200 <b>NOTE</b> : The default value is 9600.
Data Length	<ul> <li>Select the data length. Options are:</li> <li>7</li> <li>8</li> <li>NOTE: The default value is 7.</li> </ul>
Parity Bits	<ul> <li>Select the parity bits. Options are:</li> <li>None</li> <li>Odd</li> <li>Even</li> </ul> <b>NOTE</b> : The default value is Even.
Stop Bits	<ul> <li>Select the stop bits. Options are:</li> <li>1</li> <li>2</li> <li><i>NOTE</i>: The default value is 1.</li> </ul>
ОК	Click to set the TP<=>PLC Communication Protocol settings.
Cancel	Click to cancel the action and close the window.

The **TP<=>PLC Communication Protocol** tab properties in **Basic Settings** window for the TP04P and TP70P are shown in the following figure.

PC<=>TP Communication Protocol	TP<=>PLC Communica	ation Protocol	
TP Other Settings	Element Properties		
	Default COM Port	Default PLC Station	
	<ul> <li>Internal COM Port</li> </ul>	1	
	C External COM PortCC	DM3(R\$485)	
		Apply	
	COM3		
	RS485		
	Baud Rate	9600 ~	
	Data Length	7 ~	
	Parity Bits	Even ~	
	Stop Bits	1 ~	

Figure 3 - 243: Basic Setting window - TP < => PLC Communication Protocol (TP04P and TP70P series)

The **TP<=>PLC Communication Protocol** tab properties are mentioned in the following table:

Property/Field	Description
Default COM Port	Select the <b>Default COM Port</b> check box to select the COM port.
	<b>NOTE</b> : The <b>Default COM Port</b> is selected by default.
	Select if the Internal COM Port is the communication port.
Internal COM Port	<b>NOTE</b> : This field is enabled only if <b>Default COM Port</b> is selected. <b>Internal COM Port</b> is selected by default.
	Select External COM Port if it is the communication port.
External COM Port COM3 (RS485)	<b>NOTE</b> : This field is enabled only if <b>Default COM Port</b> is selected. <b>External COM Port COM3(RS485)</b> is not selected by default.
Default PLC Station and Station address	Select <b>Default PLC Station</b> check box and choose the station address.

Property/Field	Description
	<b>NOTE</b> : This field is enabled only if <b>External COM Port</b> <b>COM3(RS485)</b> is selected. Station address field is enabled only if <b>Default PLC Station</b> is selected.
Apply	Click to save the settings
COM3 – RS485 – Baud Rate	Select the baud rate for the COM3 port in bits per second. Options are: • 4800 • 9600 • 19200 • 38400 • 57600 • 115200 <b>NOTE:</b> The default value is 9600.
COM3 – RS485 – Data Length	<ul> <li>Select the data length for COM3 port. Options are:</li> <li>7</li> <li>8</li> <li>NOTE: The default value is 7.</li> </ul>
COM3 – RS485 – Parity Bits	<ul> <li>Select the parity bits for the COM3 port. Options are:</li> <li>None</li> <li>Odd</li> <li>Even</li> </ul> <b>NOTE</b> : The default value is Even.
COM3 – RS485 – Stop Bits	<ul> <li>Select the stop bits for the COM3 port. Options are:</li> <li>1</li> <li>2</li> <li><i>NOTE</i>: The default value is 1.</li> </ul>
ОК	Click to set the TP<=>PLC Communication Protocol settings.
Cancel	Click to cancel the action and close the window.

## 3.9.1.3 TP Other Settings:

User can set the hardware properties for the TP series text panel with **TP Other Settings**.

Click the **Tools** > **Basic Setting** to open the **Basic Setting** window and then click the **TP Other Settings** option.

**Result**: The **TP Other Settings** tab is displayed as shown in the following figure.

Basic Setting		×
PC<=>TP Communication Protocol	TP Other Settings	
TP Other Settings	Menu Setting	
	Default TP Station No. Setting	1
	Backlight Brightness Setting	
	Backlight Time Setting	0 Minutes
	Function Setting	
	Enable Buzzer	Update Firmware
	Synchronise RTC with PC	Enable PLC Core
	Enable PLC Control COM3	
	Upload/Download Protection Pa	ssword
	Enable	
	Boot Screen Setting	
	Default Boot Screen	○ User Defined
	Boot Screen Delay Time	3 • Seconds
		OK Cancel

Figure 3 - 244: Basic Setting window - TP Other Settings

The properties available in **TP Other Settings** tab are mentioned in the following table:

Property/Field	Description
	Enter the default TP Station address.
Default TP Station	
	<b>NOTE</b> : Range is 1-255 and the default value is <b>1</b> .
Backlight	Select the backlight brightness in a scale of 0 to 10.
Brightness	<b>NOTE</b> : The default value is <b>5</b> .

Property/Field	Description
Backlight Time	Enter the time in minutes in which the backlight has to be illuminated.
	<b>NOTE</b> : A value of <b>0</b> always illuminates the TP series text panel screen.
	Select the check the box to enable or disable the Buzzer.
Enable Buzzer	<b>NOTE</b> : The <b>Enable Buzzer</b> check box is unchecked by default.
	Select the check box to perform a firmware update.
Update Firmware	<b>NOTE</b> : The <b>Update Firmware</b> check box is unchecked and appears grayed out by default.
Synchronize RTC with PC	If user select this check box, the PC time clock downloads to the TP series text panel while downloading the project from the PC to the TP series text panel.
	<b>NOTE:</b> Synchronize RTC with PC check box is selected by default
Enable PLC Core	Select this check box, to enable the PLC in the TP series text panel. Clear the check box to disable the PLC in the TP series text panel. System resources are saved and the screens of the text panel are updated more rapidly.
	<b>NOTE</b> : The <b>Enable PLC Core</b> check box is selected by default.
Enable PLC Control COM3	Select this check box, when the COM3 port is occupied by the internal PLC core. Clear the check box if COM3 belongs to TP for communication.
	<b>NOTE</b> : The <b>Enable PLC Control COM3</b> check box is unchecked by default.
Upload/Download Protection Password -	Select this check box to enable Password Protection and enter a password during the upload or download. Clear the check box to disable the Password Protection feature.
Enable	<b>NOTE</b> : The <b>Upload/Download Password Protection</b> is unchecked by default.
Upload/Download Protection Password - field	Enter the password for the upload or download protection feature.

Property/Field	Description
Default Boot Screen	Select this check box to display the default boot screen during the boot of the TP series text panel.
	<b>NOTE</b> : The <b>Default Boot Screen</b> is checked by default.
User Defined	Select this check box to enable the user defined boot screen during the boot of the TP series text panel.
Boot Screen Delay Time	Enter a delay time to apply to the boot before displaying the selected boot screen.

## 3.9.2 Change TP Type

User can replace the current TP series text panel with another TP series text panel as long as the current panel's screen is smaller than the replacement scree. To replace the TP series text panel and configure the keys corresponding to function keys, use **Change TP Type** function.

**NOTE**: User cannot replace a TP series text panel with a screen that is smaller than the current panel's screen.

Follow these steps to configure the Change TP Type in a text panel:

1. Click the **Tools > Change TP Type** on the **Menu** bar.

**Result:** The **Change TP Type** window is displayed.

## Example:

On a **TP02G** project in DIAScreen, the **Change TP Type** window is displayed as shown in the following figure.
TP04G-AL		$\sim$
FO	F1	
F1	F2	
F2	F3	
F3	F4	
F4	F5	
F5	UP	
F6	DOWN	
F7	BackSpace	
F8	ENT	
F9	NULL	
Up	NULL	
Down	NULL	
Left	NULL	
Right	NULL	

Figure 3 - 245: Change TP Type window

**NOTE**: The options available in the **TP Type** field for the TP02G panel are shown in the following figure.

Change	ТР Туре	×
TPI	Гуре	
TP	04G-AL ~	
TP	04G-AL	
	04G-AL2	
TP	04G-BL	
TP	04G-BL-CU	
TP	04P	
TP	05G	
TP	08G	

Figure 3 - 246: Change TP Type - example

2. If user select **TP04G-AL** to replace the **TP02G**, a confirmation window is displayed. Click **Yes**.

**Result**: After saving the changes, a confirmation dialog box is displayed as shown in the following figure.



Figure 3 - 247: Confirmation of keys used

3. Click on Yes button.

**Result:** The HMI changes and the project compiles.

# 3.9.3 AutoSave

User can set a time to save the DIAScreen project file using AutoSave.

Follow these steps to configure the AutoSave in a text panel:

1. Click the **Tools > AutoSave** on the menu bar.

**Result:** The AutoSave window is displayed as shown in the figure.

Auto Save		×
Enable		
Setting		
Saving at beginning to compile		
○ Saving at intervals		
	OK	Cancel

Figure 3 - 248: Auto Save

The AutoSave window displays the properties as shown in the following table:

Property/Field	Description
Enable	Select the check box to enable AutoSave settings.
Saving at beginning to	Select this option to save the DIAScreen project file every time the compile action is performed.
compile	<b>NOTE</b> : The <b>Saving at beginning to compile</b> is enabled by default when AutoSave is enabled.
	Select this option to save the project at a specified time interval.
Saving at intervals	<b>NOTE</b> : When user select <b>Saving at intervals</b> , the time period field displays where user can set the time period in minutes.

### 3.9.4 Update System USB Driver

In case the USB driver is not installed properly. User can update the USB Driver installed in the PC with the **Update System USB Driver**.

1. Click the **Tools > Update System USB Driver** on the **Menu** bar.

**NOTE**: The function is only allowed with administrator user of computer.

DIAScre	en	$\times$
CertMo	gr Succeeded.	
	ОК	

Figure 3 - 249: Success to proceed

2. Click the OK to proceed to the next step.



Figure 3 - 250: Update USB driver

3. Click **Next** to start installation. After the installation is complete, the below message displays.



Figure 3 - 251: Update USB driver finish

### 3.9.5 Language Setting

User can configure to show project functionalities for any supported language with Language Setting.

Follow these steps to configure the Language Setting:

1. Click the **Tools > Language Setting** on the **Menu** bar.

**Result:** The Language Setting window displays as shown in the following figure.

Language Settings	×
Language	
Select the language you want the	e program to ues.
English	~
	OK Cancel

Figure 3 - 252: Language Setting window

The following languages are supported by DIAScreen:

- Traditional Chinese
- Simplified Chinese
- English United States
- 2. Select a language from the drop-down menu.
- 3. Click **OK** to apply the changes.

**Result**: All the fonts change to the selected language.

**NOTE**: DIAScreen will restart application to realize the change.



Figure 3 - 253: Ask for restarting DIAScreen

### 3.9.5.1 System Settings Multi-language Conversion

**Remark**: This function is applicable to DOP-100 series and AX-8 series. For the system setting page of DOP-100 series and AX-8 series during operation,

the user can set the internal system parameter LANG\_OF\_SYSMSG address

through the numerical input component, and input the number 0~6 of the national language system during operation, and then the system language can be changed through

- 0: English (English)
- 1: Traditional Chinese
- 2: Simplified Chinese
- 3: Spanish (Spanish)
- 4: French (French)
- 5: Russian (Russian)
- 6: Turkish (Turkish)



Figure 3 - 254: Internal national language system parameters

• After the setting is completed, it can be downloaded to the HMI or viewed by online simulation.



Figure 3 - 255: Download button



Figure 3 - 256: Online simulation button

After entering the screen, change the input value to 2, long press the blank space, user can see the system setting page is converted to Simplified Chinese.



Figure 3 - 257: Transform the input value



Figure 3 - 258: System setting



Figure 3 - 259: Simplified Chinese

# 3.10 Menu Bar - Window

This section provides detailed information about the functions available from the Window menu.For more details refer to 2.2.2 Menu bar Window menu functions are:

- Close Current Window (O)
- Close All Windows
- Next Window
- Previous Window
- Reset Window Layout

# 3.10.1 Close Current Window(O)

Close the current window (screen) using one of the following methods:

 Click × icon on the title bar of the window (screen) opened or as shown in the following figure.



Figure 3 - 260: Close Current Window

• Click Window > Close Current Window(O).

Result: The current window (screen) close.

**NOTE**: When no window is open, **Close Current Window(O)** option appears grayed out.

#### 3.10.2 Close All Windows

Close all the screens open in the screen editing area with Close All Windows.

Click the Windows > Close All Windows on the Menu bar.

Result: All screens will close.

NOTE: When no screen is open, Close All Windows option appears grayed out.

### 3.10.3 Next Window

Switch or navigate to the next open screen in the DIAScreen application with **Next Window**.

Click the Windows > Next Window on the menu bar.

**Result**: A screen with the next higher number displays.

**NOTE**: When the screen with highest number is open, **Next Window** option appears grayed out.

#### 3.10.4 Previous Window

Switch or navigate to the previous screen in the DIAScreen application with **Previous Window**.

Click the Windows > Previous Window on the menu bar.

**Result**: A screen with the next lower number displays.

**NOTE**: When the Boot screen is the current screen, **Previous Window** option appears grayed out.

#### 3.10.5 Reset Window Layout

User can reset the entire screen layout with Reset Window Layout.

Follow these steps to reset the window layout:

1. Click the Window > Reset Window Layout on the Menu bar.

**Result**: The confirmation window appears to confirm the action as shown in the following figure.



#### Figure 3 - 261: Reset Window Layout – confirmation

2. Click on Yes button.

**Result**: The system prompts user to save the project.

# 3.11 Menu Bar - Help

This section provides detailed information about the functions available from the Help menu. Help menu functions are:

About

### 3.11.1 Help > About

The **About** window provides the information about the software version and the supported devices in the current software version.

Click the Help > About on the Menu bar.

**Result**: The About window displays as shown in the following figure.



Figure 3 - 262: About window

# 3.11.2 Help > Software Manual

The **Software Manual** window provides the information about the latest user manual.

Hel	p
Ę.	About
	Software Manual

Figure 3 - 263: Software Manual

# 3.12 Menu-Options

Remark: This function is suitable for DOP-100 series and AX-8 series.

# 3.12.1 Configuration

The Configuration is divided into seven pages: Main, Control Status Block, Real Time Clock, Print, Default, Network Settings, and Multi-language.

				×
Configuration Main Non-volatile Global Keypad Settings Others Control Status Block Control Block Status Block Real Time Clock Print Default Boot Logo	Main Project and Basic Settings Name NewHMI HMI Type DOP-110WS 65536 Colors	Clock Macro Delay Time Clock Macro Priority Background macro update cyr LUA Delay Time LUA priority		×
	Project Description			
< >				
			OK	Cancel

Figure 3 - 264: Configuration

# 3.12.1.1 General

Features	Description
	User can change the name of the project yourself, and it will be displayed in the project tree on the left.
	Main
Name	Project and Basic Settings
	Name
	Cooler

Features	Description	
	Project          Image: Cooler         Image: Cooler	
HMI interface types	Used to display the current HMI model.	
Clock Macro delay time	Clock macro delay time, the range is 50 ms $\sim$ 65535 ms. This time is how long is the interval after the macro is executed every time the Clock is executed.	

Features	Description
Clock Macro priority	Clock macro priority can be divided into low, medium and high. Set the priority of Clock macro execution. The higher the priority, the more accurate the clock macro delay time can be.
Background macro Update Cycle	Set the number of lines executed by the background macro in each cycle. The set number of rows range is 1 ~ 512.
LUA delay time	LUA delay time, the range is 0 ~ 10 ms. This time is the interval time after each execution of LUA.
LUA priority	LUA priority can be divided into low, medium and high. Set the priority of LUA execution, the higher it can ensure the more accurate LUA delay time.
Project Description	It can be used to describe the purpose and description of this HMI screen. After running the software, when user select this file, user can see the project description, which makes the purpose of the project clearer.
Non Volatile	

Features	Description		
	Configuration		
	Nain     Non-volatile		
	- Security Level and Password Non-volatile data storage		
	Others     Others     Control Status Block     Alarm     No     HMI		
	Control Block Recipe Yes HMI		
	-Real Time Clock		
	Default     Boot Logo		
	- Boot Delay Screen - Custom scroll button		
	Remote Desktop and Data Collectio		
	-SMTP -FTP		
	Multi-language  Multi-language Settings		
	Industry application Electronic record		
	Write the cache size of the external None ~		
	OK Cancel		
	• The storage location of the data to be kept after power failure		
	can be divided into three parts according to the category: one is		
	alarm; the second is recipe; the third is history buffer.		
	• The historical data will be determined according to whether the		
	customer has established a historical buffer.		
	Non-volatile		
	Non-volatile data storage		
	Name         Non-volatile         Storage Location         File Name           Alarm         No         HMI         Image: Marco of the storage Location         HMI		
	Recipe Yes HMI		
	History Buffer ID-1 No HMI H0001		
	• If users have used these three parts of data, they can choose		
	where they want to store their data. Storage locations include		
	HMI, USB Disk, and SD Card.		
	• The user can directly click [Storage Location] to set the storage		
	location of the power-off retention data in the alarm, formula,		
	and history buffer.		
External	• External storage devices include USB Disk and SD Card.		
storage			
device cache	The date written by the LIMI to the external stars as device will		
write	• The data written by the HMI to the external storage device will		
Set value	be temporarily placed in the cache area. However, the external		
	storage device cache write setting value is for the amount of		
	data in the cache area. If it does not reach this cache write		

Features	Description		
	setting value, the data will not actually storage device. This method can preve device from being damaged due to co	ent the external storage	
	<ul> <li>Assuming that the amount of data that access is less than the capacity of the unannounced power failure may cause lost, to avoid this situation, the Bit5 ext be forced to trigger the general control regular intervals. Fetch and write data device to ensure the existence of the control</li> </ul>	buffer or an e part of the data to be ternal storage device can flag in the control area at to an external storage	
	Write the cache size of the external	None ~	
		None Default	
		64 KB 32 KB	
		16 KB	
		8 KB	
		2 KB 1 KB	
		512 B	

# **Security Level and Password**



Figure 3 - 265 : Authority and password

Features	Description		
Highest security password	The highest authority password is the password with the highest HMI authority level, which means level 8. The default value of the highest authority password is [12345678]. This password is used to control upload screen data and formulas, download screen data and formulas (user need to check the download password verification first), password protection, execute system formatting, system file encryption function and copy file function (need to check screen update first) Times check). The password text format is The hexadecimal unit of 0 ~ F.		
Default startup security level	<ul> <li>If user want to use the default boot permissions, please use it with the user permissions of each component attribute.</li> <li>The preset power-on authority is the authority level when the HMI is turned on, and the range is level 0 ~ 7.</li> </ul>		

Features	Description
Check password when downloading program	<ul> <li>If user check this option, they must download this setting to the HMI first, and then execute the second download of screen data and formulas, the software will ask the user to enter the highest authority password.</li> <li>Disable Protection          Disable Protection</li></ul>
Screen upload prohibited	The screen upload prohibition function allows the user to download the screen to the HMI, and then upload all the data. DIAScreen will display the following message to inform the user that the data cannot be uploaded.
Prompt a reminder for insufficient security level.	Assuming that the user permissions set by the component are higher than the default boot permissions, and the user checks this option, the component will display after downloading to the HMI The user is prompted that the current permission level is insufficient.
Restrict high account function	Restrict the functions of high-level accounts, do not do any operations on low-level accounts
Complex password	When this option is activated, the password must contain an uppercase letter, lowercase letter, number, symbol (!, \$, #, %), greater than (including) 8 characters.

Features	Description		
Limit the times of updating screens via USB drive	The screen update frequency check is mainly used for file encryption and copying files. Therefore, users can perform encryption operations on screen data files, and can set a limit on the number of copies to provide customers with a safe and flexible file protection mechanism		
Logout when time out	When the user selects this function, the user can return to the default boot permission after the number of minutes selected by the user.		
Account disabled after login failed	After checking, the account will be disabled according to the number of failed logins selected by the user.		
Change password on first login	After checking, the HMI will force the user to change the password after the user logs in for the first time.		
Account and Password	<ul> <li>The password table setting is mainly used to distinguish the permission level of HMI. The permission level is divided into 0 ~ 7, a total of eight levels, each level has a preset password. The DOP-100 series HMIs also provide multiple accounts and passwords for multiple users to log in at the same time.</li> <li><b>NOTE:</b> <ol> <li>The password cannot be blank.</li> </ol> </li> <li>2. In the same permission level, the account name cannot be the same, but the password can be the same.</li> <li>The account names of different permission levels can be the same. For example, the account name of permission level 0 is 123, and the account name of permission level 1 can also be 123.</li> <li>The length of the account and password is limited to 24 characters.</li> <li>The account number and password are not case sensitive and will only be displayed in uppercase.</li> </ul>		
	<ul> <li>Permission level 0: No protection function,</li> </ul>		

Features	Description
	<ul> <li>anyone can operate.</li> <li>Permission level 1 ~ 7: User need to enter the corresponding password or a higher permission level to operate.</li> <li>Permission level 8: the highest permission password. Higher than permission level 1 ~ 7 password, and this password is also the protection password after project storage, download password verification, format system files, etc.</li> </ul>
	When the user adds the same account in the same permission level, the HMI will display the message of the duplicate account.
	Duplicate account, Please reset
	ОК
	<ul> <li>The user can also change the password and account content through the button element Set <i>Password Table</i>. Or enter the system screen, select [<i>System Settings</i> &gt; <i>Password</i> to change the password and account content.</li> </ul>
	<ul> <li>The account supports Unicode input and combines multilingual input components to log in user permissions.</li> </ul>

# **Global keypad Settings**

Global Keypad Setting provides decimal, hexadecimal, binary and ASCII Keypads for users to customize their styles. This function can be applied to multiple numeric input or alphanumeric input components on the editing screen. Set the decimal, hexadecimal, binary and ASCII keyboard styles through the global Keypad, and then execute the application to update the system Keypad. Into a customized format. Users don't need to worry about multiple numeric input on the old screen or the Keypad style in the alphanumeric input cannot be applied. The global Keypad setting provides the function of applying to all, replacing the old existing Keypad style with the new one. If it is a new component, we also provide the function of applying to the new one. This will only apply to the newly created Keypad, so users can apply it conveniently and quickly whether it is new or old Update Custom Keypad format.

Configuration				×
🖃 Main	Global Keypad Set	tings		
Non-volatile	21	~		
Security Level and Password Global Keypad Settings	Decimal KeyPad		Hexadecimal Keypad	
Others	System Keypad		System Keypad	
Control Block Status Block	O Custom Keypad		○ Custom Keypad	
Real Time Clock Print	Apply Settings	Not apply $\checkmark$	Apply Settings	Not apply $\checkmark$
⊡ Default Boot Logo	Binary Keypad		ASCII Keypad	
Boot Delay Screen Custom scroll button Network Settings	System Keypad		System Keypad	
	O Custom Keypad		🔿 Custom Keypad	
FTP	Apply Settings	Not apply $\checkmark$	Apply Settings	Not apply $\checkmark$
Multi-language Multi-language Industry application Electronic record				
				OK Cancel

Figure 3 - 266 : All-in-one Keypad setting

Features	Description		
Decimal keypad	System keypad	The decimal keypad style can be customized.	

Features	Description		
		System Keppad Lapout Clinese Exploit III (TRead0 ∨    #	Image: A → C → C →         Image: A → C → C →         I       2       3         D9999         I       2       3         D       4       5       6       >         I       2       3       DEL         I       2       3       DEL         I       2       3       DEL         I       3       6       <
		Not apply	Even if the Keypad style is customized, the old or new Keypad Will maintain the original style of the system Keypad.
	Apply Settings	Apply to all	Replace the old Keypad style with the new one.
		Apply to new	This will only apply to the newly created Keypad.
Binary keypad	System Keypad	Customizab	le binary Keypad style.
	Apply Settings	Not apply Apply to all	Even if the Keypad style is customized, the old or new Keypad Replace the old Keypad style with the new one.
		Apply to new	Only apply to newly created Keypads.
Hexadecimal Keypad	System keypad	The hexade	cimal Keypad style can be customized.

Features	Description		
		System Keyped Layout Chinese English 3Ct    Title 40 ~   B ~	Inumeric Keypad         0.6999         0       1       2       3       DEL         4       5       6       7       <         8       9       A       B       CLR         C       D       E       F       Enter
	Apply	Not apply	Even if the Keypad style is customized, the old or new Keypad Will maintain the original style of the system Keypad.
	Settings	Apply to all Apply to	Replace the old Keypad style with the new one.
		new	Only apply to newly created Keypads.
ASCII Keypad	System keypad	Customizab	Image: Second
	Apply	Not apply	Even if the Keypad style is customized, the old or new Keypad will maintain the original style of the system Keypad.
	Settings	Apply to all	Replace the old Keypad style with the new one.

Features	Description		
		Apply to new	Only apply to newly created keypads.
ASCII Keypad	System Keypad	Customizab	le ASCII Keypad style.
	Apply Settings	Not apply	Even if the Keypad style is customized, the old or new Keypad will maintain the original style of the system Keypad.
		Apply to all	Replace the old Keypad style with the new one.
		Apply to new	Only apply to newly created Keypads.

# Other

Configuration		×
. Main	Others	
Non-volatile		
Security Level and Password	System Settings	Screensaver Setup
Global Keypad Settings Others	Enable Touch Cursor	Enable Screensaver Wait: 10 (Min)
Control Status Block	Display initial sreen at startup	Enable backlight saving Waiting 3 (Min)
Status Block	Auto detect baud rate	Saving ratio 50 (%)
Real Time Clock	USB Auto ~	
Print ⊟ Default	Upload/Download	Screensaver trigger address None
Boot Logo	Close Title Display Minimize window to the system tray after	Screensaver Screen
Boot Delay Screen     Custom scroll button	startup	Screensaver Status Off
Network Settings	HMI priority action None ~	After exiting the screensaver
Remote Desktop and Data Collectio		1.      Return to original screen
SMTP FTP	Brightness	2. O Choose screen
<ul> <li>Multi-language</li> <li>Multi-language Settings</li> </ul>	TP Delay	Show disk accessing error message
Industry application	TP Force	Alarm History Buffer Recipe
	Buzzer	Insufficinet storage hint screen
	Animation FPS	Minimum storage space(MB) Jump to the spefified screen
		HMI 20 None V
	Video	USB Disk 20
	VideoOverlay	SD 20 None ~
	-	
< >		
		QK Cancel
		OR Cancer

Figure 3 - 267: Other

Features	Description	
Enable Touch Cursor	<ul> <li>The HMI provides the same mouse pointer as the Windows system. When the HMI screen is touched, the mouse pointer icon will appear.</li> <li>The HMI can support wireless mice with Unifying receivers.</li> </ul>	
Display initial screen at startup	Check the display initial screen at boot, it means that the HM will display the initial screen every time it is turned on, as shown in the figure below. The user can set whether to displa the initial screen.	

Features	Description
	O NELTA
USB Upload/Download	<ul> <li>AUTO <ul> <li>AUTO mode will be based on the HMI USB upload and download mode.</li> <li>If the USB upload and download mode is set to <i>AUTO</i>, after downloading the project, the operator will maintain the currently set USB upload and download mode. If the USB is currently downloaded through Disk mode (USBCommMode is 1), after downloading the project, the HMI will still use Disk mode to download; if the current USB is downloaded through CDC mode (USBCommMode is 2), after downloading the project, the HMI will still Use CDC mode to download.</li> <li>Except for B05S100, B05S101, B07S201, and B07S211, the factory default values of other HMI models are AUTO.</li> </ul> </li> <li>DISK <ul> <li>Disk is equivalent to USBCommMode 1. When set to Disk, after downloading to the HMI, user can view a removable storage device named DELTA in My Computer.</li> </ul> </li> </ul>
	Downloads   Idelta.deltaww.com   Music   Pictures   Quick start   Idelta.deltaww.com   Software-public     Devices and drives (3)   Local Disk (C:)   Idelta.deltaww.com   Software-public     Detta (E:)   CDC is equivalent to USBCommMode 2. When set to CDC, after downloading to the HMI, user can go to My Computer > Right-click the content> Device Manager to check whether the port has a device named HMI.

Features	Description
	Image: Twrning of the second state is and outputs         Image: Second state is and output second state is and output second state is and output second state is and other pointing devices         Image: Second state is and other second state is and state
Auto detect baud rate	<ul> <li>After this function is turned on, the baud rate of the HMI will be automatically adjusted to be the same as that of the PLC.</li> <li>Image: The PLC is the same as that of the PLC is the same as that of the PLC.</li> <li>The condition for adjustment is when the HMI baud rate is different from the PLC baud rate.</li> </ul>
Brightness	The user can adjust the brightness of the HMI backlight by himself.
TP Delay	Set the delay time for HMI processing to touch and move messages. Set the delay to the right to decrease, which means faster speed; set the delay to the left to increase, mean the speed becomes slower.

Features		Description
TP Force	Set the force with which the HMI presses the screen. Setting the force to the left becomes smaller, which means that the HMI recognizes that the trigger force is smaller, so it becomes easier to touch; setting the force to the right becomes larger, which means it is harder to press.	
Buzzer	This setting can adjust the sound produced by the HMI pressing and the volume of the buzzer. The lower the volume is set to the left, the higher the volume is set to the right.	
Animation FPS	•	can adjust the update speed of the animation setting frequency
Screensaver Setup	check Enable • After s screen • If usen Screen activa in a co • If the	screen saver settings can only be turned on if user e screen saver. starting the screen saver, just touch the HMI n again to end the screen saver. r check Enable screen saver and go to Screen> n Saver, but there is no screen saver to be ted, the screen saver will be displayed on the HMI ompletely black state. screen saver activation is not checked, but the n saver to be activated is edited in Screen>
Enable Screensaver	Screen Saver, the screen saver will not be activated. If user check Enable screen saver, they can set how long the HMI screen will not be touched before entering the screen saver screen. The time range is 1 ~ 100 min., and the default value is 10 min.	
Enable backlight saving	<ul> <li>Tick Backlight Saving, user can set how long the HMI screen will not be touched before enabling the Backlight Saving function.</li> <li>The time range is 1~10min, and the default is 3min.</li> <li>The time range is 1~10min, and the default is 3min.</li> </ul>	
Screensaver trigger address	Set the starting address of word, 0 means to turn off the screen saver, 1 to turn on the screen saver.	
After exiting the screensaver	Return to original screen	If user check Enable screen saver, they can select the screen they want to go to after the screen saver ends. Jump to the original screen means that after the screen saver screen ends, it will jump to the original screen before the screen saver is activated.
screensaver	Choose Screen	<ul> <li>If user check Enable screen saver, they can also choose to go to the designated screen number after the screen saver ends. The designated screen means that the user can specify the screen number</li> </ul>

Features	Description
	by himself, so that after the screen saver ends, the user can go to the specified screen.NOTE: If user want to use the specified screen, they must create a screen saver screen.
	Screensaver Setup
	All Screens Screensaver Screen
	Screen_1   [1]     Screen_2   [2]
	<ul> <li>The following figure is the flow chart of the screen saver:</li> </ul>
	Screen 1
	Screensaver disabled No Screensaver? Yes Return to original screen
	Screen 10 Choose Screen
	• Since alarms, history buffers and recipes can all be set to keep data as USB Disk or SD Card after power failure, if the external disk access fails, user can use this option to determine whether to display its warning message.
Show disk accessing error message	<ul> <li>The so-called disk access failure means that if the history buffer has set the power-off retention data location to USB Disk, but the HMI cannot detect the existence of the USB Disk and cannot write data after power-on, this is considered Disk access failed. Therefore, if the display disk access failure warning message is not checked, when the HMI cannot detect the existence of the USB Disk and cannot write data to</li> </ul>

Features	Description
	the USB Disk, no error message will pop up to inform the user.
Insufficient storage hint screen	The user can specify three storage spaces: HMI, USB DISK, and SD when the storage space is lower than the set MB, the HMI screen will jump to the specified screen

### 3.12.1.2 Control Commands

DIAScreen software provides command area and status area functions to execute or monitor the execution or status of some system actions. Users can set the memory addresses of the command area and status area from **Options > Configuration > Control Status Block**.



Figure 3 - 268: Configuration

**NOTE:** This function is applicable to DOP-100 series and AX-8 series.

## **Control Block**

The Control Block page provides the Auto Reset Flags & Data Format setting used in the command area.

- Auto Reset Flags
   If some functions of the command area need to be used repeatedly, user
   must first set this flag to OFF and then trigger again. The flag can be cleared
   through the action to be completed by the HMI to automatically complete the
   flag clearing action.
- Data Format Allows users to customize the numerical format of the command area, providing Unsigned Decimal and BCD.

Configuration		×
- Main	Control Block	
Non-volatile     Security Level and Password     Global Keypad Settings     Others     Others     Control Status Block     Control Block	Use discontinuous address in Control Block Start Address Link2}1@D0	
Status Block Real Time Clock	Screen No.	
Print	General Control	
Boot Logo	Curve Control	
Boot Delay Screen Custom scroll button	Sampling History Buffer	
Network Settings Remote Desktop and Data Collectio	Clearing History Buffer	
SMTP FTP	Recipe Control	
⊡. Multi-language	Recipe Group Number	
Multi-language Settings	System Control	
Electronic record		
	Enhanced Recipe Group Number	
	Sampling Cycle 300 (ms)	
< >		
		OK Cancel

Figure 3 - 269: Control Block

# **Control Block**

The Control Block of the HMI allows the user to define the address of the controller or some register of the HMI. The user can perform HMI control actions by setting the command area.

# Use discontinuous addresses in Control Block

If it is not checked, set the address at the starting address, and then check the function according to the requirement. The command area will be automatically configured with consecutive addresses and only the checked control function application will be opened. If user check the use of discontinuous addresses in the command area, user can individually set the control addresses of each function in the command area.

# Sampling Cycle

The sampling period allows the user to flexibly control the sampling time. The default is 300ms, which means that the sampling will be performed every 300ms. The minimum sampling period is 100ms; the maximum sampling period is 1000ms.

Configuration		×
⊕-Main	Control Block	
Non-volatile     Security Level and Password     Global Keypad Settings     Others     Control Block     Control Block     Status Block     Status Block     Real Time Clock     Print     Boot Logo     Boot Delay Screen     Custom scroll button     Network Settings     Remote Desktop and Data Collectio     SMTP     FTP     Multi-language     Multi-language     Multi-language     Multi-language     Multi-language     Multi-language     Industry application     Electronic record	Use discontinuous address in Control Block Start Address (Link2)1@D0 General Control General Control Gurve Control Glearing History Buffer Glearing History Buffer Secipe Control Recipe Control System Control Enhanced Recipe Control Enhanced Recipe Coroup Number	-
< >	Sampling Cycle 300 (ms)	OK Cancel

Figure 3 - 270: Sampling Cycle

The function description of the command area is as follows:

	Screen Number Register
Bit 0~15 Screen number	<ul> <li>Write the specified screen number into this register, and the HMI will jump to the specified screen.</li> <li>As shown in the figure below, if a value input element is set to D0 and the input value is 1, the HMI will switch to the first page.</li> </ul>
Concerci Control Desister	
--	
General Control Register	
<ul> <li>Control the HMI re-communication switch. If user want to use this communication switch flag, the user must go to Options &gt; Communication Settings, click Cancel connection after communication is interrupted and set the number of retries after interruption, as shown in the figure below.</li> </ul>	
Communication Settings	
COMPETITION COM1 Link Name Link2 Manufacturers Delta V Series Delta DVP PLC V Multi-Drop Disable V	
COM3 Main Extra	
Man     Extra       Ethernet1     Communication Parameters     Controller       HD.fl Station     0     PLC Station     1       Interface     PS232     Password     12345678       Data Bits     7 Bits     Comm. Delay     0       Stop Bits     1 Bits     Timeout(ms)     1000       Baud Rate     9600     Retry Count     2       Parity Bits     Even	
⊘ Optimize	
Disconnect after communication interrupt 3 C Retry times after disconnection	
OX Cancel	
<ul> <li>When the HMI communicates with the controller, when the number of communication interruptions reaches the set number of retries after interruption, the HMI will automatically close the communication with the controller and set this flag to ON. At this time, the communication between the HMI and the controller will be interrupted and no communication error warning window will appear. The user can restart the communication between the HMI and the controller by setting this flag to OFF.</li> <li>This flag can only be used to resume communication when the communication is automatically interrupted, and it is not possible to directly close the communication between the HMI and any controller by setting this flag to ON. If user need to manually close or open the communication with the controller, user can use the LOCKCOM/UNLOCKCOM macro command.</li> <li>This flag is not applicable to clear the flag after the</li> </ul>	

	General Control Register
Backlight enable/disable flag	<ul> <li>Enable/disable the HMI backlight.</li> <li>When the flag is ON, the HMI backlight is disabled.</li> <li>When the flag is OFF, the HMI backlight is enabled.</li> <li>The Auto Reset Flags function is not applicable to this flag.</li> </ul>
Buzzer enable/disable flag	<ul> <li>Enable/disable the HMI buzzer. When the flag is ON, the HMI buzzer is enabled. When the flag is OFF, the HMI buzzer is disabled.</li> <li>The Auto Reset Flags function is not applicable to this flag.</li> </ul>
Bit 3 Alarm buffer clear	Clear the HMI alarm buffer. When the flag is turned ON, the HMI clears the alarm buffer. To reactivate the function, user must turn the flag OFF and then ON again.
Bit 4 Alarm counter clear	Clear the HMI Alarm Frequency Table. When the flag is turned ON, the data in the Alarm Frequency Table is cleared. To reactivate the function again, user must turn the flag OFF and then ON again.
Bit 5 External storage device cache write flag	<ul> <li>Update the HMI cache data into a USB Disk or an SD Card in real time. If the alarm buffer, history buffer or recipe function is activated, and the non-volatile storage location is set to a USB Disk or an SD Card, when the flag is turned ON, the HMI updates the data temporarily stored in the cache into a USB Disk or an SD Card in real time. To reactivate the function again, user must turn the flag OFF and then ON again.</li> <li>The data written into a USB Disk or an SD Card by the HMI is temporarily stored in the cache first. Before the cache data size reaches the set limit, the data is not written into a USB Disk or an SD Card. This is to</li> </ul>
	keep the USB Disk or SD Card from being damaged by frequent overwriting. However, if the data volume user are accessing is less than the buffer capacity or the power is cut off unexpectedly, part of the data may be lost. To keep the data, user can have the flag turned ON in a cyclic pattern to write the data into the USB Disk or SD Card.

	General (	<b>Control Regist</b>	er	
	Configuration  Main Non-volatile Global Keypad Settings Global Status Block Real Time Clock Print Default Boot Delay Screen Global Scr	Write the cache size of the external N 6 33 18 8 8 2 1	HMI HMI	Name
Bit 6 Remote control lock	rather the • When the properly.	e flag is ON, eF an be operated e flag is OFF, e	Remote can only Remote can be	operated
Bit 8~11 Set user level	by trigge provided two types a. Perr repres b. High highes • The user	<ul> <li>can change th ring the three fl by the general s of HMI interna mission 0 ~ Per ents the lowest nest authority: v at authority</li> <li>can use the th 7. The detailed</li> </ul>	ags of Bit 8, Bit control register al permissions, mission 7: Perr permission vhen Bit 11 is 1 ree flags to set	9 and Bit 10 There are as follows: mission 0 , it is the authority 0 ~
	Permission	Flag Control		
		Bit 10 0	Bit 9 0	Bit 8
	Authority 0 Authority 1	0	0	1
	Authority 2	0	1	0

General Control Register				
	Authority 3	0	1	1
	Authority 4	1	0	0
	Authority 5	1	0	1
	Authority 6	1	1	0
	Authority 7	1	1	1

	Curve Control Register
	<ul> <li>DIAScreen software provides four curve sampling flags. The graphs include general graphs and X-Y graphs. The graph drawing actions are controlled by the curve sampling flag.</li> <li>If this flag is triggered to be ON, the corresponding graph component will be sampled and drawn. If user need to use this function again, user must first set this flag to OFF and then trigger again.</li> <li>The sampling flag 1 of the graph component corresponds to the curve sampling flag 1; the sampling flag 2 of the graph component corresponds to the curve sampling flag 2, and so on.</li> </ul>
	Trend Graph X
Bit 0~3 Curve sampling flags (1 ~ 4)	Main Main     State:     O     State:   O     State:   O     State:   O     Style:   State:   O     Style:   State:   O     Style:   State:   Number of Curves:     Image:   Number of Curves:     Main     Main     Value   State:   O     State:   State:
	OK Cancel

Curve Control Register				
Bit 8~11 Curve clear flag (1 ~ 4)	<ul> <li>DIAScreen software provides four curve clear flags. The curve graph includes general curve graph and X-Y curve graph, and the curve clearing is controlled by the curve clearing flag.</li> </ul>			
	<ul> <li>When this flag is triggered to be ON, the corresponding curve graph component will clear the curve on the component. If user need to use this function again, user must first set this flag to OFF and then trigger again.</li> </ul>			
	<ul> <li>The sampling flag 1 of the graph component corresponds to the curve clear flag 1; the sampling flag 2 of the graph component corresponds to the curve clear flag 2, and so on.</li> </ul>			

		Η	istory Bu	uffer San	npling	Regist	er			
		e k k	each of whoutfer sam ouffer nee action thro control co	hich corr ppling fla ds to be ough the mmand a	espond gs. The set to [ history	s to 12 trigger PLC] to	data can groups o source o execute sampling	f hist of the the s	orical histo sampli	ry
		301								
	No.	Address	Read Length (Word)	Sampling Cycle(ms)	Sample Number	Trigger Source	Stamp Time and Date	Auto Stop	Non-volatile	CSV
Bit 0~11	1	\$100	1	100	10	PLC	Yes	No	Yes	H0001
	2	\$200	1	100	10	PLC	Yes	No	Yes	H0002
Historical buffer	3	\$300	1	100	10	PLC	Yes	No	Yes	H0003
	4	\$400	1	100	10	PLC	Yes	No	Yes	H0004
sampling flag	5	\$500	1	100	10	PLC	Yes	No	Yes	H0005
	6	\$600	1	100	10	PLC	Yes	No	Yes	H0006
(1 ~ 12)	7	\$700	1	100	10	PLC	Yes	No	Yes	H0007
· · · · ·	8	\$800	1	100	10	PLC	Yes	No	Yes	H0008
	9	\$900	1	100	10	PLC	Yes	No	Yes	H0009
	10	\$1000	1	100	10	PLC	Yes	No	Yes	H0010
	11	\$1100	1	100	10	PLC	Yes	No	Yes	H0011
	12	\$1200	1	100	10	PLC	Yes	No	Yes	H0012
	12	t f	he sampli lag of the	can deter ing flag c history b will be pe	rmine th of the hi ouffer is erforme	ne sam story b trigger d. lf use	pling timir uffer. Whe red to be ( er need to	ng by en the ON, a o use	r trigge e sam a data this	ering Ipling

	History Buffer Clear Registry
Bit 0~11 History buffer	• The user can clear the data in the buffer by triggering the clear flag of the history buffer. When the trigger of the history buffer clear flag is ON, the buffer is cleared. If user

need to use this function again, theymust first set this flag
to OFF and then trigger again.

	Recipe Control Register
	Use for 16-bit recipe
	<ul> <li>There are two ways for the user to call or change the formula group:</li> <li>a. Change directly through the internal register RCPNO of the HMI.</li> </ul>
Bit 0 Recipe group change flag	<ul> <li>b. Use this formula group change flag to change.</li> <li>If the user wants to change the HMI formula group number through this flag, he must first write the formula group he wants to change into the formula group control register, and then trigger the formula group change flag.</li> <li>When the recipe group change flag is triggered to be ON, the recipe group number will be changed according to the value in the recipe group control register and the number of the internal register RCPNO will be automatically changed. If user need to use this function again, theymust first set this flag to OFF and then trigger again.</li> </ul>
Bit 1 Recipe read flag (PLC→HMI)	• When the recipe read flag trigger is ON, the HMI will read the recipe data in the controller and write it to the specified recipe data register. If user need to use this function again, they must first set this flag to OFF and then trigger again.
Bit 2 Recipe write flag (HMI→PLC)	• When the recipe writing flag trigger is ON, the HMI will write the specified recipe data to the controller register. If user need to use this function again, theymust first set this flag to OFF and then trigger again.
Bit 3 Recipe group type change flag	<ul> <li>Use for 32-bit formula</li> <li>There are two ways for users to call and change the formula group:         <ul> <li>a. Change directly through the internal register RCPG of the HMI</li> <li>W:RCPG</li> <li>1234</li> <li>b. Use this formula group change flag to change.</li> </ul> </li> </ul>

	Recipe Control Register
	<ul> <li>When the formula group change flag is triggered to be ON, the formula group number will be changed according to the value in the changed formula group number (Bit 8 ~ Bit 15) and the internal register RCPG number will be changed automatically. If user need to use this function again, theymust first set this flag to OFF and then trigger again.</li> </ul>
Bit 8~15 Specify the number of the formula group to be changed	<ul> <li>The user can specify the formula group number to be changed through the high byte of the formula control register Bit 8 ~ Bit 15, and cooperate with the trigger formula group change flag, the HMI will change the internal register RCPG The number means to change the formula group.</li> </ul>

	Recipe Group Control Register
Bit 0~15 Recipe group assignment	• The user can specify the formula group number to be changed through the formula group control register, and combined with the trigger formula group change flag, the HMI will automatically change the number of the internal register RCPNO, which means Change the formula group.

	System Control Flag register
Bit 0~7 Multi-language settings	<ul> <li>Supports 32 languages, and users can switch languages by changing more national language settings. To edit the language, user can edit the multi-language settings through the Options&gt; Configuration &gt; Multi-Language Settings, as shown in the figure below:</li> <li>Project</li></ul>
Bit 8 Print flag	<ul> <li>When the print flag is set to ON, the print action will be executed; when the print flag is set to OFF, there is no action.</li> </ul>

System Control Flag register		
	Start       NO       OFF       Printer Flag       ON       Print       End	
Bit 9 Print form feed flag	<ul> <li>When the print page feed flag is set to ON, the printer paper will automatically eject the paper for page change; when the print page feed flag is set to OFF, there is no action.</li> </ul>	



	Enhanced Recipe Control Register
	<ul> <li>Use for enhanced formula</li> <li>There are two ways for the user to call or change the enhanced formula group:         <ul> <li>a. Change directly through the HMI internal register ENRCPNO</li> </ul> </li> </ul>
Bit 0 Enhanced formula group change flag	W:ENRCPNO 1234
	<ul> <li>b. Use this enhanced formula group change flag to change.</li> <li>If the user wants to change the HMI enhanced formula group number through this flag, he must first write the enhanced formula group to be changed into the formula group control register, and then trigger the enhanced formula group change Flags.</li> </ul>

	Enhanced Recipe Control Register
	<ul> <li>When the enhanced formula group change flag is triggered to be ON, the enhanced formula group number will be changed according to the value in the enhanced formula group control register and the number of the internal register ENRCPNO will be automatically changed. If user need to use this function again, they must first set this flag to OFF and then trigger again.</li> </ul>
Bit 1 Enhanced formula reading flag (PLC→HMI)	• When the enhanced recipe read flag trigger is ON, the HMI will read the enhanced recipe data in the controller and write it into the designated enhanced recipe data register. If user need to use this function again, they must first set this flag to OFF and then trigger again.
Bit 2 Enhanced formula write flag (HMI→PLC)	• When the enhanced recipe writing flag is ON, the HMI will write the specified enhanced recipe data to the controller register. If user need to use this function again, theymust first set this flag to OFF and then trigger again.
Bit 3 Enhanced formula group change flag	<ul> <li>Use for enhanced formula</li> <li>There are two ways for users to call and change the enhanced formula group: <ul> <li>a. Change directly through the internal register ENRCPG of the HMI</li> </ul> </li> <li>Difference between the enhanced formula group change flag to change.</li> <li>When the enhanced formula group change flag is triggered to be ON, the enhanced formula group number will be changed according to the value in the changed enhanced formula group number (b8 ~ b15) and the internal temporary storage will be automatically changed The number of the ENRCPG. If user need to use this function again, theymust first set this flag to OFF and then trigger again.</li> </ul>
Bit 8~15 Specify the number of the enhanced formula group to be changed	<ul> <li>The user can specify the enhanced recipe group number to be changed through the high byte of the enhanced recipe control register, Bit 8 ~ Bit 15, and trigger the enhanced recipe group change flag, the HMI will Changing the number of the internal register ENRCPG means to change the enhanced formula group.</li> </ul>

Enhanced Formula Group Control Register		
Bit 0~15 Enhanced formula group designation	<ul> <li>The user can specify the enhanced formula group number to be changed through the enhanced formula group control register, and combined with the trigger formula group change flag, the HMI will automatically change the internal register ENRCPNO Number, which means to change the enhanced formula group.</li> </ul>	

## **Status Block**

The status Block of the HMI allows the user to specify the address of the controller or the internal register of the HMI. Users can view the current HMI action status by setting the status area

### • Use discontinuous address in Status Block

If user don't check it, set the address at the start address, and then check the function according to your needs. The status area will automatically be configured with consecutive addresses, and only the checked status applications will be opened. If user check **Use discontinuous addresses in Status Block**, user can set the status addresses of each function in the status area separately.

#### NOTE:

- 1. When the Control Block function is not configured, then the Status Block cannot monitor the status.
- 2. The addresses of Control Block & Status Block must not be identical.

Configuration					×
_	Status Block				
Non-volatile Security Level and Password Global Keypad Settings		s address in Status Block			
Control Status Block Control Block	Start Address	{Link2}1@D10			
- Status Block - Real Time Clock - Print	General Control		{Link2}1@D10		
Default	Screen No.		{Link2}1@D11		
Boot Logo	Curve Control				
Boot Delay Screen	Sampling History	Buffer			
□- Network Settings … Remote Desktop and Data Collectio	Clearing History	Buffer			
SMTP	Recipe Control				
FTP □ Multi-language	Recipe Group Nu	mber			
Multi-language Settings	System Control				
Industry application     Electronic record	Enhanced Recipe	Control			
	Enhanced Recipe	Group Number			
< >>					
				Oł	C Cancel

Figure 3 - 271: Status Area

Status Block function description is as follows:

General Control Status Register			
Bit 0 Screen switching status	<ul><li>During screen switching, this flag will be set to ON.</li><li>After the screen is switched, this flag is set to OFF.</li></ul>		
Bit 3	• When the HMI is clearing the alarm buffer, this flag will be set to ON.		
Alarm buffer clear	<ul> <li>When the alarm buffer is cleared, this flag is set to OFF.</li> </ul>		
Bit 4	<ul> <li>When the HMI is clearing the alarm counter, this flag will be set to ON.</li> </ul>		
Alarm counter clear	<ul> <li>When the alarm counter is cleared, this flag is set to OFF.</li> </ul>		
Bit 5 Write to external storage	<ul> <li>When the HMI is updating the data in the cache area to the USB flash drive or SD card, this flag will be set to ON.</li> </ul>		
immediately	• When the data is written, this flag is set to OFF.		

General Control Status Register					
	<ul> <li>And BIT 10 can know the user authority level of the current HMI operation.</li> </ul>				
	Permission	Flag Control			
	level	Bit 10	Bit 9	Bit 8	
	Authority 0	0	0	0	
	Authority 1	0	0	1	
Bit 8~11 Set user	Authority 2	0	1	0	
level	Authority 3	0	1	1	
	Authority 4	1	0	0	
	Authority 5	1	0	1	
	Authority 6	1	1	0	
	Authority 7	1	1	1	
		r can know whe operation throu	ther it is current ugh BIT 11.	ly the highest	

Screen Number Status Register		
Bit 0~15 Screen number	<ul> <li>The last screen number of the HMI can be queried through this status register.</li> </ul>	

Curve Control Status Register			
Bit 0~3 Curve sampling status flag (1 ~ 4)	<ul> <li>When the HMI executes data sampling in general graph or X-Y graph components, it will set the curve sampling state flag corresponding to the graph to ON, and the curve sampling state flag will be set to OFF after sampling is completed.</li> <li>The sampling flag 1 of the graph component corresponds to the curve sampling status flag 1; the sampling flag 2 of the graph component corresponds to the curve sampling status flag 2, and so on.</li> </ul>		

	Curve Co	ntrol Status Registe	er
	Trend Graph		×
	Preview	Main Main-2 Coordinates	
		Style	Detail
		Border Color:	Data Address None
		Horiz. Grid Number: 2	Sample Number 10
	State:	Style: Standard V	Max Sample Number 100
	0	Background Color:	Data Format Unsigned Decimal ~
	Language: Chinese	Number of Curves: 1 ~	Sample Flag 1 ~
			Curvel 2 3
	Element description: Trend Graph_008		Maximum 100
			Line Weight 1 ~
			Line Color
			Projection Axis No projection ~
			OK Cancel
Bit 8~11 Curve clear status flag (1	general curve c to ON, a OFF afi	graph or X-Y graph learing status flag co and the curve clearin ter the sampling is co	•
~ 4)	corresp clear fla	onds to the curve cle	e curve graph component ear state flag 1; the curve aponent corresponds to and so on.

History Buffer Sampling Status Register			
Bit 0~11 Historical buffer sampling status flag (1 ~ 12)	• When the HMI executes the historical buffer sampling action, it will set the historical buffer sampling status flag corresponding to the buffer to ON. After the sampling is completed, the historical buffer sampling status flag will be set to OFF immediately.		

History Buffer Clear Status Register					
Bit 0~11 History buffer clear status flag (1 ~ 12)	<ul> <li>When the HMI executes the historical buffer clearing action, it will set the historical buffer clearing status flag corresponding to the buffer to ON. After the clearing is completed, the historical buffer clearing</li> </ul>				

status flag will be set to OFF immediately.

Recipe Control Status Register				
Bit 0 Recipe group change status flag	• When the control formula group in the command area is changed, the formula group change status flag will be set to ON. When the HMI change group is completed and the RCPNO number is updated, the formula group change status flag will be set to OFF.			
Bit 1 Recipe read status flag	• When the HMI reads back 1 set of recipe data from the command area, the recipe read status flag will be set to ON. When the recipe is read back from the command area and storage is complete, the recipe read status flag will be set to OFF immediately.			
Bit 2 Recipe write status flag	• When the HMI sends a group of specified formula data to the command area, the formula writing status flag will be set to ON, when the formula writing to the command area is completed, the formula writing status flag will be set to OFF immediately.			

Recipe Group Control Status Register				
Bit 0~15 Recipe group assignment status	• Regardless of whether the value of the recipe group designation register (RCPNO) is changed by the command area or the HMI interface, as long as there is a change, the recipe group status register will be changed to a new value to facilitate the command area Get the current formula group number through this register.			
	<ul> <li>This formula group designated flag should be used in conjunction with the formula group change flag.</li> </ul>			

System Control Flag Status Register					
Bit 0~7 Multi- language setting status value	<ul> <li>Display the status value corresponding to the current language text.</li> </ul>				
Bit 8 Print status flag	<ul> <li>When the printing status flag is set to ON, the printer is printing the screen displayed by the HMI or the edited and typeset screen at the time; when the printing status flag is set to OFF, the printer has no action.</li> </ul>				
Bit 9 Print form feed status flag	<ul> <li>When the print page feed status flag is set to ON, the printer is executing automatic paper eject and page change; when the print page feed status flag is set to OFF, the printer does not act.</li> </ul>				

Enhanced Formula Control Status Register					
Bit 0 Enhanced formula group change status flag	<ul> <li>When the control-enhanced formula group in the command area is changed, the formula group change status flag will be set to ON. When the HMI change group is completed and the RCPNO number is updated, the formula group change status flag will be set immediately OFF.</li> </ul>				
Bit 1 Enhanced formula reading status flag	• When the HMI reads back 1 set of recipe data from the command area, the enhanced recipe read status flag will be set to ON. When the enhanced recipe is read back from the command area and the storage is complete, the enhanced recipe read status flag Then set to OFF.				
Bit 2 Enhanced formula write status flag	• When the HMI sends a group of designated enhanced recipe data to the command area, the recipe writing status flag will be set to ON. When the enhanced recipe writing to the command area is completed, the enhanced recipe writing status flag will be set immediately Is OFF.				

Enhanced Formula Group Control Status Register					
Bit 0~15 Enhanced formula group assignment status	<ul> <li>Whether the value of the enhanced formula group designated register (ENRCPNO) is changed by the command area or the HMI interface, as long as there is a change, the enhanced formula group status register will be changed to the new value. Eliminate the command area to get the current formula group number through this register.</li> <li>This enhanced formula group designated flag should be used in conjunction with the enhanced formula group change flag.</li> </ul>				

## 3.12.1.3 Real Time Clock

Some PLC controllers do not have a built-in RTC clock (Real-time clock), so they cannot be used for operations related to time setting, such as daily switch on and off, access control management... etc. If the PLC controller has a built-in RTC, the HMI provides a synchronization function, allowing the user to synchronize the HMI RTC time to the PLC or the PLC RTC time to the HMI. To use the Real Time Clock update settings, user must first check **Enable RTC Updates**. The Real Time Clock update setting includes two parts: PLC Link Settings and Time Field Setting.

onfiguration					>	
⊡- Main   Non-volatile   Security Level and Password	Real Time Cl					
Global Keypad Settings	Enable RTC Updates     PLC Link Setting					
- Control Status Block - Control Block	Link Name Link2 V		Start Address	Start Address None		
Real Time Clock	Station No.	1	Length	3 ~		
Print			Address		Time Field	
Boot Logo	Update	PLC RTC set to HMI $$\sim$$	None		None	
Boot Delay Screen	T: 14.1	Timer V 60 (Minutes)	None		None	
Custom scroll button Network Settings	Trigger Mode	Timer V 60 (Minutes)	None		None	
Network Settings     Remote Desktop and Data Collectio     SMTP     FTP     Multi-language     Multi-language Settings     Industry application     Electronic record		None				
	Sync time t	from PC				
< >						

Figure 3 - 272: Real Time Clock

#### NOTE:

- If the controller is a PLC product of Delta, there is no need to set additional time fields. DIAScreen software will display the time field that cannot be set, and set this field as a special register for Delta PLCs RTC D1319 ~ D1313.
- 2. Some old Delta PLC models (ES / SS / EC) do not support RTC update.

	PLC connection setting					
	Check it to enable the RTC update settings.					
Enable RTC Updates	Real Time Clock   Enable RTC Updates   PLC Link Settings   Link Name   Link2   Station No.					
Link Name	User can choose a Link Name arbitrarily, regardless of whether the controller belongs to COM1 / COM2 / COM3 or Ethernet.					
Station No.	User can set the station number of the controller whose time the user wants to update. If the selected controller does not support station number setting, this option cannot be set.					
Update	There are two modes for users to choose: 1. HMI RTC time is set to PLC 2. PLC RTC Set time to HMI. Update PLC RTC set to HMI PLC RTC set to HMI Trigger Mode HMI RTC set to PLC None					
Trigger Mode	There are three trigger modes to choose from: 1. Timer 2. Bit On					

PLC connection setting							
	3. Bit Off.						
	Update PLC RTC set to HMI Trigger Mode Timer 60 (Minutes) Timer Bit On Bit Off						
	<ul> <li>If user choose Timer, they can set how often to perform automatic update. The minimum is 1 minute; the maximum is 1440 minutes (1 day), the default value is 60 minutes.</li> <li>Selecting Bit ON means that when Bit is ON, the update setting is triggered.</li> </ul>						
	<ul> <li>If Bit Off is selected, it means that when Bit is OFF, the update setting will be triggered.</li> <li>If user choose [Bit On] or [Bit Off], they must additionally set the trigger address. The trigger address can be the internal memory or the controller register address.</li> </ul>						
	Time Field Setting						
	<ul> <li>The register address of the controller for RTC time synchronization can be set.</li> </ul>						
Start Address	Time Field Setting       Start Address       Length       3						
	<ul> <li>If the controller chooses Deltas PLC product, there is no need to set the start address.</li> </ul>						
Length	<ul> <li>Users can choose the length according to the number of time fields they want to synchronize. The minimum length is 1, the maximum is 7.</li> </ul>						

	PLC connection setting
	PLC connection setting Time Field Setting Start Address {Link1}1@R100 Length 3 Address 2 Time Field {Link1}1@R10 {Link1}1@R10 {Link1}1@R10 {Link1}1@R10 7 None None
	If the controller chooses Delta's PLC product, there is no need to set the length.
	Example description
RTC update steps	Step 1: go to [Options] > [RTC Update Settings]. Step 2: set the properties associated with RTC update. <ol> <li>Enable RTC Auto Updates.</li> <li>Select Link name: Link3 (Mitsubishi-FX3U and FX3GA).</li> <li>Select [PLC RTC set to HMI] for Update setting.</li> <li>Set Bit On for Trigger Mode.</li> <li>Set the trigger address to \$11.0.</li> <li>Set Start Address to {Link3}1@D8013.</li> <li>Select Second for the Time Field corresponding to {Link3}1@D8013.</li> <li>Select Hour for the Time Field corresponding to {Link3}1@D8014.</li> <li>Select Hour for the Time Field corresponding to {Link3}1@D8015.</li> <li>Select Day for the Time Field corresponding to {Link3}1@D8016.</li> <li>Select Month for the Time Field corresponding to {Link3}1@D8017.</li> <li>Select Year for the Time Field corresponding to {Link3}1@D8017.</li> <li>Select Year for the Time Field corresponding to {Link3}1@D8018.</li> </ol> Step 3: after setting is complete, click OK to exit the RTC Update settings. Please refer to the following figure:

	PL	.C conn	ection s	setting			
	Real Time Clock						
	Enable RTC Updates						
	PLC Link Settings	PLC Link Settings Link Name Link3 ~			8		
	Link Name Link3				{Link3}0@D8013	•	
	Station No. 1	te T		Length	6 V		
	Update PLC RTC se			Address	012	Time Field	
			(Minutes)	{Link3}0@D8 {Link3}0@D8		Second Minute	
	Sil.0	• 00 •		{Lnk3}0@D8 {Link3}0@D8		Hour Day	
				(Lnk3)0@D8 (Link3)0@D8		Month Year	
				(LI K3)0@00	010	Tear	
	Connection						
	Link Name	Li	nk3				
	Manufacturers	Mi	tsubishi				~
	series	FX	3U/FX3GA				$\sim$
	Multi-Drop	Dis	sable	$\sim$			
	Step 1: Create an a \$11.0. Step 2: Edit the alte State1 text as <b>RTC</b> red, which represen	ernate bu BIT ON	itton Sta The fo	ate0 text a reground	as <mark>RTC B</mark> color of t	IT OFF, he comp	and
Set up							
Alternate	-		W:\$1	1.0			
Maintaine d		State 0		RTC			
Button		State 0		BIT OFF			
element							
			W:\$1	1.0			
		Otata 1		RTC			
		State 1		BITON			
Create	Step 1: Create 6 nu	imeric in	put com	iponents,	and set t	he addre	esses as
value		ink3}1@D8013 ~					
Input compone	{Link3}1@D8018. Step 2: Create 6 mo		arical in	nut comp	onente o	nd cat th	
nts	internal system para				onenis, a	nu sel li	

PLC connection setting			
	TIME_YEAR TIME_MONTH TIME_DAY TIME_HOUR TIME_MINUTE TIME_SECOND.		
	W:{Link3}0@D8018 ##### W:{Link3}0@D8017 ##### W:{Link3}0@D8016 ##### W:{Link3}0@D8014 ##### W:{Link3}0@D8014 ##### ##### W:{Link3}0@D8014 ##### #####		
	Internal system parameters		
	W:TIME YEAR       W:TIME MONTH       W:TIME DAY       W:TIME HOUR       W:TIME MINUTE       W:TIME SECOND         ######       ######       W:TIME HOUR       W:TIME MINUTE       W:TIME SECOND		
	After creating all elements, compile and download to the HMI. When the RTC alternate button (BITON) is triggered, the system will set the PLC's RTC time to the HMI, so the HMI internal system parameters TIME_YEAR, TIME_MONTH, TIME_DAY, TIME_HOUR, TIME_MINUTE, and TIME_SECOND will be synchronized with the PLC's RTC.		
Executio n Result	BIT OFF         D8013         D8014         D8015         D8016         D8017         D8018           BIT OFF         2013         10         30         15         4         20           HMI_Year         HMI_Month         HMI_Day         HMI_Hour         HMI_Minute         HMI_Second           2017         6         16         16         55         33		
	BIT ON         D8013         D8014         D8015         D8016         D8017         D8018           BIT ON         2013         10         30         15         4         20           HMI_Year         HMI_Month         HMI_Day         HMI_Hour         HMI_Minute         HMI_Second           2013         10         30         15         4         20		

	PLC connection setting		
Synchron ize PC time to HMI	When checked, the project will be downloaded and the HMI time will be synchronized with the PC.		

#### 3.12.1.4 Print

	Print					×
Non-volatile						
Security Level and Password	Standard					
Global Keypad Settings Others	Printer	A NULL				~
- Control Status Block	File read address	None	Save in	USB 🗸	String 0	* *
- Control Block	File read address	14010	Save in	030	String 0	•
Status Block	Paper		Quality	V DP	I	
Real Time Clock						
Print	Margin		Int	erface	~	
- Default	Top:	0 <u>*</u> mm		USB Drive	Ethernet	
Boot Logo				OCOM Port		
Boot Delay Screen	Bottom:	0 🌲 mm				
Custom scroll button	Left:	0 📫 mm		COM Port	COM1 ~	
Remote Desktop and Data Collectio				Interface	R\$232 ~	
- SMTP	Right:	0 <b>*</b> mm		Data Bits	8 Bits 🗸	
FTP						
- Multi-language	Print Size			Parity Bits	None $\sim$	
Multi-language Settings	Width	mm *		Baud Rate	9600 ~	
- Industry application						
Electronic record	Ratio:	100 📫 %	Di	rection		
	Height	mm *		Vertical	O Horizontal	
	•					
	Ratio:	100 🔹 %		H		
					🗹 Auto Flip	
< >						
L						
					OK	Cancel

Figure 3 - 273 : Print

The print page function setting description is as follows:

Features	Description
Printer	DOP-100 series models support printers of various brands, including HP, EPSON, ZEBRA, Micro Printer, PDF Writer and ePrinter printing.

Features	Description
	NULL V NULL HP EPSON EPSON ZEBRA Micro Printer PDF Writer PDF Writer ePrinter
Paper	The paper will vary depending on the selected printer. It can be roughly summarized as A4, Letter, Report, Custom and other settings.
Quality	<ul> <li>Quality is the resolution of the printer.</li> <li>According to different printers, provide 72, 203 DPI for users to choose.</li> </ul>
Margin	<ul> <li>The user can set the top, bottom, left, and right margins of the paper as the reserved area during printing, which means it will be blank and not printed.</li> <li>The unit of the boundary range is mm, and the range value is 0 ~ 550 mm.</li> </ul>
Print Size	The print size can also be set as the zoom ratio of width and height. The maximum zoom can be 400%, and the minimum zoom can be 10%. The default is 100%.
Interface	<ul> <li>According to the selected DOP model, provide USB or Ethernet transmission interface</li> <li>If user choose ePrinter to print, theyneed to fill in the PC IP address and printer port used 85.</li> </ul>
Direction	The printing direction can be divided into Vertical printing and Horizontal printing.
Auto Flip	Auto-feeding means that the printer will automatically eject the paper and help the user to switch pages for printing. If checked, when a piece of paper is printed, the printer will automatically switch to the next paper to continue printing; if it is not checked, when the paper is printed, it will be forced to eject the paper, requiring the user to manually change the page action.

## 3.12.1.5 Network Settings

## **Network Settings**

Configuration		×
Main N	letwork Settings	
Non-volatile		
Security Level and Password	Localhost	
Global Keypad Settings	HMI HMI	
Others		
Control Status Block	Upload/Download port 12346	
Control Block	Modbus TCP Server Port 502	
Status Block		
Real Time Clock		
Print		
- Default		
Boot Logo	Time zone	
Boot Delay Screen	(UTC+08:00) Taipei $\checkmark$	
Custom scroll button		
Network Settings	Enable NTP Server Name tock.stdtime.gov.tw	
Remote Desktop and Data Collectio		
SMTP	Calibration when startup	
FTP	Calibration at set intervals 180 Second	
- Multi-language		
Multi-language Settings	Daylight saving time $Off \vee$	
Industry application     Electronic record	Dayigit saving time	
····· Electronic record		
< >		
	OK Cance	:1

Figure 3 - 274: Network Settings

The Network Settings page description is as follows:

Features	Description		
НМІ	Users can set their own name; this name can be used to iden the HMI. When using remote network monitoring or data sampling, the HMI name can be used to quickly identify which HMI is being monitored or accessing data.		
Upload /Download port	<ul> <li>The communication port is the designated connection address, allowing programs on different computers to communicate. There are a total of 65536 ports, and some specific ports are reserved for specific programs</li> <li>The default Upload/Download Port of the HMI is 12346</li> </ul>		
Modbus TCP Server Port	<ul> <li>Modbus TCP Server The default port is 502.</li> <li>This communication port must be the same as that of the Modbus TCP/IP controller.</li> </ul>		

Features	Description	
	<ul> <li>The user can also customize the port number, but please make sure that both settings must be the same.</li> <li>If the HMI is communicating with the Modbus software on the PC, please change the communication port here instead of changing the communication port of the controller in [Options]&gt;[Set communication parameters]&gt;[Ethernet1]&gt;[Device].</li> </ul>	
Time zone	The user can choose the time to display according to the local time zone of the HMI.	
Enable NTP	<ul> <li>After checking, the HMI can adjust the time of the HMI through the network.</li> <li>If NTP is enabled, please confirm whether the network environment of the HMI is smooth.</li> </ul>	
Server Name	User can choose the server provided in the software, or can enter the name of the local NTP server.	
Calibration when startup	After checking, the time to correct the time is when the HMI is turned on.	
Calibration at set intervals	<ul> <li>After checking, user need to set the number of seconds. The timing of calibration is when the machine is turned on and enters the HMI screen, the time will be adjusted in a few seconds.</li> <li>The default is 180 seconds, the minimum is 10 seconds, and the maximum is 99999 seconds.</li> </ul>	

## **Remote Desktop and Data Collection**

Configuration					×
- Main	emote Desktop a	nd Data Collection			
Non-volatile	Remote Desktop	Real-time Monitoring			⊳
Security Level and Password     Global Keypad Settings	Remote Desktop	Real-time monitoring			-
- Others	eServer				
- Control Status Block					
Control Block	Passwo	rd	12345678		
Status Block	Samplin	g time	100 🗘 (ms)		
Real Time Clock	Port		12348		
- Default					
Boot Logo	Sho	w warning when disconnected			
Boot Delay Screen		Close warning window when the	e connection is restored		
Custom scroll button					
Network Settings     Remote Desktop and Data Collectio					
SMTP					
FTP					
⊡ Multi-language					
Multi-language Settings	VNC				
Electronic record	Ena	ble Password	12345678		
			5900		
	Port		5900		
< >					
				OK. Cancel	
				Cancel	

Figure 3 - 275: Remote Desktop Tab

The eServer function of Remote Desktop and Data Collection, description is as follows :

Features	Description		
Password	• The password can be changed according to user needs. The default is 12345678.		
Fassword	<ul> <li>This password is to obtain HMI project data after executing eServer and eRemote, user must enter the password to monitor or access data.</li> </ul>		
Sampling time	The sampling time is how long the eServer and eRemote will perform sampling. The range is 100 ~ 5000ms, the default value is 100 ms.		
Port	The connection port between eServer and eRemote is set to 12348. It is a different communication port from the upload/download port of the HMI, and the port used by different programs will be different.		

Features	Description
Show warning when disconnected	<ul> <li>This option can be enabled after checking Start.</li> <li>When the HMI is disconnected from the eServer or eRemote, the HMI will display a disconnected warning message.</li> </ul>
Close warning window when the connection is restored	<ul> <li>This option can only be enabled when the option of Show disconnection warning window when disconnected is checked.</li> <li>If it is checked, the representative will keep popping out the error and will not close the error window until the HMI and eServer or eRemote are connected again.</li> <li>If it is not checked, it means that the HMI will only pop up a disconnected error message.</li> </ul>

The VNC (Virtual Network Computing) function of the remote desktop page is a set of software that can remotely monitor and operate HMIs. This software can send Keypad and mouse actions and real-time screens through the Internet. When using the webpage to operate VNC, the browser must support JAVA installation, otherwise it cannot be opened. When using the webpage to operate VNC, the browser must support JAVA installation, otherwise it cannot be opened. The VNC function setting description is as follows :

Features	Description
Enable	Check Enable to remotely monitor and operate the HMI through VNC.
Password	The password can be changed according to user needs. The default is 12345678.
Port	<ul> <li>The default connection port is 5900. If the software connection port setting is changed to 5902, when using VNC Viewer to connect, the connection port must be changed to 5902.</li> <li>Do not use 5800 when setting the connection port on the configuration of the following measure will be changed with the connection port on the configuration of the following measure will be changed with the connection port on the configuration of the following measure will be changed to 5902.</li> </ul>
	software side. If it is set to 5800, the following message will appear after downloading the screen to the HMI to inform the user to replace.

Features	Description
	The port has been occupied by VNC HTTP Server (5800) X Please change the setting of VNC HTTP Server port
	<ul> <li>VNC Viewer provides a webpage operation method. In this way, user only need to enter the browsers IP Address and the port is 5800 to open the connection. Even if the</li> </ul>
	communication port of the software is not the default 5900, during browser operation, please enter 5800 for the connection port. Such as http://192.168.123.148:5800.

# Real-time Monitoring

Configuration									×
. Main	Remot	e Desktop	and Data Collect						
Non-volatile						_	_	_	
Security Level and Password		emote Deskto	p Real-time Monit	oring					⊳
Global Keypad Settings									
Others									
Control Status Block	Enab	le real-time mo	nitoring	P	Password		12345678		
Control Block	Gener	al Settings							
Status Block		-	10	-			30		
Real Time Clock	Items	s per Page	10 *	L	Jpdate	Ľ	30 <sup>*</sup>		
Print									
⊡. Default	NO	Name	Address	Data Format L	Unit Le	ength	Integer Di Fract	Ilenoit	
Boot Logo	NO	Name	Address	Data Politiaç t		engun	Integer Di Flact	JUTIALI	
Boot Delay Screen									
Custom scroll button									
Network Settings									
Remote Desktop and Data Collectio									
Multi-language Settings									
- Industry application									
Electronic record									
Literionic receip									
< >									
							OK		Cancel

Figure 3 - 276: Real-time monitoring tab

- Network real-time monitoring provides that the HMI can write values to the HMI on the web side, or after the HMI writes the values, the web-side monitors the changes.
- The real-time monitoring interface provides a variety of Data formats for users to use. The supported data formats include BCD, Signed Decimal, Unsigned Decimal, Hex, Floating, Char.
- Each data format can be set to read length to determine whether to read
   Word or Double Word. When the read length is 1, the integer can be set up to
   5 digits, that means the data format is Word. When the read length is 2, the
   integer can be set up to 10 digits, that means the data format is Double Word.
- Address input provides Word and Bit, which can support internal memory address and external PLC address.

How to use network real-time monitoring?

Check Enable real-time monitoring and set the address on the software first. Then please enter http://[Man Machine IP]/RemoteMon/ on the browser. After success, user will see the following login screen. Enter the password of the web application to log in. The two words R and M must be capital letters, otherwise it will not be able to connect to the HMI through the Webpage.

Smarter. Greener. Together.	Delta HMI Remote Monitoring
	Password:
	Submit

Figure 3 - 277: Delta HMI Remote Monitoring

The function setting description of the Real-time monitoring page is as follows:

Features	Description
Enable real- time monitoring	Tick the checkbox to enable Real-time Monitoring feature.
New Monitor Address 🗔	<ul> <li>Click to add a monitoring address.</li> <li>The name can be used to name the entered address. The name length can be up to 30 characters.</li> </ul> NO Name Address Data Format Unit Length Integer D Fractional 1 Delta None Unsigned Word 1 4 0 2 Delta {EthernetLink1}@RW-0 I Unsigned Word 1 4 0
Delete Monitor Address 📮	Select the number user want to delete, then click to delete the monitoring address.
Import CSV file	After modifying the content of the exported CSV file, click to import the monitoring address parameters.
Export CSV file 違	A B C D E F G         A B C D E       F G         1 Define Na: Address       Memory F Type       Read Coun Integer       Fraction         2 Delta       \$100       Unsigned       Word       2       10       0         3 HMI       {Link2}1@D100       Unsigned       Word       1       5       0
Password	<ul> <li>The default password is 12345678.</li> <li>After entering the monitoring address in the web page, user will be prompted to enter the password.</li> </ul>
Items per Page	<ul> <li>User can set the number of monitoring addresses to be displayed on a page.</li> <li>The default setting is 10, the minimum is 1 and maximum 20.</li> </ul>
Update Frequency (seconds)	User can set the screen update frequency. The default is 30 seconds, the minimum is 1 second, and the maximum is 30 seconds.

#### SMTP

Configuration			×
🗐 ·· Main	SMTP		
Non-volatile			
Security Level and Password	Enable Mail Host		
Global Keypad Settings	—		
Others	Mail Host Information		
Control Status Block	Server Address		
Control Block			
Real Time Clock	Server Port	25	
Default	Sender Address		
Boot Logo	Sender Address		
Boot Delay Screen			
Custom scroll button	SSL Encrypted Trans	mission	
Network Settings			
Remote Desktop and Data Collectio			
SMTP			
FTP	Enable Security Authe	ntication	
<ul> <li>Multi-language</li> <li>Multi-language Settings</li> </ul>			
Industry application	Account		
Electronic record	Password		
	Time zone		
	(UTC+08:00) Taipei	~	
< >			
			OK. Cancel

Figure 3 - 278: SMTP

- SMTP stands for Simple Mail Transfer Protocol. This server is used to send the mail. SMTP is a set of rules used to send mail from source address to destination address, and it controls how the mail is transferred.
- DIAScreen software provides SMTP service function, which allows users to notify users that an alarm has occurred by receiving mail when an alarm occurs.
- After the SMTP parameter setting is completed, the user must also enter Options > Alarm Settings, and fill in the recipient's Mail and related alarm information in the [Mail] field.

🗈 🛍 🗷 🗶 🛣 🛛 16 📑 🧏 Aria	al	× 100%		2 🖨 🛼 ፍ 🖋		
Enable Message Content	Category	Trigger Condition	Monitor A	Text Color	Alarm Screen	Mail
	0	On		RGB(0, 0, 0)	None	
	0	On		RGB(0, 0, 0)	None	
	0	On		RGB(0, 0, 0)	None	

Mail					
To:					
Cc:					
Bcc:					
Subject:					
	Attach curren	it screen			
					^
					~
<					>
				OK	Cancel

Figure 3 - 279: Mail

If the user wants to enable SMTP, please check [Enable mail host function] first, and then set up the security verification of its host IP address, host port, account and password.

The SMTP page function setting description is as follows:

Features	Description
Enable Mail Host	<ul> <li>This IP address is the Mail Server IP created by the user. Before using the SMTP function, please set up the Mail Server environment first, or user can search for free Mail Server on the Internet.</li> <li>In addition to filling in the IP address, user can also check [Use domain name] to enter the domain name.</li> </ul>

Features		De	escription
		✓ Enable Mail Host Mail Host Information Server IP	☑ Domain Name smtp.gmail.com
Server Port		ault port of the mail h communication port.	ost port is 25, which is the general
Sender Address	Please	fill in the sender's em	ail address.
SSL Encrypted Transmission	0 6 6 7 1 1 1. After	can provide confident Driginally proposed by ensure the confidentia communication betwe he identity of the serv To use SSL encrypted his function. Gmail itself also requi user want to use Gma he following settings	I transmission, e-mail must support res SSL encrypted transmission. If all to send mails, user need to make first. nailbox, select <b>my account</b> .

Features	Description				
	Google Account Your Google Account gives you quick access to settings and tools that lef you safeguard your data, protect your privacy and decide how your information can make				
	Google services work better for you.				
	Control your password and Coogle Account   Local   Spring in to Google   Device activity & security events   Approximate control the personalise your experience.   Control your account in just a firefrage   Intel your account in just a firefrage				
	3. Open the apps that allow less security at the bottom of the page.          Allow less secure apps: ON       Image:				
	<ul> <li>After the above 3 points are set, user can use Gmail to receive alert letters.</li> </ul>				
Enable Security Authentication	<ul> <li>Before enabling the account security verification function, user must check the Enable mail host function before setting its account and password.</li> <li>If the SMTP server is created with account and password authentication, this option must be checked.</li> </ul>				
Account	<ul> <li>authentication, this option must be checked.</li> <li>The account and password must be based on the account and password required by the SMTP server. When setting up SMTP MailServer, if the security verification of account and password is checked, a set of account and password must be entered first. This account and password are used to check whether the recipient is a legitimate user of the back-end mail system, so as to prevent un received</li> </ul>				
Password	<ul> <li>letters from entering the system and occupying resources, forming hidden mail security problems.</li> <li>Please note that the format of the account number will be different due to the different formats required by each</li> </ul>				

Features	Description
	SMTP Mail Server. Users can first ask MIS for its rules.
Time zone	The HMI provides the time zone function, which allows the user to select the local time zone, so that the HMI will not have a time difference in various places, and the time of sending the alarm mail is more accurate.

After SMTP settings are loaded into the HMI, user can access the settings from the **System Directory > System Settings > Network Applications > SMTP** tab, as shown in the figure below. Users can also change the SMTP settings from the HMI and upload to DIAScreen.

(UTC+08:00) Taipei					
(UTC+08:00) Ulaanbaatar					
(UTC+08:00) Chambaatar (UTC+08:45) Eucla					
(UTC+09:00) Chita					
(UTC+09:00) Osaka, Sapporo, Tokyo					
(UTC+09:00) Pyongyang					
(UTC+09:00) Fyongyang (UTC+09:00) Seoul					
(UTC+09:00) Yakutsk					
(UTC+09:00) Takulsk (UTC+09:30) Adelaide					
(UTC+09:30) Darwin					
(UTC+10:00) Brisbane					
(UTC+10:00) Canberra, Melbourne, Sydney					
(UTC+10:00) Gamberra, Melbourne, Sydney (UTC+10:00) Guam, Port Moresby					
(UTC+10:00) Hobart					
(UTC+10:00) Vladivostok					
(UTC+10:30) Lord Howe Island					
(UTC+11:00) Bougainville Island					
(UTC+11:00) Chokurdakh					
(UTC+11:00) Magadan					
(UTC+11:00) Norfolk Island					
(UTC+11:00) Sakhalin					
(UTC+11:00) Solomon Is., New Caledonia					
(UTC+12:00) Anadyr, Petropavlovsk-Kamchatsky					
(UTC+12:00) Auckland, Wellington					
(UTC+12:00) Coordinated Universal Time+12					
(UTC+12:00) Fiji					
(UTC+12:00) Petropavlovsk-Kamchatsky - Old					
(UTC+12:45) Chatham Islands					
(UTC+13:00) Coordinated Universal Time+13					
(UTC+13:00) Nuku'alofa	~				
(UTC+08:00) Taipei	~				
D	<b>OP-100 • </b> Sy	stem Setting			Home
---	--	---------------------------------	--------------	----------------------	------
	VNC	eRemote/eServer	SMTP	FTP Server	
	Enable: OFF	Server Address: Server Port:	25		
	Sender SSL Encryption Authentication				
•	Network	Network App	OM Port Audi	Contraction Password	

Figure 3 - 280: SMTP HMI Catalog setting page

#### FTP

Configuration					×
. Main	FTP				
Non-volatile	FTP Host FTP File	Setting	_	_	Þ
Security Level and Password		Setting			
Global Keypad Settings Others	Enable FTP host functi	on			
Control Status Block	FTP Host Port	21 (1~65535)			
Real Time Clock Print	Account	hmi			
⊡. Default Boot Logo	Password	12345678			
Boot Delay Screen Custom scroll button	Root Directory	USB Disk $\vee$			
Network Settings     Remote Desktop and Data Collectio     SMTP					
FTP - Multi-language	Anonymous				
Multi-language Settings					
<ul> <li>Industry application</li> <li>Electronic record</li> </ul>					
Electronic record					
< >					
	μ <u>·</u>			OK	Cancel
			L	UK	Cancel

Figure 3 - 281: FTP

 The FTP Server function is mainly to provide users with the ability to download alarms, historical data, formulas, and operation records in USB Disk or SD storage devices to PC for review via the Internet, and upload files from PC to USB Disk or SD storage devices.

FTP rule	De	escription			
Supported HMI	Network model				
	File transfer software				
Network model	Windows File manager				
	DOS Command Line				
	Allow up to 3 FTP Clients	s to connect at the same time			
Connection restrictions	Idle for more than 90 sec	conds will automatically			
	disconnect				
		Cannot add directory			
	Support anonymous	Cannot upload file			
	login	Cannot download file			
Login method		Cannot delete file			
		Allow file name change			
Login motilod		Allow new directories			
		Allow file upload			
	Support account login	Allow downloading of files			
		Allow file deletion			
		Allow file name change			
	Unlimited flow				
	Support resume				
	Unlimited file size				
	The maximum file name	length is 260 bytes			
File transfer rules	Allow file name change				
	Supporting document name				
	Does not support encryp	tion			
	Support active mode / pa	assive mode connection			
	When FTP is transferring	g, access to system directory			

FTP supports three connection methods as follows:

1. File transfer software

Because the HMI provides FTP Server, user need to use FTP Client software to

upload and download files or use Windows File Explorer or DOS Command Line to connect. This example introduces the use of file transfer software FileZilla, which is free software, and the download URL is:

<u>https://filezilla-project.org/download.php</u>. After installation, please open FileZilla software.

2 FileZilla					
File Edit View Transfer Server Bookmarks Help	_				
出す。 111111111111111111111111111111111111	± Q ?	<b>60</b>			
Host: 192.168.123.114 Usemame: admin	Password:	••••	Port 2	1	Quickconnect
Local sites CAUSers\TimaQLee\Desktop\				~ <	Remote site:
Downloads      Favorite     Favorite     Inits     Units     Units     Music     My Documents     Methood     OneDrive					
<u> </u>	ast modified			^	Filename Filesize Filetype Last modified Permissions Owner/Gro
	/21/2018 10:41: /24/2018 11:28:				Not connected to any server
	/24/2018 11:28: /20/2018 6:25:3			<b>.</b>	
42 files and 20 directories. Total size: 1,547,055,955 bytes				-	Not connected.
Server/Local file Direction Remote file		Size	Priority	Statu	5
Queued files Failed transfers Successful transfers					Queue empty

Figure 3 - 282: Transfer software FileZilla

Name	Action Description			
Host	Enter the HMI IP address. The IP address in this example is 192.168.123.114.			
Username	Enter the same username as the software setting, which is admin.			
Password	Enter the same password as the software setting, which is 1234.			
Port	Enter the same port as the software setting, which is 21.			
Quickconnect	Before executing this button, please fill in the required settings from 1 to 4.			

## 2. Windows File manager

Please open the file explorer, enter ftp://192.168.123.114/, enter the account and password, user can log in FTP.



Figure 3 - 283: File manager

After logging in, user can display all files in the USB storage device.



Figure 3 - 284: Files in USB storage device

3. DOS Command Line

Enter ftp 192.168.123.114 at the command prompt, and enter the user account admin and password 1234 to connect to FTP.



Figure 3 - 285: Connect to FTP

Under the ftp command, user can use help to view the supported related commands.

Command	Prompt - ftp 192.168.123.1	14		_		Х
	indows [Version 10 prosoft Corporatio		reserved.			^
Connected to 220 Welcone 200 Always : User (192.10 331 Please s Password: 230 Login su ftp> help	na.Q.Lee>ftp 192.1 b 192.168.123.114. to Delta HMI FTP in UIF8 mode. 58.123.114:(none)) specify the passwo nccessful. y be abbreviated.	service. : admin rd.				
! ? ascii bell binary bye cd close ftp>	delete debug dir disconnect get glob hash help lcd	literal ls ndelete ndir nget nkdir nls nput open	prompt put pwd quit quote recv remotehelp rename rndir	st tr ty แร	end satus race rpe ser srbose	

Figure 3 - 286: Supported related commands

Enter the dir command to list all files in the current USB storage device.

SX Command Pr	ompt - ftp 192.168.123.	114				_		Х
tp> help onmands new	be abbreviated.	Comunda ara:						
onnanus nay	ve avoreviateu.	connanus are.						
	delete	literal	pr	ompt	send			
	debug	la	<sub>ິ</sub> ້ ມີ ມ		status			
ppend	dir	ndelete	рw	d	trace			
scii	disconnect	mdir	¢u	it	type			
ell	get	nget	$\mathbb{Q}\mathbb{Q}$	ote	user			
inary	glob	mkd i r	re		verbose			
ye	hash	mls		notehelp				
d,	help	mput		nane				
lose .	lcd	open	r m	dir				
tp> dir		a	DIAT					
UU PURI conn Fo H	and successful.	Consider using	PASV.					
	es the directory	listing.	<u>مم</u>	DO10 E01	1011001 TM -1.			
TAXIMKLAX	10 D 10 D	481517 J			4031204-EN.abc			
TAXIMKLAX		511544 h 550702 h	tay 20 for 15	2010 2014	4078200 -EN.pdf 4079200-EN.pdf			
TAXIMKIAX XAIXMIXAX	10 D	317449 1		2010 2014	4079200-EN.pdf 4093200-EN.pdf			
TAXIMKLAX	10 D		iun 14	- 2010 - 2014 - 2018 - 1 1ac	rm_2018_6_14_11_18_	33 Cran	n 1 arr	17
TANIMYLAY	10 Ŭ		Jun 14	- 2010 H1a. - 2012 klas	rm_2018_6_14_11_18_	A6 Grou	p-1.Ca p-2 cen	r T
TATAXIAN	1ŏ ŏ		fun 14	2010 H1a.	rm_2018_6_14_11_18_	-45_0100 55 Gram	p-2.00 p-3 cm	r T
TATAXIAN	ĴŎ Ď		lay 23	2018 HMI	IM_6010_0_14_11_10_		P-3.00	
TYXTWRITY	10 D 10 D 10 D 10 D 30 D 20 D		(av 23	2018 Svs	ten Volune Informat	tion		
TVXTWRTVX	ĩŏ ŏ	80922 i				0 1 0 M		
TVXTWXTVX	îŏ ŏ			2018 bot				
TAXLAXIAX	ÎÕ Õ	123314 1			-115xx-quick-start.	.vnf		
26 Directory								
tp: 947 byte	es received in D	.03Seconds 33.82	2Kbytes	/sec.				
tp>								

Figure 3 - 287: All current USB files

If user want to download files from USB Disk or SD Card, please use the get command. If user want to upload files from the PC to a USB Disk or SD Card, this is the put command.

The FTP File Setting page function description is as follows :

Features	Description				
Enable FTP host function	The FTP function can be used only after it is checked.				
FTP Host Port	The default FTP host port is 21.				
Account	User can enter the name of the account they want to use.				
Password	User can enter the password they want to use.				
Root Directory	The root directory is the storage location of the HMI files, and the default is USB Disk. Users can also choose SD Card as the storage location.				
Anonymous	<ul> <li>Check this option to log in without entering the account and password FTP.</li> </ul>				

Features	Description			
Enable FTP host function	The FTP function can be used only after it is checked.			
FTP Host Port	The default FTP host port is 21.			
Account	User can enter the name of the account they want to use.			
Password	User can enter the password they want to use.			
Root Directory	The root directory is the storage location of the HMI files, and the default is USB Disk. Users can also choose SD Card as the storage location.			
	<ul> <li>After logging in to FTP using an anonymous connection, uploading, downloading files, deleting files or adding directories cannot be performed.</li> </ul>			

After FTP settings are loaded into the HMI, go to **System Directory > System Settings > Network Application > FTP Server tab** to access the settings, as shown below. Users can also change the FTP settings from the HMI and upload to DIAScreen.

DOP-	DOP-100 • System Setting							
	VNC	eRemote/eServer	SN	ITP	FTP Server			
Enab Root Port:	Directory: US	B Accour Passwo		****				
	Network	Network App	OM Port	Audio	Password			

Figure 3 - 288: FTP HMI Catalog Setting page

#### 3.12.2 Data Exchange Table

**Remark**: This function is applicable to DOP-100 series and AX-8 series.

The DIAScreen software provides the data exchange table function. The user double-clicks the data exchange table from the project tree to open the setting page. This function is used to map the remote device address to the HMI internal address. The user can use this table tool to set the correspondence between the remote address and the local address. For example, write the value of the remote address D0 to the local address \$100, please refer to the figure below.



Figure 3 - 289: Data Exchange Table

The data exchange table provides WORD type data exchange. The maximum length of each data can be set to 100, and the entire data exchange table can set up to 200 data. The local address can only be entered in the internal memory address, and the remote address is based on the currently selected communication item to enter the corresponding address.

The data exchange table provides WORD type data exchange, and the entire data exchange table can set up to 200 data. The field description is as follows:

Field	Description					
	• Enter the address of the internal register.					
Local address	The internal register provided by the HMI is 16 bits. If the remote address data type is set to Double Word, it will be read by two internal registers. Enter 2 in the length field.					
Remote address	Enter the device address of the currently selected communication item.					
Length	Data exchange length, the maximum is 100.					

The function setting description of the data exchange table page is as follows:

Features	Description					
Add 尾	Click on the connection user want to add in the connection tree, and then click 📴 to add it in the last row of the data exchange form.					
Сору 🗈	<ul> <li>Select the data row to be copied, click is to pop up the data exchange copy window, as shown below.</li> <li>Copy Data Exchange</li> <li>Count</li> <li>Count</li> <li>Local Offset address</li> <li>Offset address</li> <li>Offset address</li> <li>OK</li> <li>Cancel</li> </ul>					
	<ul> <li>Enter the number to be copied, the local offset address, and the remote offset address. After confirming, add the setting data in the last column of the data exchange table.</li> </ul>					
Delete 팈	<ul> <li>Select the data row to be deleted, click  to pop up the delete confirmation window, as shown in the figure below, select Yes to delete the selected data row.</li> </ul>					

Features	Description
	DIAScreen × Po you want to delete the selected item?
	<u>Y</u> es <u>N</u> o
	<ul> <li>To delete multiple data, long press the key and select the data row to be deleted, and then click to delete the selected data row.</li> </ul>
	<ul> <li>To delete multiple data in a row, click the first row to be deleted, press and hold the Shift key on the Keypad and then click the last row to be deleted, and then click </li> <li>to delete multiple data rows.</li> </ul>
	Click 📧 to pop up the clear confirmation window, as shown in the figure below, select Yes to clear all the data rows of the connection.
Delete all 💌	DIAScreen × Do you want to clear all items?
	Yes No
Minimum update cycle	The shortest update cycle allows users to set the data update time. The default is 50ms, which means that data will be updated every 50ms. The minimum update cycle is 50ms; the maximum update cycle is 6000ms.

# Chapter 4: Tag Sharing

# 4.1 Tag Sharing with DIAStudio Programming

The DIASreen can inherit the variables or tags declared by DIADesigner and DIADesigner-AX in the DIAStudio software package, and can be used directly in the components of DIAScreen without the need for repeated declarations. Please refer to (1) for operation mode. The following content and (2) AX-8 Series Package Installation Manual (Chapter 2).

Tag means the variable that is inherited between in DIADesigner & DIAScreen. User can share the Variables with Address created in DIADesigner with DIAScreen application, so that user can directly access those Variables in DIAScreen via DIA Tag function.

#### NOTE:

Only **DOP-100 HMI series** supports **DIA Tag** sharing feature in the current version.

Follow these steps to perform tag sharing to DIAScreen:

 Create variables with address in any global variable table of Controller > Programming > Global Variable.

An example for Tag Sharing is shown in the following figure.

troller_1 Defau	ult_Tag_Table ×						
) 🖲 🕈 🚽							
Class	Name	Туре		Address	Initial value	Comment	
VAR	LS101_Open	BOOL	$\sim \cdots$	X0.0		Tank 101 Low Level Switch	•
VAR	PS101_Open	BOOL	~ …	X0.1		Tank 101 High Pressure Switch	•
VAR	SV101	BOOL	V ····	V0.1	1	Tank 101 Outlet Valve	

Figure 4 - 1: Tag Sharing

- 2. Compile the DIADesigner device or project.
- 3. Launch DIAScreen.

 Create a HMI project with DOP-100 HMI series. During Project creation, enter a Link Name, select Delta in Manufacturers drop-down list, select Delta AS series PLC in the Series drop-down list as shown in the following figure.

Project Wizard		Communication Set	tings	x
COM2	⊡ Connection Link Name Manufacturers series	Link1 Delta Delta AS series PLC		> >
	Main Extra Communication Parameters HDMI Station Interface Data Bits Stop Bits Baud Rate Parity Bits	0   RS232   7 Bits   9600   Even	Controller PLC Station Password Comm. Delay Timeout(ms) Retry Count	1 12345678 0 1000 2 2
	Optimize		Back Next	Cancel Finish

Figure 4 - 2: Project Wizard

**Result**: The DIAScreen project is created.

5. Double-click **DIA Tag** function in the **Project** tree in **DIAS**creen.

**Result**: **DIA Tag** window displays as shown in the following figure.



Figure 4 - 3: DIA Tag

6. Click 🚅 icon in the DIA Tag window.

**Result**: The **Device Name List** window of the device to be imported displayed as shown in the following figure.

Please select devices and link name :           Device Name         Link Name           Controller_1	×
Controller_1	
OK Cancel	

Figure 4 - 4: Select the device to import

7. Check the Device Name of the controller and select Link Name.

Devi	ce Nar	ne List			>	×
	Please	e select devices and link name :				
		Device Name	L	ink Name		
		Controller_1			-	
			Link1			
			[	OK	Cancel	

Figure 4 - 5: Select the device to import window

8. Click on OK.

**Result**: The DIADesigner Tags are now shared with DIAScreen so that the Variables can be used for different kinds of elements, animations, etc. as shown in the following figure.

🛛 📃 Screen_1 🛄 DIA Tag 🗄	×
📜 🗷 💈	
Symbos	Туре
⊡= Controller_1	
🚊 🐵 Default_Tag_Table	
\$ LS101_Open	BOOL
PS101_Open	BOOL
SV101	BOOL
CANopen_Tag_Table	
BIP_Produced_Tag_Table	
EIP_Consumed_Tag_Table	

Figure 4 - 6: DIA Tag updated with Tag sharing

#### Example:

User can select DIA Tag function to select the DIADesigner variables as shown in the following figure:

Multistate Indicator				×
Preview	Main		tails Coordinates	
	Input			×
		IATag		V Desimal
	Type	IA Tag Find What		Find
State:	Device (Bit)	Symbos	Туре	
v	🔿 Internal Mer	□		
Language:	🔿 Internal Mer	LS101_Open	BOOL	
Language1	⊖ Constant	PS101_Open	BOOL BOOL	
Element description:	Constant Types	CANopen_Tag_Table     EIP_Produced_Tag_Table		
Multistate Indicato	C Circuit Davis	EIP_Consumed_Tag_Table		

Figure 4 - 7: DIA Tag usage

#### 4.1.1 DIA Tag Supports One-to-Many

**Remarks**: This function is suitable for DOP-100 series.

According to Section 4.1, DIAScreen can inherit the Tag declared by DIADesigner. After clicking DIA Tag, the window for selecting the controller will pop up, as shown in the figure below.



Figure 4 - 8: DIA Tag

Check to select the connection name to import DIA Tag.

lect the device to import	×		
Please select the device to be imported and set the correspon	onding link name:		
Select Device name Link Nar	ame	Screen_1 DIA Tag	×
Controller_1 Controller_2 Controller_3 Controller_3		Symbols ⊡-	Туре
		Default_Tag_Table	
		Var_1 Var_2	BOOL
		- Var_3	BOOL
		CANopen_Tag_Table	
		EIP_Produced_Tag_Tab     EIP_Consumed_Tag_Tab	
		C_Tag_Table	

Figure 4 - 9: Import DIA Tag

The DIAScreen communication setting controller must be consistent with DIADesigner, as shown in the figure below:

Project24         ■ Add Device         ▲ Network Configuration         ● Communication Settings         ♦ Communication Setting         ♦ Device & Error Information         ● @ Configuration         ● Security Setting         ● Default_Tag_Table         ● @ Global Variable         ● @ Classine Planters         ● Controller Tag_Table         ● @ Classine Planters	
A Network Configuration         Image: Communication Setting         Image: Communication Seting         Image	
A Network Configuration       Communication Settings         Image: Controller_1 (AS2189X:A)       Image: Controller_1 (AS2189X:A)         Image: Controller_1 (AS2189X:A)       Image: Controller_1 (AS1888:A)         Image: Controller_1 (AS2189X:A)       Image: Controller_1 (AS1888:A)         Image: Controller_1 (AS188:A)       Image: Controller_1 (AS1888:A)         Image: Controller_1 (AS188:A)       Image: Controller_1 (AS1888:A)         Image: Controller_1 (AS188:A)       Image: Controller_1 (AS1888:A)         Image: Co	
<ul> <li></li></ul>	
<ul> <li>Conversion Centralion</li> <li>Conversion Centralion</li></ul>	
<ul> <li>A Hardware Configuration</li> <li>Security Setting</li> <li>Security Setting</li> <li>Security Setting</li> <li>Library Manager</li> <li>Global Variable</li> <li>Collar Variable</li> <li>Collar Variable</li> <li>Consumed_Tag_Table</li> <li>Stop Enconsumed_Tag_Table</li> <li>Stop Enconsumed_Tag_Table</li> <li>Library Manager</li> <li>User-defined Data Type</li> <li>Task Manager</li> <li>More The Consumed_Tag_Table</li> <li>Task Manager</li> <li>The Program</li> <li>Program</li> <li>Program</li> <li>Cress Data</li> <li>Cress Data</li> <li>Cress Data</li> <li>Cress Data</li> <li>Consumed Tage Table</li> <li>Cress Data</li> <li>Consumed Tage Table</li> <li>Consumed Tage</li></ul>	
Image: Security Setting       Image: Security Setting         Image: Security Seting       Image: Security Setting <td></td>	
▲ Monoscience       Monoscience	
Library Manager       Mais Drep       Data         ▲ @ Global Variable       COM3         ※ Global Variable       Commission Parameters         ※ CANopen_Tag_Table       Ethermet1         ※ ElP_Produced_Tag_Table       For Commission Parameters         ※ ElP_Consumed_Tag_Table       For Commission Parameters         ※ ElP_Produced_Tag_Table       For Commission Parameters         ※ ElP_Consumed_Tag_Table       For Commission Parameters         ※ User-defined Data Type       Data Bits         ② Lister Addition Data Type       Bind Pare         ① Program       Win Dock         ② C resource       Commission Parameters	
Image: Solution of the second seco	
Bit CANopen_Tag_Table     Ethermet1     HMI Station     0     PLC Station     1       Bit P_Produced_Tag_Table     Interface     P3332     Password     122459       Bit C_Tag_Table     Stop Bits     I Bits     Timewotins)     1000       C_Task Manager     Bind Pate     960     Rety Coast     2       Parity Bits     Even     For communication     Not used       US Pou_1     Interface     Interface     Interface     Interface       C resource     Interface     Interface     Interface     Interface	
IdS CANopen_Tag_Table     Ethemet1     BDI Station     PLC Station     1       IdS ElP_Consumed_Tag_Table     Interface     F8332	
Interface     Inter	
With Elp_Consumed_Tag_Table     Paswed     12508       iii C_Tag_Table     Data Bits     7 Bits     Crean, Delay     0       iii C_Tag_Table     Stop Bits     1 Bits     Timevolins)     1000       iii R program     Band Rate     900     Retry Count     2       iii Pou_1     Parity Bits     Even     For communication     Not used       I C resource     Cressource     Cressource     Cressource	
Image: Stop Bins     I Bins     Timevolinis)     1000       Image: Stop Bins     I Bins     Timevolinis)     1000       Image: Stop Bins     I Bins     Timevolinis)     1000       Image: Bins     Bins     Bins     Bins     2       Image: Bins     Bins     Bins     Bins     Bins       Image: Bins     Bins	
20 Ser-General Usta Type     Transvorms)     1000       2 Task Manager     Band Rate     9600 v     Retry Coast       4 12 Program     Parity Bits     Even v     For communication       1 Spou_1     For communication     Not used       2 Cresource     Cresource	
La rosk molinityer     Revy Coast     Z     Parity Bits     Even     For communication     Not used     Doptimize	
L'3 Pou_1 □ Function Block G C resource	-
□ Function Block  C resource	v
C resource	
> D Motion	
Commissioning     Commissioning     Commissioning	
S Auditary	OK Ca

Figure 4 - 10: DIADesigner and DIAScreen Controller options

If the DIAScreen communication setting controller is inconsistent with the DIADesigner, an error message will appear when user press to confirm the imported DIA Tag, as shown in the figure below.

Please select	the device to be imported a	nd set the corresponding link	name:
Select	Device name	Link Name	
	Controller_1		-
	Controllor 2	Linkt	
DIAScreen			×
			OK

Figure 4 - 11: DIADesigner and DIAScreen Controller inconsistent error message

The current version of DIAScreen supports opening multiple DIAscreens at once, and can import DIA Tags generated by DIADesigner into multiple DIAScreen programs, as shown in the figure below:



Figure 4 - 12: Import of multiple DIAScreen programs DIA Tag

### 4.1.2 DIA Tag Automatic Synchronization

Remark: This function is applicable to DOP-100 series.

Following the introduction of DIA Tag usage in section 4.1, this section introduces the automatic synchronization function of DIAScreen DIA Tag. The default value is on. Note that users need to perform manual synchronization first. After selecting the device to be imported and setting the corresponding connection name, automatic synchronization can work.

• Automatic synchronization function is turned on

After the user adds/adds/changes variables in DIADesigner, click compile, and DIAScreen "no need" clicks "Sync" to automatically import the add/add/change DIA Tag. The automatic synchronization button is turned on as shown in the figure below.



Figure 4 - 13: DIA Tag automatic synchronization button on

• The automatic synchronization function is off:

When the automatic synchronization function is turned off, please refer to Section 4.1 Sharing with DIAStudio Program Variables, DIAScreen needs to manually click the "Sync" button to synchronize DIA Tag each time. Automatic synchronization is turned off as shown below.



Figure 4 - 14: DIA Tag automatic synchronization button off

## **4.2 OPC UA Client Communication Function**

Remark: This is only applicable to DOP-100 series.

DIAScreen supports the communication connection between the HMI and the OPC UA Client. Please refer to the following steps to establish the OPC UA Client connection, and use its tags in each function of DIAScreen:

- 1. Create a project with DOP-100 series and select a model which supports Ethernet connectivity from the HMI List in Project Wizard.
- 2. Create a Ethernet link device with **OPC UA Client** in the Controller field as shown in the following figure:

Project Wizard	>
Communication Settings	
Com COM1 COM2 COM2 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM3 COM4 Controller Controller Controller Controller Controller Controller Controller Controller Controller Controller Controller Parker Controller Parker Controller Controller Parker Controller C	
Back Nett Cancel Finit	h

Figure 4 - 15: Establish OPC UA Client connection

Click Import button to open 'Tag List' window as shown in the following figure.Click to import OPC UA xml tag file.

Tag List			
📜 💌			
Name	Туре	Node ID	
<b>⊡</b> <mark>⊞</mark> Root		i=84	
Dbjects		i=85	
DemoUANo		ns=1;s=Demo	
<			>
		OK	Cancel

Figure 4 - 16: Import OPC UA Tag xml file

4. Set the IP of the OPC UA Client and click **Finish** button to create an OPC UA connection project.

Communication Settings Device Localhost
Device Localhost
COM1 COM2 COM2 COM3 COM3 COM3 COM3 COM3 COM4 Controller COM Port 192 . 168 . 0 . 1 : 4840 Main PLC Station 0 Password 12345678 Comm. Delay Time(ms) 0 Timeout(ms) 1000 Retry Count 2 Commission Parameters
Back Next Cancel Finit

Figure 4 - 17: IP Address set up

5. Create the Element and set the read/write address to OPC UA Tag.

americ Display_002 (####)					
Read Address	(EtherLink1)0	@Root.Object	s.DemoUAN	odeSetXML.01	0_ComplanceTest.Sta
Invisible Address	Input		1		×
Offset Address			1		
Read Offset Address	Link	EtherLink1	N		Ý
Text	Name			Туре	Node ID
Size	0.000000	da. 855	Arrays		ns=1;s=Demc A
Color		0-11			ns=1;s=Demo
Font			Byte	Byte	ns=1;s=Demo
Others.			Dou.	Double	ns=1;s=Demo
Filled style			E Float	Float	ns=1;s=Demo
Style			Int16	Int16	ns=1;s=Demo
Detail.			E Int32	Int32	ns=1;s=Demo
Border Color			Int64	Int64	ns=1;s=Demo
Background Color			E SByte	SByte	ns=1;s=Demo
Prefix Zero			E String	String	ns=1;s=Demo
Unit Conversion Settie			UInt16	UInt16	ns=1;s=Demc
Transparent		-	UInt32	UInt32	ns=1;s=Demi v
Word arrangement	<				>
Coordinates	Station 0	4		Bit	
x	300000				
Y	Tag				ليه
Width					
Height	143				

Figure 4 - 18: The Component uses OPC UA Tag

6. Use OPC UA Tag in the macro command: Open the macro editing window, click the macro wizard and enter the macro command. If the variable selects OPC UA Tag, the OPC UA Tag will automatically add single quotes after the macro is updated and; To fill in the OPC UA Tag in the address tool, user need to manually add single quotes around the OPC UA Tag, as shown in the figure below.

♀{OPC\_UA}0@Root.Objects.DemoUANodeSetXML.010\_ComplianceTest.Static.All Profiles.Scalar.Double

#### 4.2.1 Support HMI TAG Smart Input Function

**NOTE**: This function is suitable for AX/IMP series and DOP-100 series, currently only supports DIADesigner-AX Tag.

In order for the user to input the DIADesigner-AX Tag prefix, the DIADesigner-AX Tag with the prefix user input can be filtered out, the method is as follows.

- Select PAC\_AX8\_Linux\_Series as an example:
- Open a File > New >HMI series drop-down menu, select AX series > PAC\_AX8\_Linux\_Series > Finish

Project Wizard				
Series		HMI List		
AX series	~	Model Type	Resolution	Color
		AX8_Linux_Series	1024 * 768	65536 Colors
		AX8_Windows_Series	1024 * 768	65536 Colors

Figure 4 - 19: Open new file

2. On the left Screen New HMI Project tree, click Build-In PLC.



Figure 4 - 20: New HMI Project tree click Build-In PLC

Result: Open the Build-In PLC tab.

3. In Build-In PLC tab, Click Import.

4	Screen_1	Build-In PLC	×	
2	€ \$			
Sy In	nport			Туре

Figure 4 - 21: Import

Result: The Open window is displayed.

4. Select the xml file to be linked from the open window and click Open.

🛱 Open		×	:
← → × ↑ 📙 « DIAScreen-V1.0	> DIAScreen_Build ∨ Ō	Search DIAScreen_Build 🔎	
Organize 👻 New folder		III 🕶 🔲 🔇	
delte	^ Name	Date modified T	yr
DIAScreen-V1.0	ttt.Device.Application	03-11-2020 10:28 X	M
💻 This PC			
🧊 3D Objects			
Desktop			
Documents			
👆 Downloads			
Music			
Pictures			
📑 Videos			
🏪 Local Disk (C:)			
New Volume (D:)	~ <		>
File <u>n</u> ame: ttt.Dev	ice.Application 🗸	Codesys XML File(*.xml) 🛛 🗸 🗸	
		Open Cancel	

Figure 4 - 22: Open xml file

- 5. Go back to the Screen tab created at the beginning and add components.
- 6. Open the component and click Write Address.

4 Screen_1 ×				
	Set to On			×
	Set to On  Preview  State:  Canguage: Language1  Element description: Set to On_001	Main     Main-2     Text     Picture       Memory	Details Macro Co Style: Foreground Color: Blink: Filled style: Use Text Pic:	vordinates
Screen Management Window				OK Cancel

Figure 4 - 23: Write Address Location

**Result**: The input window is displayed.

 Select from the drop-down menu of the connection name in the input window Build-In PLC.

Input								×
Link:	EtherLink1_1 Internal Memory							~
Type Device (Wor	Internal Paramet EtherLink1_1 Build-In PLC		oe IKV					
O Device (Bit)		Device Ny	I-In PLC					
	mory (Word)	Tag					~	
<ul> <li>Internal Mer</li> <li>Constant</li> </ul>	mory (Bit)		_	1				-
Constant Types		в	С	D	Е	F	Clear	
O Signed Decir	mal	6	7	8	9	A	Back	
O Unsigned D		1	2	3	4	5		
Hexadecimal	1	0	:	+	-	1	Enter	
Station No.	⊡ Default				None			

Figure 4 - 24: Connection name Build-In PLC

**Result**: The **Input** window pops up, the xml file just imported is linked to this screen.

Input		×
Link:	Build-In PLC	~
Symbols Prime Applicat Sum Cons Sum Inco		
Station Tag	Array Bit	L

Figure 4 - 25: Input window

8. Click on Smart Input Shortcut

Result: The automatic Input window pops up.

Input			×	A	utocomplete Window	$\times$
Link	Build-In PLC		~		Application.GVL mD	
Symbols P Applic S OF S OF	L Config_Globals	Туре			Application.GVL.mDINT Application.GVL.mDWORD	
Station	🔹 Anay	∨ Bit				
Tag		~	4	1	Cases are considered d OK Cancel	

Figure 4 - 26: Smart input shortcut

9. Enter the **Application** string.

Input			×	1	Autocomplete Window X
Link	Build-In PLC		~	ľ	Application
Symbols Symbols Symbols Con Station		Type Bit		1 1 1 1 1 N 1 1 2	opplication         pplication. Constants. Compiler/Version         Application. Constants. Compiler/Version.ul/Major         Application. Constants. Runtime/Version.ul/Major         Application. IoConfig. Globals         Application. IoConfig. Globals         Application. IoConfig. Globals. Builth_DIO         Application. IoConfig. Globals. Builth_DIO         Application. IoConfig. Globals. Builth_DIO         Application. IoConfig. Globals. Builth_DIO         Application. IoConfig. Globals. Mothus_Master_COM_Port         Application. IoConfig. Globals. Mothus_Master_COM_Port         Application. IoConfig. Globals. Mothus_Master_COM_Port. ChannelIndex         Application. IoConfig. Globals. Mothusus_Suse_COM_Port. ChannelIndex <tr< td=""></tr<>
Tag		×		-	Cases are considered d OK Cancel

.

Figure 4 - 27: CODESYS TAG Smart input

10. Left-click on the TAG user want to use, then click OK.

Application	
Application	
Application.GVL	-
Application.GVL.aa[0]	
Application.GVL.Aword	
Application.GVL.bb[0]	
Application.GVL.mbit	
Application.GVL.mbit.stdVar00	
Application.GVL.mbit.stdVar01	
Application.GVL.mbit.stdVar02	
Application.GVL.mbit.stdVar03	
Application.GVL.mbit.stdVar04	
Application.GVL.mbit.stdVar05	
Application.GVL.mbit.stdVar06	
Application.GVL.mbit.stdVar07	
Application.GVL.mbit.stdVar08	
Application.GVL.mbit.stdVar09	
Application.GVL.mbit.stdVar10	
Application.GVL.mbit.stdVar11	
Application.GVL.mbit.stdVar12	
Application.GVL.mbit.stdVar14[0]	
Application.GVL.mbit.stdVar15	
Application.GVL.mbit.stdVar16	
Application.GVL.mbit.stdVar17	 ~
Cases are considered d	

Figure 4 - 28: Tap the smart input option

**Remark**: If user don't check the case as a different option, it will filter out the initials TAG of the input letters regardless of case.

Autocomplete Window		×
Application.GVL.a		
Application.GVL.aa[0] Application.GVL.Aword		
Cases are considered d	OK	Cancel

Figure 4 - 29: Uncheck size is considered different option

Conversely, if user check the box as the difference between upper and lower case, the first TAG with the same upper and lower case will be filtered and entered.

Autocomplete Window		×
Application.GVL.a		
Application.GVL.aa[0] Application.GVL.Aword		
☐ Cases are considered d	OK	Cancel

Figure 4 - 30: Check the size as different options

11. User can bring in the selected CODESYS Tag.

review	Main Main-2 Text Details D	etails-2 Macro	Coordinates	
	Memory	Detail		
	Write Address:	Dut	Double Word	
1234	CODESYS@Application.GVL.Aword	Data Type		~
	Read Address:	Data Format	Unsigned Decimal	~
	None	System Key		-
itate:	Write Offset Address:	O Custom Key		
0 ~	None			
Language:	Read Offset Address:	Minimum	0	
Language1	None	Maximum	4294967295	
man Bradit a		Integer Digits	10	~
Element description:	Style	Fractional	0	~
Numeric Entry_001		Min 0	-	
		Max 42949672	95	
	Border Color:			
	Background Color:			_
	Filled style: Gradient ~	Gain	1.0	?
	Border Fill Style: Border NOT Fi ~	Offset	0.0	
	Border NOT PI	Round off		

Figure 4 - 31: Automatically bring into component memory location

The following is an example of choosing DOP-100 Series:

1. Open a new file > select the desired model > click Next.

ies	HMI List			
OP-100 series	Model Type	Resolution	Color	^
	103BQ	480 * 272	65536 Colors	
	103SQ	480 * 272	65536 Colors	
	103WQ	480 * 272	65536 Colors	
	105CQ	320 * 234	65536 Colors	
	107BV	800 * 480	65536 Colors	
	107CV	800 * 480	65536 Colors	
	107DV	800 * 480	65536 Colors	_
	107EG	800 * 600	65536 Colors	
	107EV	800 * 480	65536 Colors	
	107IV	800 * 480	65536 Colors	
	107WV	800 * 480	65536 Colors	
	108IG	800 * 600	65536 Colors	
	110CG	800 * 600	65536 Colors	~
	Project Setup Project Name:	NewHMI		
A vare	Screen Name:	Screen_1		
	Screen No.	1		
	Printer:	ANULL		$\sim$
	System menu language:	English		$\sim$
	HMI Rotation:	0	✓ degree	
	Resolution:	Custom	✓ 800 ★ 480	

Figure 4 - 32: Open new file

2. ①Select Ethernet connection> ② New network link> ③Select
 CODESYS in the controller drop-down menu> ④Import.

	Communication Settings		
2 vice Localhost			
M1 Link Name 00-EtherLink1	Controller CODES Communication Pa	a	4 Import
	HMI Station Controller IP : Controller IP : HMI Station HMI Stat	il KHOFF Cnet	18 🔹
et1	PLC Station Password	DESYS CODESYS foss on	
	Comm. Delay Time(ms) Timeout(ms) Retry Count	0	A V
	Øptimize	*	

Figure 4 - 33: Import xml file

Result: The Tag list window pops up

3. In the Tag list window, click Import.

**Result:** Open window pops up.
→ * ↑ 🗟 > This	PC > Documents >	~ Ū	Search Documents	م ر
rganize 👻 New folder			Bee	- 🔳 🕼
📰 Pictures 🛛 🖈 ^	Name	Date modified	Туре	Size
Builds	Project15	25-09-2020 14:07	File folder	
DIA Thailand	Project16	25-09-2020 14:49	File folder	
	Project17	25-09-2020 14:53	File folder	
This PC	Project18	25-09-2020 19:21	File folder	
3D Objects	Project19	28-09-2020 13:29	File folder	
Desktop	Project20	28-09-2020 14:25	File folder	
Documents	Project21	30-09-2020 20:19	File folder	
Downloads	Project22	14-10-2020 14:09	File folder	
h Music	Project23	19-11-2020 15:49	File folder	
Fictures	Project24	23-11-2020 18:31	File folder	
	Quote Wizard Industrial	24-09-2020 20:32	File folder	
Videos	OPCUATagfile1.xml	02-09-2020 11:47	XML Document	289 KB
Local Disk (C:)	OPCUATagfile2.xml	02-09-2020 11:47	XML Document	289 KB
Local Disk (D:)	ttt.Device.Application.xml	03-11-2020 10:28	XML Document	16 KB
🗙 https://iDeltain.c	uanodesetimport.xml	02-09-2020 11:47	XML Document	289 KB
~ <				>
File <u>n</u> an	ne: ttt.Device.Application.xml	~	Codesys XML File(*	.xml) ~
			Open	Cancel

Figure 4 - 34: Select the xml file to be imported

4. Select the xml file to be imported and click to open.

**Result**: Link the xml file to the Tag List window.

Tag List			
📑 🗶 😂			
Symbols	Туре		
Application			
Constants			
ia			
		OK	Cancel

Figure 4 - 35: Link xml file

- 5. Go back to the Screen tab created at the beginning and add components.
- 6. Open the component and click Write to memory location.

 In the input window, select EtherLink1 in the connection name drop-down menu.



Figure 4 - 36: Select EtherLink1

Refer to step 8 in the PAC AX8\_Linux\_Series example at the beginning of this chapter.

# 4.3 Data Code Table

Remark: Applicable for DOP-100 series and AX-8 series.

DIAScreen software provides the data code table function. Users can open the setting page from **Options** > **Tag table**. This function is used to help users to set the code of the memory address, including **CODESYS Tag** and **OPC UA Tag**, for example, set a certain address as \$100 = DELTA, then when user want to enter \$100 in the future, user can use DELTA to replace \$100. Please refer to the figure below.

No. /	Name	Туре	Address
No. / 1 2 3 4	DELTA	WORD	\$100
2	CODESYS	WORD	{EtherLink1}0@Application.GVL.mDWORD
3	OPC	WORD	(EtherLink2)0@Root.Objects.DemoUANodeSetXML.010_ComplianceTest.Static.All Profiles.Arrays.Double
4	CON PORT	WORD	(Link2)1(000

Figure 4 - 37: Data code number table

Input						)	×
Link: Internal Memory						``	/
Туре	Content						
O Device (Word)	Device Typ	e \$				~	
O Device (Bit)	Address/Value						
Internal Memory (Word)							1
O Internal Memory (Bit)	Tag	_				<u> </u>	
○ Constant		DE					
Constant Types	В	С		TA F	F	Clear	
O Signed Decimal	6	7	8	9	А	Back	
Unsigned Decimal	1	2	3	4	5		
◯ Hexadecimal						Enter	
Station No.	0	:	+	-	1		
1 🔹 🗹 Default				None			

Figure 4 - 38: Data Code

Tag Table toolbar icons are described in the following table:

Features	Description
New Label 退	Click to add a New Label to the Tag Table and enter the name, type, address, and description on the form.

Features	Description
	The label name and description can include uppercase English characters, traditional Chinese, simplified Chinese and numbers, but the label name should not begin with the number
Delete label	Click any column in the Tag table, and then click to delete the selected label from the Tag Table.
Insert Label	Inserting a label will insert new data on top of the selected data row.
Import label	<text><text><text><image/><text></text></text></text></text>

Features			Description	I	
	🔳 Tag Import Se	tup			×
	Link Selection				
	<mark>у со</mark> м		Control	ller Name: Delta AS series PLC	
		nk2	PLC St		
	, y COM ■ Ether			ve: R\$232	
				ate: 9600	
				ength: 7	
				Bits: Even	
			Stop B		
				~	
	Station Number S	etup			
	Station Num	ber: 0	▲ ▼		
			OK	Cancel	
			UK	Cancel	
	3. User can s	select th	ne COM Port.	they want to import a	and set
	the station	n numbe	er. After setting	, click <mark>OK</mark> . The	
			•	ed into DIAScreen a	as a
	lay, as sh	ownini	he figure belo	vv.	
		The Real			
		L E			1
	No. A Name	Type BIT	Address {Link2}0@Y0.5	Description	
	1 OUT5 2 OUT6	BIT	{Link2}0@Y0.5 {Link2}0@Y0.6		
	3 OUT7	BIT	{Link2}0@Y0.7		
Export label	Click 退 to open	Save as	s window to ex	port Labels	
Sort by				are classified in the	
			convenience c	of users to read, as s	shown
name 🗎	in the figure below	ν.			

Features	Description
	✓ Screen_1   Tag ×
	Name Type Address
	DELTA WORD \$1001
	e-Link2
	COM PORT WORD (Link2)1@X0
	CODESYS WORD (EtherLink1)0@Application.GVLmDINT
	OPC WORD (EtherLink2)0@Root.Objects.DemoUANode
	Delow.
	Name DELTA
	Type WORD ~
	Address {EtherLink1}0@Root.Objects.DemoU
	Description TEST
	OK Cancel

# Appendix

# **Appendix A: Functions Supported by Models**

# A.1 Elements and Supported Models

The following table shows the elements and the supported models. The V indicates that the model supports the element.

					I	Model					
Element	TP04G	TP02G	TP04G- AL-C	TP04G- AL2	TP04G- BL-C	TP04G-BL- CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70P
Static Text	V	V	V	V	V	V	V	V	V	V	V
Numeric/ASCII Display	v	v	V	V	V	v	v	V	v	V	V
Bit Lamp	V	V	V	V	V	V	V	V	V		
Word Lamp	V	V	V	V	V	V	V	V	V		
Static Bitmap	V	V	V	V	V	V	V	V	V	V	V
Dynamic Bitmap		V	V	V	V	V	V	V	V		V
Scale	V	V	V	V	V	V	V	V	V	V	
Bar Graph	V	V	V	V	V	V	V	V	V	V	V
Circle Meter	V		V	V	V	V	V	V	V		V
Message Display		V	V	V	V	V	V	V	V		V
Button	V	V	V	V	V	V	V	V	V	V	V
RTC Display	V	V	V	V	V	V	V	V	V	V	V
Multistate Indicator	V	V	V	V	V	V	V	V	V	V	V
Measurement	V	V	V	V	V	V	V	V	V	V	
Numeric Input	V	V	V	V	V	V	V	V	V	V	V
Curve	V		V	V	V	V		V	V		
X-Y Curve	V		V	V	V	V		V	V		
Alarm Current Setting											v
Alarm History Setting											v
Alarm Scroll Display Setting											v
Slider											V
Geometric Graphic	V	V	V	V	V	V	V	V	V	V	V

Delta Products Communication Device Setting	V					
Input List						V
ComboBox						V

# A.2 Button Types and Supported Models

The following table shows the buttons and the supported models. The V indicates that the model supports the button.

Button					Ν	/lodel					
Туре	TP04G	TP02G	TP04G-AL-C	TP04G-AL2	TP04G-BL-C	TP04G-BL-CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70P
Force ON	V	V	V	V	V	V	V	V	V	V	V
Force OFF	V	V	V	V	V	V	V	V	V	V	V
Pulse ON	V	V	V	V	V	V	V	V	V		V
Pulse OFF	V	V	V	V	V	V	v	V	V		v
Push ON/OFF	V	V	V	V	V		V	V	V		V
Momentary	V	V	V	V	V	V	V	V	V		V
Multi-State	V	V	V	V	V	V	V	V	V		V
Input Value	V	V	V	V	V	V	V	V	V		V
Constant Setting	v	V	V	V	V	V	V	V	V	V	v
Increase	V	V	V	V	V	V	V	V	V		V
Decrease	V	V	V	V	V	V	V	V	V		V
Page Jump	V	V	V	V	V	V	V	V	V	V	v
Password and Setting	V	V	V	V	V	V	V	V	V		v
Screen Scroll			V	V	V	V	V	V	V		
Clock Display Setting			V	V	V	V	V				v
PLC Link Setting							V				v
Recipe Write/Read								V	V		

# A.3 Screen Setting Menu Items and Supported Models

The following table shows the Items on the Local Screen Setting menu and the supported models. The V indicates that the model supports the item.

					Γ	Nodel					
Item	TP04G	TP02G	TP04G-AL- C	TP04G- AL2	TP04G-BL- C	TP04G-BL- CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70P
Change Screen Condition	v	V	V	V	V	V	V	V	V		V
Function Key Setting	V	V	V	V	V	V	V	V	V		
Alarm Buzzer Setting	V	V	V	V	V	V	V	V	V		
Alarm LED Setting	v	V	V	V	V	V	V	V	V		
Write Screen ID Setting	V	V	V	V	V	V	V	V	V		V
Hide Screen Setting	V	V	V	V	V	V	V	V	V		
Screen Macro Setting								V	V		
Screen Color Setting											V

# A.4 Global Setting Menu Items and Supported Models

The following table shows the Items on the **Global Setting menu** and the supported models. The V indicates that the model supports the item.

ltem	Model										
	TP04G	TP02G	TP04G- AL-C	TP04G- AL2	TP04G- BL-C	TP04G- BL-CU	TP04P	TP05G	TP08G	VFD-C Keypad	TP70P
System Parameter Setting: Page Auto- Jump/Backlight Control	V		V	V	V	V	V	V	V		V
System Parameter Setting: Read/Write Block Setting			V	V	V	V	V	V	v		V
System Change Screen Setting	V	V	V	v	V	v	v	V	v		V
System Function Key Setting	V	V	V	V	V	v	v	$\vee$	v		
System Alarm Buzzer Setting	V	V	V	V	V	V	v	V	V		V
System Alarm LED Setting	V	v	V	V	V	V	v	V	V		
System RTC Setting	V		V	V	V	V		V	V		V
System Power ON Setting	V	V	V	V	V	V	v	$\vee$	V		
Global Macro Setting								V	V		
Recipe Setting								V	V		
Default Screen Color Setting											V

Appendix B: USB Driver

# **B.1 Installing USB Driver**

This appendix describes how to install a USB driver in Windows 10. If user want to install a USB driver in another operating system, refer the instructions for the particular operating system for more information about the installation of the new hardware.

Follow these steps to install USB driver in the computer:

1. Make sure that the TP host is normally powered on, and connect the TP host to the USB port of the personal computer through the USB cable. At this time, the device driver installation wizard will appear on the screen. Click Next.



Figure B - 1: Device driver installation wizard

2. The installation is complete.



Figure B - 2: The installation is complete



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