

DIASelector Software User Manual



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Related Documents

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Chapter 1: Overview

1.1 DIAStudio Integrated Engineering Software

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 Introduction

The DIASelector (Delta Industrial Automation Selector) application assists user to select Delta's Industrial Automation products based on associated technical requirements.

User can compare the products based on properties and specifications, configure products to create a complete system and export the result in the form of BOM.

The project file created with DIASelector can be exported to EPLAN for cabinet designing.

DIASelector application is part of DIAStudio suite and is available in multiple variants as follows:

- Stand-alone windows desktop application.
- Mobile application (Android).

1.3 Key Features

The key features of DIASelector are:

- Product selection
- Product filter
- Product compare
- Product search, based on Part number, Description and Part number Pattern.
- Compatible accessories recommendation.
- Configure PLC, AC Motor Drives and AC Servo Drives.
- View product properties, product images, descriptions and so on.

- Generate BOM for added products and export it in MS-Word/Excel file format. Same can be send via e-mail also.
- Open/Save project on local hard disk or from/to Delta Cloud (DIAStudio-Web).
- Download and view the product catalogs.
- Share project with other registered DIAStudio users.
- Supports English, Traditional Chinese and Simplified Chinese languages.
- Provides support for any Technical query.



1.4 DIASelector Process Flowchart

Figure 1 - 2: DIASelector

Chapter 2: Getting Started

2.1 Hardware and Software Requirements

2.1.1 Desktop Requirements

ltem	System Requirement						
Operating System	Windows 7 / 8.1 / 10 Server 2012 R2 32/64 bits						
CPU Intel Celeron 540 1.8GHz (min.) , Intel Core 2.4 GHz (min.)							
Memory	2GB or above (recommend to	o 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 (or project content)	optional for printing of					
USB	Used in Connection with the device	According to the communication					
Ethernet	Used in Connection with the device	interface provided by the device					
Software Need to install .Net Framework 4.6.2							

2.1.2 Mobile Requirements

Supported Devices: Mobile Phone and Tab

Operating System: Lollipop and above (min API level 21)

2.1.3 Installation Procedure

Ensure that the host computer follows the minimum criteria mentioned in the section <u>2.1.1 Desktop Requirements</u> and the DIAInstaller is operating on it.

The DIAInstaller is a resident program to manage all Delta IA software. User can check for download, install and update for Delta IA software in DIAInstaller with minimum effort, and everything will be handle in background. DIAStudio software download and installation tools can be download from below website:

https://diastudio.deltaww.com/home/downloads?sec=download

Refer Software Download Manual to install DIASelector application.

2.2 Product Database Update

The Product Database Update feature allows user to synchronize the local database with master database. This function can be accessed through **Option > Update Product Database**. The **Product Database update** window is as shown in the figure:

)	Auto - Will prompt for updates Daily - Will prompt for updates if data is more than a day old Weekly - Will prompt for updates if data is more than a week old Monthly - Will prompt for updates if data is more than a month old Apply Product Update all Products	Product Library Updates 27 October 2020 AF-RC750A4 AF-RC450A4 AF-RC370A4 AF-RC220A4 AF-RC150A4	
	O New Updates available Cancelled Progress	Start	

Figure 2 - 1: Product Database Update

Legend	Name
1	Frequency

Legend	Name
2	Product Library Recent Updates
3	Product

Frequency: It allows users to set the notification frequency for product updates in the database. Select either **Auto**, **Daily**, **Weekly** or **Monthly**.

Product Library Updates: It provides the list of recently updated products in the database. It displays maximum of 5 recent product updates.

Product: It allows users to update product database. Select either **Update all products** or **New Updates available**.

	Product Library Updates
Auto - Will prompt for updates	
Daily - Will prompt for updates if data is more than a day old	
O Weekly - Will prompt for updates if data is more than a week old	
O Monthly - Will prompt for updates if data is more than a month old	
Apply	
Update all Products	
New Updates available	
ne Remaining : 21 Minutes 13 Seconds	

Figure 2 - 2: Product Database Update

NOTE: When the product database update is in-progress, click on the **Cancel** to cancel the update and restores the old database.

2.2.1 Product Database Update Scenarios

The product database can be updated in different scenarios as mentioned in the following sections,

Product Database update after the first launch:

The **Product Database update** window appears automatically after the first launch of the DIASelector application.

Select the required frequency and product update range. Then, click on **Start** button to update the Product database.

NOTE: It notifies as **Product Database Updated**, once database update is complete.

Product Database Update manually:

User can update the Product Database manually anytime by clicking on **Option > Update Product Database** as shown in the figure.



Figure 2 - 3: Update Product Database

Product Database update while working on a project:

The product database can be updated while working on a project.

Click on the **Option > Update Product Database**. The pop-up window displays as shown in the figure.

DIA Selector				×
Â	Your Project needs to be closed to update the database. Please re-open want to save changes to Project1.aml ?	the project after	the database is	updated.Do you Cancel

Figure 2 - 4: Database Update while working on a Project

If user clicks **Yes**, the changes made to the project is saved, and the project is closed for the database update.

Or

If user clicks **No**, the changes made to the project is ignored, and the project is closed for the database update.

Or

If user clicks **Cancel**, the product database update is cancelled.

NOTE: The project closes automatically for database update.

Product Database update with saved project:

The product database can be updated for the projects which are created and saved.

Open a project, click on **Option > Update Product Database**. The pop-up window displays as shown in the figure.



Figure 2 - 5: Database Update for Saved Project

Click on **OK** button, the project closes automatically for database update.

2.3 Sign In

@ DIAS	elector											-	□ ×
File Vie	w Option	Help Open Remote	Save	Save As	Save Remote	Close Projec	Compare	Bill of Material	Remote I/O	Legends	Motor Sizing		Sign In
Projec	t View			₹×	election Vie	w x	Compare Prod	uct ×	Application Selectio	n			+

Figure 2 - 6: Sign In

The DIAStudio account allows user to access multiple software systems within DIAStudio ecosystem. With this Single Sign-On, users can log in with a single ID and password to gain access to a connected system without using different accounts.

User can access DIAStudio website through https://diastudio.deltaww.com.

NOTE: Click on the sign-in name on the top-right corner of the window, the details of login and **Sign Out** option is displayed as shown in the figure.



Figure 2 - 7: Sign In Details

Chapter 3: DIASelector Welcome Screen

3.1 Introduction

The home screen of DIASelector has the options to access the different functions related to product selection and specific device configuration.



Figure 3 - 1: DIASelector Main Window

Legend	Name
1	Application window title bar
2	Menu bar
3	Quick access tool bar
4	Project View
5	Sign In
6	Properties, Product Search, Filter
7	Selection View
8	System

3.2 Menu bar

The menu bar displays the menu options.

Menu	Name
File View Option Help New Project Ctrl+N Open Project Ctrl+O Recent Project V Open from DIAStudio Web Open from DIAStudio Web Close Project Ctrl+W Save Ctrl+S Save As Save to DIAStudio Web Exit Alt+F4 View Option Help Selection View Project View Properties Filters Product Search System	 File menu allows to Create a new project Open an existing project Open recently opened Projects Open an existing project from DIAStudio web Close project Save project Save-as project Save project to DIAStudio Exit project View menu allows to display or hide Selection View Project View Compare Product Bill of Material Properties Filters Product Search
Option Help Language Update Product Database LAN Settings	 Option menu allows to access Language: Select the required language from the list of languages. English Traditional Chinese Simplified Chinese Update Product Database: Updates the product

Menu	Name
	 database. For more information, refer <u>2.2 Product</u> <u>Database Update</u>. LAN Settings: Allows to configure the proxy server settings
	Help menu allows to access
Help	DIASelector manual
View Help Technical Support	 Technical Support: Creates a support ticket.
About	• About : Displays the details of the software.

3.3 Quick Access Toolbar

The Quick access tool bar displays the tool bar options,

Toolbar Icon	Description
New Project	Create a new project (Ctrl+N)
Open Project	Open an existing project (Ctrl+O)
Open Remote	Open the project from DIAStudio web

Toolbar Icon	Description
Save	Save project (Ctrl+S)
Save As	Save project as
Save Remote	Save Project to DIAStudio Web
Close Project	Close Project (Ctrl+W)
Compare	Compare products
Bill of Materials	Opens Bill Of Materials window
CANopen EtherNet/IP	RIO Communication protocol selection. CANopen: Select CANopen protocol for RIO.

Toolbar Icon	Description
	EtherNet/IP: Select Ethernet/IP protocol for RIO.
	NOTE : CANopen is selected by default, when Hardware Configuration is opened.
또 Legends	Helps to Hide/display the Legends (NOTE : Applicable only for Hardware Configuration)
Servo Sizing	Open Servo Sizing window

Chapter 4: Project Creation

4.1 Add Project

Users can Create Project, Create Group in Project & add Products to Groups.

Follow the steps to create a project:

1. Create a new Project.

Follow any one of the method to create a new project:

• In the File Menu, Click on File > New Project.

Or

• In the Quick access toolbar, click on 庄 icon.

w Project		×
Project Name	Project2	
Location	D:\DIASelector V1.0\EN	▼ Browse
Region	India	•
Description		
		OK Cancel

Figure 4 - 1: Add Project

- 2. Enter a project name.
- 3. Browse a location to save the project.
- 4. Select a region. This allows user to access products available to a particular region.
- 5. Enter description (optional) and click on **OK** button.

Result: Displays the **Project View** as shown in the figure.



Figure 4 - 2: Project View

NOTE:

- It is mandatory to select a Region to create a project.
- If user has not logged-in into the DIASelector application, by default **Global** is displayed in the **Region** field.
- If user has logged-in, then, user's region information is retrieved from the database and the default region is set accordingly. User can change the default region.
- Once the project is created, user cannot change the region for that project.
- If user selects a particular region, the region specific products are displayed for selection, beside globally available products.

Adding Products

User can add products to the **Project View** in multiple ways. Following are the different options:

- Selection View (refer <u>5.2 Select Page</u>)
- Compare Product (refer <u>5.3 Product</u>)
- Product Search (refer <u>5.5 Product Search</u>)

4.2 Creating a Group

Based on the application type, user can create different Groups:

- **General Application** Allows user to select a product manually from the **Selection View**.
- Motion Control Application Allows user to select Motion Control Products from the Selection View.
- **Custom Generated Application** Allows user to enter their requirements and specifications to get suitable PLC/AC Motor Drives.

Follow the steps to create a group:

1. Click on Add Group icon in the **Project View.**

Result: Displays the **Add Group** window as shown in the figure.

Add Group					×
Group Name	Group_1				
Industry	<not specified=""></not>				•
Application	General Purpose	Appli	cation		•
Communication Protocols					
RS232	Ethernet		CANopen	[PROFIBUS
RS422	EtherNet/IP		USB	[DMCNET
RS485	DeviceNet		BACnet		EtherCAT
				ок	Cancel

Figure 4 - 3: Add Group

- 2. Enter a group name.
- 3. Select an application profile.
- 4. Select the required communication protocol.

NOTE: By default, all the communication protocols are checked. Uncheck the protocols to deselect it. If a protocol is checked, then the products supporting this protocol will be displayed in the **Selection** *View*.

5. Click on OK button.

Result: A Group is created in the Project View.

4.3 Project View Context Menu

4.3.1 Group Context Menu

To open the **Group** context menu, right-click on **Group**. The group context menu is as shown in the figure.

Project View	ф
🔺 🔝 Project17	
+ Add Group	
Group 1	
	Network View
	Rename Group
	Delete Group

Figure 4 - 4: Group Context Menu

The Group context menu functions are described as follows:

Function	Description
Network View	Open network view tab
Rename Group	Allows to rename a Group.
Delete Group	Allows to delete a Group

4.3.2 Product Context Menu

Right-click on a product to open its context menu. An example of PLC product context menu is shown in the figure



Figure 4 - 5: Product Context Menu

Functions in context menu of PLC e.g: AS200 / AS300 is described in the table:

Name	Description
Hardware Configuration	Opens Hardware Configuration tab.
Configuration Wizard	Opens Pre-Selected Controller Configuration tab.
Delete Device	Allows to delete a device.
Add Accessories	Opens Accessory Selection tab.

NOTE: The product context menu items vary depending on the product. For example, DOP series Touch Panel HMI has only **Delete Device** option.

4.4 Open DIAStudio Web

4.4.1 My Files

This function allows user to open the files saved in the DIAStudio cloud storage and also files shared to their account. To access this feature, click



File > Open from DIAStudio Web or click Remote.

pen Project-	Remote		>
My files	Shared with me		
Project6.a	aml		
Project7.a	aml		
Share with:		Share	Open

Figure 4 - 6: Open Project from DIAStudio Web

User can view the list of projects saved in the cloud and also can share the file with other users in DIAStudio Cloud. Select the required project and click on **Open** button to open the project.

NOTE:

- User must sign in for this feature.
- If user has signed in, this window will display.

• If user has not signed in, the pop-up window displays the sign in page.

Follow the procedure to share the project with other registered DIAStudio users:

- 1. Select the project from My files list.
- 2. Enter the e-mail ID of recipient.
- 3. Click on **Share** button.

Result: A confirmation message appears at bottom-left corner. If the user is registered, his/ her first name and last name is displayed.

4.4.2 Shared with me

Open Project- Remote			
My files	Shared with me		
Project 115.aml			
Project_test1.aml			
		Open	
		5.00 MB free of 5.00 MB	

Figure 4 - 7: Shared with me

This function allows user to access the files shared by other users with the present user. Select the project and click on **Open** button to open the shared project.

4.5 LAN Settings

In case, the network in which DIASelector is running is using a proxy server, follow the procedure to configure to the proxy server settings.

1. Click on **Option > LAN Settings** as shown in the figure.



Figure 4 - 8: LAN Settings

Result: Displays the LAN Settings window as shown in the figure

LAN Settings				
Network Username	Firstname.Lastname			
Password				
 Proxy Server Use a proxy server for your LAN (These settings will not apply to dail- up or VPN connections). 				
Address 172.24.27.75 Port 8080				
	OK Cancel			

Figure 4 - 9: LAN Settings Window

- 2. Enter the **Network Username** and **Password**.
- 3. Select the proxy server check box.
- 4. Enter the address and port.
- 5. Click on OK button.

Chapter 5: Product Selection

5.1 Introduction

Selection feature facilitates user to select products from:

- Selection View
- Compare Products
- Product Search

5.2 Select Page

When a Group is created with General Application or Motion Control Application or when a Group (other than Custom Generated) is clicked in **Project View**, the **Selection View** window displays.



Figure 5 - 1: Selection View

Legends	Name
1	Product Category
2	Product Family
3	Product Series

Legends	Name
4	Product List

Follow the procedure to add products to the Group from the Selection View.

- In the Selection View, click on the required Product Category > Product Family > Product Series.
- 2. In the **Product List**, click on ^(*) icon.
- Repeat the steps, to add required products to the Groups in the Project View as shown in the figure.



Figure 5 - 2: Add Products

Features

The following table represents the **Selection View** icons and its description.

lcon	Description
¥	Click to download the product catalog.
Por	Click to open the product catalog in PDF. If the file is already downloaded, it opens in PDF. If it is not downloaded, it opens in default browser.
۲	Click to add the selected product to the group.
	Click to select the product for property comparison in Compare Product feature.
Compare	NOTE : Select 2 or more products for comparison & click <compare> icon from the quick access toolbar.</compare>

5.3 Product Comparison

The **Compare Product** feature helps user to compare multiple products of same family or series based on the properties.

The **Compare Product** window can be accessed by menu bar, click **View > Compare Product**.

NOTE: Maximum of 4 products can be compared at a time.

An example of product comparison is shown in the figure.

lection View × Compare Pro	duct ×			
Deschart Free Ha		MaddaTara		_
Product Family PLC		 Module Type 	CPU	•
Constitution	DVP-SS2 🔹	DVP-SS2 👻	DVP-SX2 💌	Select
specification	DVP12SS211S 🔹 🖲	DVP14SS211T 🔹 🖲	DVP20SX211R 🔹 🛞	Select 🔹 🛞
Al Resolution (bits)	0	0	12	
AI Specification			-20 ~ 20 mA, -10V ~ 10V, 4-20 ı	
Analog Input (Points)	0	0	4	
Analog Output (Points)	0	0	2	
AO Resolution (bits)	0	0	12	
AO Specification			0 ~ 20 mA, -10V ~ 10V, 4-20 m/	
Axes Count	<3	<3	3	
Backplane Slots	0	0	0	
Backplane Type	Not Applicable	Main	Not Applicable	
Digital Input (Points)	8	8	8	
Digital Output (Points)	4	16	6	
Dimensions (W x H x D) in mm	25.2 x 96 x 60	25.2 x 96 x 60	70 x 101 x 60	
Expansion Racks Count	0	0	0	
Extension Direction	Right	Left	Right	
Left Side Module Count	0	0	8	
Lond Coll Possilution (hits)	10	lo l	10	

Figure 5 - 3: Compare Product Window

There are two ways to compare the products:

 Select the products to be compared from Selection View window and open Compare Product window. (Selection View > Comparison).

or

• Open Compare Product window and select products to be compared.

5.3.1 Selection View > Compare Products

Follow the steps to compare the products through **Selection View** window:

- In the Selection View, click on the required Product Category > Product Family > Product Series.
- 2. In the **Product List**, click on Compare check box to select the products to compare.
- 3. Repeat the steps to compare up to four products.



4. Click on Compare icon in the quick access tool bar.

Result: Displays the **Compare Product** window as shown in the figure. Difference in the results are highlighted.

Selection View × Con	npare Product	×							
Product Family	AC Motor D	rives	•	Module Type	Select	Ţ			
Specification		MS300	•	ME300 -		MS300 -		MH300	-
opeenedion		VFD11AMS21AFSAA	• (*)	VFD2A7ME43AFNAA	۲	VFD11AMS21AFSHA 🝷	۲	VFD11AMH23ENSHA	• 🖲
AI 0~10V (points)	1	1		1					
AI 0~20mA (points)	1	1		1					
AI -10~10V (points)	1	1		0					
AI 4~20mA (points)	1	1		1					
AO 0~10V (points)	1	1		1					
AO 0~20mA (points)	1	1		0					
AO -10~10V (points)	0)		0					
AO 4~20mA (points)	1	1		0					
Built-In Braking Choppe	er 1	No		Yes		No		No	
Built-in DC Choke	1	No		No		No		No	
Built-in EMC Filter	١	Yes		Yes		No		No	
Built-in PLC	١	Yes		No		No		No	
Control Method	1	MVF ; IMVFPG ; IMSVC	; IMFOC ; PI	IMVF ; IMSVC		IMVF		IMVF	
Cooling Method	F	Fan		Fan		Natural		Natural	
Digital Input (points)	7	7		5					
No. 10 August	-	·		4					

Figure 5 - 4: Compare Product Results

5. Click on ¹ icon next to the products to add required products to the selected Group.

5.3.2 Compare Product > Select products to be compared

This feature helps user to compare the products by opening the **Compare Product** window and then select the products to be compared.

Follow the steps to open **Compare Product** window and then select the products:

1. Click on View > Compare Product.

Result: Displays **Compare Product** window as shown in the figure.

-Select		▼ Module Ty	pe .	Select		~		
Select	Ŧ	Select	-	C 1	v	Select	-	1
	Select	Select 🔻	Calant y Calant		Select Select	Select VSelect V	Select TSelect TSelect	Select vSelect v

Figure 5 - 5: Compare Product

2. Select the required **Product Family, Product Series** from respective drop-down lists.

NOTE: The **Module Type** is available only for the PLC products such as CPU, Digital Input and so on.

3. Select products from the drop-down list to compare as shown in the figure.

An example with Product Family: PLC; Product Series: DVP-SS2; Module Type: CPU is shown in the figure.

Chapter 5

Selection View × Compare	Product × AS218RX-A Hardwar	e Configu	ration								-
Product Family PLC	3	٠	Module Type	CPU		•					
Specification	DVP-SS2 •	۲	Select	Ţ	۲	Select		۲	Select	•	۲
Al Resolution (bits)	Select										
Al Specification	DVP12SS211S		ĺ						ĺ		
Analog Input (points)	DVP14SS211T										
Analog Output (points)	DVP28SS211S										
AO Resolution (bits)	0										
AO Specification											
Axes Count	<3										
Backplane Slots	0										
Backplane Type	Not Applicable										
Digital Input (points)	8										
Digital Output (points)	6										
Dimensions (W x H x D) in mr	m 25.2 x 96 x 60										
Expansion Racks Count	0										
Extension Direction	Right										
Left Side Module Count	0										
L 10 10 10 100	1.	_	1	_	_	1	_	_	1	_	

Figure 5 - 6: Compare Product -Product Selection

4. Repeat the procedure for up to 4 products.

Result: The **Compare Product** window is displayed with the property comparison of products.

5. Click on ^(e) icon next to the products to add required products to the Group.

5.4 Properties

The Properties feature displays the properties of the selected product. Click on a product in the **Selection View** window, and open the **Properties** window to view the properties of that product.

Properties window is displayed by default while launching DIASelector application. Properties feature is also accessible through View > Properties.

The properties are classified into the following:

- General
- Electrical
- Mechanical

Communication

Property names depend upon the product family selected and it varies from one family to another. An example of DVP12SS211S is shown in the figure.

General	
Part Number	DVP12SS211S
Electrical	
Power Supply (V)	24V DC
PLC Module Type	CPU
Output Method	Transistor (PNP)
Digital Input (poi	8
Digital Output (p	4
Analog Input (po	0
Analog Output (0
Pulse Input (poin	4
Pulse Output (po	4
Thermocouple In	0
RTD Input (points)	0
Pulse Input Freq	20
Pulse Output Fre	10
Al Resolution (bits)	0
AO Resolution (b	0
Al Specification	
AO Specification	
Maximum DIO C	480
Maximum AIO M	8
Extension Directi	Right

Figure 5 - 7: Properties

5.5 Product Search

The Product Search feature helps user to search a particular product from multiple product families and series. User can add the products shown in the search results to the **Project View**.

The **Product Search** window is displayed by default while launching DIASelector application.

The Product Search feature is also accessible through View > Product Search.

Product Search	₽ ×
TP	×
Criteria	
Part Number Search	~
Product Family	
All	~
Text Panel HMI	
TP02G-AS1	۰ (۱
2-Line Text Panel HMI, Mono * 32 pixels	ochrome, 2.96", 16
TP04G-AL2	 (1)
4-Line Text Panel HMI, Mono * 64 Pixels	ochrome, <mark>4</mark> .1", 192
TP04G-AL-C	۵ (1)
4-Line Text Panel HMI, Mono * 64 Pixels	ochrome, 4.1", 192
TP04G-A S2	A state
Product Search Properties	Filters

Figure 5 - 8: Product Search Window

The **Product Search** window displays the following fields:

Function	Description
Search	Enter the text to be searched.
Criteria	Select the search criteria.
Product Family	Select the product family.

Products can be searched by following methods:

- Part Number Search
- Guided Part Number Search
- Description

5.5.1 Part Number Search

The **Part Number Search** feature allows user to search a particular part number by entering the keywords of the product.

When a **Product Search** window is opened, **Part Number Search** option is selected by default in the **Criteria** field. By default, **All** is selected in the **Product Family** field. User can add products from the search results to the Group in the **Project View**.

Follow the steps to perform a Part Number Search:

- 1. Open **Product Search** window.
- Enter the part number or few characters of the product to be searched.
 NOTE: The search text field is not case sensitive.
- 3. Select the respective **Product Family** to narrow down the search results. (This step is optional).

Result: The Product Search window displays the search result.

An example of **Part Number Search** with search text **TP** and **Product Family** selected as **All** is shown in figure.

Product Search	т ×
ТР	×
Criteria	
Part Number Search	~
Product Family	
Text Panel HMI	~
TP02G-AS1	۱ ک
2-Line Text Panel HMI, Monoc * 32 pixels	hrome, 2.96", 16
TP04G-AL2	۰ (1)
4-Line Text Panel HMI, Monoc * 64 Pixels	hrome, <mark>4</mark> .1", 192
TP04G-AL-C	• 1
4-Line Text Panel HMI, Monoc * 64 Pixels	hrome, <mark>4</mark> .1", 192
TP04G-AS2	• 1
4-Line Text Panel HMI, Monoc 64 pixels	hrome, 3", 128 *
Product Search Properties	Filters

Figure 5 - 9: Part Number Search with Product Family

4. Click on <sup>

add icon to add products to the Group in the Project View. *NOTE*: Search result is displayed with family name, part number description and detailed property of the product. It also shows the option to add <sup>

products to the group.

</sup></sup>

5.5.2 Guided Part Number Search

The **Guided Part Number Search** allows user to search particular products by entering characters of that product series, wherever applicable. The pattern of part number is provided in the text field where the characters representing properties are displayed with a question mark (?) and asterisk (*). The static texts throughout the product's part number in that product series will be kept as it is. An example of pattern is DVP??SS211?. Follow the steps to perform a Guided Part Number Search:

- 1. Open Product Search window.
- Select Guided Part Number Search in the drop-down list in Criteria field.
- 3. Select the required product family from the **Product Family** drop-down list.
- Select the required product series from the Product Series drop-down list.

Result: Based on the product family and product series selected, the search text field is displayed.

The example of the text pattern according to the selection is as shown in the figure.

Product Search		Ψ×
DVP??SS211R		0
Criteria		
Guided Part Number Search		~
Product Family		
PLC		~
Product Series		
DVP-SS2		~
DVP14SS211R	۲	١
8k steps, 24VDC, 8 Digital Inputs, 6 Dig Relay	gital Ou	itputs -
DVP28SS211R	۲	٢
8k steps, 24VDC, 16 Digital Inputs, 12 Relay	Digital	Outputs -

Figure 5 - 10: Guided Part Number Search

5. Click on 9 icon to view the pattern description. It helps to understand

the nomenclature of particular pattern.



Figure 5 - 11: Pattern Search Image

6. Enter required character in ? in the search text field.

Result: Search result is displayed with part number, description and an option [•] to add the products to the **Group**.

An example of DVP-SS2 PLC pattern with search text as DVP??SS211? (where the last character is replaced with R – Relay) is as shown in figure.

Product Search		Ψ×
DVP??SS211R		•
Criteria		
Guided Part Number Search		~
Product Family		
PLC		~
Product Series		
DVP-SS2		~
DVP14SS211R	۲	(1)
8k steps, 24VDC, 8 Digital Inputs, 6 D Relay	igital Ou	itputs -
DVP28SS211R	۲	1
8k steps, 24VDC, 16 Digital Inputs, 12 Relay	2 Digital (Outputs -

Figure 5 - 12: Pattern Search Result

7. Click on <sup>
•</sup> icon to add that product to the Group in the Project View.

5.5.3 Description

In the Product Search, users can search the product by selecting description in the Criteria field.

Follow the steps to perform **Product Search** using description:

- 1. Open Product Search window.
- 2. Select **Description** option in the drop-down list in **Criteria** field.
- 3. Enter few characters in the search.

Result: The **Product Search** window displays the search results.

An example of product search with input **Criteria**: Description; **Search**: 16k; **Product Family**; PLC is shown in the figure.

Product Search		щ	×
16k			×
Criteria			
Description			~
Product Family			
PLC			~
DVP12SA211R	۲	٩	
16k steps, 24VDC, 8 Digital Inputs, Outputs - Relay	4 Dig	gital	
DVP12SA211T	۲	٩	
16k steps, 24VDC, 8 Digital Inputs, Outputs - Transistor (NPN)	4 Dig	gital	
DVP12SE11R	۲	٩	
16k steps, 24VDC, 8 Digital Inputs, Outputs - Relay	4 Dig	gital	
DVP12SE11T	۲	٩	1
16k steps, 24VDC, 8 Digital Inputs, Outputs - Transistor (NPN)	4 Dig	gital	
Product Search Properties Filte	ers		

Figure 5 - 13: Product Search Description

NOTE: When a **Product Family** is selected, search functionality narrows down the product search to that particular family. Search result is displayed with family name, part number, description, detailed property and with the option to add the products to the **Group**.

4. Click on icon to add product to the Group in the Project View.

5.6 Filters

The **Filters** feature allows user to filter the products based on specific properties. **Filters** window is displayed by default when DIASelector application is launched. Filters feature is also accessible through **View** >

Filters. Select the check box / radio buttons in the respective filter property to filter the products.

Filters	Ψ×
PLC	Reset
Digital Input (points)	-
 1-12 13-24 25 or above 	
Digital Output (points)	
 1-12 13-24 25 or above 	
Analog Input (points)	
 1-4 5-8 9 or above 	
Analog Output (points)	
 1-4 5-8 9 or above 	
Al Resolution (bits)	
O 12 O 14 O 16 O All	
Product Search Properties F	ilters

Figure 5 - 14: Filters

The **Reset** button helps to clear the user selection.

NOTE: The content of the **Selection View** i.e. the products in individual series changes as per the filters applied for the product type.

An example of PLC with filter applied is as shown in the figure.

Project View #	× Selection View × Compare Product ×	- Filters	4
✓ III Project12	Drive & Power Quality Motion Control Field Device Robot Industrial PC Accessories	PLC	Reset
Add Group	Control -> PLC -> Product Series	Digital Input (points)	+
Group_1 TOVP12SS2115 DVP12SS2115 DVP14SS2117 PA050-A010CA0825 PA050-A010CA0825 PA050-A010CA0825 PA050-A010CA0825 PA050-A015CB1430 PA050-A015CB1430 PA050-A015CB1430 VFD00AME21AFNAA	DVP Standard Slim PLC (Non- Modular) DVP Advanced Slim PLC (Non- Modular) DVP Advanced Slim PLC (Non- Modular) DVP Analog I/O Slim PLC (Non- Modular) Upp Standard Slim PLC (Non- Modular) DVP-SS2 (5) [™] ± DVP-SK2 (3) [™] ± DVP-SK2 (3) [™] ± DVP-SE (4) [™] ±	Digital Output (points) A Si Digital Output (points) 13-24 25 or above Digital Output (points) 13-24 25 or above Analog Input (points) 14 5-8 9 or above	
Group_2		Analog Output (points)	
		Al Resolution (bits) 12 14 16 All Properties Filters Product S	▲ earch

Figure 5 - 15: Filter Property applied for PLC

Chapter 6: Configuration - PLC/AC Motor Drives/Servo Sizing

6.1 Introduction to Configuration

The Configuration feature allows user to configure PLC, AC Motor Drives and AC Servo Drives. Based on the properties selected, PLC / AC Motor Drive / AC Servo Drives/AC Servo Motors is selected.

6.2 Controller Configuration

Controller Configuration can be done in two ways:

- Custom Generated Application
- Pre-Selected Controller Configuration

6.2.1 Custom Generated Application - PLC (Controller)

The Custom Generated Application helps user to create a PLC configuration with CPU, Power Supply, Network modules, Remote Input Output modules and so on. To perform Custom Generated Controller configuration, user must create a Custom Generated Application Group in the **Project View**.

Follow the steps to create Custom Generated PLC Configuration:

- 1. Click on 🛨 icon in the **Project View**.
- 2. Select **Custom Generated Application** in the **Application** drop-down list as shown in the figure.

Group Name	Group_3		
Industry	<not specifie<="" th=""><th>d></th><th>•</th></not>	d>	•
Application	Custom Gene	rated Application	•
Communication Proto	cols		
RS232	Ethernet	CANopen	PROFIBUS
RS422	EtherNet/IP	USB	DMCNET
RS485	DeviceNet	BACnet	EtherCAT

Figure 6 - 1: Custom Generated Application

NOTE: By default, all the protocols are checked.

3. Click on OK button.

Result: The **Application Selection** window is displayed as shown in the figure.

Project View * ×	Selection View × Compare Product × Application Selection ×	*
Add Group	Industry <not specified=""> Application Custom Generated Application</not>	
Group_1	Device Type Device Name	
Group_2	Controller	
	Module	l
	AC Motor Drives 🛞	
	Module Configure	l
	2	ж

Figure 6 - 2: Application Selection Window

4. Click **Configure** in **Controller** section.

Result: The **Controller Configuration** window will be displayed as

shown in the figure. User is guided to controller configuration in a series of 3 tabs:

- Initial Configuration (default tab)
- RIO Configuration
- Controller Selection.

Controller Configuration			Initial Configuration
	Controller	 Modular 	O NonModular
RIO Configuration	Properties		Local and Extension Racks
Controller Selection	Power Supply	100~240V AC	IO Points IO IO Temperature Points
	Program Capacity	64k steps 🔹	Digital Inputs 0 💭 Thermocouple 0 💭
	Output Method	Relay 🔻	Digital Outputs 0 💭 RTD 0 💭
	Redundancy	No	Analog Inputs 0
	Built-in IO	Yes 🔹	Analog Outputs 0
	Expansion Racks	0 -	Load Cell Points
	Pulse Input 0	Freq 200 kHz 🔻	Type Normal Pulse Vulse Output 0 C Freq 200 kHz V 🖲
			Previous Next Cancel

Figure 6 - 3: Controller Configuration - Initial Configuration

5. Select the required properties in the **Initial Configuration** tab and click on **Next** button.

NOTE:

- User can select Modular / Non-Modular PLC and then select.
- Power Supply
- Program Capacity

- Output Method
- Redundancy
- Built-in IO
- Number of Expansion Racks and so on.

For Local Rack/Expansion, enter the number of

- Digital Output
- Analog Input
- Analog output
- Thermocouple
- RTD
- Load Cell Points (Channels)

NOTE1: By default, the Mixed IO points, DIO and AIO are selected. If both are checked in, Controller Configuration wizard considers the mixed IO modules. If user uncheck, it will consider individual Digital or Analog modules.

NOTE2: User can also enter the requirement of Pulse Input points and Frequency needed as per application requirement. For Pulse Output, 2 options are available, that is Normal Pulse or Communication.



Figure 6 - 4: Controller Configuration - RIO Configuration

 Select the RIO Communication Protocol and number of Remote I/O Station(s) in the RIO Configuration tab as shown in the figure.

Enter the number of Digital Input, Digital Output, Analog Input, Analog Output, Thermocouple and RTD points needed in every RIO Station.

Controller Configuration						×
Initial Configuration			RIO Configura	ition		
RIO Configuration	Communication Protocols	CANopen	✓ No. of I	Remote I/O Station:	2 🗘	
Controller Selection	Station1		Station2			
	Digital Inputs	10 🗘	Digital Inputs	20 🗘		
	Digital Outputs	10 🗘	Digital Outputs	10 🗘		
	Analog Inputs	4 🗘	Analog Inputs	2 🗘		
	Analog Outputs	1 🗘	Analog Outputs	1 🗘		
	Thermocouple	0 🗘	Thermocouple	0 🗘		
	RTD	0 🗘	RTD	0 🗘		
				Brovieus	Next	Canaal
				Previous	Next	Cancel

Figure 6 - 5: Controller Configuration - RIO Configuration Example

7. Click on **Next** button to proceed to **Controller Selection** tab.

Result: The **Controller Selection** tab displays the recommended PLC Configurations based on the User's requirement. The slots are displayed as per the PLC configuration and description is also provided as shown in the figure.

User can select among the different possible options of controller configurations suggested. **Controller Selection** tab also suggests mandatory accessory which is needed for particular modules.

roller Configuration				
ial Configuration		Co	ntroller Selection	
Na	me	Slot Number	Description	Select
Configuration	AS218RX-A (+12 devices)		CPU, Relay Output, 1xEthernet port, 2xRS-485 ports, 1xUSB po	0
ntroller Selection	AS-PS02	-	Power Supply, Input: 100 ~ 240VAC, Output: 24VDC/2A, 48W (
	AS218RX-A	-	CPU, Relay Output, 1xEthernet port, 2xRS-485 ports, 1xUSB po	
	 RIO Station 1 (+4 devices) 			
	 RIO Station 2 (+5 devices) 			
	 Accessories (+2 devices) 			
	AS228R-A (+12 devices)		CPU, Relay Output, 1xEthernet port, 2xRS-485 ports, 1xUSB po	0
	AS-PS02	-	Power Supply, Input: 100 ~ 240VAC, Output: 24VDC/2A, 48W (
	AS228R-A	-	CPU, Relay Output, 1xEthernet port, 2xRS-485 ports, 1xUSB po	
	 RIO Station 1 (+4 devices) 			
	 RIO Station 2 (+5 devices) 			
	 Accessories (+2 devices) 			
			Previous Finish	Cancel



 Select the radio button in Select column to pick the appropriate PLC Configuration and click on Finish button.

Result: Selected configuration is displayed in the **Application Selection** window with mandatory accessories if any as shown in the figure.

lection View × Compare	Product × Application Selection >	¢									
Industry <not sp<="" th=""><th>ecified> Applic</th><th>tion Custom Gene</th><th>erated Application</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></not>	ecified> Applic	tion Custom Gene	erated Application								
evice Type	ce Type Device Name										
Controller											
Module	AS218RX-A					Configur	e				
	Communication O			\sim		•					
	AS PLC CANOpen Car	d, supports DS301, Rem	ote Control or Delta Serv	o Motor Contro	bl						
	Communication O		AS-FCOPM	\sim		•					
	AS PLC CANOpen Car	d, supports DS301, Rem	ote Control or Delta Serv	o Motor Contro	ol						
Accessory Type	Industrial Commu 🗸	Part Number	DVPACAB2A30	~	1 🗘	•					
	Cor	nection cable for PC (9-	pin D-Sub) and PLC, 1.5								
Accessory Type	Programming and 🔽	Part Number	UC-PRG015-01A	~	1 🗘	•	۲	•			
	1.5m Mini USE	PLC Programming Cabl	e for PLC (mini USB) <->	PC (USB)							

Figure 6 - 7: Controller Configuration - Accessory Selection

9. Add Accessory Type, Part Number and select number of part according to the requirement as shown in the figure.

NOTE: Click on *icon to add additional accessory to the controller.* Click on *icon to delete the accessory. Click on icon to view the image of the accessory. The mandatory accessories cannot be deleted by user. Optional accessories can be added or deleted.*

ntroller									
Module	AS218RX-A]			Configu	ure			
	Communication O	Part Number	AS-FCOPM		1 🗘 🧰				
	Communication O	Part Number	AS-FCOPM		1 🗘 🚺				
Accessory Type	AS PLC CANOpen Car Industrial Commu	rd, supports DS301, Remo Part Number	DVPACAB2A30	Motor Control	1 🗘 🧿				
	Cor	nnection cable for PC (9-p	pin D-Sub) and PLC, 1.5					_	
Accessory Type	Programming and 🖌	Part Number	UC-PRG015-01A	~	1 🗘 🚺	۲	•		
	1.5m Mini USF	3 PLC Programming Cable	e for PLC (mini USB) <-> I	C (USB)					

Figure 6 - 8: Application Selection

10. Click on **OK** button in the **Application Selection** window.

Result: Selected Controller and its configuration is added to the **Custom Generated Application Group** in **Project View** as shown in the figure.



Figure 6 - 9: Controller Configuration - Selection added to Group

6.2.2 Pre-Selected Controller Configuration Wizard - PLC (Controller)

The Pre-Selected Controller Configuration wizard allows user to configure the components of a PLC after selecting a particular CPU in a Group.

Follow the steps to configure the PLC using Pre-Selected Controller Configuration Wizard:

- 1. Add a PLC to the Group from the **Selection View.**
- 2. Select the PLC to be configured and right-click to open the context

menu.

Result: Displays the context menu as shown in the figure.

Project View	щ
A 🔝 Project1	
+ Add Group	
🔺 📗 Group_1	
🖽 DVP12SS211S 🙏	
Group_2	
🔺 鷆 Group_3	
🖽 DVP12SS211S 🙏	
🖽 DVP14SS211R 🙏	Hardware configuration
	Configuration Wizard
	Delete Device
	Add Accessories

Figure 6 - 10: PLC - Context Menu

3. Click on **Configuration Wizard**.

Result: User is guided through controller configuration in a series of 3 tabs:

- Initial Configuration
- RIO Configuration
- Controller Selection

tial Configuration	Initial Configuration				
RIO Configuration	Properties	Local and Built-In IO			
ntroller Selection	Power Supply 24V DC	→ IO Points V DIO V AIO Temperature Points			
	Program Capacity 8k steps	Digital Inputs 8 💭 Thermocouple 0 💭			
	Output Method Relay	✓ Digital Outputs 6 ♀ RTD 0 ♀			
		Analog Inputs 0			
		Analog Outputs 0			
	Pulse Input 0 💭 Freq 10 kHz 🔻	Type Normal Pulse Pulse Output O Freq 10 kHz			
		Draviaus Next			

Figure 6 - 11: Pre–Selected Configuration Wizard - Initial Configuration

NOTE: By default, the Mixed IO points, DIO and AIO are selected. If both are checked in, PLC Configuration wizard considers the mixed IO modules. If user uncheck, it will consider individual Digital or Analog modules.

NOTE: Some of the properties are grayed out in the **Pre-Selected Controller Configuration** window.

Further process is similar to that of PLC Configuration as explained in <u>6.2.1</u> <u>Custom Generated Application - PLC (Controller)</u> Depending on the properties of the CPU selected, the specifications are supported.

In the **Controller Selection** tab, a suitable Controller and its configuration can be selected and added to the **Group**.

6.3 AC Motor Drive Configuration

The AC Motor Drive Configuration feature helps user to select a AC Motor Drive based on the Motor Type, Motor Voltage, Motor Current, Line Voltage, Line Current, Line Frequency, Control method, Switching Frequency, IO requirements, PG Card and so on.

Follow the procedure to configure Custom Generated AC Motor Drive:

- 1. Click 🛨 icon in the Project View.
- 2. Select **Custom Generated Application** from the **Application** dropdown list as shown in the figure.

Group Name		Group_1			
Industry		<not specifier<="" th=""><th>d></th><th></th><th></th></not>	d>		
Application	•	Custom Gener	ated App	lication	
Communication Protoco	ls				
RS232	Et	hernet		CANopen	PROFIBUS
RS422	Et	herNet/IP			DMCNET
RS485	De	eviceNet		BACnet	EtherCAT

Figure 6 - 12: Custom Generated Application

3. Select required communication protocols.

NOTE: By default, all the protocols are checked.

4. Click on OK button.

Result: The **Application Selection** window is displayed as shown in the figure. Following products are supported in configuration:

- Controller
- AC Motor Drive

Project View # ×	Selection View × Compare Product × Application Selection ×
✓ I Project1	
Add Group	Industry <not specified=""> Application Custom Generated Application</not>
Group_1	Device Type Device Name
Group_2	
	Controller
	Module
	AC Motor Drives 🛞
	Drives
	Module
	ОК

Figure 6 - 13: Configuration of Application Selection

5. Click Configure button in AC Motor Drive section.

Result: Displays **AC Motor Drive Configuration** window. User is guided for AC Motor Drive configuration in a series of 6 tabs:

- Load Type Setting
- Motor Specification
- Drive General Specification
- Drive IO Specification
- Control Mode
- AC Motor Drive Selection
- In the Load Type Setting tab, user can enter the Load Type, in Environment select Ambient, Application and Enclosure style related requirements as shown in the figure.

Load Type Setting	Load Type Setting				
Motor Specification Drive General Specification Drive IO Specification	Load Type O Constant Torque	Environment	Enclosure Style		
Control Mode	Fan/Pump Application Variable Torque	Altitude (m) 1000 Temperature (*C) 40	IP00 IP00/UL Open Type IP20 IP20/UL Open Type		
		Application Fmax (Hz) 300 Imax/Imotor 0 Overload Time (sec) 10 Period (sec) 0	IP20/UL Type1/NEMA1 IP21/NEMA1/UL Type 1 IP31/NEMA1 IP41/NEMA1/UL Type 12 IP55/NEMA12/UL Type 12 IP55/NEMA12/UL Type 12		
			O IP66/NEMA 4X		

Figure 6 - 14: AC Motor Drive Configuration - Load Type Setting

- 7. Click on **Next** button to proceed to the **Motor Specification** tab.
- 8. In the Motor Specification tab, user can enter the specifications of motor as shown in the figure.

AC Motor Drive Configuration					
Load Type Setting		Mot	or Specificati	on	
Motor Specification					
Drive General Specification	Motor Type	Motor Specification			
Drive IO Specification	• IM	Power (kW)	1	Frequency	
Control Mode	O SPM	Voltage (V)	460V 3-Phase 🔻	Rated Frequency (Hz)	50
AC Motor Drive Selection	O IPM	Rated Current (A)	0.5	maxi requercy (n2)	50
		Number of Poles	4		
			F	Previous	Cancel

Figure 6 - 15: AC Motor Drive Configuration - Motor Specification

- 9. Click on Next button to proceed to the Drive General Specification tab.
- 10. In the **Drive General Specification** tab, user can enter the general specifications related to the AC Motor Drives as shown in the figure.

AC Motor Drive Configuration		Drive Gen	eral Specification	_ _ ×
Motor Specification Drive General Specification Drive IO Specification Control Mode AC Motor Drive Selection	Drive Voltage Input 115V 1∅ 230V 1∅ 230V 3∅ 460V 3∅ 575V 3∅ 690V 3∅	Communication RS232 RS422 Modbus Serial Modbus TCP EtherNet/IP CANopen PROFIBUS DeviceNet DMCNET BACnet EtherCAT USB	Modulation Mode Light Duty Normal Duty Heavy Duty Super Heavy Duty	Switch Frequency (kHz) Min 2 • Max 8 •
			Previous	Next Cancel

Figure 6 - 16: AC Motor Drive Configuration - Drive General Specification

- 11. Click on **Next** button to proceed to the **Drive I/O Specification** tab.
- 12. In Drive IO Specification tab, user can select the Input Output requirements for Discrete, Analog and Pulse Train signals along with STO functionality as shown in the figure.

AC Motor Drive Configuration				
Load Type Setting		Drive IO Specific	ation	
Motor Specification				
Drive General Specification				
Drive IO Specification	Multi-input	0	STO Terminal	No
Control Mode	Multi-output	0		
AC Motor Drive Selection	Relay Output	2 🗘		
	Analog Input	1		
	Analog Output (points)	2 🗘		
			Previous Next	Cancel

Figure 6 - 17: AC Motor Drive Configuration - Drive IO Specification

- 13. Click on **Next** button to proceed to **Control Mode** tab.
- 14. In **Control Mode** tab, user can select PG Card related parameters as shown in the figure.

AC Motor Drive Configuration					_ ×
Load Type Setting			Control Mo	de	
Motor Specification					
Drive General Specification	IM		РМ		Positioning Control
Drive IO Specification	Cont	trol Mode	Contr	rol Mode	O P2P Mode
Drive to specification	Open Loop	Closed Loop	Open Loop	Closed Loop	Homing Mode
Control Mode	 IMVF 	O IMVFPG			
AC Motor Drive Selection	O IMSVC	O IMFOCPG			
	O IMFOC				
	Torque C	Control Mode	Torque C	Control Mode	
	Open Loop	Closed Loop	Closed Loop		
	O IMTQC	O IMTQCPG			
				Previous	Next Cancel

Figure 6 - 18: AC Motor Drive Configuration – Control Mode

- 15. Click Next to proceed to AC Motor Drive Selection tab.
- 16. In **AC Motor Drive Selection** tab, user can select an AC Motor Drive from the set of options suggested by DIASelector as shown in the figure.

AC Motor Drive Configuration	1			×
Load Type Setting)	AC Motor Drive Se	election	
Motor Specification	Name	Description		Select
motor specification	VFD4A2MH43AFSAA			0
Drive General Specification)			
Drive IO Specification				
Control Mode)			
AC Motor Drive Selection)			
			Previous	Finish Cancel
			Flevious	Cancer

Figure 6 - 19: AC Motor Drive Configuration – AC Motor Drive Selection

17. Click on **Finish** button to add the AC Motor Drive and Accessories to the **Application Selection** window as shown in the figure.
| Selection View × Compare Prod | uct × Application Selection × | | | | | | |
|---|-------------------------------|---------------------------|------------------------|--------|-----------|-----|----|
| Industry <not specified<="" th=""><th>i> Application</th><th>Custom Generated App</th><th>plication</th><th></th><th></th><th></th><th></th></not> | i> Application | Custom Generated App | plication | | | | |
| Device Type | Device Name | | | | | | |
| | | | | | | | |
| AC Drives | | | | | | | |
| Drives | | | | | | | |
| Module | VFD4A2MH43AFSAA | | | | Configure | | |
| | | | | | | | |
| | Communication Opti | Part Number | CMM-DN01 | ~ | 1 🗘 🧿 | | |
| | DeviceNe | et Communication Card wi | th Terminal Block | | | | |
| | Extension Card | Part Number | EMM-A22A | \sim | 1 🗘 🧰 | | |
| | Analog IO Extension Car | rd 2 x AI (0~10V DC, 0~20 | mA); 2 x AO (0~10V DC, | 0~20mA | | | |
| Accessory Type | ~ | Part Number | | ~ | 0 🗘 🚺 | ۲ ک | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | ок |

Figure 6 - 20: AC Motor Drive Configuration - Application Selection

NOTE: Click on [•] icon to add additional accessory to the AC Motor Drive. Click on [•] icon to delete the accessory. Click on [•] to view the image of the accessory. The mandatory accessories cannot be deleted by user. Optional accessories can be added or deleted.

If required, user can add multiple drives in the window. Click on icon next to the AC Motor Drive to configure additional drives to the Application Selection window.

election View × Compare Pro	oduct × Application Selection ×	
Industry <not specifi<="" th=""><th>fied> Application Custom Generated Application</th><th></th></not>	fied> Application Custom Generated Application	
Device Type	Device Name	
Drives		
Module	VFD4A2MH43AFSAA Configure	
Accessory Type	Communication O V Part Number CMM-DN01 V 10	
	Extension Card V Part Number EMM-A22A V 10-2000A	
Accessory Type	Distribution Box v Part Number TAP-CN01 v 1 € 0	
Accessory Type	Part Number O O O O O O	
		ОК

Figure 6 - 21: AC Motor Drive Configuration - Adding optional Accessories

18. Click on **OK** button to add drives to the **Group** folder in the **Project View**.

6.3.1 Adding Accessories to AC Motor Drive

User can add recommended accessories to selected AC Motor drives in the **Project View**. Follow the procedure to add Accessories to the AC Motor Drive.

- 1. Create **Project** and add AC Motor Drives to the Project View.
- Right-click on the AC Motor Drive to open the context menu and click on Add Accessories as shown in the figure.

Project View 4 ×	Selection View X Compare Droduct X
Project2	
+ Add Group	Drive & Power Quality Motion Control Held Device Robot Industrial PC Accessories
A B Group 1	Drive & rower Quality -> AC motor Drives -> routict Series
UFDUA8ME2TANNAA	
dd Accessories	pr Hybrid Servo Elevator Drive Integrated Elevator Drive Series
Delete Device	A B H P P Series
	Product List
	VFD022ED21S VFD037ED21S VFD040ED23S VFD040ED43S
	22kW 230V 1-ph 3.7kW 230V 1-ph 4kW 230V 3-ph
	12A 17A 20A 11
	Compare 🖲 Compare 🖲 Compare

Figure 6 - 22: AC Motor Drive - Adding Accessory

Result: The **Accessory Selection** window displays as shown in the figure.

Accessory Selection						×
AC Motor Drives 2.2kW, 230V 1-ph,	s : VFD022ED21S 12A					
Accessory Type		✓ Part Number	~	0 🗘	۲	
						011
						OK

Figure 6 - 23: AC Motor Drive – Accessory Selection

3. Add the accessory type, part number and number of parts required as shown in the figure.

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Ac	cessory Selection							×
	AC Motor Drives 2.2kW, 230V 1-ph,	: VFD022ED21S 12A						
	Accessory Type	Zero Phase Reactor	✓ Part Number	BR1K2W015	~	1 🗘	۲	
								,
								ОК



4. Click on ^(*) icon to add more accessory to the device as shown in the figure.

C Motor Drives : VFD022ED21S 2kW, 230V 1-ph, 12A Accessory Type Zero Phase Reactor	essory Selection								
2kW, 230V 1-ph, 12A Accessory Type Zero Phase Reactor Part Number BR1K2W015 1 C I Accessory Type Brake Resistor Part Number BR1K2W015 1 C I I Accessory Type Brake Resistor Part Number BR1K2W015 I I I I Accessory Type Keypad Part Number KPC-CC01 I I I I I	AC Motor Drives	: VFD022ED21S							
Accessory Type Zero Phase Reactor V Part Number BR1K2W015 V 1 0 Φ Accessory Type Brake Resistor V Part Number BR1K2W015 V 1 0 Φ 1.2kW, 15 Ω Brake Resistor for Servo / AC Drive	.2kW, 230V 1-ph,	12A							
Accessory Type Brake Resistor Part Number BR1K2W015 I C Φ Φ 1.2kW, 15 Ω Brake Resistor for Servo / AC Drive Accessory Type Keypad Part Number KPC-CC01 I C Φ Φ	Accessory Type	Zero Phase Reactor	Y Part Number	BR1K2W015	1 🗘	0			
1.2kW, 15 Ω Brake Resistor for Servo / AC Drive Accessory Type Keypad Part Number KPC-CC01 I <	Accessory Type	Brake Resistor	✓ Part Number	BR1K2W015	1	•	۰		
Accessory Type Keypad 🕑 Part Number KPC-CC01 🔽 1 🖸 💿 📀 🖨			1.2kW, 15 Ω Brak	ke Resistor for Servo / AC Drive					
	Accessory Type	Keypad	Yeart Number	KPC-CC01	1 🗘	•	۲	•	
LCD Keypad				LCD Keypad					
									OK
									OK

Figure 6 - 25: Adding Accessories to AC Motor Drive

 The AC motor drives and their accessories are added to the Project View as shown in the figure.



Figure 6 - 26: AC Motor Drive and Accessories

6.4 Servo sizing

Servo Sizing helps users to select a AC servo motor, AC servo drives and accessories based on the mechanism and motion profile selected by the user.

Follow the procedure to perform Servo Sizing:

- 1. Create a Group in the **Project View**.
- 2. With the above Group selected, click $\frac{Servo}{Sizing}$ icon on the toolbar.

Result: The **Servo Sizing** window displays as shown in the figure with **Mechanism Selection** tab displayed by default.

٩

Servo Sizing Mechanism Selection	× Mechanism Selection
Connector Selection Mechanism Parameters Motion Profile	
Drive Accessory Selection	Irolley Roller Jevice Ballscrew
	Rack and Pinion Conveyor
	Previous Next Cancel

Figure 6 - 27: Servo Sizing window

- 3. Select a mechanism and click Next.
- 4. Select/enter parameters according to user needs for Servo selection:

٠

Connector Selection

Choose Coupling/Gear/Belt according to user's requirement.

NOTE: The image of mechanism displayed in the **Connector Selection** tab depends upon the mechanism selected.

Sizing Tool Configuration	×
Mechanism Selection	Connector Selection
Connector Selection	Connector
Mechanism Parameters	
(Motion Profile	김희님 그 같 때
Motor Selection	
Drive Accessory Selection	Couping Gear Deit
	Motor-Connector-Mechanism Compositions
	Previous Next Cancel

Figure 6 - 28: Connector Selection window

Mechanism Parameters

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Fill in the relevant values as per user requirements, and then click **Calculate**, the system will automatically calculate the results as shown in the **Mechanism parameters** tab.

The Mechanism Parameters tab displays the parameters as per the mechanism selected

Servo Sizing						×
(Mechanism Selection		Mechanis	m Par	ameters		
Connector Selection	SI Unit O Imperial Unit Loading Information					
Mechanism Parameters	[P] No. of Wheels *	3 🗘		ML	- 5	
Motion Profile	[µ] Friction Coefficient	0.8			TTA	$\rightarrow J_R \frac{1}{R_N}$
	[M _C] Car Weight *	0	kg			
Motor Selection	[ML] Load Weight *	0	kg		Mw DP 1	9
Drive Accessory Selection	[M _W] Wheel Weight *	0	kg		RM	
	Transmission Information					
	[p] Specific Gravity	Iron-7.87 -	g/cm³	Tro	lley	
	[ŋ] Transmission Efficiency From Motor to the Mechanism	0.9	-			
	[D _I] Inner Diameter of wheel *	0	mm	Calc	ulate	
	[D_0] Outer Diameter of wheel *	0	mm			
	[Dp] Shaft Diameter *	0	mm	[J _W] Wheel Inertia	0	kg.m²
	Coupling Information			[J _F] Motor Inertia While Moving Platform	0	kg.m²
	[Jc] Coupling Inertia	0	ka.m²	[J _L] Loading Inertia	0	kg.m ²
	[Js] Inertia of Coupling joint	0	ka.m ²			
		0				
				Previous	Next	Cancel

Figure 6 - 29: Mechanism Parameters – Trolley

Servo Sizing					×
Mechanism Selection	SI Unit Imperial Unit Instruction	Mechanis	m Par	ameters	
Connector Selection Mechanism Parameters	[µ] Friction Coefficient	0.8	1		
Motion Profile	[M _T] Platform Weight *	0	кg kg	<u>D</u> T 2	
Motor Selection	Transmission Information [p] Specific Gravity	Iron-7.87 💌	g/cm³	Ls	Jc+
	[η] Transmission Efficiency From Motor to the Mechanism	0.9	mm	$\frac{D_{\tilde{r}}}{2}$ μ	
	[D _F] Distance between friction point and shaft center *	0	mm		
	[D _T] Diameter of round table * [D ₅] Bearing Diameter *	0	mm mm	Rotary	Table
	[DL] Distance from load to shaft center *	0	mm	Calculate	
	Coupling Information			[J+] Table Inertia	0 kg.m ²
	$[J_{LI}]$ Inertia for load to shaft center *	0	kg.m²	[J _{ML}] Eccentric Inertia of loading	0 kg.m ²
	[Jc] Coupling Inertia [Js] Inertia of Coupling joint	0	kg.m² kg.m²	[J _{SH}] Support shaft Inertia	0 kg.m²
		v		$[J_L]$ Loading Inertia	0 kg.m ²
				Previous	Next Cancel

Figure 6 - 30: Mechanism Parameters – Rotary Table

Servo Sizing Mechanism Selection		Mechanism Par	rameters
Connector Selection Mechanism Parameters	SI Unit Imperial Unit Loading Information		F
Motion Profile	[F] Force * [µ] Friction Coefficient	0 N	JS Roll T
Motor Selection Drive Accessory Selection	[Fp] Roller Opposite acting force(when extruding workpiece) *	0 N	
	Transmission Information	leen 7.07 - a/cm ³	Jc - Iri
	[η] Transmission Efficiency from Motor to the Mechanism	0.9	Roll_1 Roller Device
	[L _S] Shaft Length * [De] Roller Diameter *	0 mm	
	[D _S] Bearing Diameter *	0 mm	Calculate
	Coupling Information		[JL] Loading Inertia 0 kg.m ²
	[J _{RO}] Roller Inertia *	0 kg.m ²	
	[Js] Inertia of Coupling joint	0 kg.m ²	
			Previous Next Cancel

Figure 6 - 31: Mechanism Parameters – Roller Device

Servo Sizing					×
(Mechanism Selection		Mechanis	m Pa	rameters	
Connector Selection	 SI Unit Imperial Unit 				
Mechanism Parameters	Loading Information			D _P	M F
Motion Profile	[F] Force	0	N	- <u>+</u>	DBĮ
Motor Selection	[µ] Friction Coefficient	0.8			MT T
	[M _T] Platform Weight *	0	kg		
Drive Accessory Selection	[ML] Load Weight *	0	kg		
	Transmission Information			-	Lв
	[p] Specific Gravity	Iron-7.87 -	g/cm³	Ball	screw
	[ŋ] Transmission Efficiency From Motor to the Mechanism	0.9			
	[PB] Pitch of Ball Screw *	0	mm		
	[L _B] Length of Ball Screw *	0	mm	Cal	culate
	[D _B] Outer Diameter of Ball Screw *	0	mm	[J _B] Ballscrew Inertia	0 kg.m²
	Coupling Information			[JF] Motor Inertia While Moving Platform	0 kg.m²
	[J _C] Coupling Inertia	0	kg.m²	[JL] Loading Inertia	0 kg.m²
	$[J_{S}]$ Inertia of Coupling joint	0	kg.m²		
				Previous	Next Cancel
				1 Tevious	Gancer

Figure 6 - 32: Mechanism Parameters - Ball Screw

Sizing Tool Configuration						×
Mechanism Selection	Mechanism Parameters					
Connector Selection Mechanism Parameters Motion Profile Motor Selection Drive Accessory Selection	SI Unit Information If J Force If J Force If MT J Platform Weight * If Load Weight *	0 0.8 0 0 0 0 0	N kg kg	1 RMT Jct Rack ar	Mr F Moving Direction Lg	DG
	Transmission Information [p] Specific Gravity [n] Transmission efficiency from motor to the ball screw [D _G] Rack Diameter * [L _G] Rack Length * [J _C] Coupling Inertia [J _S] Inertia of Coupling joint	Iron-7.87 ▼ 0.9 0 0 0 0 0	g/cm³ mm mm kg.m² kg.m²	Cald [J6] Rack Inertia [JF] Motor inertia while Moving platform [JL] Loading Inertia	0 0 0	kg.m² kg.m² kg.m²
				Previous	Next	Cancel

Figure 6 - 33: Mechanism Parameters - Rack & Pinion

Servo Sizing			×
Mechanism Selection		Mechanism Par	ameters
Connector Selection	SI Unit O Imperial	Unit	
Mechanism Parameters	Loading Information		100
	[θ] Roller Rising Angle *	45 °	JRU
(Motion Profile	[µ] Friction Coefficient	0.8	ML
Motor Selection	[M _B] Aluminium Strip Weight *	0 kg	
Drive Accessory Selection	[M _L] Load Weight *	0 kg	DRE
	Transmission Information		
	[p] Specific Gravity	Iron-7.87 - g/cm ⁸	
	[ŋ] Transmission Efficiency From Motor to the Mechanism	0.9	
	[D _R] Roller Diameter *	0 mm	Conveyor
	[p] No. of Rollers *	2 💭	Calculate
	Coupling Information		
	[J _C] Coupling Inertia	0 kg.m ²	[JF] Motor Inertia While Moving Platform 0 Kg.m
	[Js] Inertia of Coupling joint		[J _L] Loading Inertia 0 kg.m ²
		0 Ngill	
			Previous Next Cancel

Figure 6 - 34: Mechanism Parameters - Conveyor

• Motion Profile

The system will display the set motion waves after filling in the relevant values as shown in the figure.



Figure 6 - 35: Motion Profile window

Motor Selection

The Motor Selection tab displays the Calculation Result, Calculation Process, list of AC Servo Motors which meet the requirements and the Filter properties to filter AC Servo Motors based on user requirements.

After filling in the relevant values in **Filter Parameters**, the specific AC servo motors are displayed at the bottom of the window.

NOTE: User can also select multiple motors and click **Compare**. The comparison window will appear (Figure 6-35)

anism Selection						Mo	tor Selec	tion				
actor Selection	Calculat	ion Result	Calculation	Process		Filt	er Parameters -					
ctor selection	Propert	v		Valu	ue Uni	t End	oder Type	Abcolute		Shaft Tuna	Konnenwith	craw hole
ism Parameters	Distance	e per Revolut	ion [dS]	0.0	25 m/r	ev	ouer type	Absolute		Share type	Reyndy mari	icrew noic
	Ballscre	w Inertia [J _B]	0.000	58 kg.r	m² Dri	ve input voltage	e 220V AC/ 3	000 RPM 👻	Rated Power	0.4	
e)	Motor I	nertia While	Moving Platfo	rm [JF] 0.000	- 19 kg.r	m² ou	Card	v		Televen	Tolerance on	RMS Torque
on	Loading	Inertia [J _L]		0.000	77 kg.r	m ²	Seal	Y		Iolerance	0	%
	Variable	Torque [T _µ	I	0.416	56 Nm	Bra	ke	Y	-			1
y Selection	Motor T	orque [T _F]		0.0442	23 Nm							
	Load To	rque [T _L]		0.460	79 Nm							
	RMS To	rque [I _{rms}]		0.460	/9 Nm					Filter	Re	set
	Compare	Name		Encoder Typ	pe f	Rated Pow	Rated Volt	Rated Spe	Max Speed	Rated Tor	Max Torque	Motor Ine
		ECM-A3L-C	Y0807RS0	Absolute		0.75	220V AC	3000	6000	2.39	8.36	0.56
		ECM-A3L-O	Y0604SS0	Absolute		0.4	220V AC	3000	6000	1.27	4.45	0.15
		ECMA-C11	D10DS	Incrementa	1	1	220V AC	3000	3000	3.18	9.54	2.65
		ECM-A3H-	CY0604SS0	Absolute		0.4	220V AC	3000	6000	1.27	4.45	0.45
		ECM-A3L-O	Y0602SS0	Absolute		0.2	220V AC	3000	6000	0.64	2.24	0.09
		ECM-A3H-	CY0804R70	Absolute		0.4	220V AC	3000	6000	1.27	4.44	0.92
		ECM-A3L-O	Y0807SS0	Absolute		0.75	220V AC	3000	6000	2.39	8.36	0.56
		ECM-A3L-C	Y0804R70	Absolute		0.4	220V AC	3000	6000	1.27	4.44	0.35
		ECMA-E81	10RS	Absolute		1	220V AC	2000	3000	4.77	14.3	8.41
		ECM-A3H-	20804571	Absolute		0.4	220V AC	3000	6000	1.27	4.44	0.92
		ECM-A3H-	CY0804S70	Absolute		0.4	220V AC	3000	6000	1.27	4.44	0.92

Figure 6 - 36: Motor Selection window

Servo Motors Comparison					>
Specification	ECM-A3L-CY0807RS0	ECM-A3L-CY0604SS)	ECMA-C11010DS	
Brake Unit	Not Available	Available		Available	
Dimensions (W x H x D) in mm	115.8	139.7			
Encoder Maker	Others	Others		DELTA	
Encoder Resolution (ppr)	24-bit	24-bit		20-bit	
Encoder Type	Absolute	Absolute		Incremental	
Maximum Current (A)	20.6	10.1		21.9	
Maximum Speed (rpm)	6000	6000		3000	
Maximum Torque (N-m)	8.36	4.45		9.54	
Motor Frame (mm)	80	60		0	
Oil Seal	Available	Available		Available	
Rated Current (A)	5.1	2.65		7.3	
Rated Output Power (kW)	0.75	0.4		1	
Rated Speed (rpm)	3000	3000		3000	
Rated Torque (N-m)	2.39	1.27		3.18	
Rated Voltage (V) and Speed (RPM)	220V AC/ 3000 RPM	220V AC/ 3000 RPM		220V AC/ 3000 RPM	
Rotor Moment of Inertia (X 10 ⁴ kg-m ²)	0.56	0.15	1.27	2.65	
Servo Motor Type	Rotary	Rotary		Rotary	
Shaft Diameter (mm)	85.3	14			
Shaft Type	Keyway with screw holes	Keyway with screw ho	les	Round with Screw holes	
BACnet	False	False		False	
CANopen	False	False		False	
DeviceNet	False	False		False	1

Figure 6 - 37: AC Servo Motors Comparison window

Drive Accessory Selection

System displays the supported AC servo drives list based on the AC servo motor selected. User can select the AC servo drives from

the **Drive selection**. Select the Accessory from the drop-down list ,then click •••• to add or remove the accessories (*Figure 6-38*). There is a **Generate Report** function on the bottom-right to generate .txt file (*Figure 6-37*).

chanism Selection		Drive Accessory Selection	
nnector Selection	Selected Motor :	ECMA-C11010DS	
chanism Parameters	Drive Selection		
tion Profile	Name	Description	Select
don'n rome	ASD-A2-1021-E	200V-1/3Ph, 1kW Single-Axis AC Servo Drive, Support EtherCAT Communication, 20	\odot
tor Selection	ASD-A2-1021-F	200V-1/3Ph, 1kW Single-Axis AC Servo Drive, Support DMCNET Communication, 20	0
	ASD-A2-1021-L	200V-1/3Ph, 1kW Single-Axis AC Servo Drive, Support 20-bit INC/17-bit ABS ECMA	0
ve Accessory Selection	ASD-A2-1021-M	200V-1/3Ph, 1kW Single-Axis AC Servo Drive, Support CANopen Communication, 20	0
	ASD-A2-1021-U	200V-1/3Ph, 1kW Single-Axis AC Servo Drive, Support 20-bit INC/17-bit ABS ECMA	0
	ASD-B2-1021-B	200V-1/3Ph, 1kW Standard Type Servo Drive, Support 17-bit INC ECMA Motor	0

Figure 6 - 38: Drive Accessory Selection window

Accessory Type	rnal Terminal Module 🔽	Part Number	ACS3CNADC3TR	1 🗘	•		
		A3 CN3 RS-485 / 0	CANOpen Termination Resistor				
Accessory Type	Battery Box	Part Number	ACS3-MDBT0100	1 🗘		۲	•

Figure 6 - 39: Accessory Selection

5. Click Finish in the Drive Accessory Selection tab.

Result: AC Servo Motor, AC Servo Drives and Accessories are added to the **Project View**.



Figure 6 - 40: Project View after Sizing

6.5 Accessory Recommendation

Users can select the accessories of PLC / AC Motor Drives / AC Servo Drives in **Project View**. In case of PLC, different modules like CPU, Digital Input, Digital Output, Pulse modules etc. support addition of accessory from **Project View**.

Follow the steps to add Accessories to a PLC / AC Motor Drives / Servo:

1. Right-click on the product.

Result: Context menu of the product displays as shown in the figure.



Figure 6 - 41: Context menu

2. Click Add Accessories.

Result: Accessory Selection window displays as shown in the figure.

Ac	cessory Selection					×
	PLC : AS300N-A CPU, 1xEthernet pc	rt, 2xRS-485 ports, 1xUSB port, 1xMicro SD Card, 2	xFunctional Cards, up to 1024 IOs, 1	128k steps		
	Accessory Type	Industrial Communication Cal: 🖌 Part Numbe	UC-CMC003-01A	1 💭 🧿	۲	
		0.3m CANo	en RJ45 Communication Cable			
						ОК

Figure 6 - 42: Adding Accessories to Module

 Click the Accessory type, and select the required accessory in Part Number, enter the number of accessory required, Click

 to view the image of the accessory. Click
 to add more accessory as per user's requirement. Click
 to delete an accessory. Click OK.

An example of Accessory Image is shown in the figure,

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PLC : AS332P-A CPU, PNP Output, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro SD Card, 2xFunctional Cards, 16DI, 16DO, up to 1024 IOS, 128k steps Accessory Type External Terminal Module V Part Number UB-10-ID16A V 1 C C C C C C C C C C C C C C C C C C	Accessory Selection							×
Accessory Type External Terminal Module V Part Number UB-10-ID16A Construction (MLL connector, 20Pin)	PLC : AS332P-A CPU, PNP Output,	1xEthernet port, 2xRS-485 port	s, 1xUSB port, 1xMicro	SD Card, 2xFunctiona	l Cards, 16DI, 16DO,	up to 1024 IO:	s, 128k steps	
External Terminal Module 16 inputs or outputs (MIL connector, 20Pin)	Accessory Type	External Terminal Module	✓ Part Number	UB-10-ID16A	~	1 🗘 🚺	۲	
OK		Ext	emal Terminal Module 16	i inputs or outputs (MIL	. connector, 20Pin)			

Figure 6 - 43: Accessory image

Result: Accessories are added to the Project View as shown below.



Figure 6 - 44: Accessories added to Project tree

4. In case of PLC, Accessories for non-CPU modules are added as mentioned above:

Example: Select the module in **Project View**, right-click to open context menu and click **Add Accessories** as shown in the figure.



Figure 6 - 45: Accessories added to Non CPU modules

Result: The Accessory Selection window displays in which users can select the accessories in the similar way like PLC/AC Motor Drives.

Chapter 7: Hardware Configuration

7.1 Introduction

DIASelector can create a hardware configuration and make Bill Of Material (BOM) out of the configuration. The Hardware Configuration displays the slots of modules in a PLC Controller configuration.

A PLC configuration consists of several modules like Power Supply module, I/O modules, Network modules, Pulse IO modules, Backplane and so on. These modules are arranged on dedicated slots / positions based on the modular and non-modular configurations, which can be viewed in the Hardware Configuration.

NOTE: As of current, only AS (AS200/AS300) PLC can be configured in **Hardware Configuration** in DIASelector V1.0.

7.2 Creating Hardware Configuration

Follow the steps to create a Hardware Configuration:

- 1. Select a Group.
- 2. Add a AS200/300 PLC CPU to the Group from the Selection View.
- 3. Right-click on the CPU and click on **Hardware Configuration** from the context menu as shown in the figure.



Figure 7 - 1: Hardware Configuration

Result: The Hardware Configuration window is displayed as shown in the figure.



Figure 7 - 2: Hardware Configuration - Legends

Legend	Name
1	Power Supply
2	CPU
3	Place to add IO modules (DIO, AIO), network modules (NIO) and Pulse Input-Output modules (PIO).

Legend	Name
4	Place to add RIO

The Hardware Configuration window displays CPU with:

- a Power Supply module on left of CPU.
- click on the right of CPU to add IO modules (DIO, AIO), network modules (NIO) and Pulse Input-Output modules (PIO).
- Click below the CPU to add RIO.
- 4. Select the RIO network. Select either CANopen or EtherNet/IP



NOTE: CANopen is the default RIO communication protocol.

5. Double-click on the slot next to the CPU.

Result: The Module List pop-up window is displayed as shown in the figure. Module List pop-up displays DIO, AIO, NIO and PIO for CPU Local Extension.



Figure 7 - 3: Hardware Configuration - Module List

 To add module to the Hardware Configuration, either double-click on the required module in the Module List or drag-drop required module to the slot.

User can also search the required product in the Search Toolbox field.



Figure 7 - 4: Hardware Configuration - Module Insertion

Result: Module(s) are added into the Hardware Configuration as shown in the figure.



Figure 7 - 5: Hardware View - New Module

7. Double-click on icon below the CPU.

Result: RIO drop is created with CANopen protocol by default. Once an RIO is created, a connection line is created between the SCM module of the RIO rack and CPU module automatically.

A new spaceholder for another RIO creation is shown below the new RIO drop as shown in the figure.

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Figure 7 - 6: Hardware Configuration - RIO Creation



NOTE: Refer Hardware Manual for further information on IO modules.

When the modules are added in the Hardware Configuration, the Project View is updated automatically as shown in the figure.



Figure 7 - 7: Modules added to Project View

NOTE:

Legends:

2

The Legends icon provides the option to hide/display the details of the products in the Hardware Configuration.



Figure 7 - 8: Legend Icons – Hide/show details

CANOpen:



Click on the convertence and select **CANopen** to open the CANopen network. The CANopen network is represented by green color as shown in the figure.





Ethernet/IP:



Click on the determent and select **EtherNet/IP** to open the the Ethernet network. The Ethernet network is represented by red color as shown in the figure.

PS R	+	

Figure 7 - 10: Ethernet/IP Icon – Select Ethernet network

7.2.1 Hardware Configuration Context Menu



Figure 7 - 11: Hardware Configuration - Context Menu

Function	Description
Set Function Card	Allows to set Function Card (AS300 CPU).
Replace Module	Allows to replace a module.
Cut	Allows to cut a module.
Сору	Allows to copy a module.
Paste	Allows to paste a module.
Delete	Allows to delete a module.

7.2.1.1 Function Card Setting

For AS300 CPUs, Slot 1 and Slot 2 are available for insertion of Function cards.

Follow the procedure to insert Function cards in Slot 1/Slot 2:

1. Click **Set Function Card** option from the context menu as shown in the figure.





Result: Displays Function Card Setting window.

2. Select the required Function card for Slot 1/Slot 2 as shown in the figure.

unction Card Setting	×
Function Card Slot 1 AS-F232 RS-232 Function Card Serial COM, RS-232 interface, slave/host mode	
Function Card Slot 2 None AS-F232 AS-F422 AS-F485 AS-F2AD AS-F2DA AS-FCOPM	NO PHOTO
AS-FEN02	OK Cancel

Figure 7 - 13: Function Card Setting Window

3. Click on OK button.

Result: The selected function cards are inserted in the CPU as shown in the figure.



Figure 7 - 14: CPU with Function Card inserted

Chapter 8: Bill of Materials (BOM)

8.1 Introduction

The DIASelector application allows user to create project and generate BOM. The user can save the BOM report and e-mail it.

The BOM report can also be exported to different formats such as MS-Word (97 ~ 2003) and MS-Excel (97 ~ 2003).

8.2 Generate BOM Report

Follow the steps to generate the BOM report:

- 1. Create a **Project** with devices.
- 2. Click on View > Bill of Materials.

Or

Click Material in the Quick Access tool bar.

Result: Displays the **Bill Of Materials** window as shown in the figure.

Project View 4 ×	Selection View Compare	re Product × Bill of Materials ×	-
▲ II Project7	Name	Description	Quantity
+ Add Group	⊿ Group_1		^
⊿ 📔 Group_1	AS218PX-A		
AS218PX-A	AS-PS02	Power Supply, Input: 100 ~ 240VAC, Output: 24VDC/2A, 48W (internal bus)	1 🗘
A\$332T-A	AS218PX-A	CPU, PNP Output, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro S	1 🗘
AS332T-A 2	AS332T-A	CPU, NPN Output, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro S	2 🗘
	DOP-103BQ	4.3" TFT LCD Display WQVGA Basic HMI, Res : 480 x 272	1 🗘
	Use the user's registered a		26 B

Figure 8 - 1: BOM

The **Bill Of Materials** window is displayed with Name, Description and Quantity fields. Products are segregated as per Groups created in the **Project View**. User can edit the Quantity of Products based on the requirements.

8.2.1 E-mail BOM Report

User can e-mail the BOM report. Click icon in the **Bill Of Materials** window. The **Bill of Materials** e-mail window is displays as shown in the figure. Enter the required details and click on **Send** button to send the e-mail.

	To abc@company.com;xyz@deltaww.com;aaa@deltaww.com			
Send	Send As	Word		
	Subject	Bill of Materials		
his email c	ontains a summary o	if the following.		
'his email c .ttachment:	ontains a summary o	of the following.		

Figure 8 - 2: E-mail BOM

Function	Description
То	Enter the email address of recipient. NOTE : If the User is signed in, it automatically displays the e-mail ID in the To field.
Send As	Select the required format, word or excel.
Subject	Subject cannot be edited.
Send	Click to send mail.

8.2.2 Save BOM Report

User can save BOM report. Click 🐻 icon in the Bill Of Materials window to save the BOM report.

NOTE: Default format is MS-Word. Select Excel option in the **Save as type** field to save in Excel format.

	Bill of Material	S			
COMPANY Name : DelSolar		DATE: 10-11-202			
DelS O lar					
Address : ozone City : Bangalore Country : India Phone : 9861098 Web Address : v SHIP TO	manaya tech park Co Co Al 610 Fax: Pl ww.deltaww.com	ontact ontact ountry rea coo hone N	Person : AB6 Info : : India de : 560068 lumber : 9864	C.XYZ 1098610	
Address : Street	XXXX XXXX Address, City, ST, Zip code, Country		(Сите		
Recipient : XXXX Address : Street	XXX XXX Address, City, ST, Zip code, Country	Q'ty	(Curren	ncy:) Subtotal	
Company : XXX Recipient : XXX Address : Street ORDER INFO Part Number A S300N-A	Description CPU, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro SD Card, 2xFunctional Cards, up to 1024 IOs, 128k steps	Q'ty 1	(Curre) Unit Price	ncy:) Subtotal	
Company : XXX Recipient : XXX Address : Street ORDER INFO Part Number A S300N-A A S-P S02	Description CPU, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro SD Card, 2xFunctional Cards, up to 1024 IOs, 128k steps Power Supply, Input: 100 ~ 240VAC, Output: 24VDC/2A, 48W (internal bus)	Q'ty 1	(Currei Unit Price	ncy:) Subtotal	
Company : XXX Recipient : XXX Address : Street ORDER INFO Part Number A S300N-A A S-PS02 A S08AM10N-A	XXX Address, City, ST, Zip code, Country Description CPU, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro SD Card, 2xFunctional Cards, up to 1024 IOs, 128k steps Power Supply, Input: 100 ~ 240VAC, Output: 24VDC/2A, 48W (internal bus) Digital Input, 8 Inputs, 24V DC, 5mA, Spring- clamp terminal block	Q°ty 1 1	(Currei Unit Price	ncy:) Subtotal	
Company : XXX Recipient : XXX Address : Street ORDER INFO Part Number A S300N-A A S-P S02 A S08AM10N-A A S00 SCM-A	XXX Address, City, ST, Zip code, Country Description CPU, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro SD Card, 2xFunctional Cards, up to 1024 IOs, 128k steps Power Supply, Input: 100 ~ 240VAC, Output: 24VDC/2A, 48W (internal bus) Digital Input, 8 Inputs, 24V DC, 5mA, Spring-clamp terminal block Serial Communication Module, 2xcommunication ports for communication cards, supporting Modbus protocol	Qrty 1 1	(Currei	ncy:) Subtotal	



8.2.3 Updating the DIAStudio Account

To display the information in BOM report, user must update the details in DIAStudio account.

Follow the procedure to update the DIAStudio account.

- 1. Login to DIAStudio website.
- 2. Click on your login name > My Profile.

3. Enter the account information as shown in the figure.

A NELTA	DIAStudio -	News Center Maintenance -	ABC XYZ -	6	8
	My P	Profile			
Fi	irst Name *	ABC			
La	ast Name *	XYZ			
G	ender	Male			
C	ompany Name *	delta electronics india private limited			
C	ompany URL	www.deltaww.com			
In	ndustry	Automation Component Manufact 🔻			
PI	hone Number *	9861098610			
Fa	ax Number				
st	treet Address	ozone manaya tech park			
ci	ity *	bangalore			
Zi	ip Code	560068			
st	tate	karnataka			
C	ountry/Region	India 🔻			
La	anguage	English 🔻			
с. с	ompany Logo	Upload Logo			
		Save			

Figure 8 - 4: My Profile

4. Upload the logo as shown in the figure.

A NELTA	DIAStudio - News	Center Forum Maintenance -	ABC XYZ - 🚺	• -
	M	ly Profile		
	First Name *	ABC		
	Last Name *	XYZ		
	Gender	Female +		
	Company Name *	DelSolar		
	Company URL	www.Deltaww.com		
	Industry	Automation Component Manufact •		
	Phone Number *	08012345685		
	Fax Number			
	Street Address			
	City*	bangalore		
	Zip Code	560068		
	State	karnataka		
	Country/Region	India 🔻		
	Language	Others 👻		
	Company Logo			
		DelSolar	×	
		Upload Logo		
		Save		

Figure 8 - 5: My Profile – Upload Logo

5. Click on **Save** button to update the account information.

Result: The account information and logo is updated in the DIAStudio account.
Chapter 9: Network View

9.1 Introduction

The **Network View** is a graphical representation of connections between devices that allows user to plan their Networks. (The Network View in DIAselector is a basic version of the network view available with DIADesigner application.) **Network View** option is available in the context menu of every **Group** in DIASelector.



Figure 9 - 1: Group right-click menu

9.2 Network View Description

The Network View displays two types of information:

- Device information
- Network information

9.2.1 Device Information



Figure 9 - 2: Network View - Device Information

Device information includes:

- Device image
- Device name (Part number)
- Communication ports on the device with protocol support.

NOTE: For control devices, the communication port are displayed below the product image (a sample is shown in <u>Figure 9 - 5</u>: <u>Network View</u> and for other devices, communication ports are displayed above the product image.

9.2.2 Network Information



Figure 9 - 3: Network View - Network Information

Network information includes:

- Name of the Network
- Network lines with Colors
- Connections to the Devices

9.3 Creating Network View

The **Network View** is a schematic description of network arrangement, connecting various devices and networks in the project. It helps user to understand and arrange the devices and networks in a layout or for an original equipment manufacturer to display the communication network to the customers or end user. User can connect to the Devices/Network, if they are of same Communication Protocol.

If user wants to connect 2 devices to a new Network, instead of connecting them individually, they can connect the communication ports of same type which will create a new network of respective type.

The control category devices like PLC, PAC and so on. will occupy the positions above the network lines and those like AC Motor Drivers, AC Servo Drives will occupy the positions below the network lines.

Following table describes the colors used in Network representation:

Fieldbus type	Network Color
EtherNet/IP	Red
MODBUS TCP	Red
MODBUS(RS-485)	Blue
CANopen	Green

Follow the steps to create a Network View:

 After adding products to a Group, right-click on Group and click on Network View from the context menu.



Figure 9 - 4: Group context menu - Network View



Result: The **Network View** window is displayed as shown in the figure.

Figure 9 - 5: Network View

- 2. By default, dotted lines are displayed, user can create connections between the devices and networks.
- 3. Click on a communication port and connect it to a dotted line.

Result: Dotted lines change to a line with the same color as that of the device communication port (protocol) selected.

- 4. User can also create connection between two devices by clicking and dragging from one device port to another.
- 5. Connect the devices to the network through ports as shown in the figure.



Figure 9 - 6: Network View Connections

NOTE: The visible dotted lines are for reference. Once the available network lines are connected, new dotted lines are created.

NOTE: Some of the selected devices are not supported in Network View for current software version. 'details' will be displayed now in the Network View. Products which are not supported will be displayed in the **System** tab. Click **details** to view the above items in **System** tab.



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