DIASelector
Software User Manual

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EPLAN provides software and service solutions in the field of electrical, automation and mechatronic engineering. The company develops one of the

world’s leading design software solutions for machine and panel builders. Both standardised as well as customised interfaces to ERP and PLM/PDM systems ensure data consistency along the whole value chain. EPLAN was founded in 1984 and is part of the owner-operated Friedhelm Loh Group.

Related Documents

Document Name	Document ID
DIAInstaller User Manual	DIAS-Manual-0005-EN
DIADesigner User Manual	DIAS-Manual-0003-EN

Revision History

Version	Issue Date	Revision
1st	2020/12/08	The first version release.

Table of Contents

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.

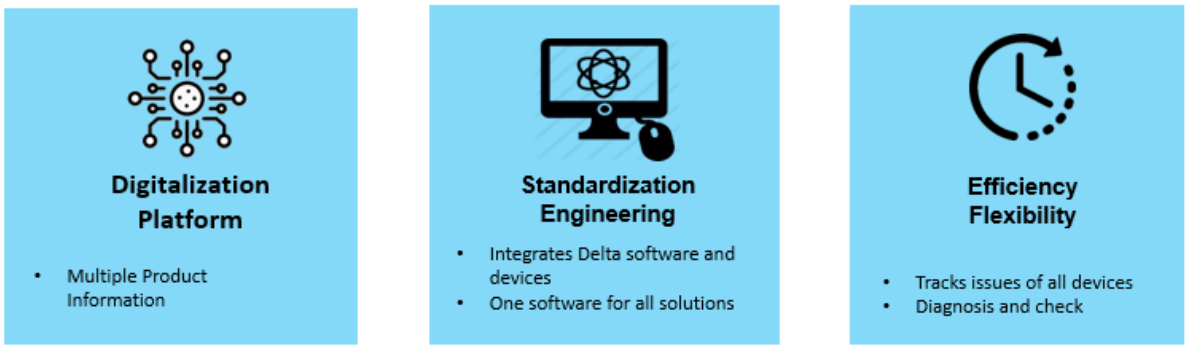


Figure 1 - 1: DIAStudio Features

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

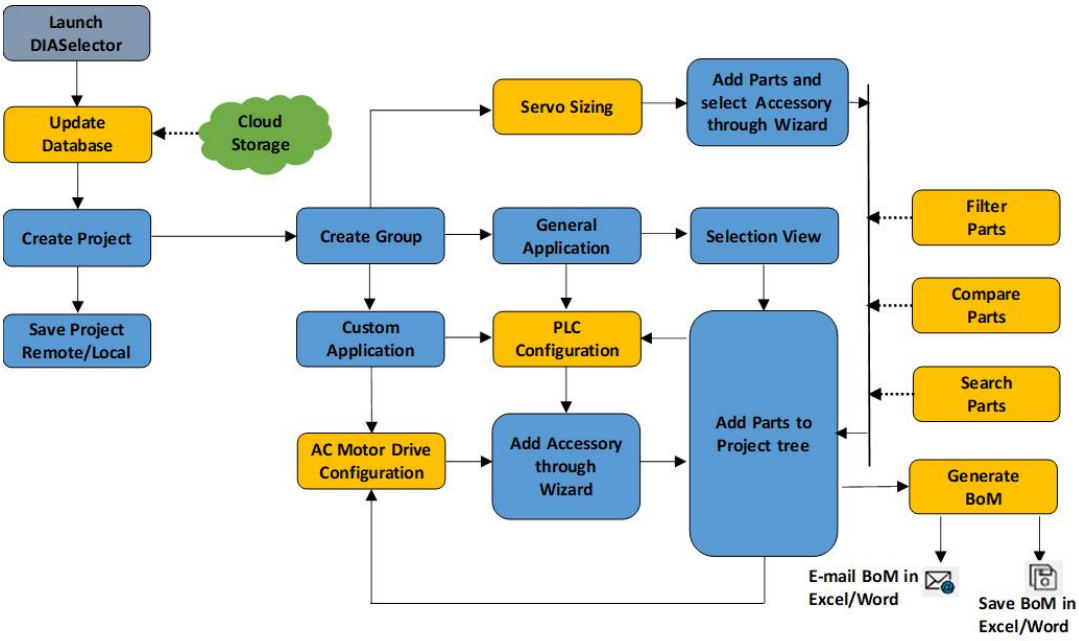


Figure 1 - 2: DIASelector

Chapter 2: Getting Started

2.1 Hardware and Software Requirements

2.1.1 Desktop Requirements

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)	
USB	Used in Connection with the device	According to the communication interface provided by the device
Ethernet	Used in Connection with 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 *2.1.1 Desktop Requirements* 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:

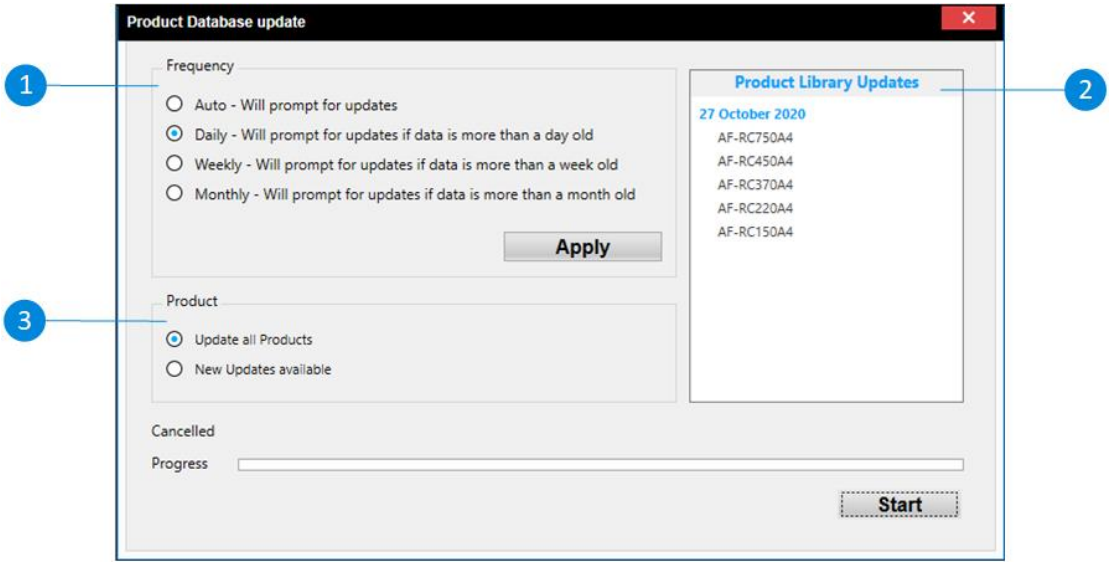


Figure 2 - 1: Product Database Update

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**.

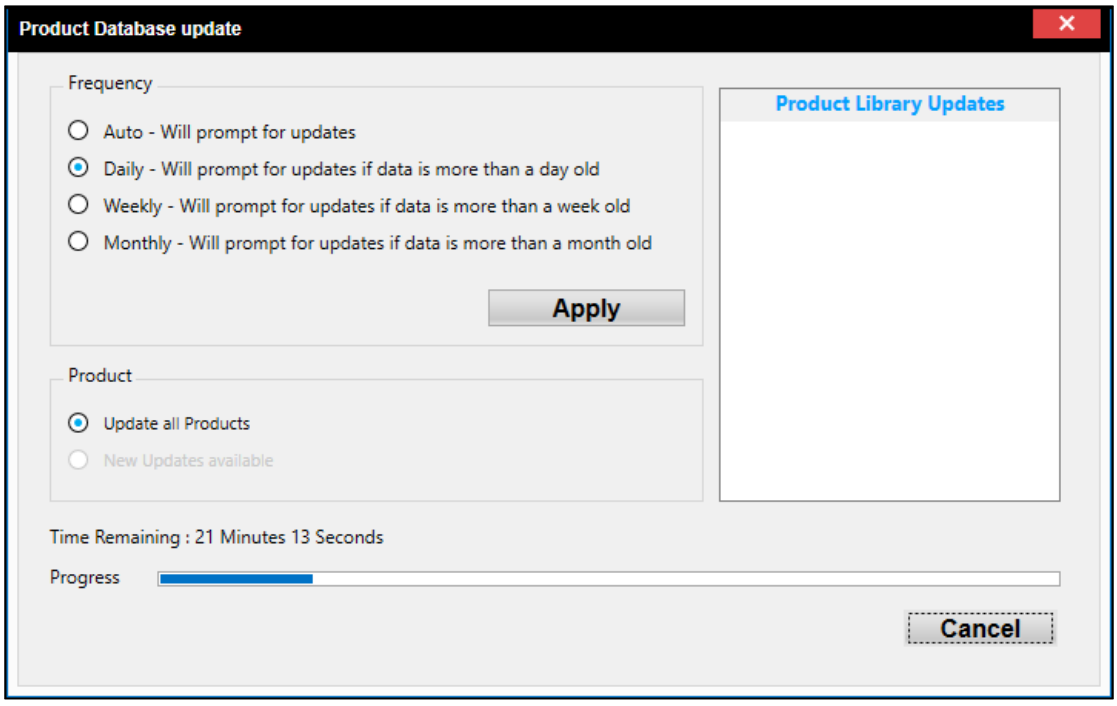


Figure 2 - 2: Product Database Update

***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.

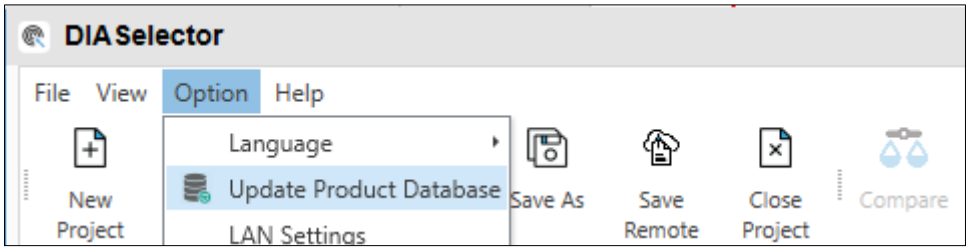


Figure 2 - 3: Update Product Database

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.

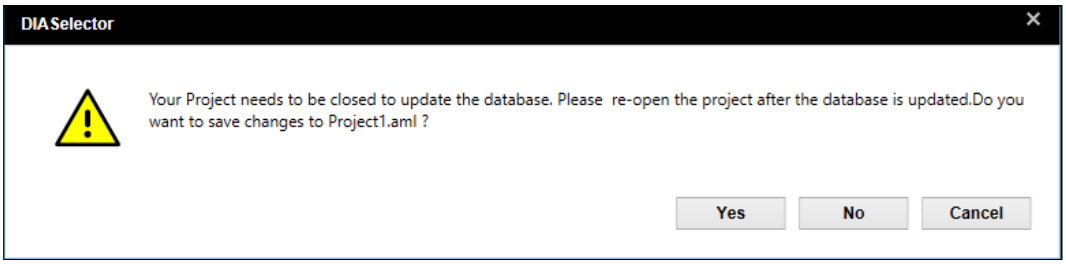


Figure 2 - 4: Database Update while working on a Project

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.

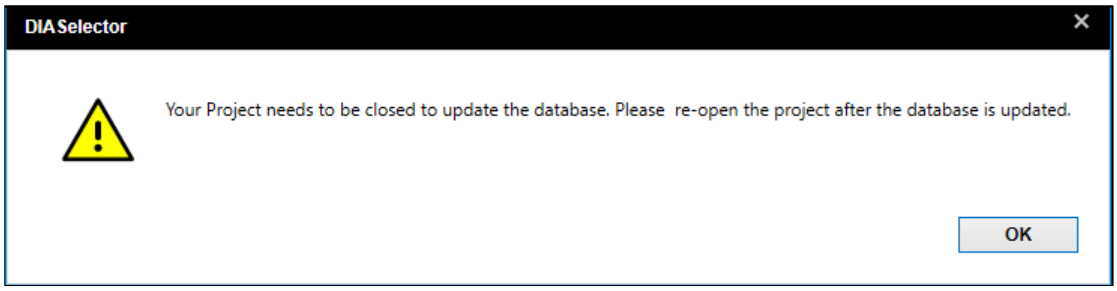


Figure 2 - 5: Database Update for Saved Project

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

2.3 Sign In

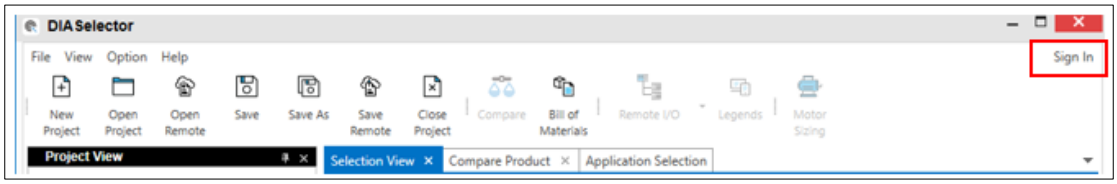


Figure 2 - 6: Sign In

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.

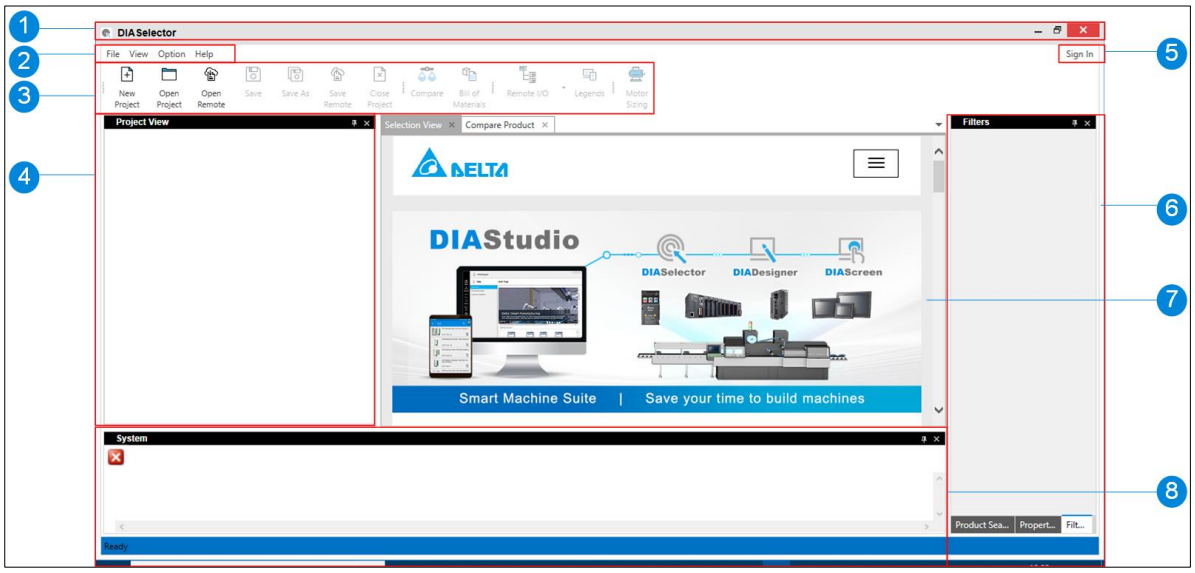
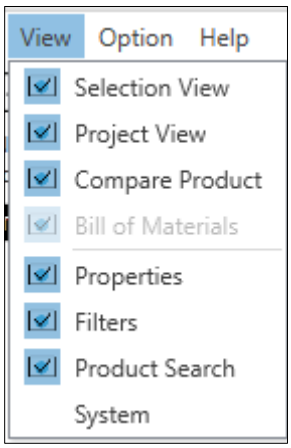


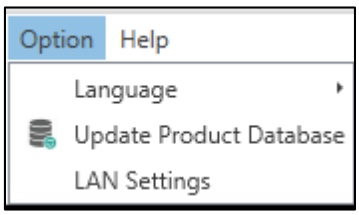
Figure 3 - 1: DIASelector Main Window

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** 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 • System

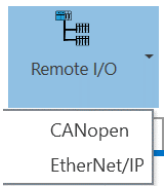
	**Option** menu allows to access
	• Language: Select the required language from the list of languages.
	  ○ English
	  ○ Traditional Chinese
	  ○ Simplified Chinese
	• Update Product Database: Updates the product

Menu	Name
	database. For more information, refer *2.2 Product Database Update*. • LAN Settings: Allows to configure the proxy server settings
	**Help** menu allows to access • DIASelector manual • **Technical Support**: Creates a support ticket. • **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
	Create a new project (Ctrl+N)
	Open an existing project (Ctrl+O)
	Open the project from DIAStudio web

Toolbar Icon	Description
	Save project (Ctrl+S)
	Save project as
	Save Project to DIAStudio Web
	Close Project (Ctrl+W)
	Compare products
	Opens Bill Of Materials window
	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.*
 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  icon.

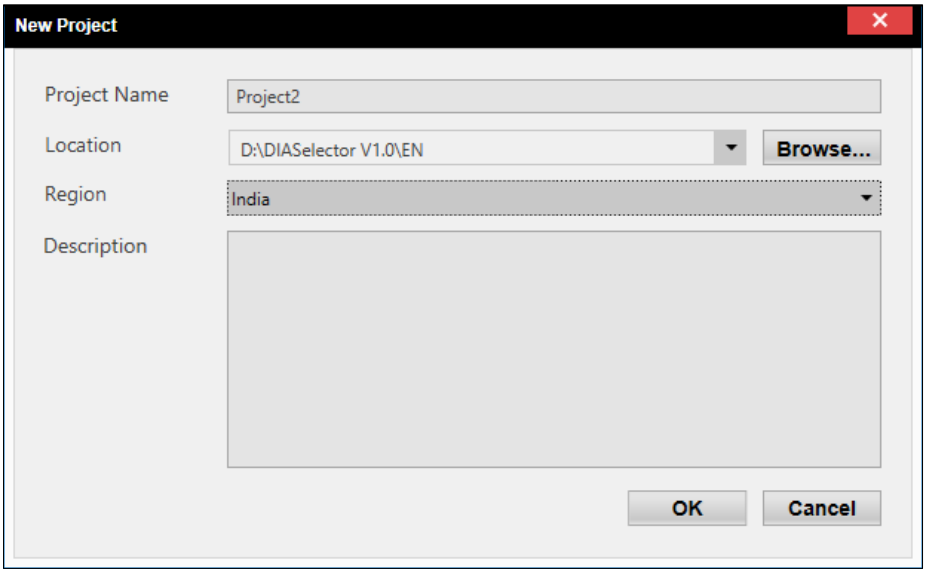


Figure 4 - 1: Add Project

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 *5.2 Select Page*)
- Compare Product (refer *5.3 Product*)
- Product Search (refer *5.5 Product Search*)

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.

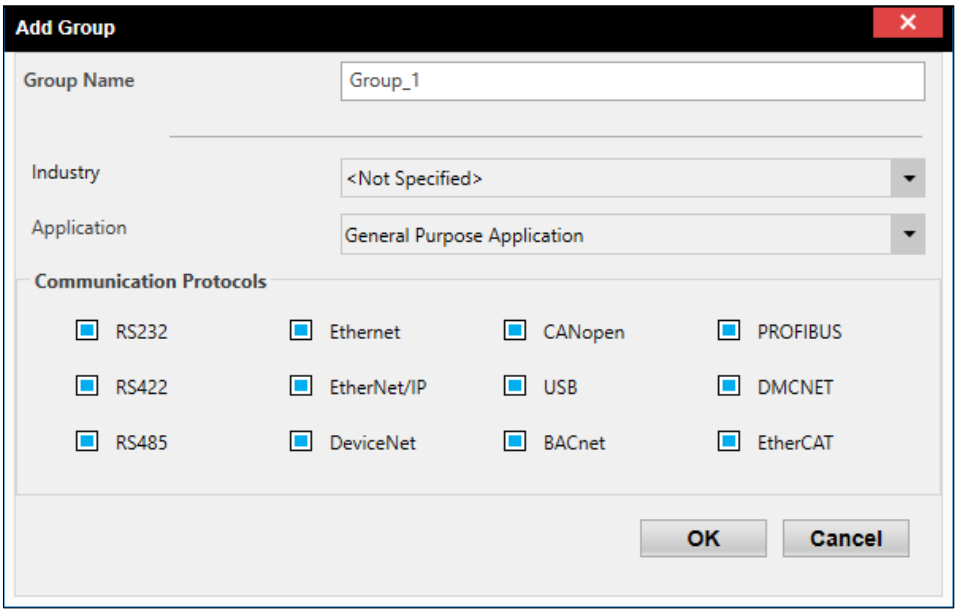


Figure 4 - 3: Add Group

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.

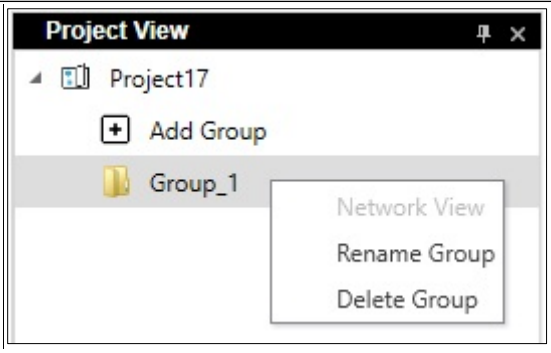


Figure 4 - 4: **Group Context Menu**

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

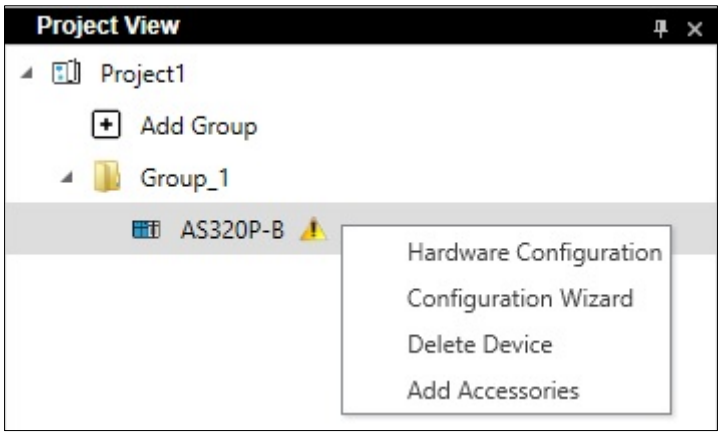


Figure 4 - 5: Product Context Menu

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 

.

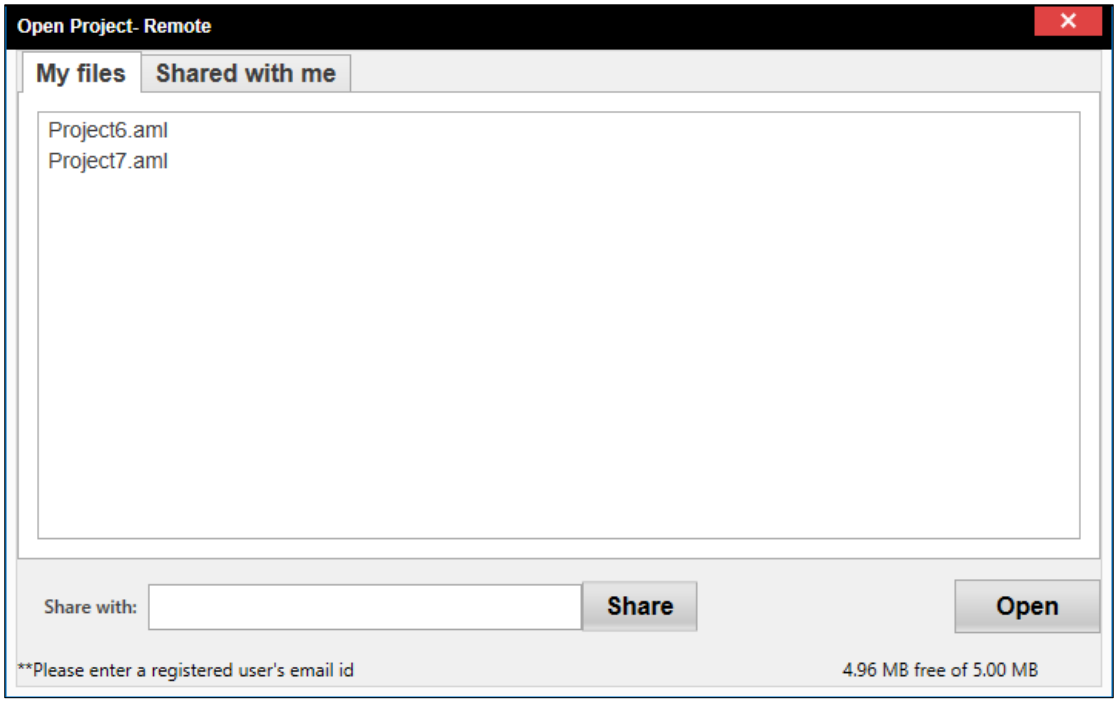


Figure 4 - 6: Open Project from DIAStudio Web

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

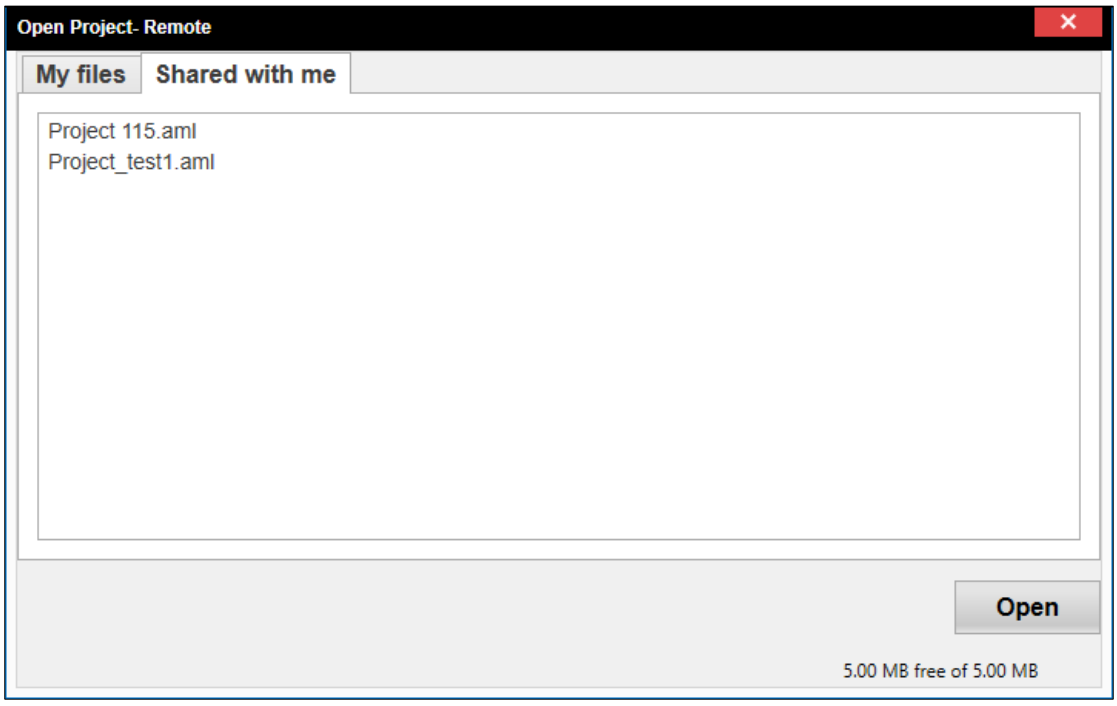


Figure 4 - 7: Shared with me

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.

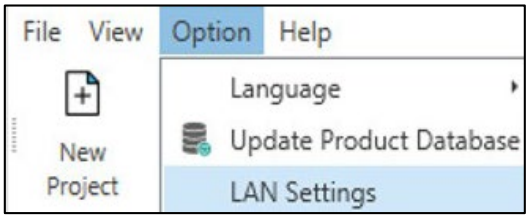


Figure 4 - 8: LAN Settings

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

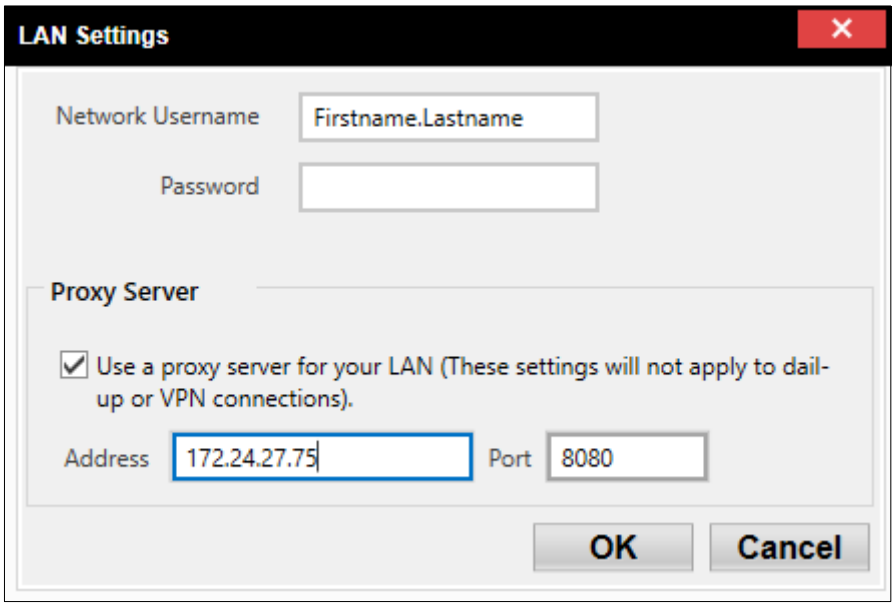


Figure 4 - 9: LAN Settings Window

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.

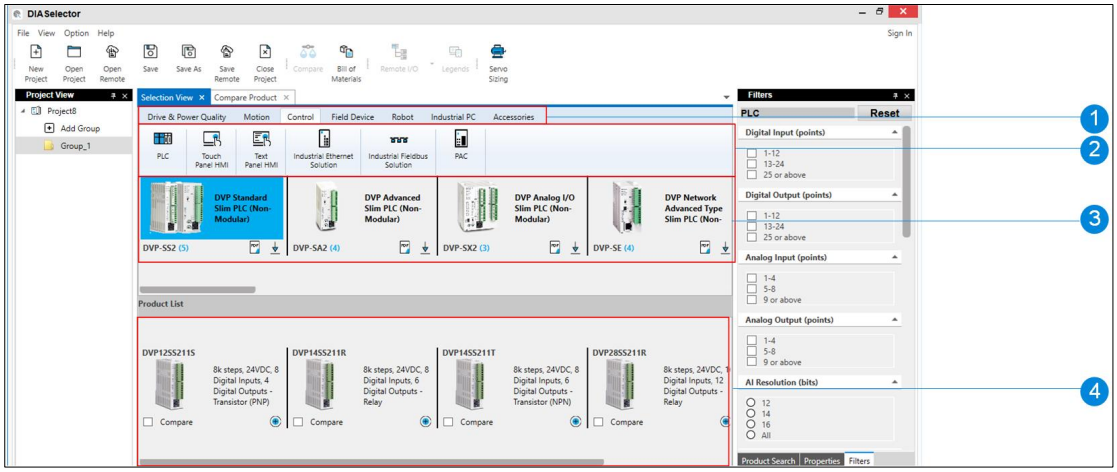


Figure 5 - 1: Selection View

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**.

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

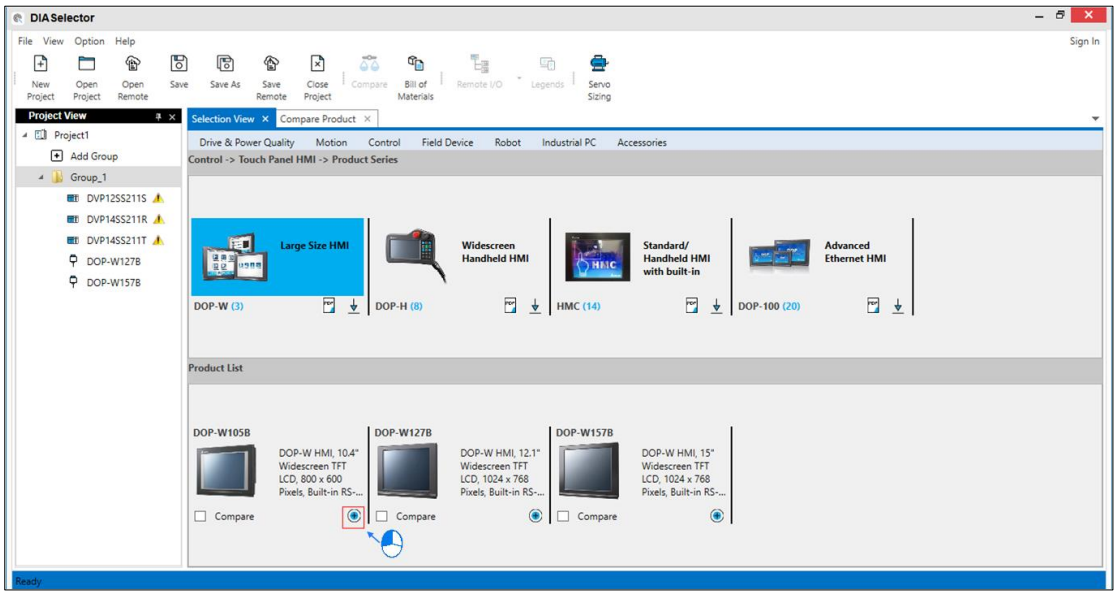
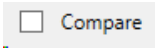


Figure 5 - 2: Add Products

Features

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

Icon	Description
	Click to download the product catalog.
	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.
	Click to add the selected product to the group.
	Click to select the product for property comparison in **Compare Product** feature. ***NOTE**: Select 2 or more products for comparison & click <Compare> icon from the quick access toolbar*.

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.

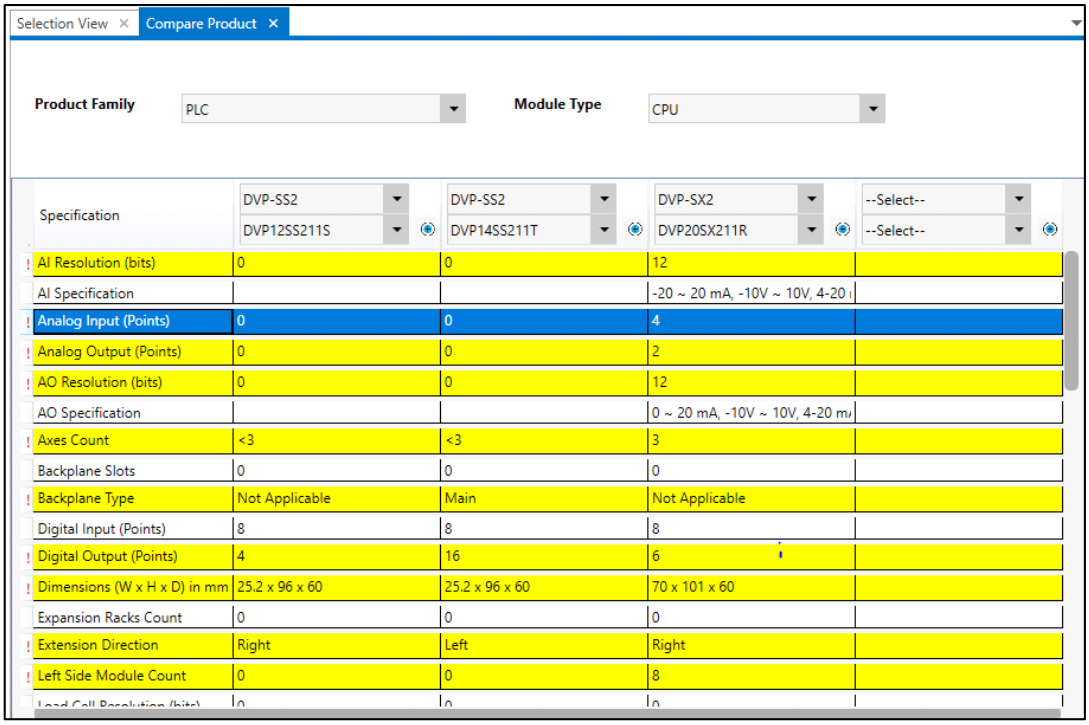


Figure 5 - 3: Compare Product Window

There are two ways to compare the products:

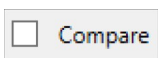
- Select the products to be compared from **Selection View** window and open **Compare Product** window. (**Selection View** > **Comparison**).

  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:

1. In the **Selection View**, click on the required **Product Category** > **Product Family** > **Product Series**.
2. In the **Product List**, click on 

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.

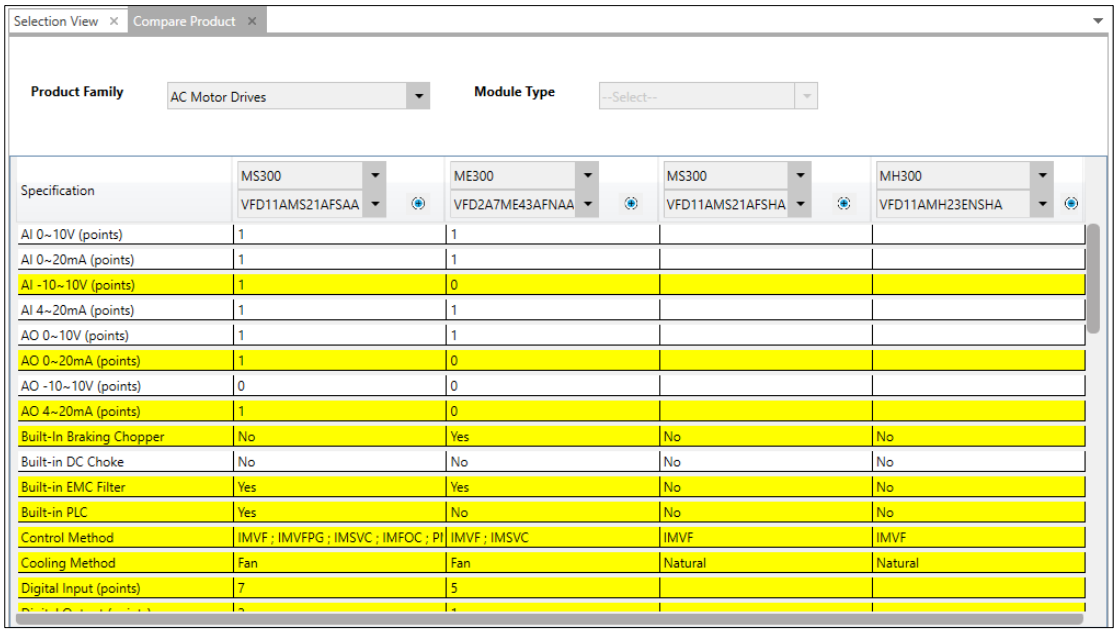


Figure 5 - 4: Compare Product Results

5. Click on 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.

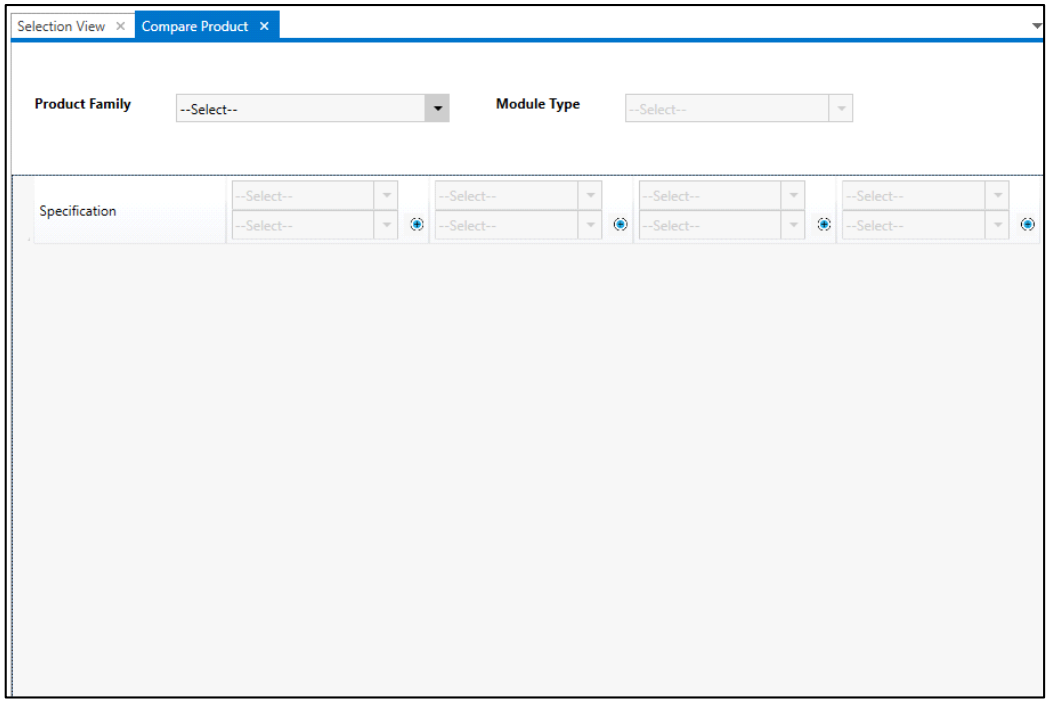


Figure 5 - 5: Compare Product

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.

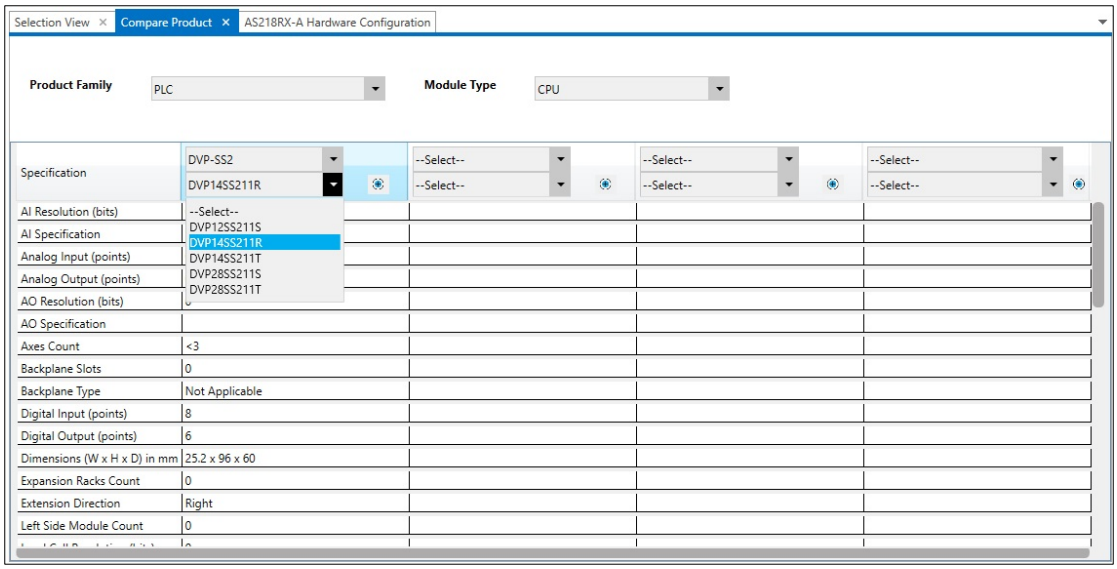


Figure 5 - 6: Compare Product -Product Selection

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  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.

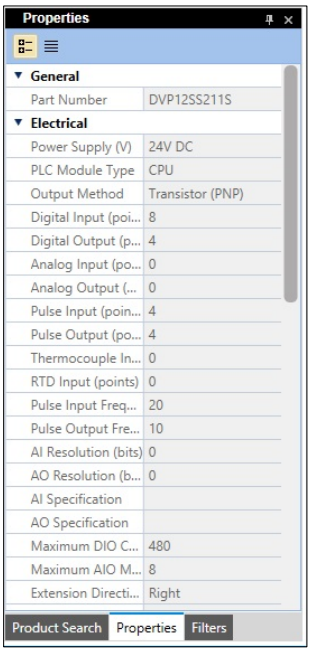


Figure 5 - 7: Properties

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.**

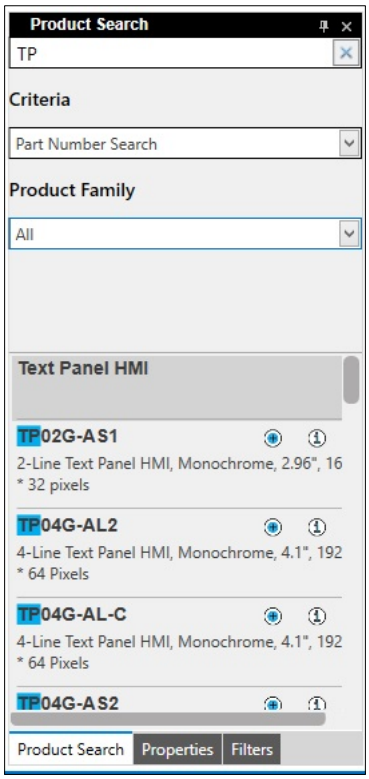


Figure 5 - 8: Product Search Window

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.
2. 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.

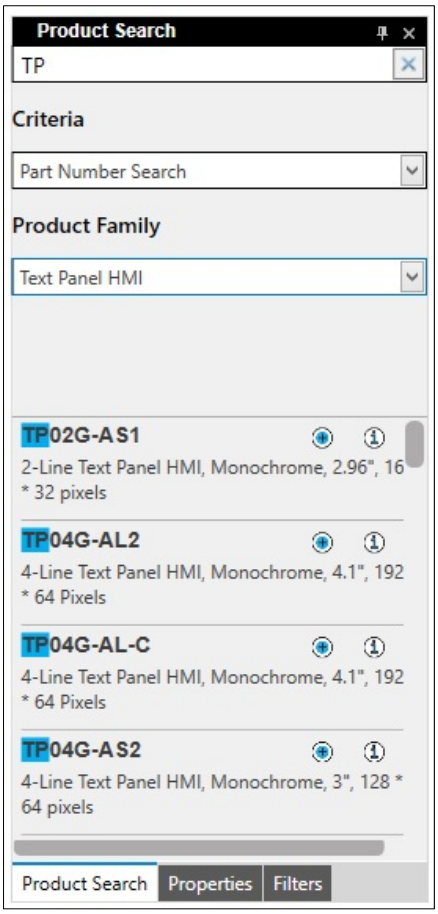


Figure 5 - 9: Part Number Search with Product Family

4. Click on 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 products to the group.*

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.
2. 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.
4. 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.

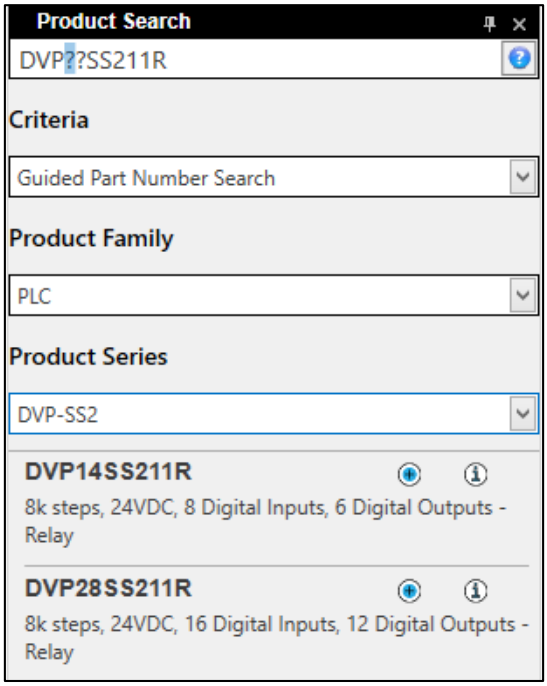


Figure 5 - 10: Guided Part Number Search

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

the nomenclature of particular pattern.

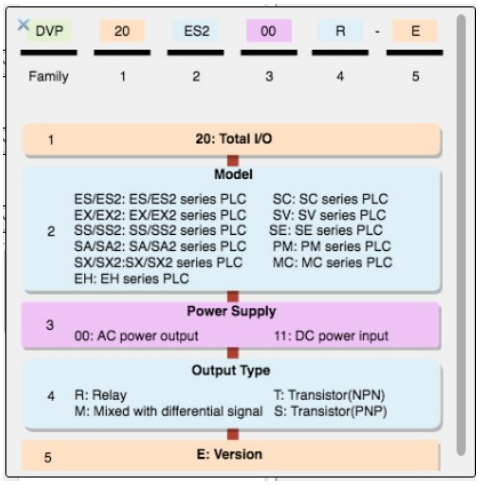


Figure 5 - 11: Pattern Search Image

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.

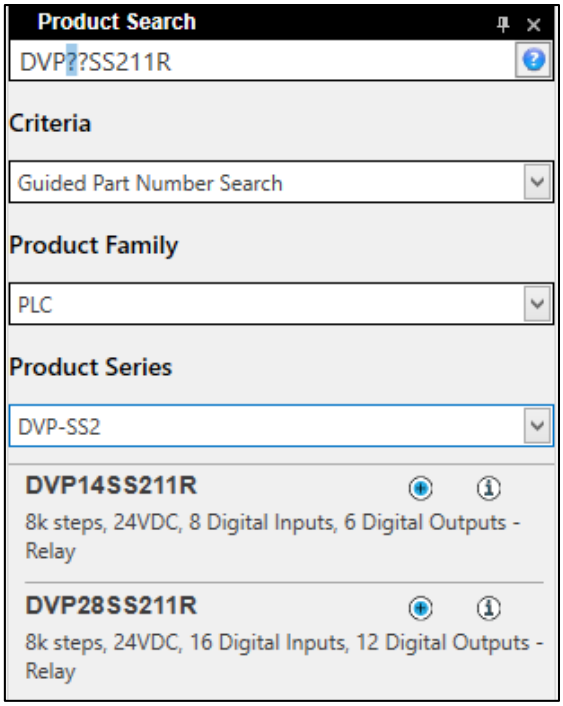


Figure 5 - 12: Pattern Search Result

7. Click on 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.

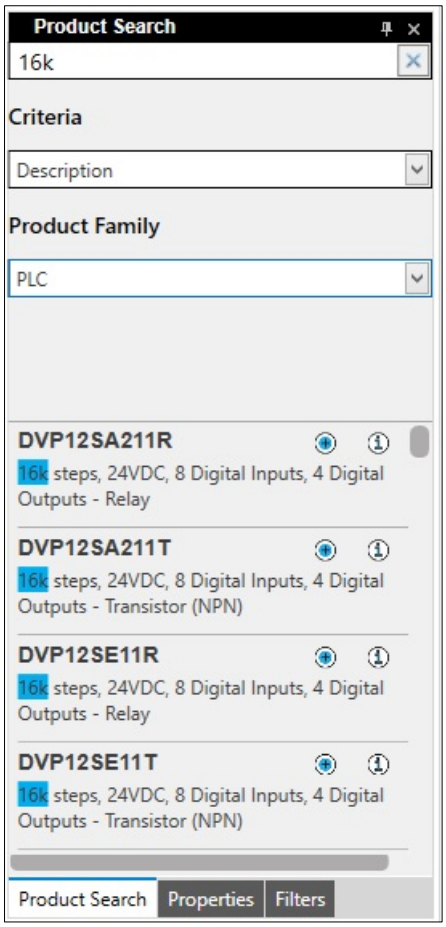


Figure 5 - 13: Product Search Description

***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.

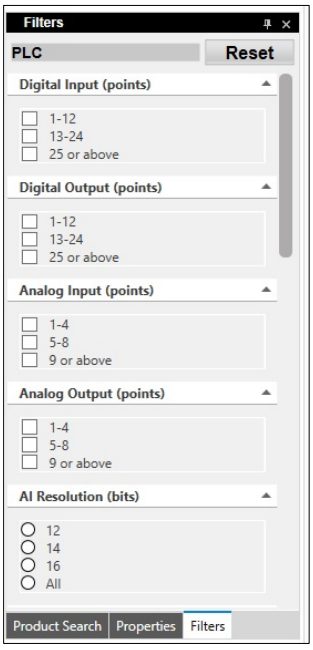


Figure 5 - 14: Filters

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.

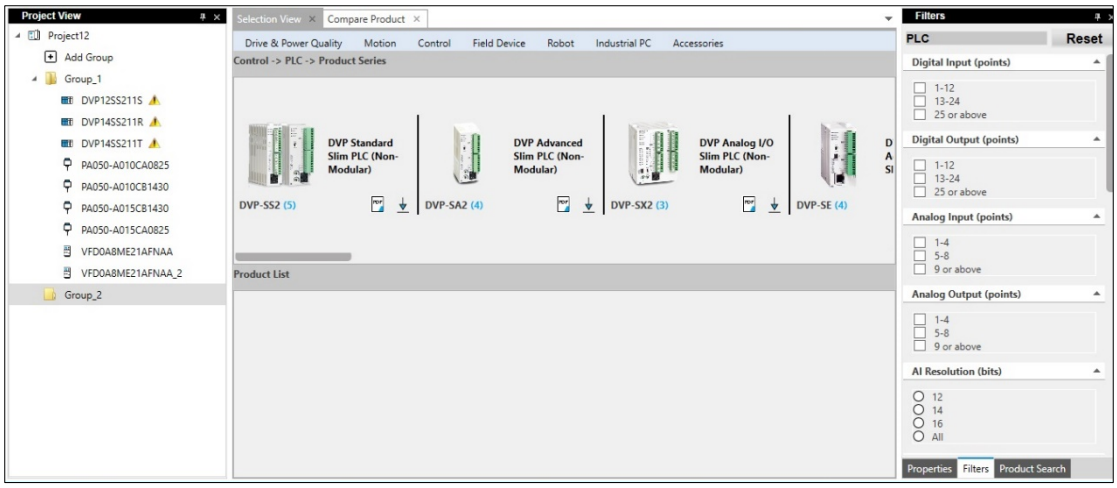


Figure 5 - 15: Filter Property applied for PLC

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.

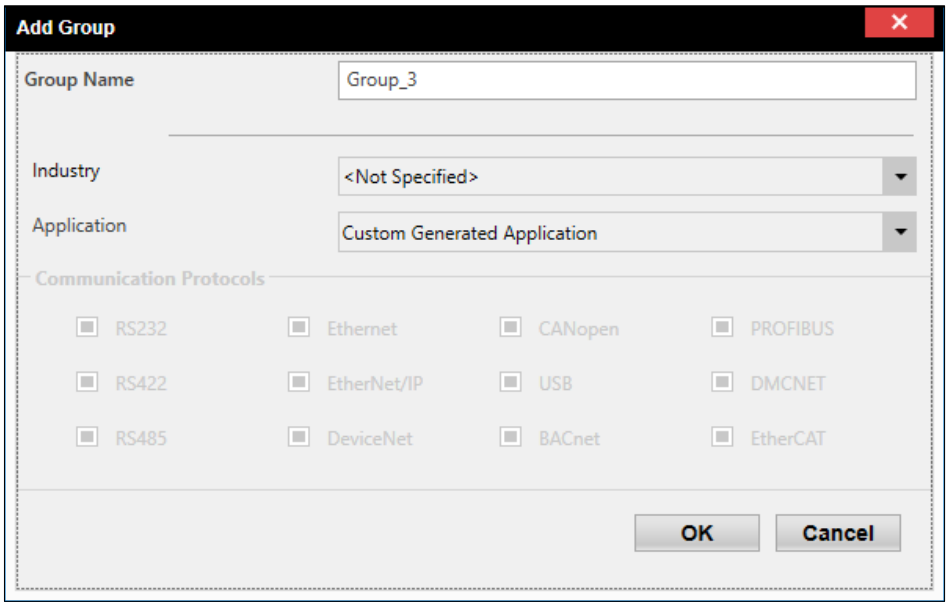


Figure 6 - 1: Custom Generated Application

***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.

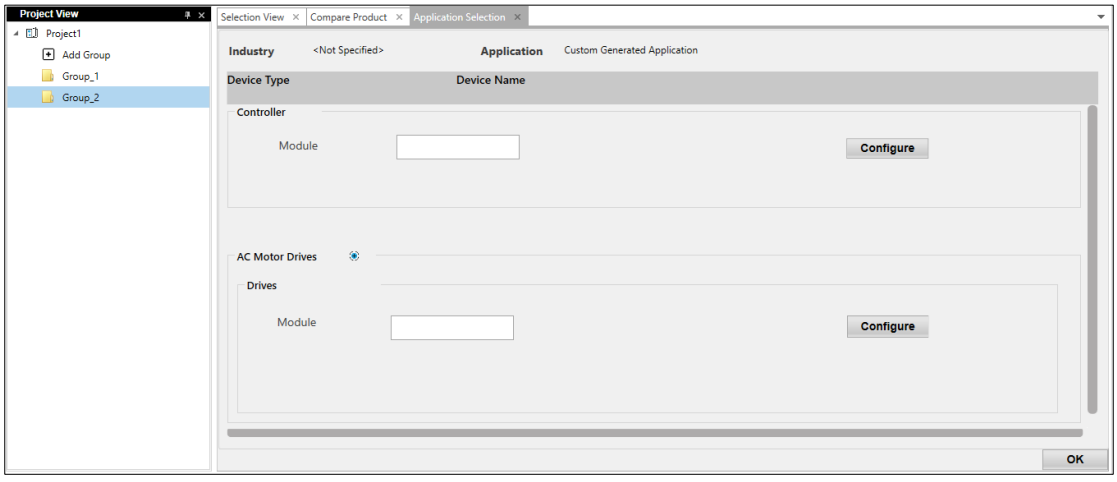


Figure 6 - 2: Application Selection Window

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.

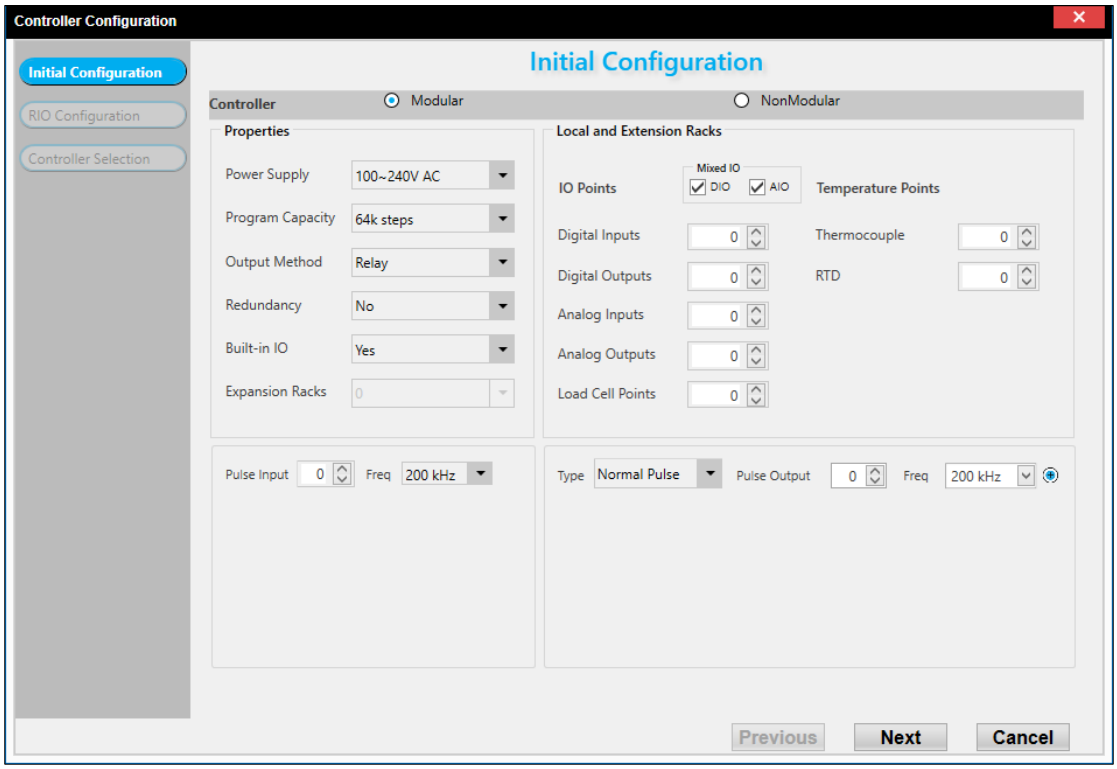


Figure 6 - 3: Controller Configuration - Initial Configuration

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.*

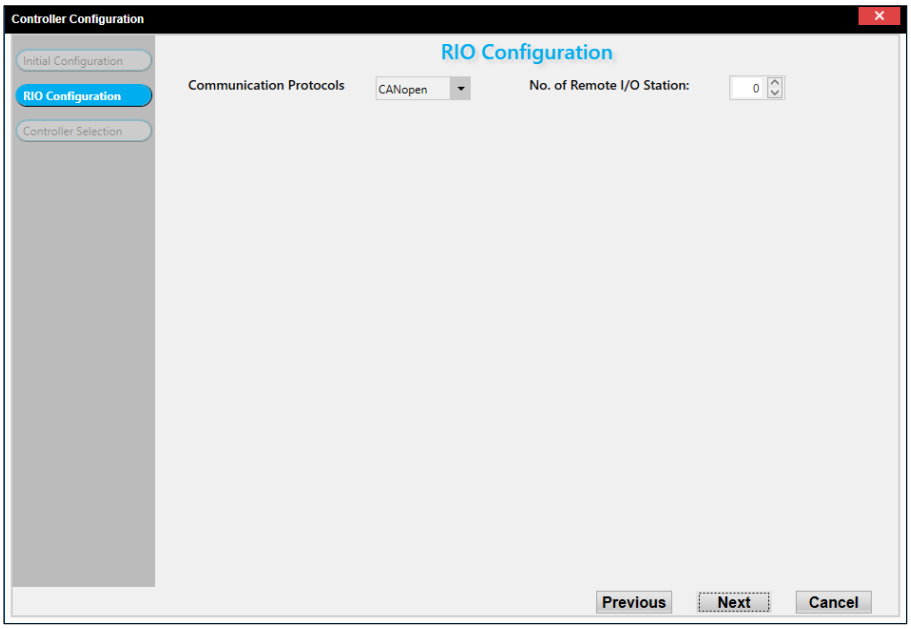


Figure 6 - 4: Controller Configuration - RIO Configuration

6. 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.

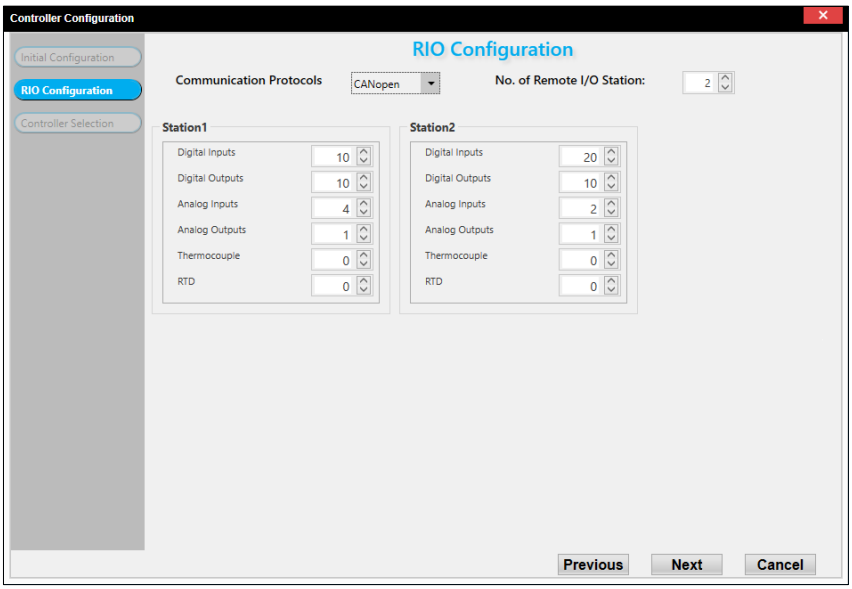


Figure 6 - 5: Controller Configuration - RIO Configuration Example

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.

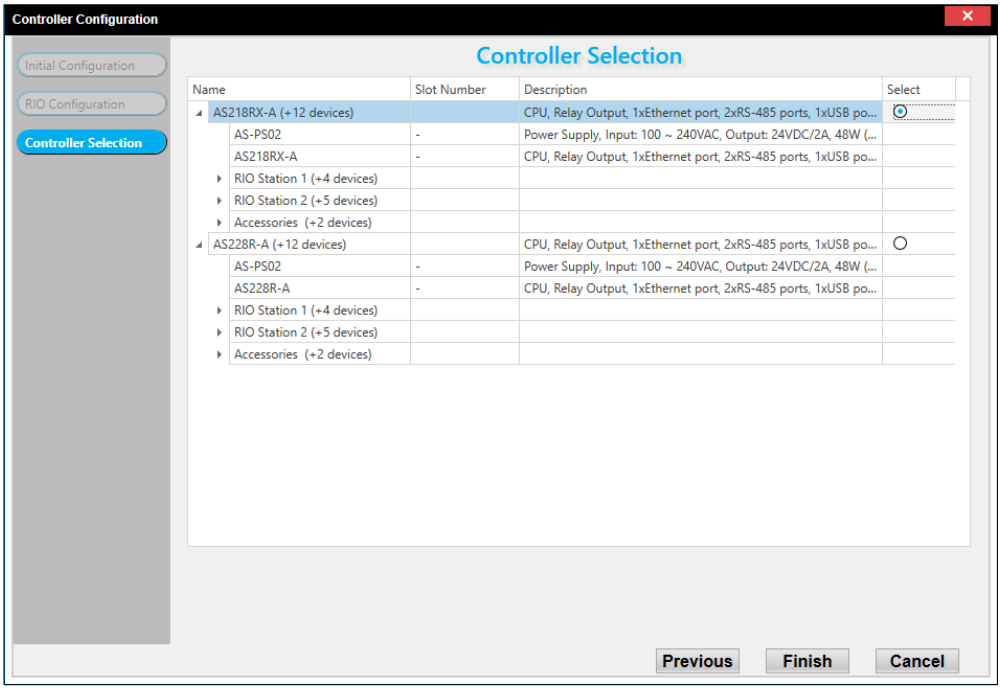


Figure 6 - 6: Controller Configuration - Controller Selection

8. 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.

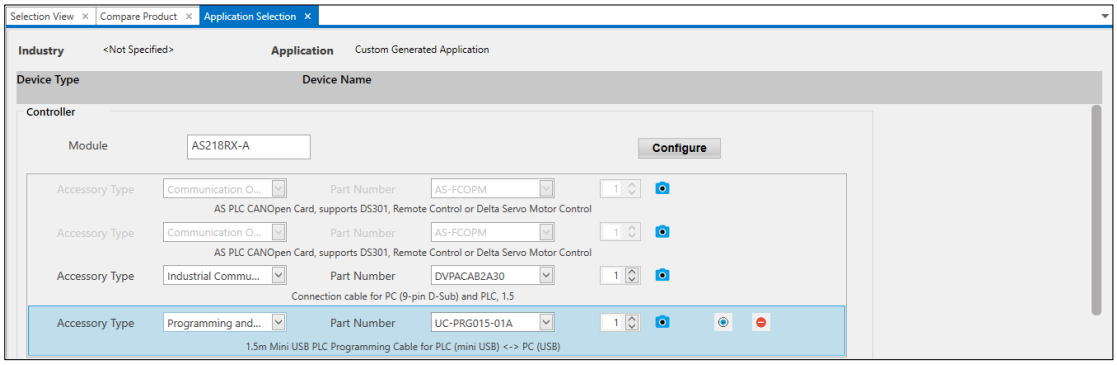


Figure 6 - 7: Controller Configuration - Accessory Selection

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 to view the image of the accessory. The mandatory accessories cannot be deleted by user. Optional accessories can be added or deleted.*

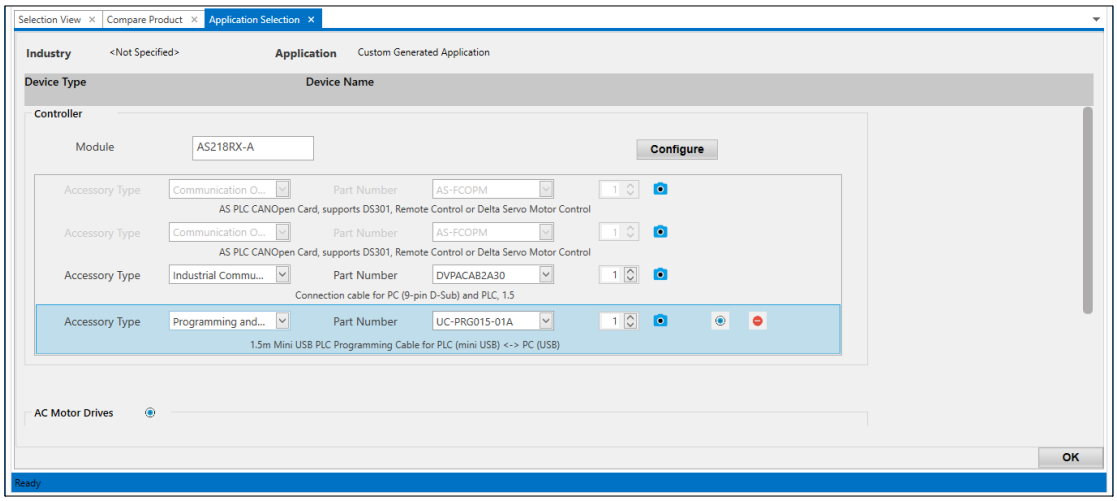


Figure 6 - 8: Application Selection

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.

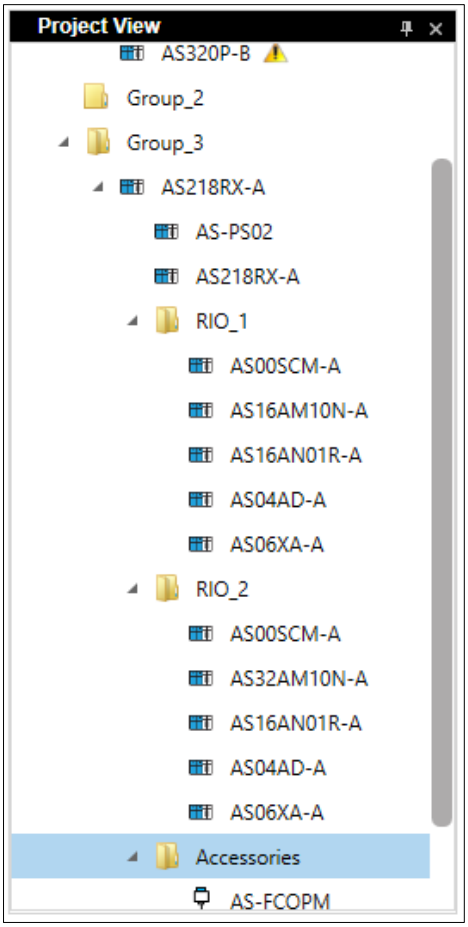


Figure 6 - 9: Controller Configuration - Selection added to Group

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.

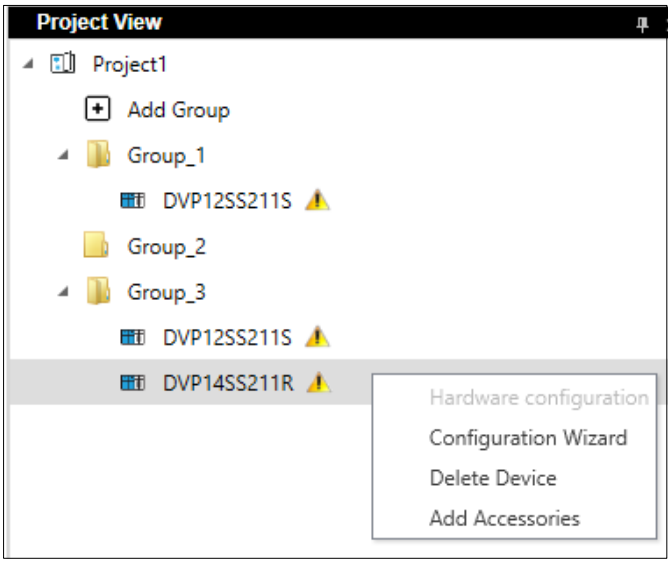


Figure 6 - 10: PLC - Context Menu

3. Click on **Configuration Wizard**.

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

   - Initial Configuration
   - RIO Configuration
   - Controller Selection

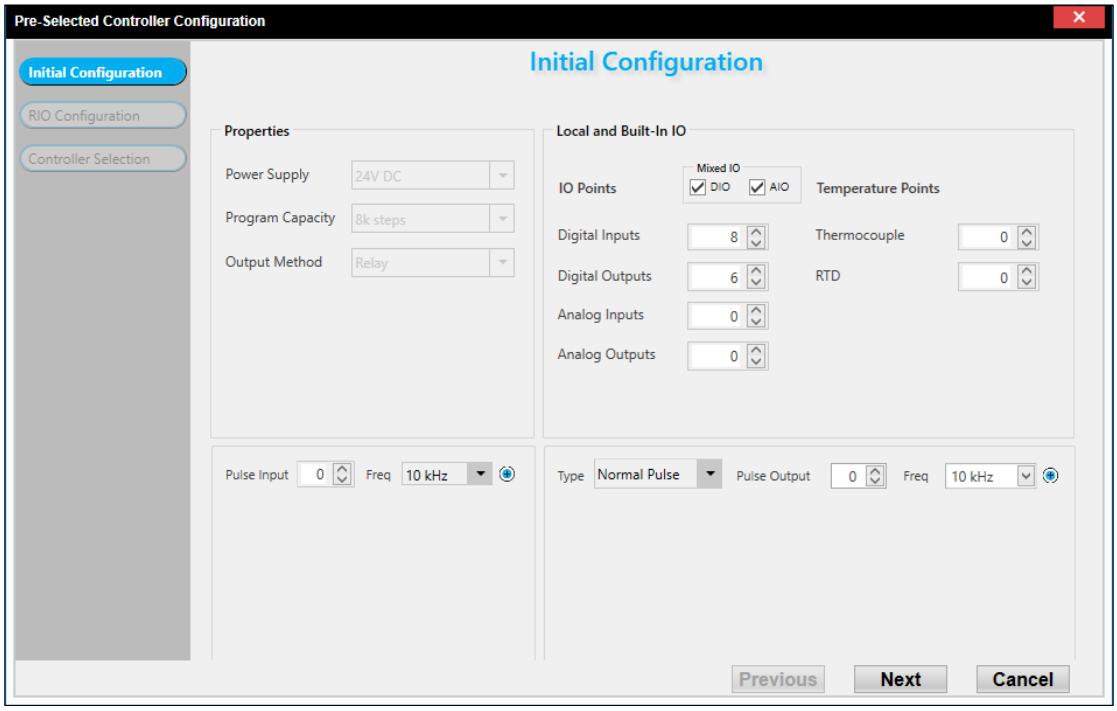


Figure 6 - 11: Pre–Selected Configuration Wizard - Initial Configuration

***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 *6.2.1 Custom Generated Application - PLC (Controller)* 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** drop-down list as shown in the figure.

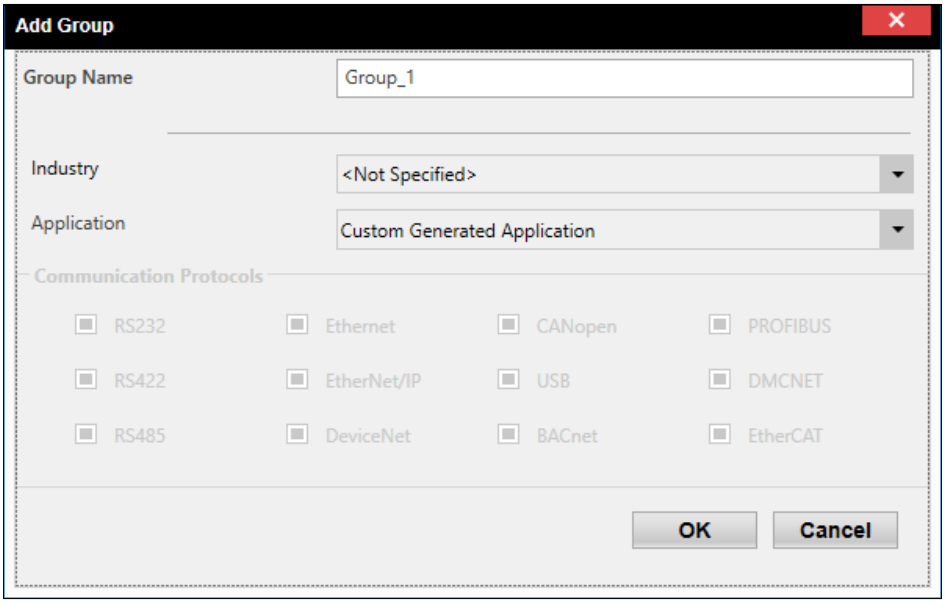


Figure 6 - 12: Custom Generated Application

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

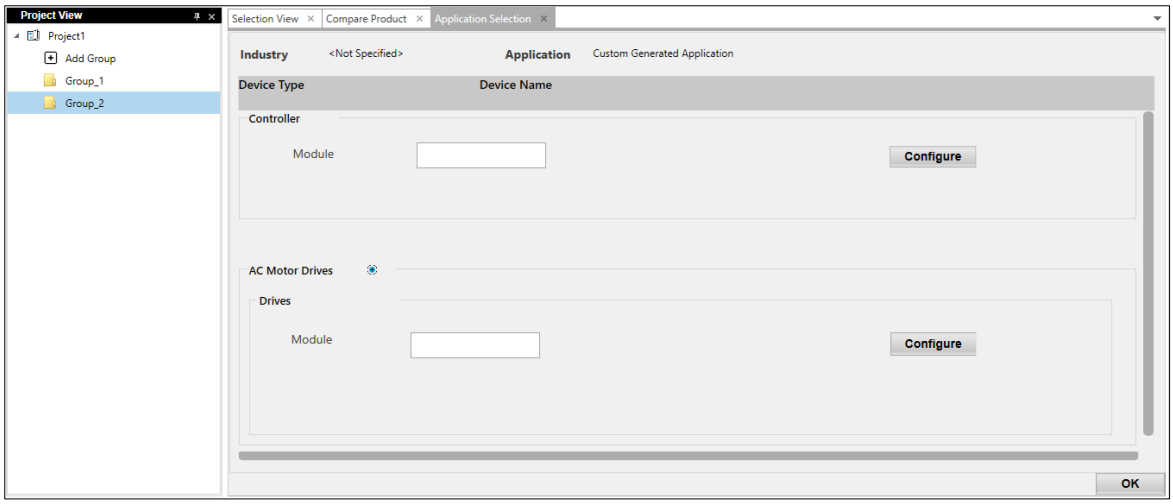


Figure 6 - 13: Configuration of Application Selection

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

6. 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.

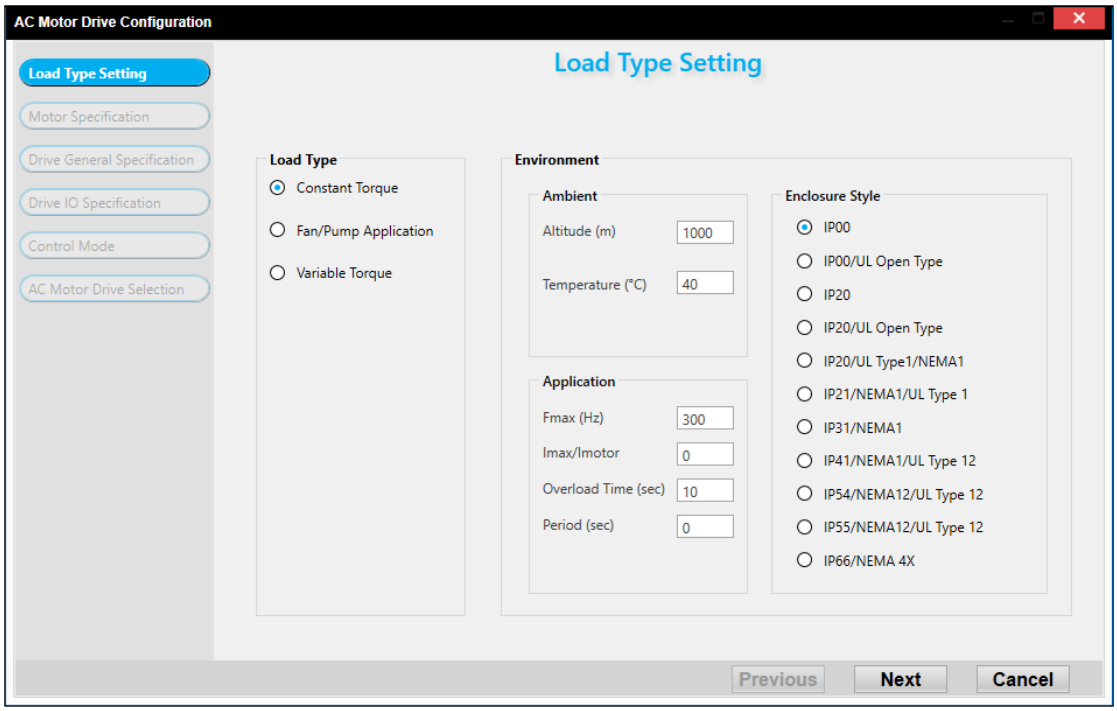


Figure 6 - 14: AC Motor Drive Configuration - Load Type Setting

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.

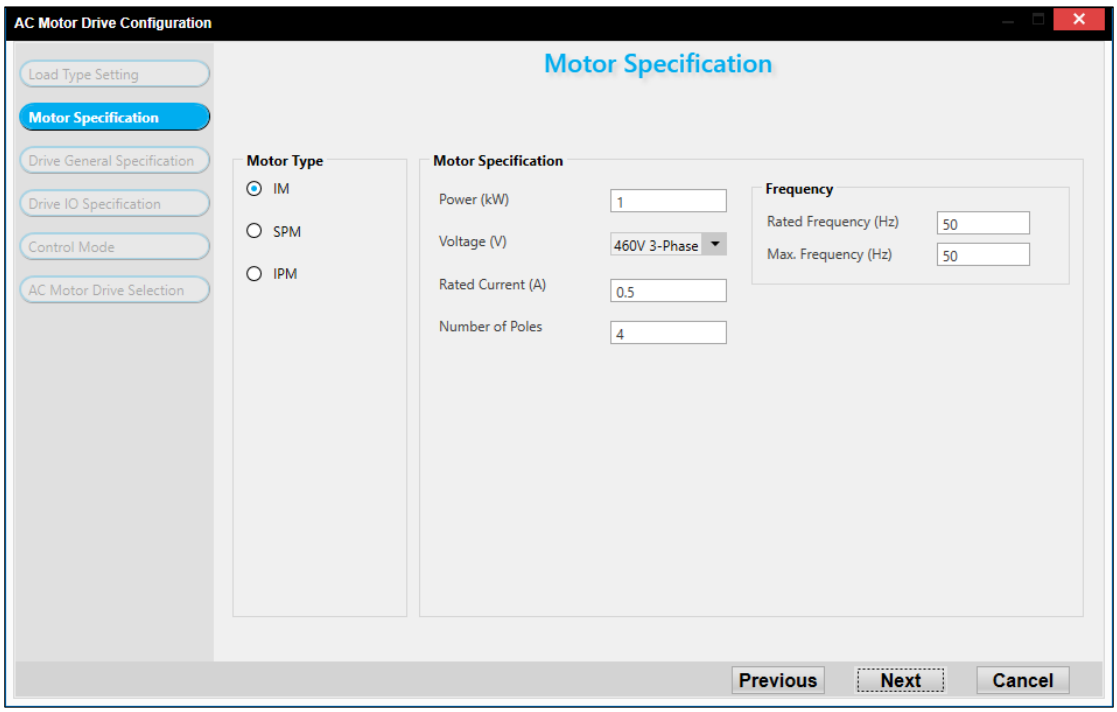


Figure 6 - 15: AC Motor Drive Configuration - Motor Specification

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.

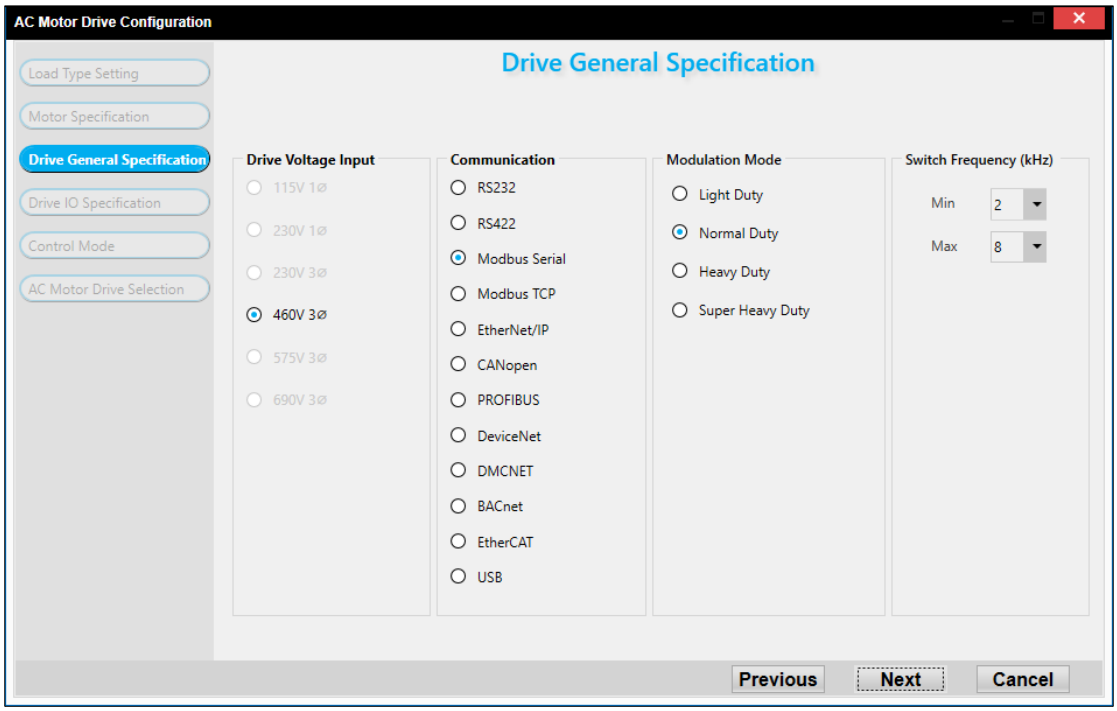


Figure 6 - 16: AC Motor Drive Configuration - Drive General Specification

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.

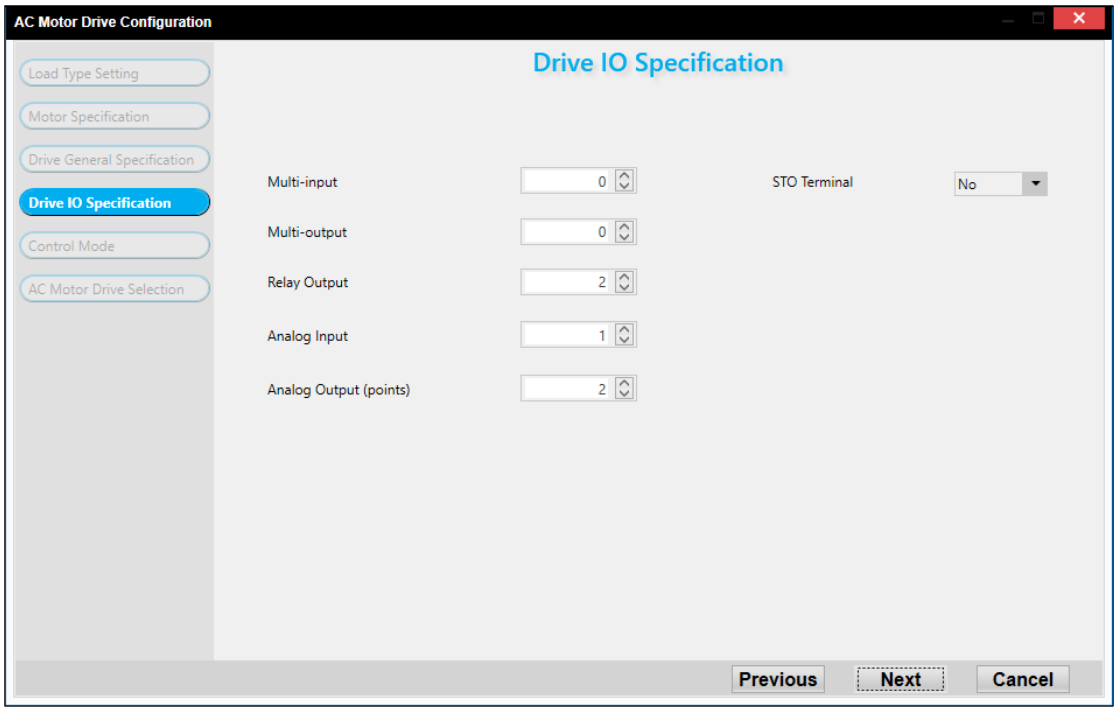


Figure 6 - 17: AC Motor Drive Configuration - Drive IO Specification

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.

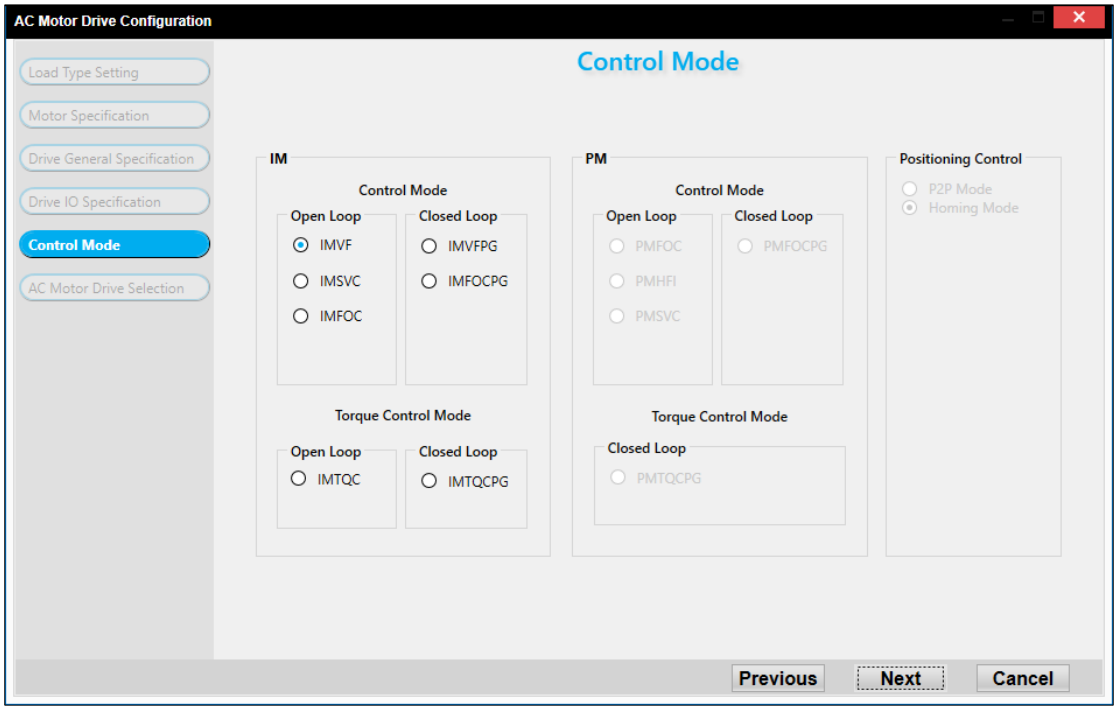


Figure 6 - 18: AC Motor Drive Configuration – Control Mode

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.

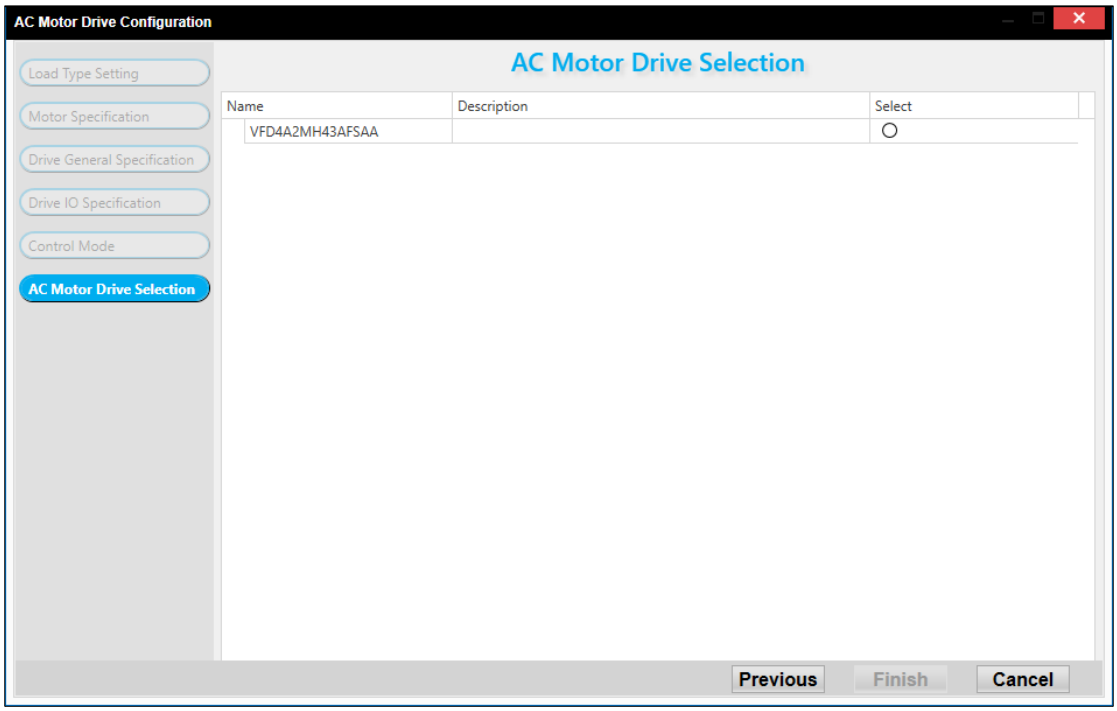


Figure 6 - 19: AC Motor Drive Configuration – AC Motor Drive Selection

17. Click on **Finish** button to add the AC Motor Drive and Accessories to the **Application Selection** window as shown in the figure.

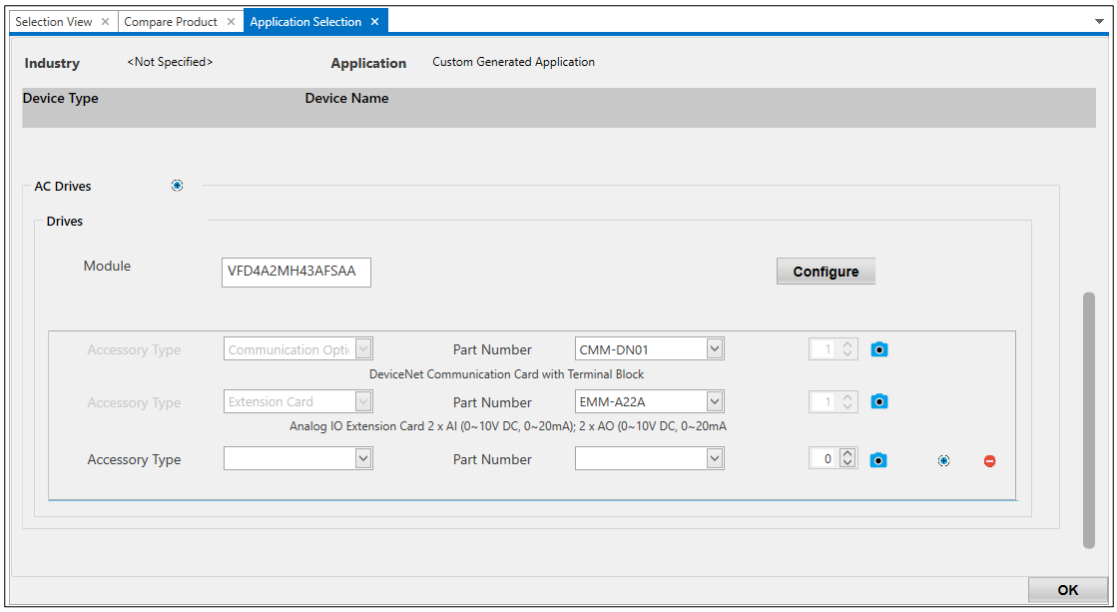


Figure 6 - 20: AC Motor Drive Configuration - Application Selection

***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.

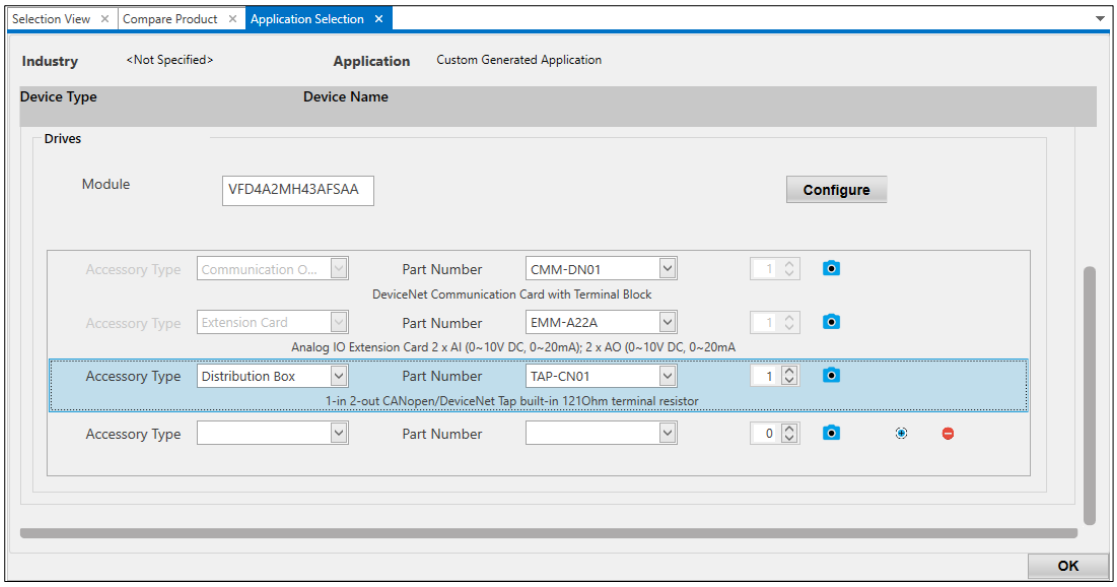


Figure 6 - 21: AC Motor Drive Configuration - Adding optional Accessories

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.
2. Right-click on the AC Motor Drive to open the context menu and click on **Add Accessories** as shown in the figure.

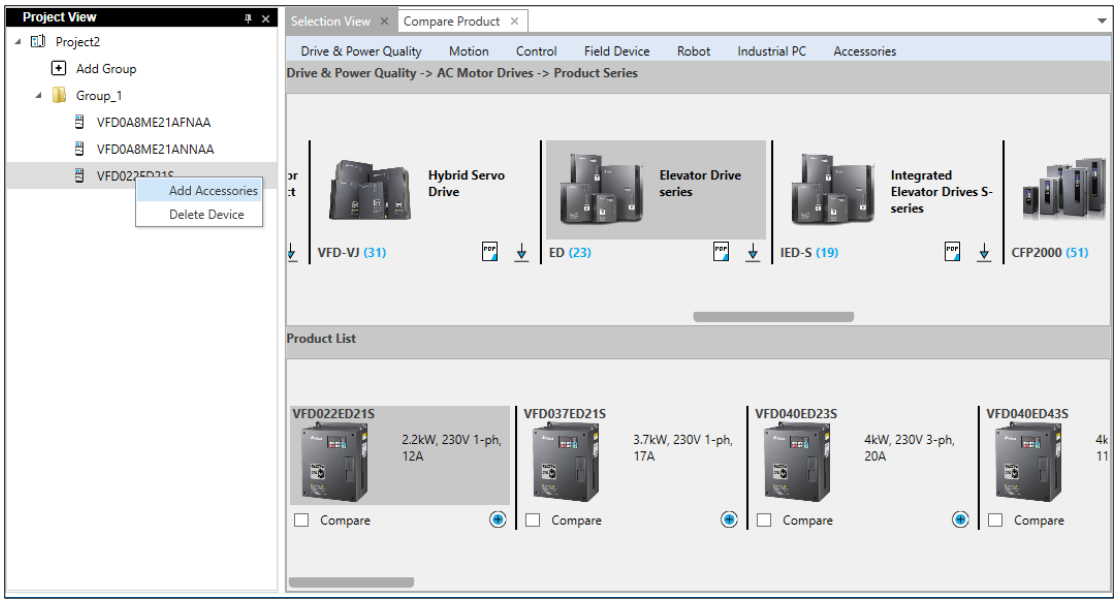


Figure 6 - 22: AC Motor Drive - Adding Accessory

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

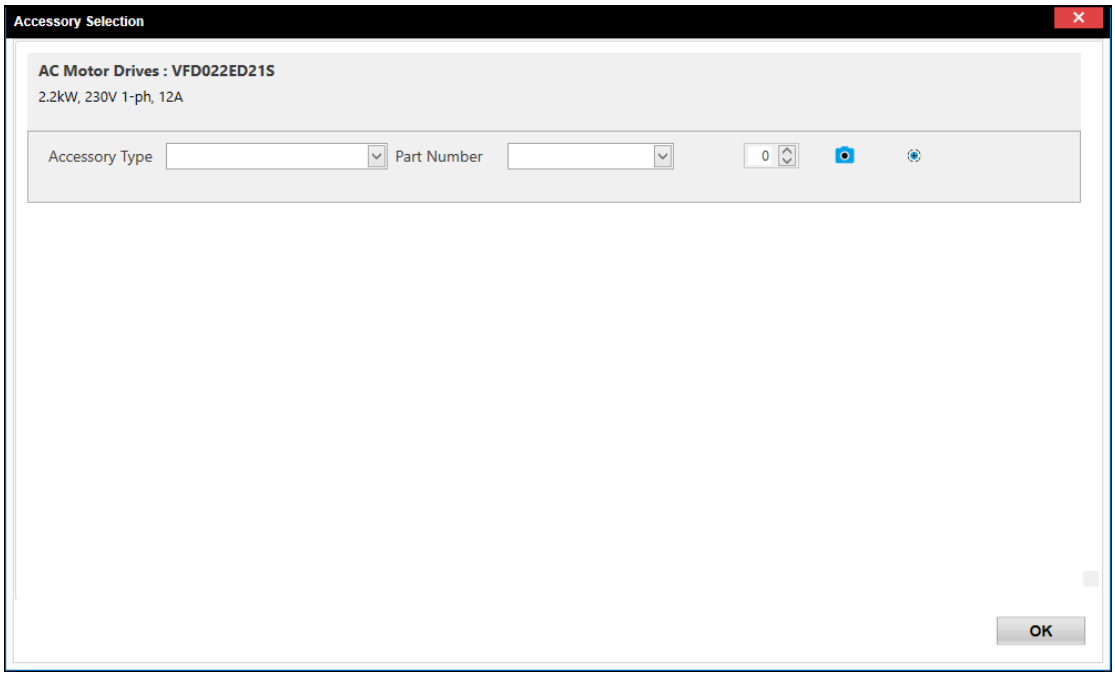


Figure 6 - 23: AC Motor Drive – Accessory Selection

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

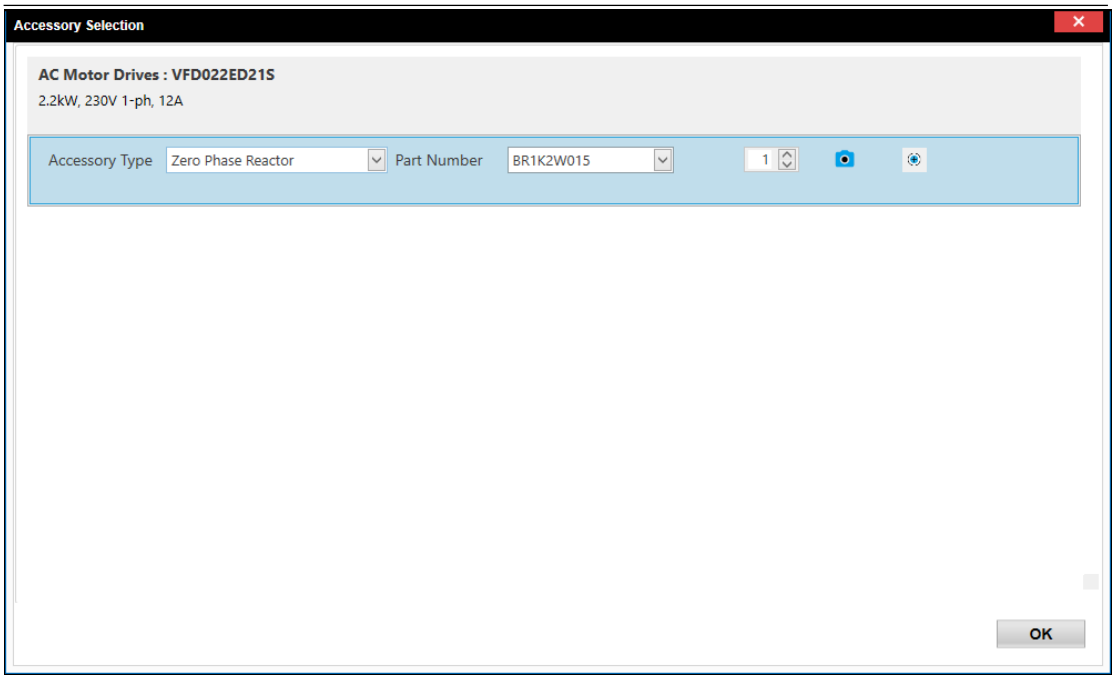


Figure 6 - 24: AC Motor Drive - Accessory Selection Window

4. Click on  icon to add more accessory to the device as shown in the figure.

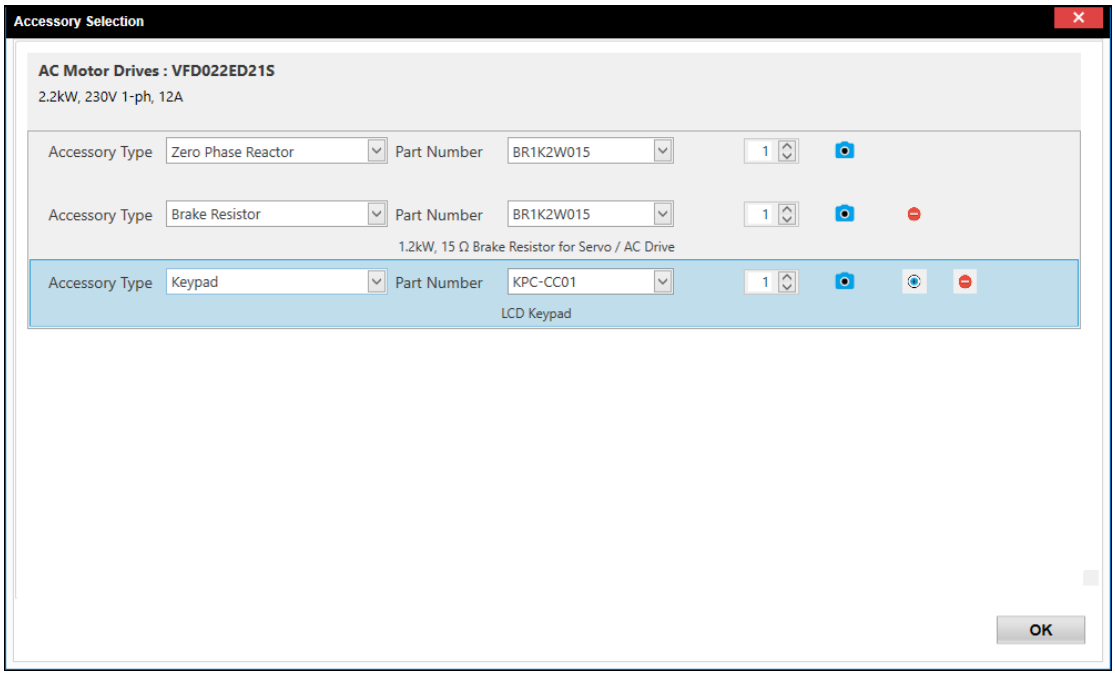


Figure 6 - 25: Adding Accessories to AC Motor Drive

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

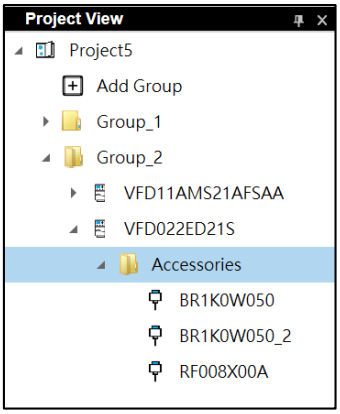


Figure 6 - 26: AC Motor Drive and Accessories

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 

icon on the toolbar.

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

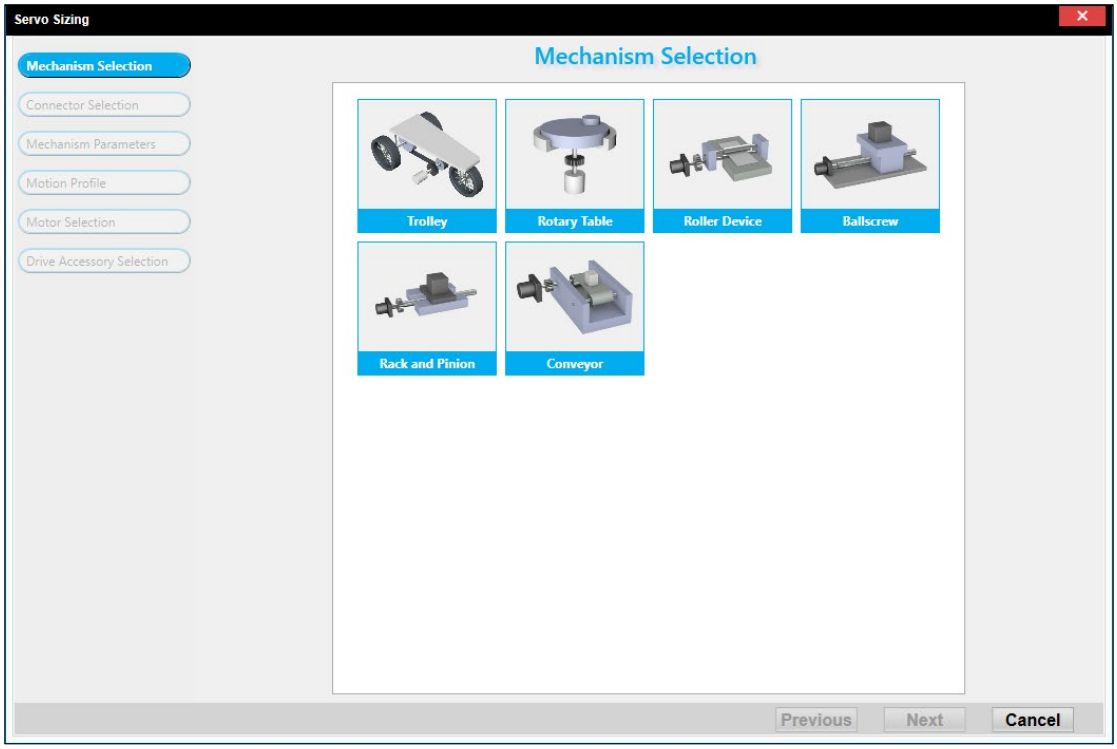


Figure 6 - 27: Servo Sizing window

3. Select a mechanism and click **Next**.

4. Select/enter parameters according to user needs for Servo selection:

- **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.*

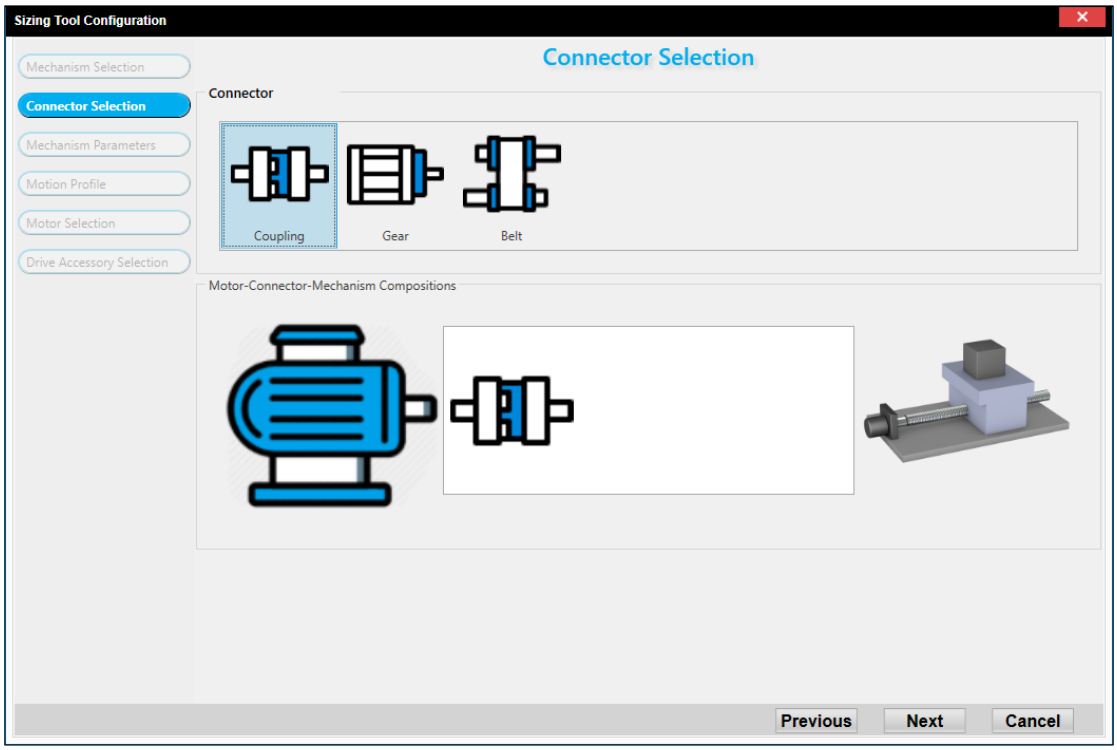


Figure 6 - 28: Connector Selection window

- **Mechanism Parameters**

  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

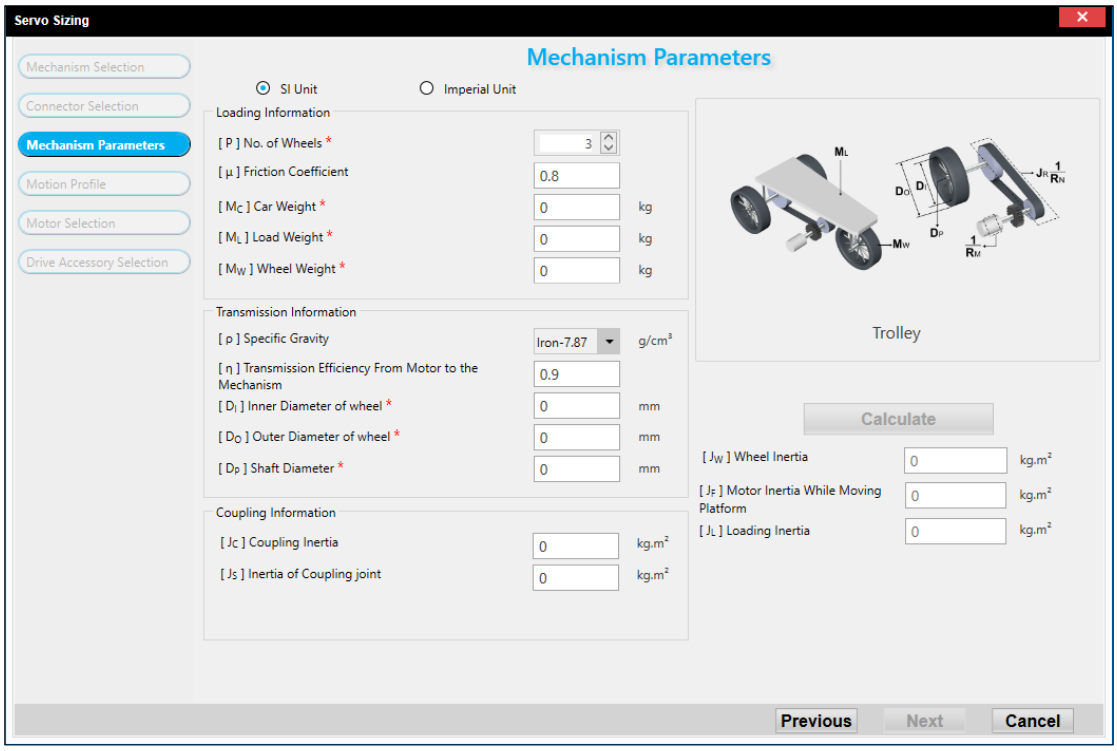


Figure 6 - 29: Mechanism Parameters – Trolley

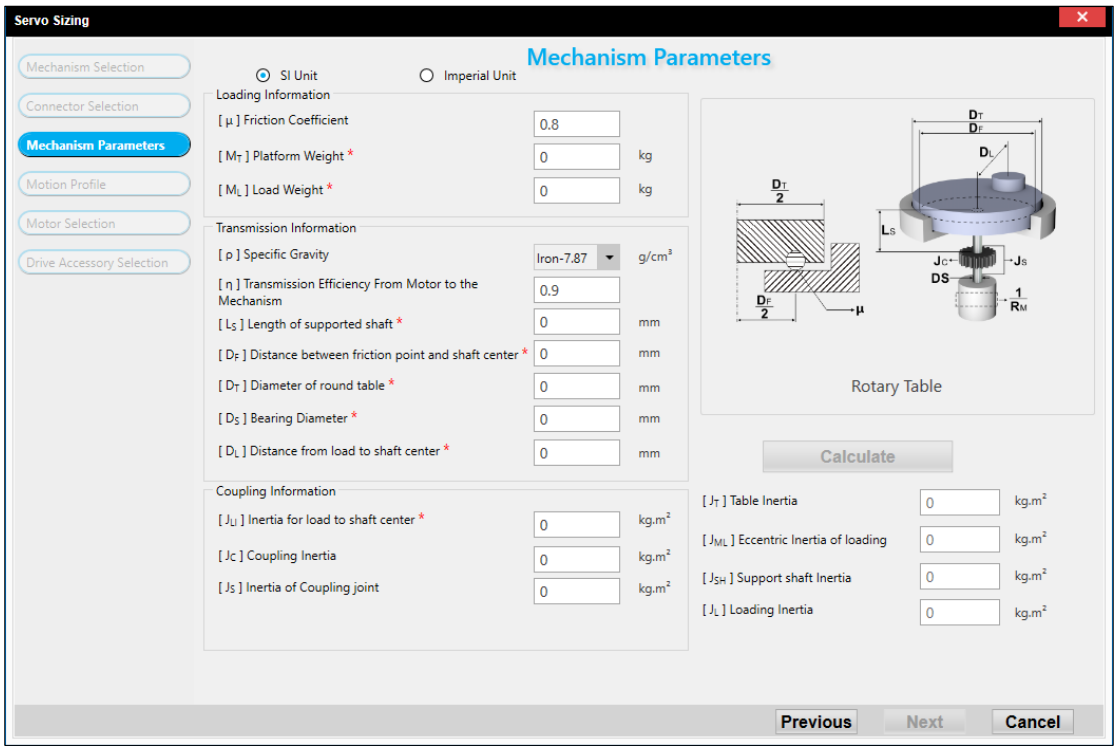


Figure 6 - 30: Mechanism Parameters – Rotary Table

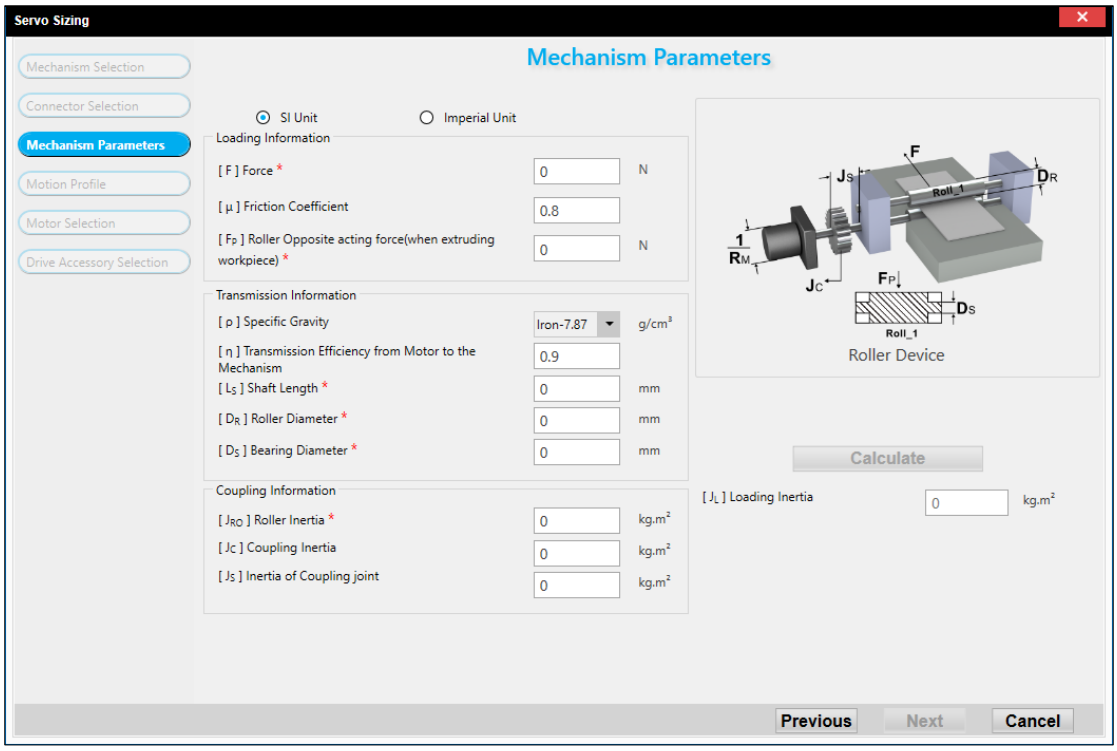


Figure 6 - 31: Mechanism Parameters – Roller Device

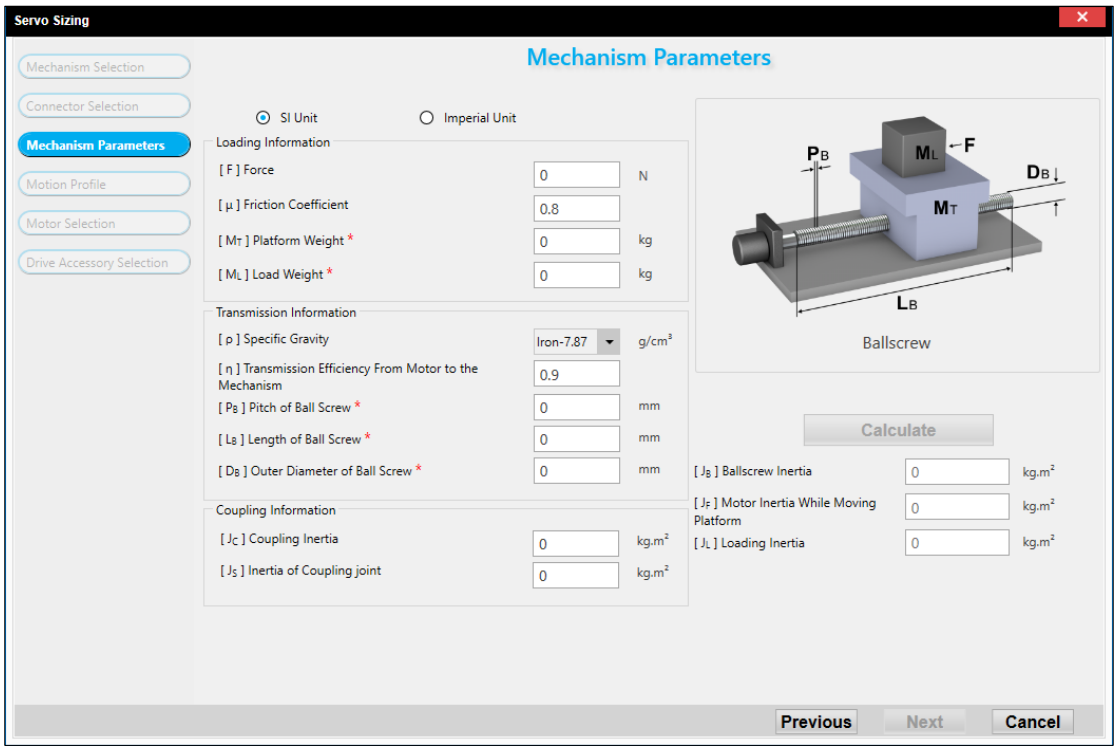


Figure 6 - 32: Mechanism Parameters - Ball Screw

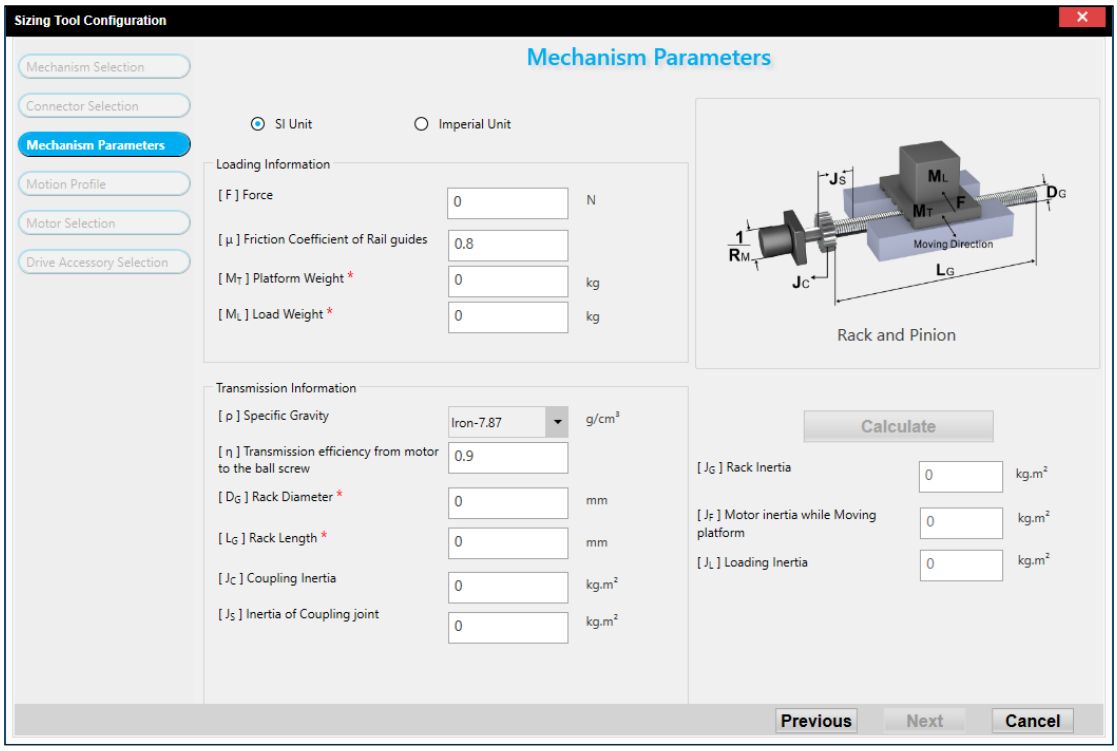


Figure 6 - 33: Mechanism Parameters - Rack & Pinion

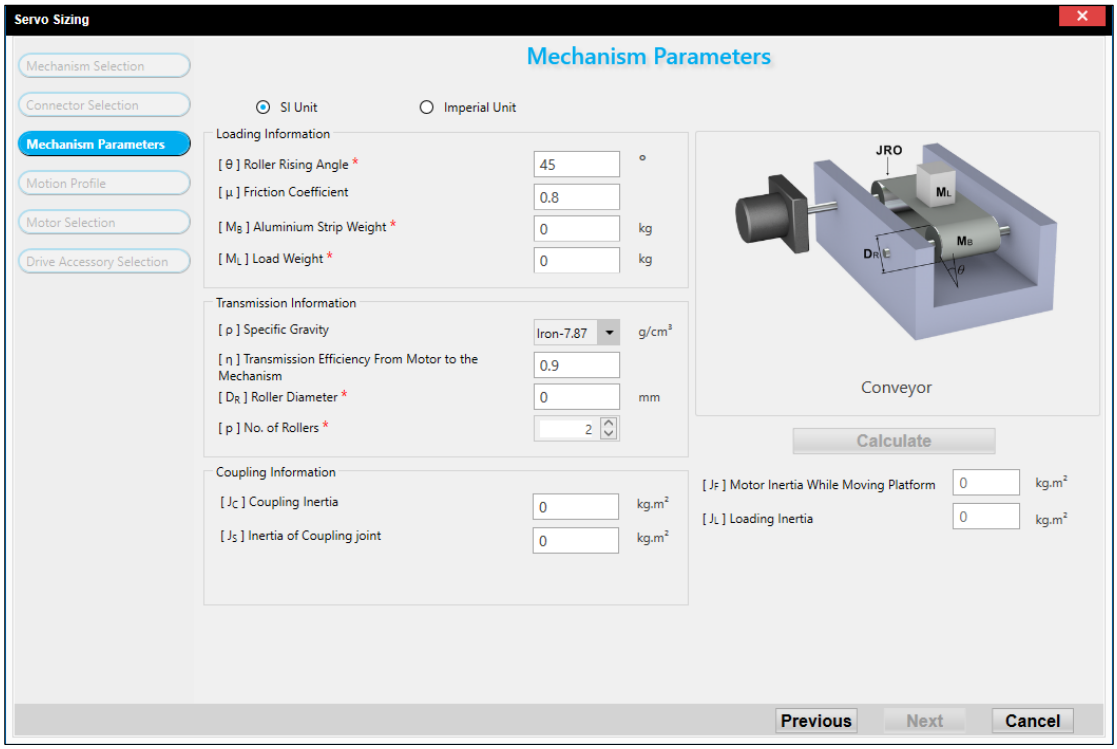


Figure 6 - 34: Mechanism Parameters - Conveyor

- **Motion Profile**

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

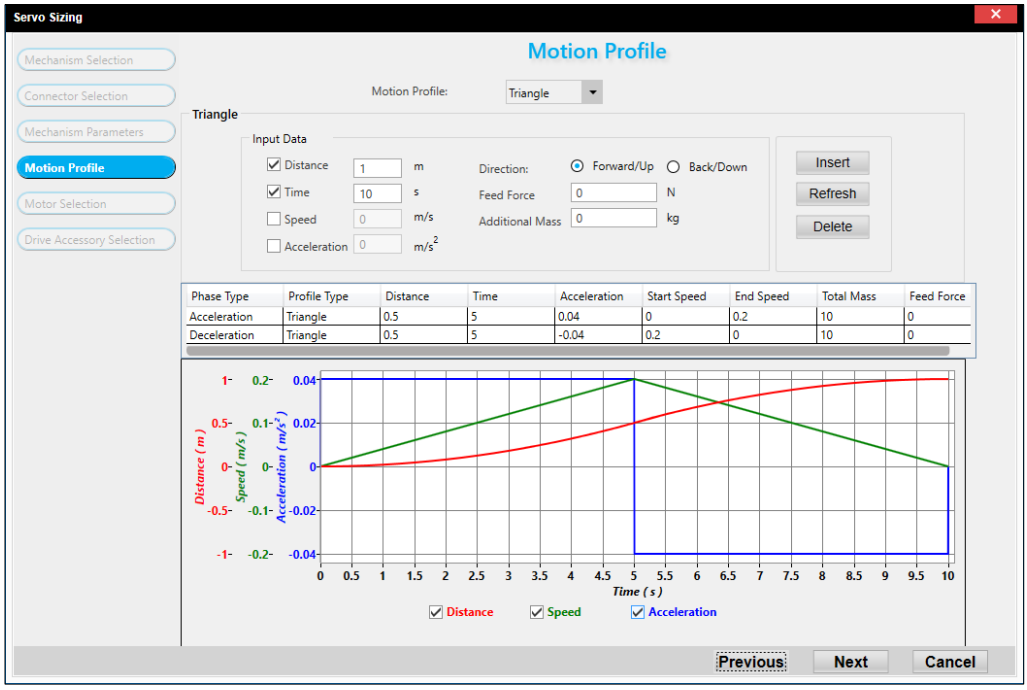


Figure 6 - 35: Motion Profile window

- **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)*

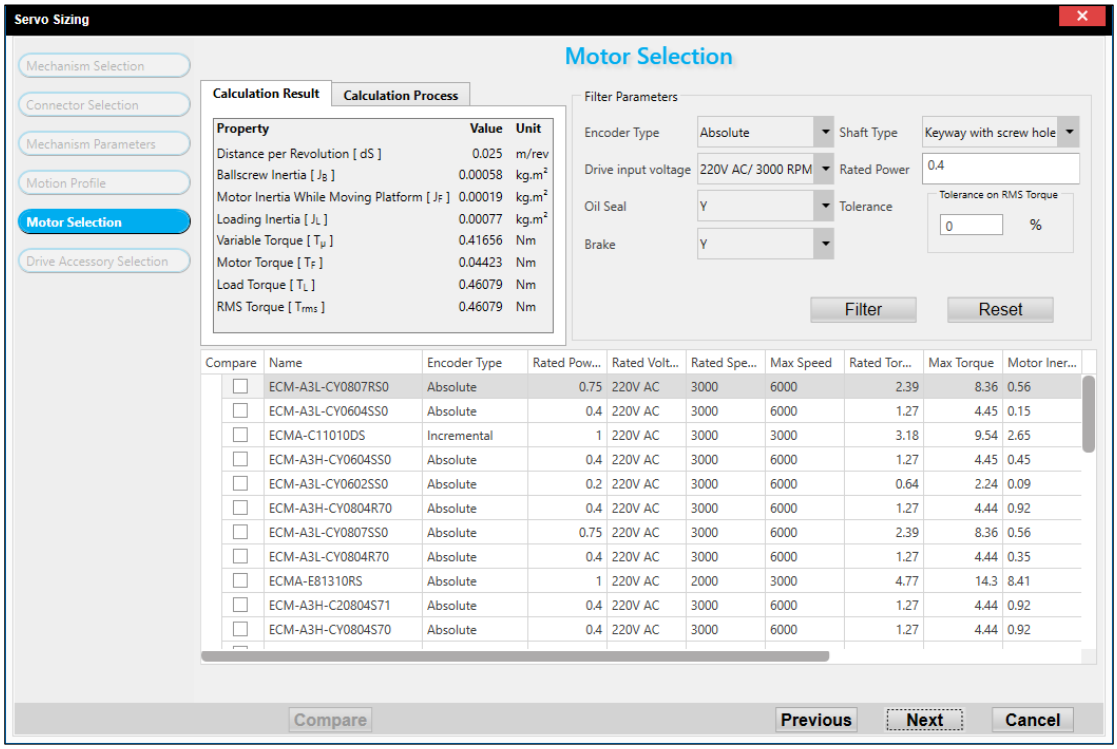


Figure 6 - 36: Motor Selection window

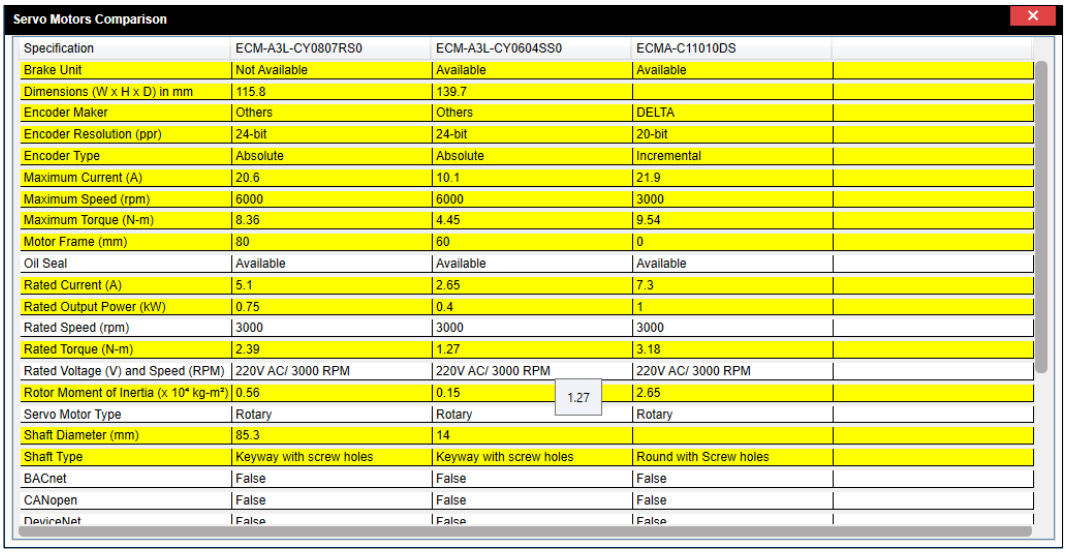


Figure 6 - 37: AC Servo Motors Comparison window

- **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*).

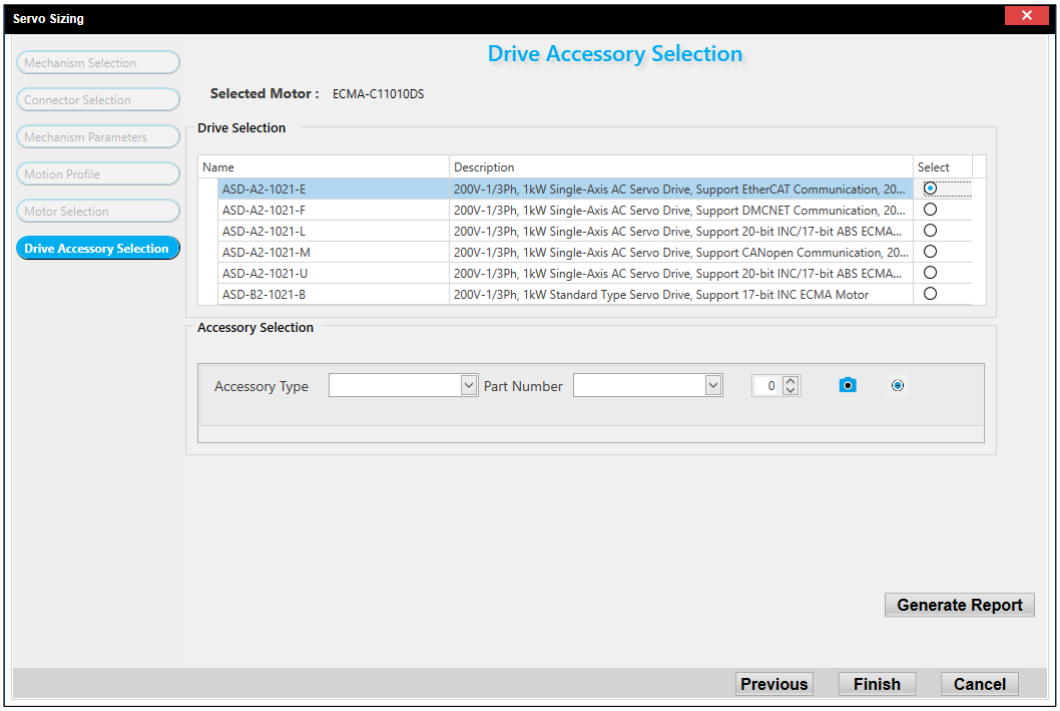


Figure 6 - 38: Drive Accessory Selection window

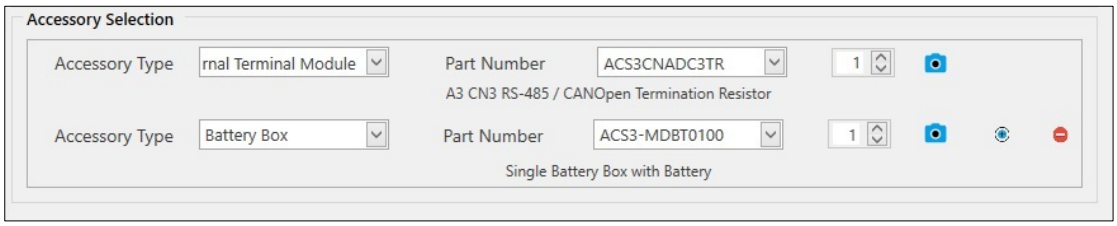


Figure 6 - 39: Accessory Selection

5. Click **Finish** in the **Drive Accessory Selection** tab.

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

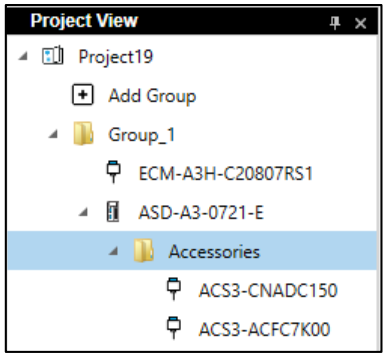


Figure 6 - 40: Project View after Sizing

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.

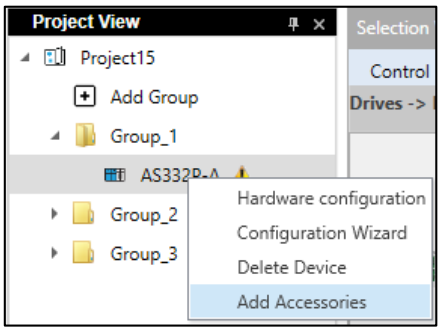


Figure 6 - 41: Context menu

2. Click **Add Accessories**.

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

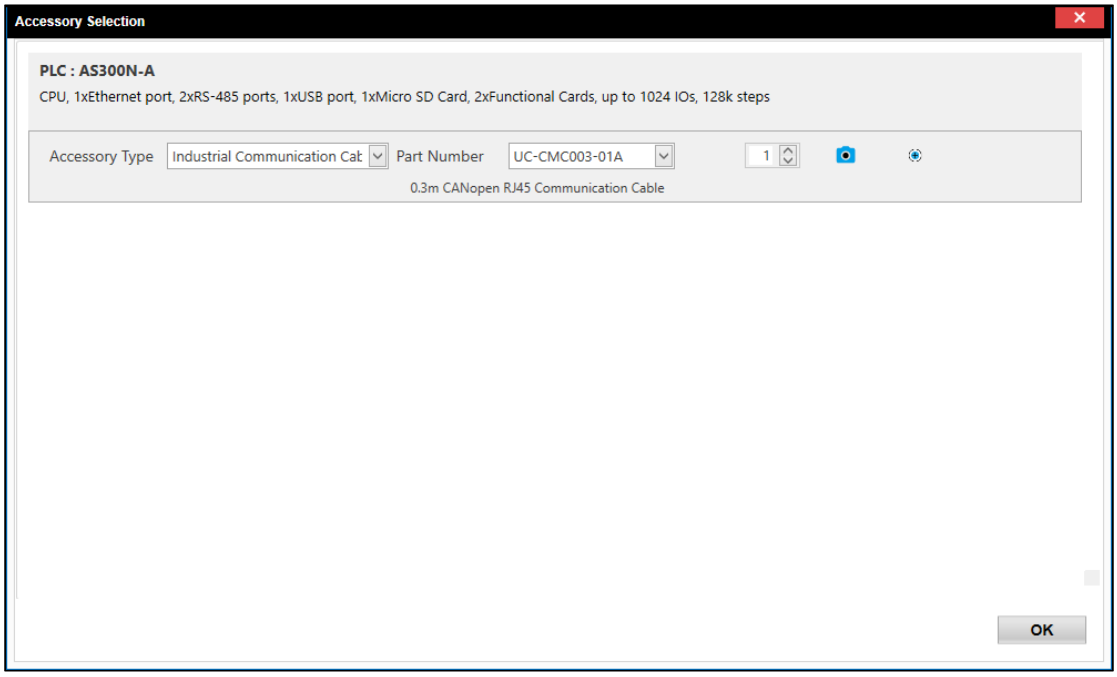


Figure 6 - 42: Adding Accessories to Module

3. 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,

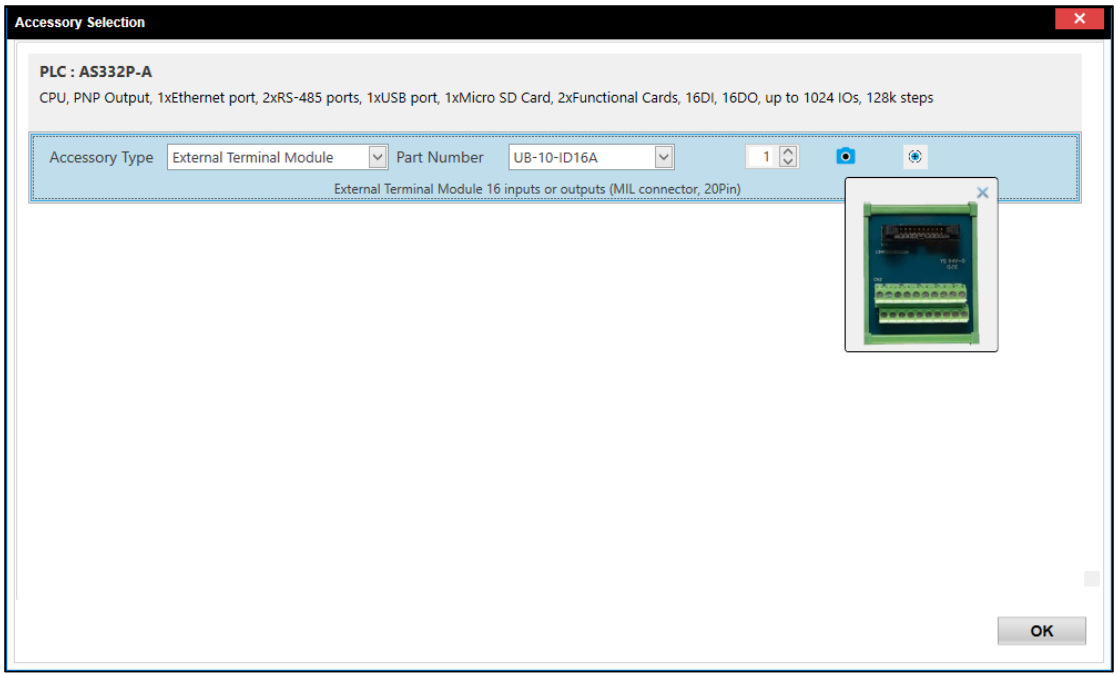


Figure 6 - 43: Accessory image

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

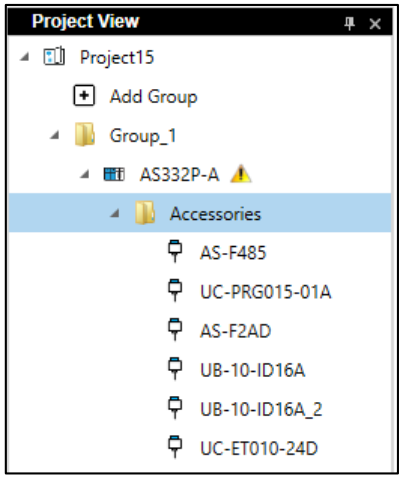


Figure 6 - 44: Accessories added to Project tree

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.

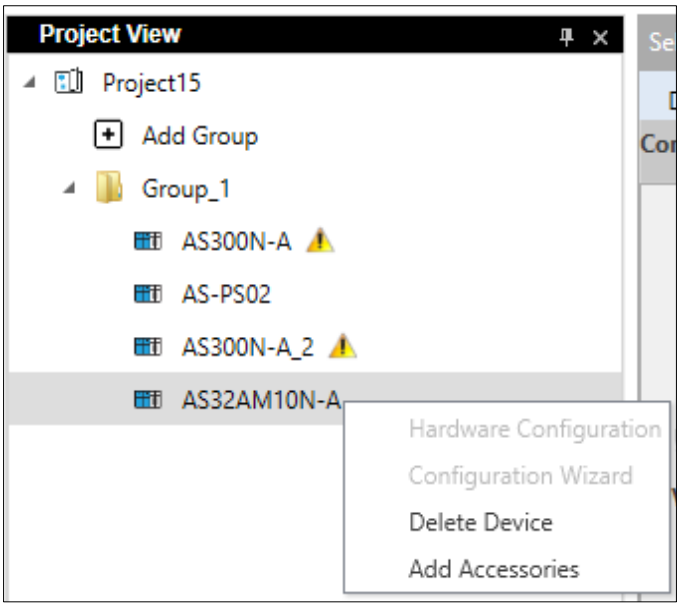


Figure 6 - 45: Accessories added to Non CPU modules

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.

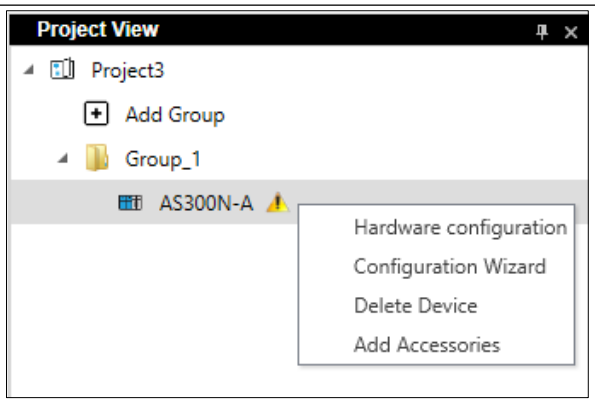


Figure 7 - 1: Hardware Configuration

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

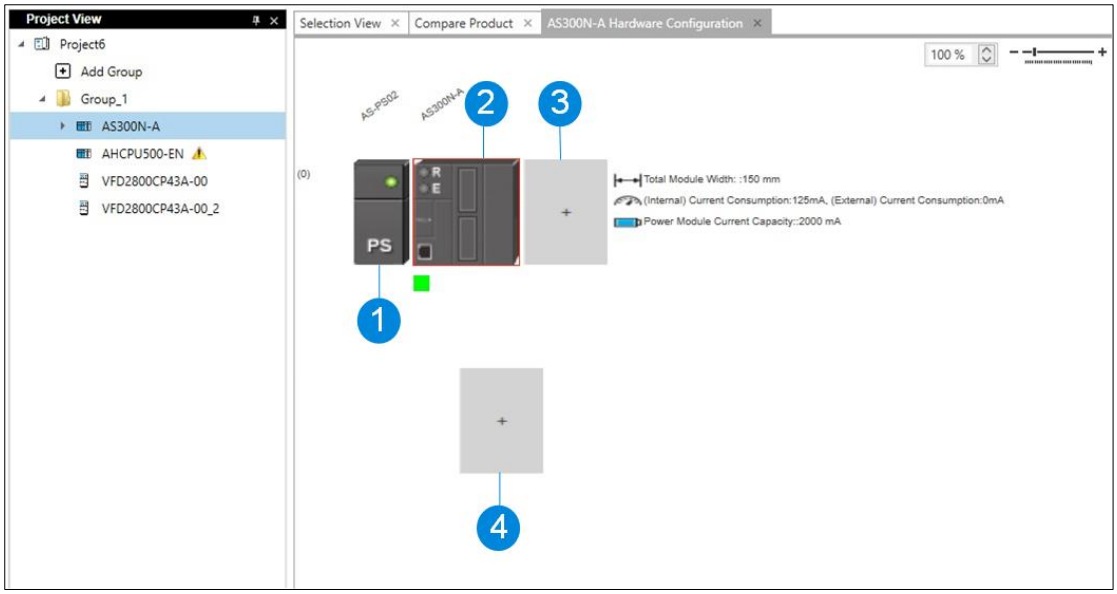


Figure 7 - 2: Hardware Configuration - Legends

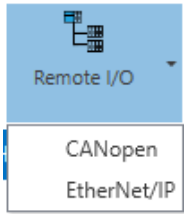
Legend	Name
1	Power Supply
2	CPU
3	Place to add IO modules (DIO, AIO), network modules (NIO) and Pulse Input-Output modules (PIO).

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**



icon in the Quick access tool bar.

***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.

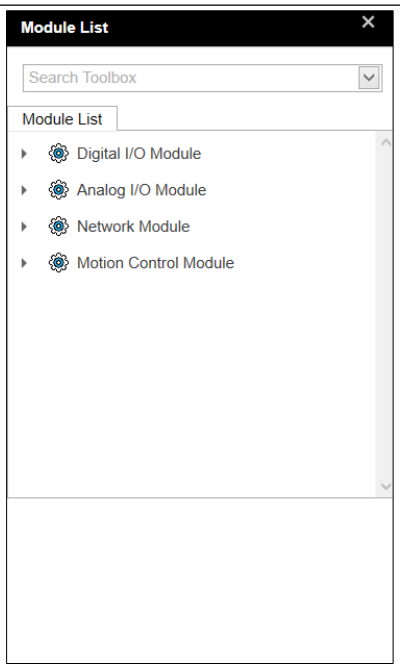


Figure 7 - 3: Hardware Configuration - Module List

6. 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.

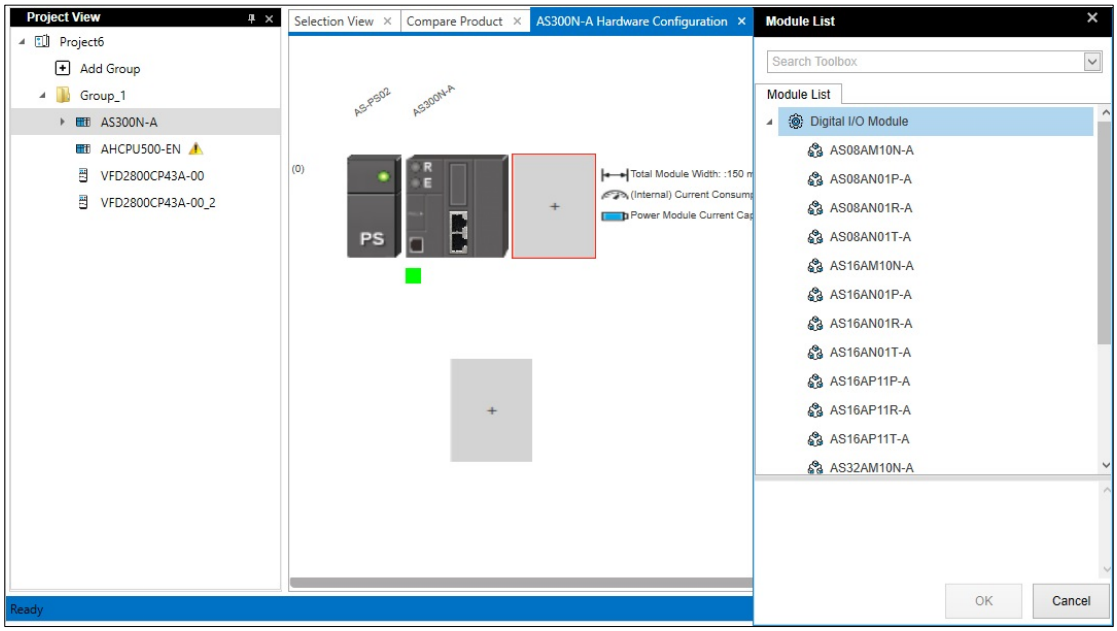


Figure 7 - 4: Hardware Configuration - Module Insertion

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

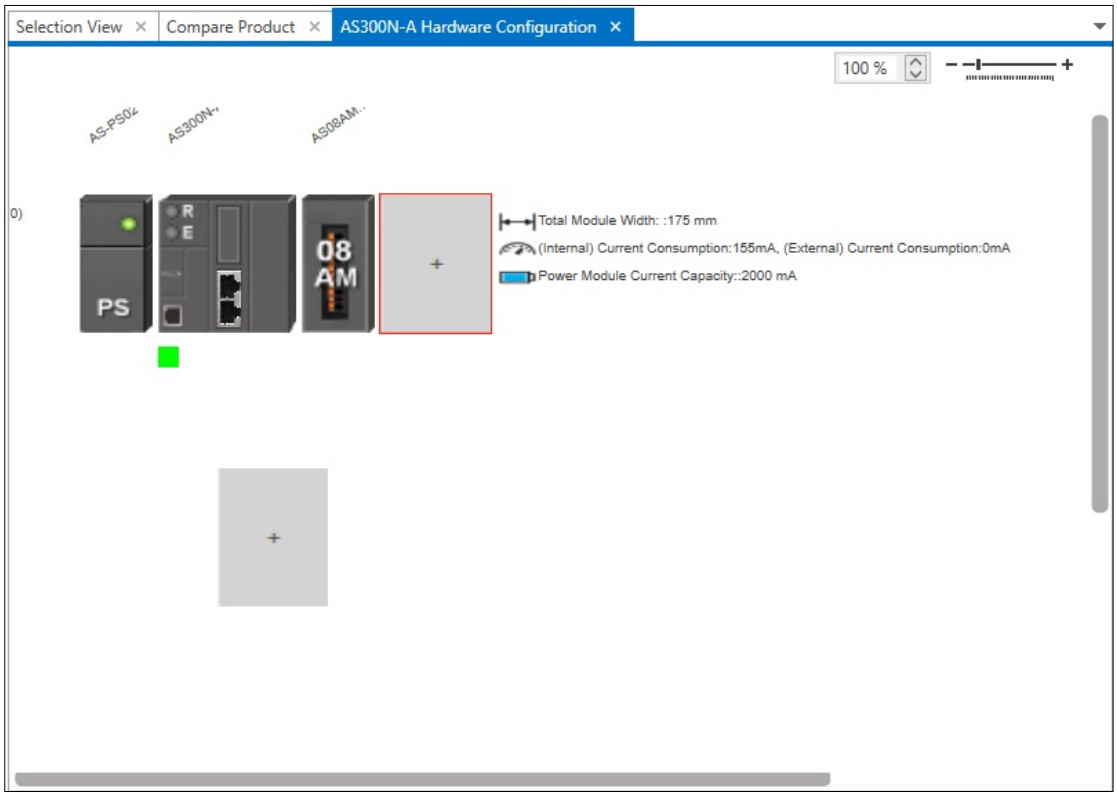


Figure 7 - 5: Hardware View - New Module

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.

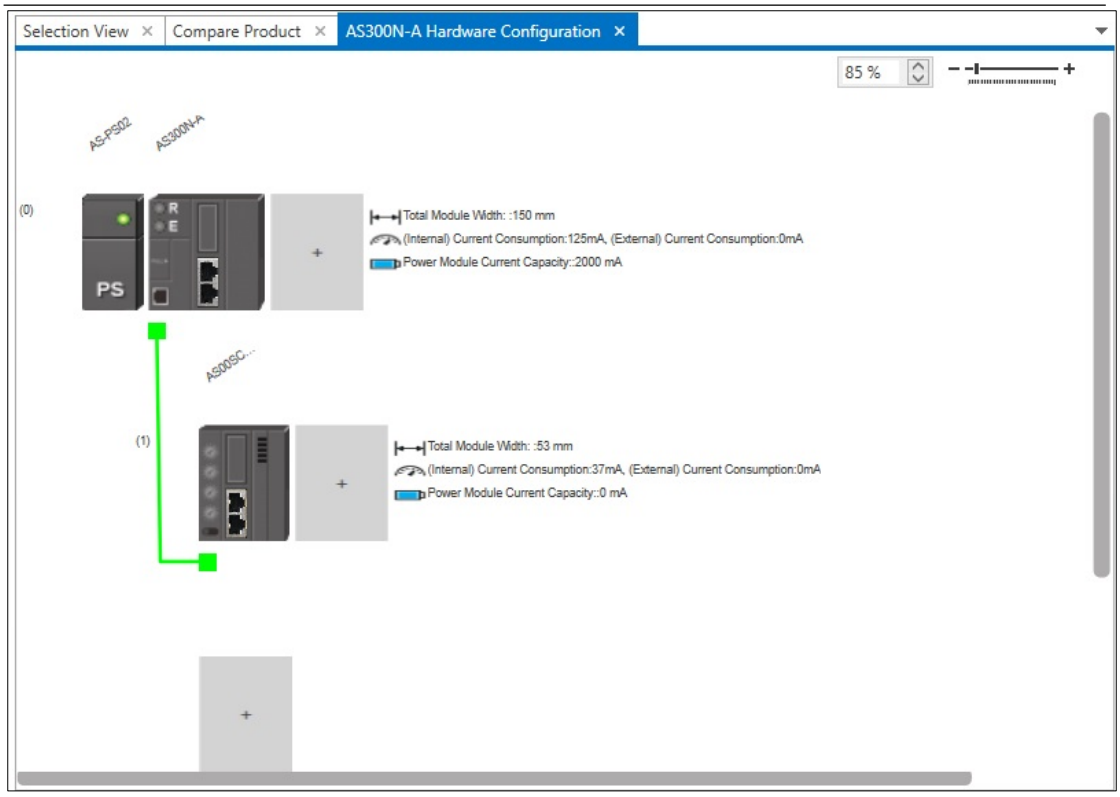
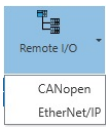


Figure 7 - 6: Hardware Configuration - RIO Creation

***NOTE**: To create RIO configuration over EtherNet/IP, click on* 

. Add required IO modules in the Hardware Configuration.

***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.

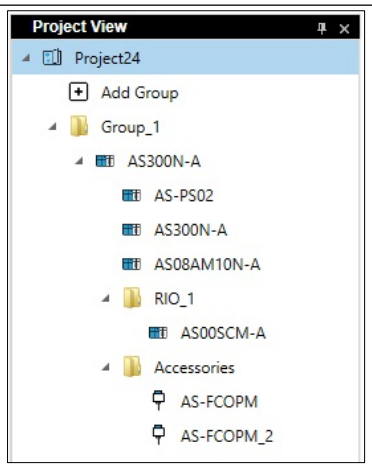


Figure 7 - 7: Modules added to Project View

***NOTE**:*

Legends:

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

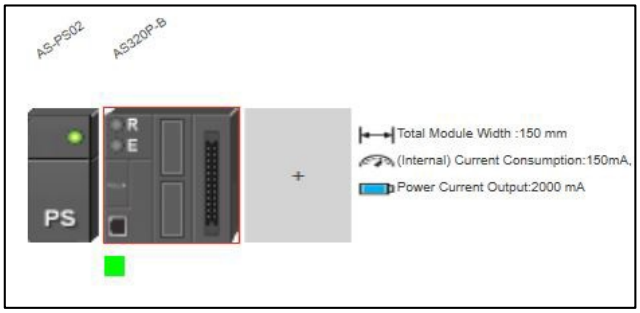
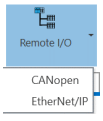


Figure 7 - 8: Legend Icons – Hide/show details

CANOpen:



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

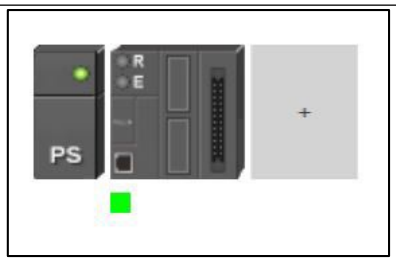
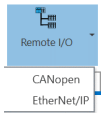


Figure 7 - 9: CANopen Icon – Select CANopen network

Ethernet/IP:

Click on the 

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

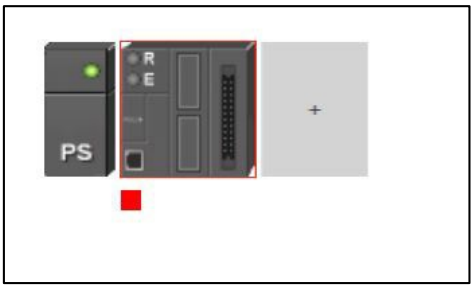


Figure 7 - 10: Ethernet/IP Icon – Select Ethernet network

7.2.1 Hardware Configuration Context Menu

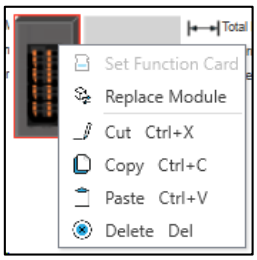


Figure 7 - 11: Hardware Configuration - Context Menu

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.
Copy	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.

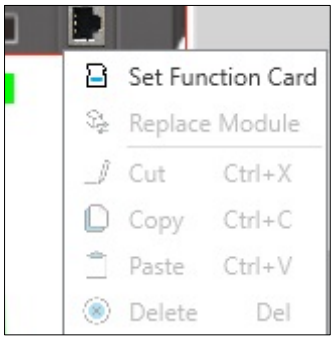


Figure 7 - 12: Hardware Configuration - CPU Context Menu

Result: Displays **Function Card Setting** window.

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

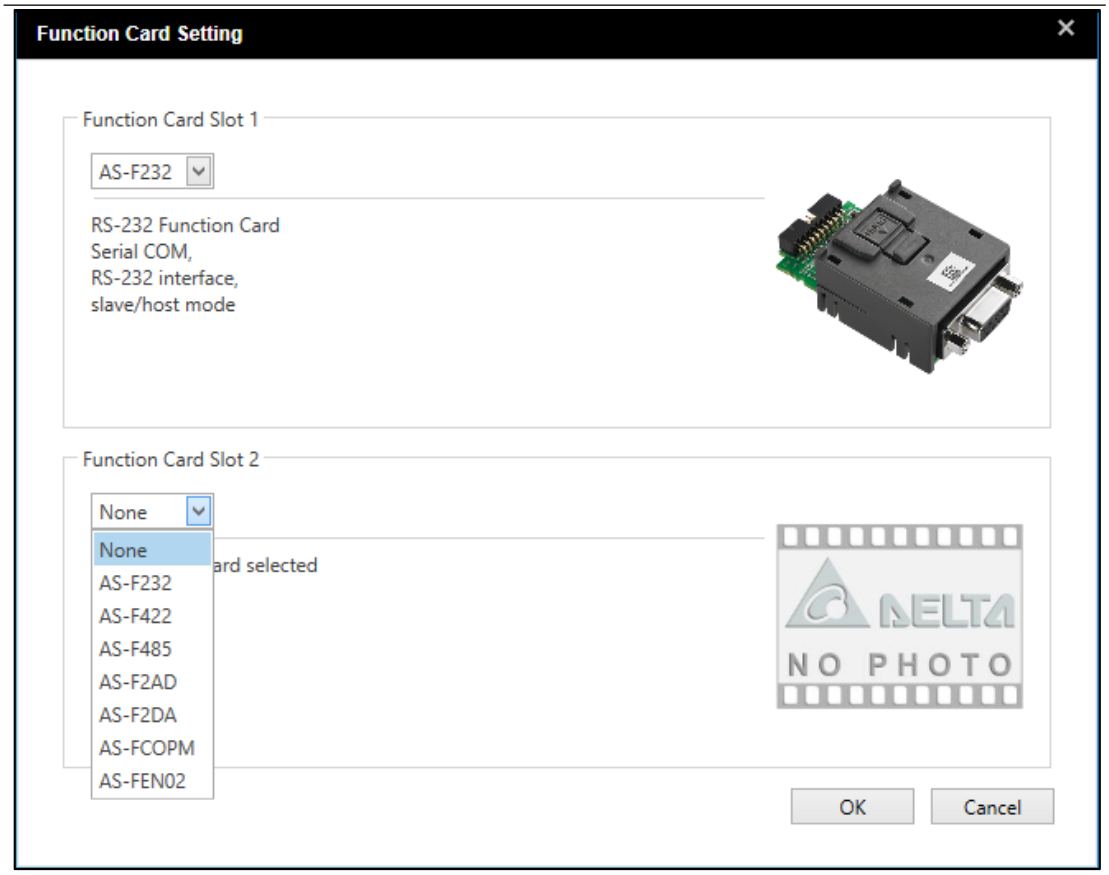


Figure 7 - 13: Function Card Setting Window

3. Click on **OK** button.

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

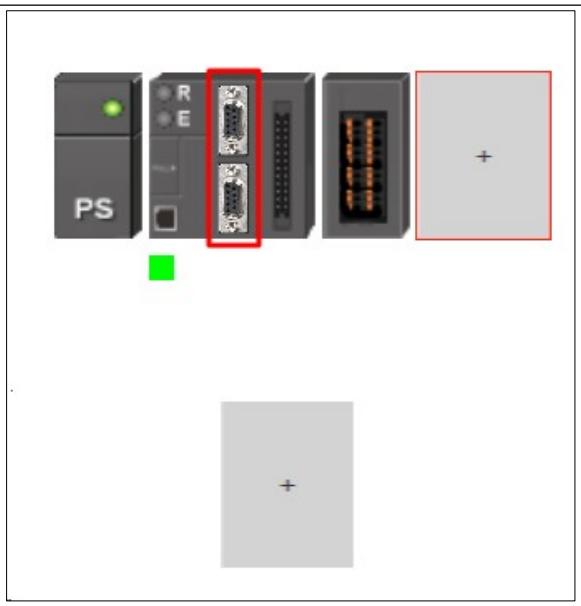


Figure 7 - 14: CPU with Function Card inserted

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 

   in the Quick Access tool bar.

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

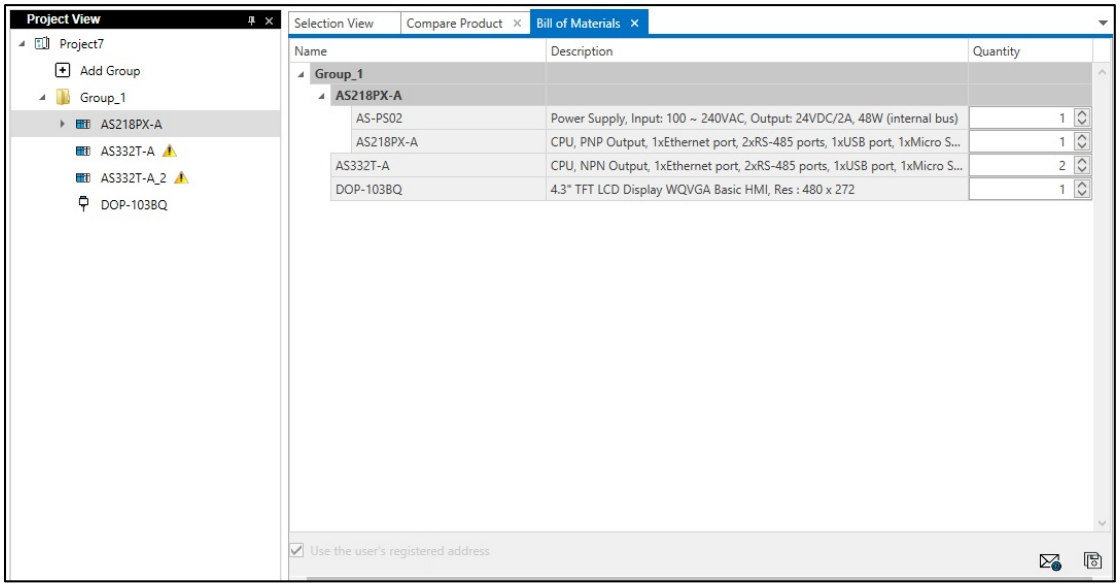


Figure 8 - 1: BOM

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.

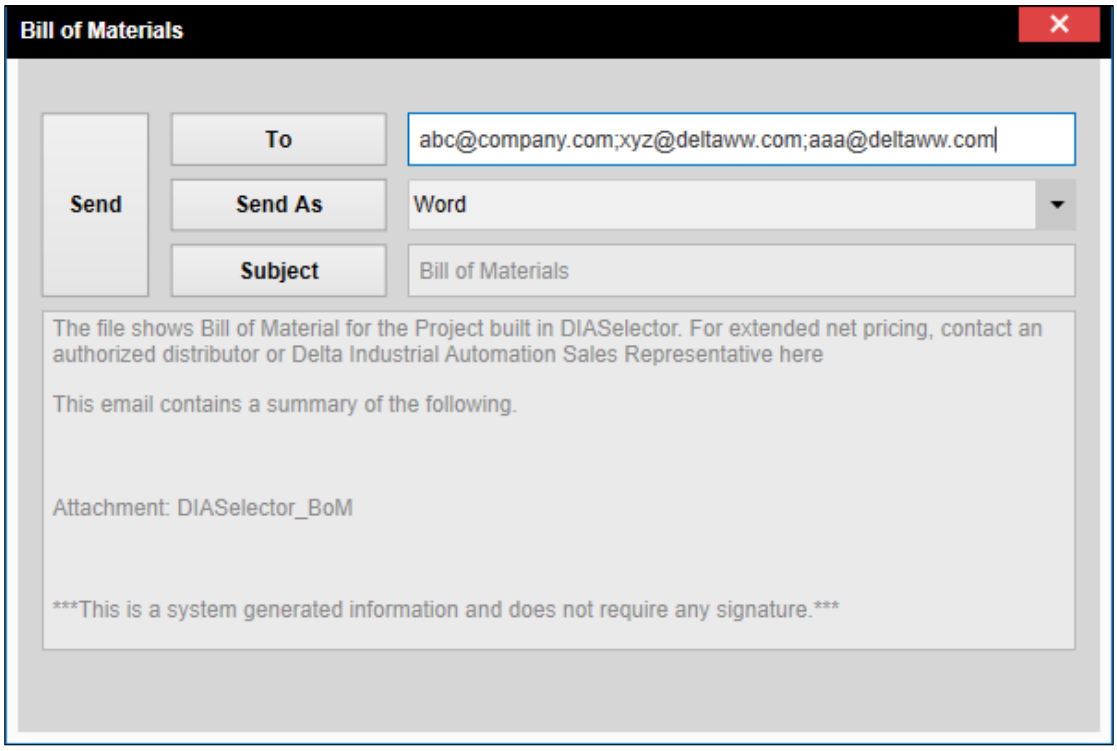


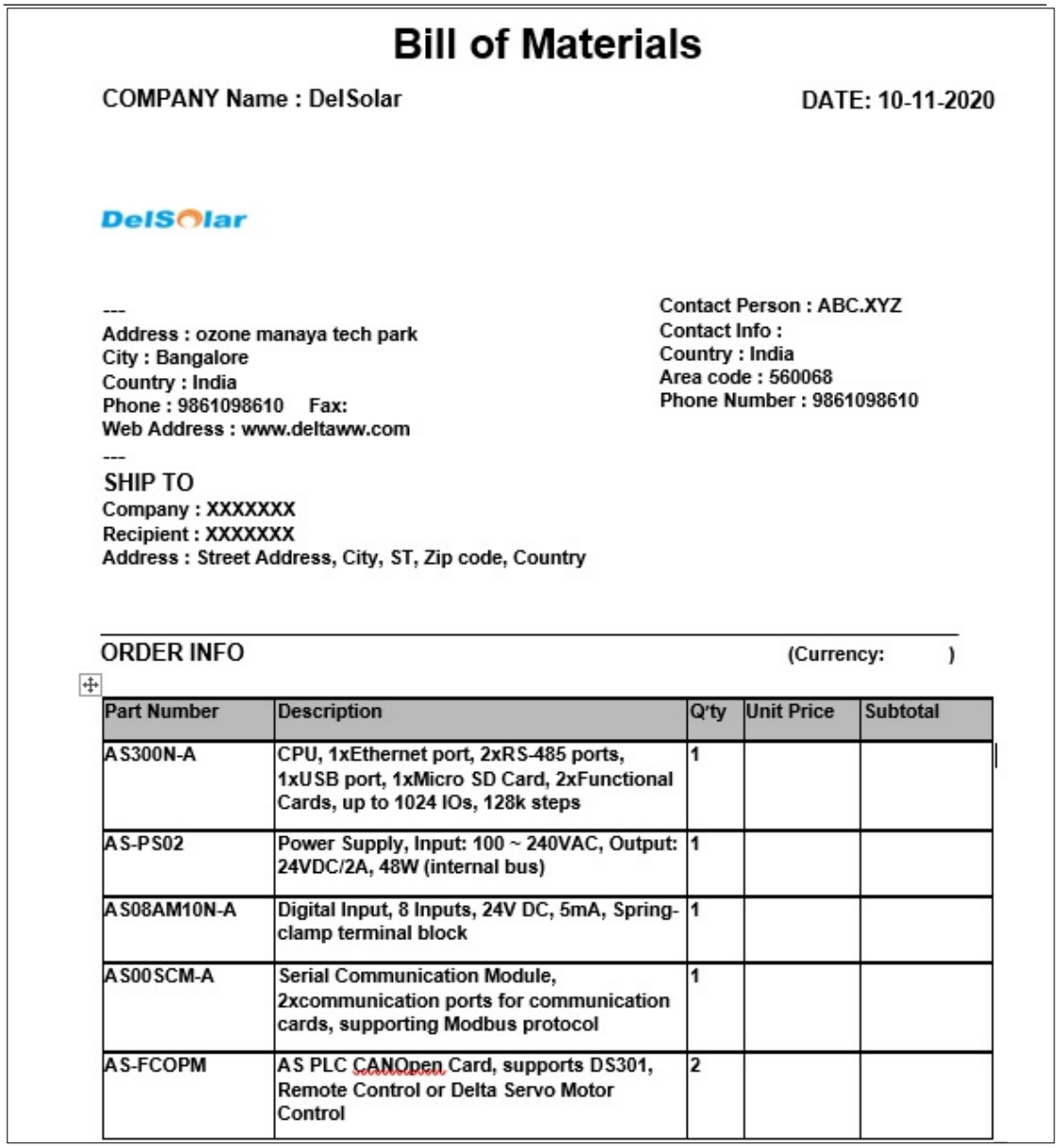
Figure 8 - 2: E-mail BOM

Function	Description
To	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 Materials

COMPANY Name : DelSolar DATE: 10-11-2020

DelSolar

Address : ozone manaya tech park
City : Bangalore
Country : India
Phone : 9861098610 Fax:
Web Address : www.deltaww.com

Contact Person : ABC.XYZ
Contact Info :
Country : India
Area code : 560068
Phone Number : 9861098610

SHIP TO
Company : XXXXXXX
Recipient : XXXXXXX
Address : Street Address, City, ST, Zip code, Country

ORDER INFO (Currency:)

Part Number	Description	Q'ty	Unit Price	Subtotal
AS300N-A	CPU, 1xEthernet port, 2xRS-485 ports, 1xUSB port, 1xMicro SD Card, 2xFunctional Cards, up to 1024 IOs, 128k steps	1		
AS-PS02	Power Supply, Input: 100 ~ 240VAC, Output: 24VDC/2A, 48W (internal bus)	1		
AS08AM10N-A	Digital Input, 8 Inputs, 24V DC, 5mA, Spring-clamp terminal block	1		
AS00SCM-A	Serial Communication Module, 2xcommunication ports for communication cards, supporting Modbus protocol	1		
AS-FCOPM	AS PLC CANOpen Card, supports DS301, Remote Control or Delta Servo Motor Control	2		

Figure 8 - 3: BOM in MS-Word

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.

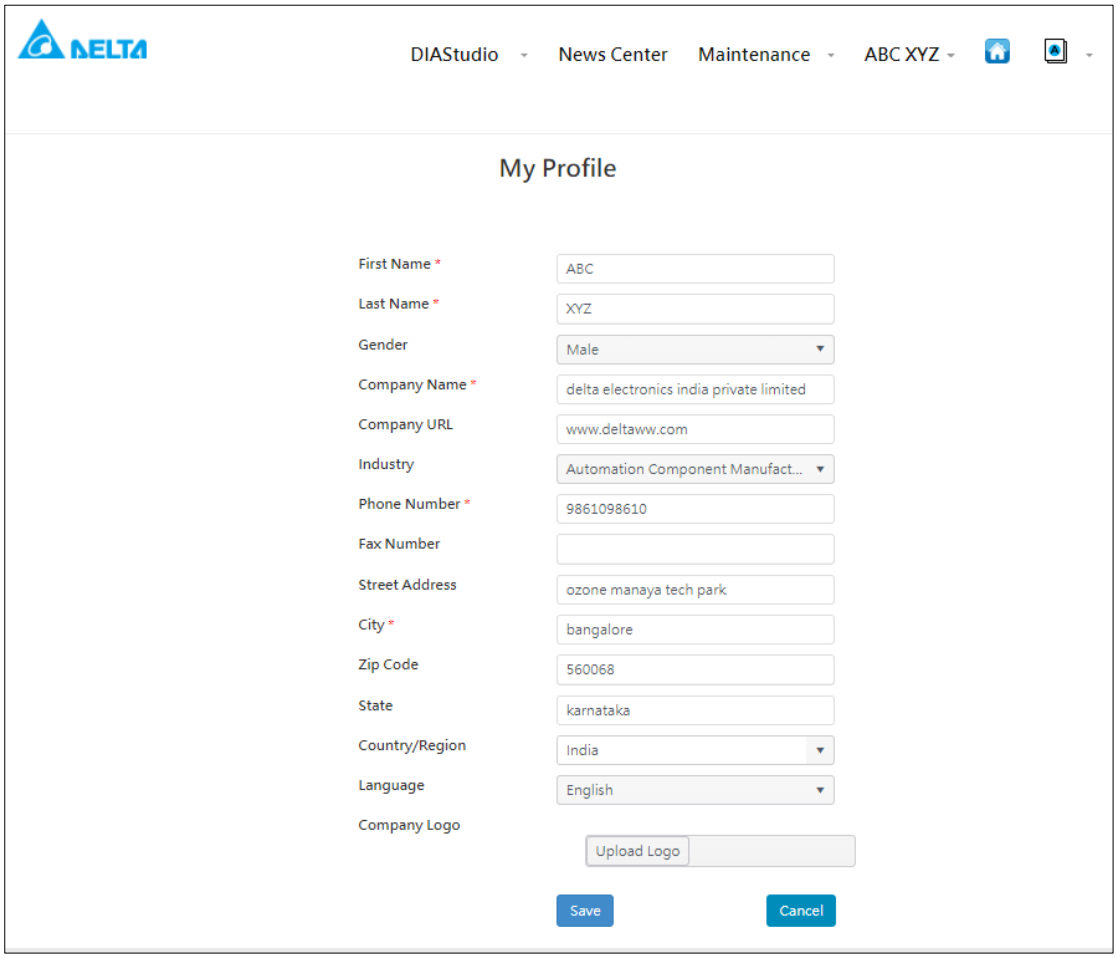


Figure 8 - 4: My Profile

4. Upload the logo as shown in the figure.

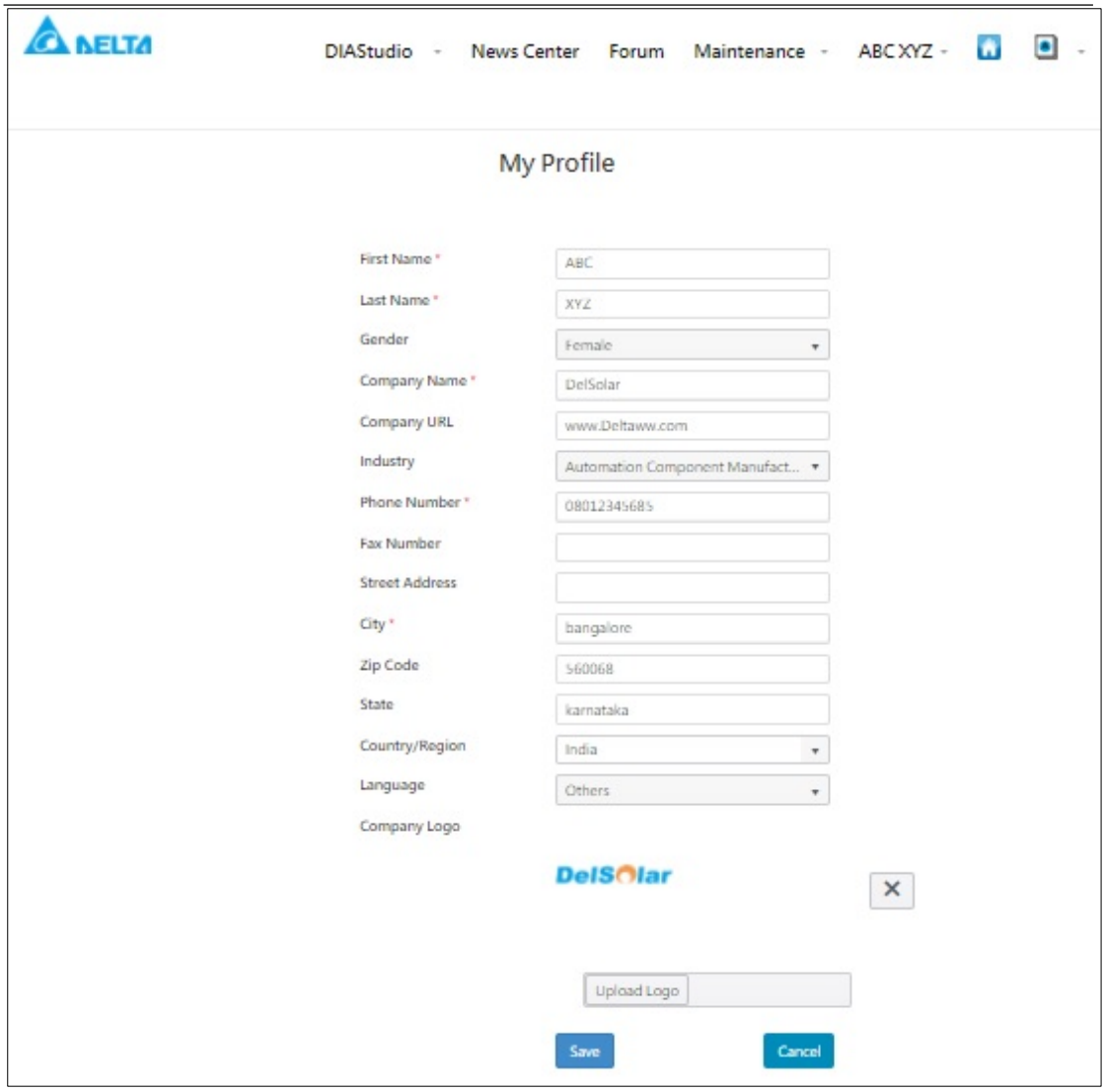


Figure 8 - 5: My Profile – Upload Logo

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.

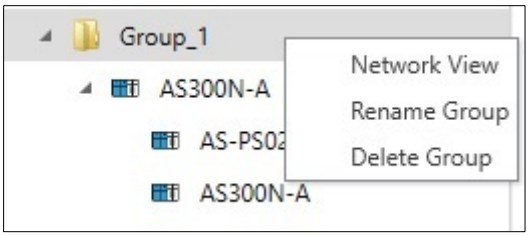


Figure 9 - 1:Group right-click menu

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 Figure 9 - 5: Network View and for other devices, communication ports are displayed above the product image.*

9.2.2 Network Information

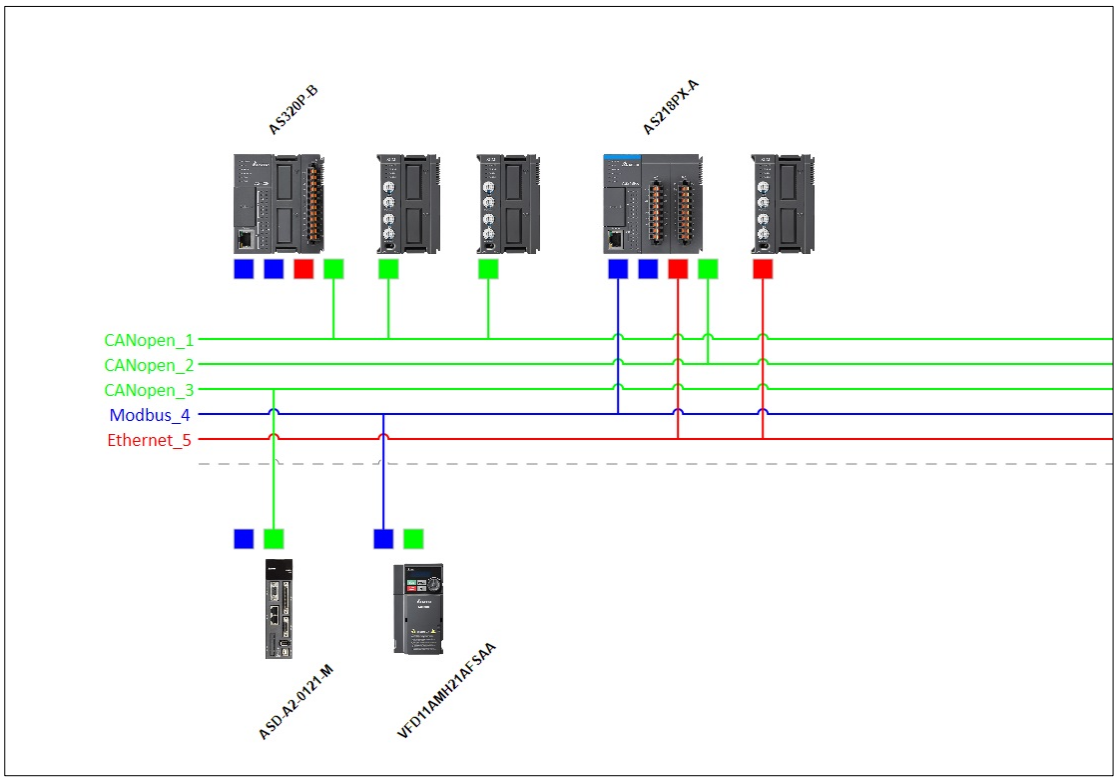


Figure 9 - 3: Network View - Network Information

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:

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

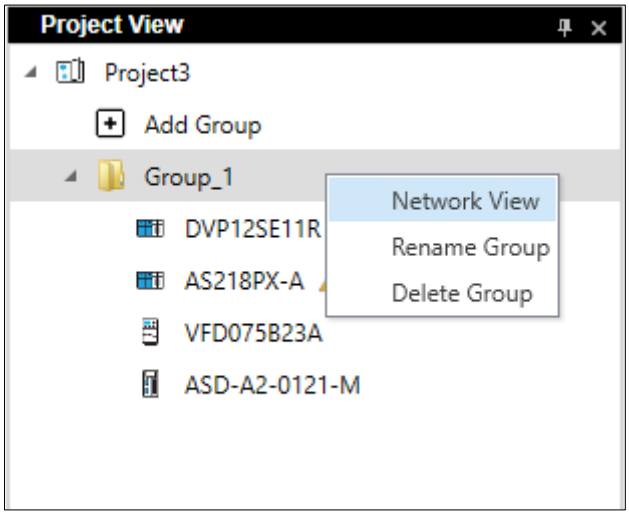


Figure 9 - 4: Group context menu - Network View

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

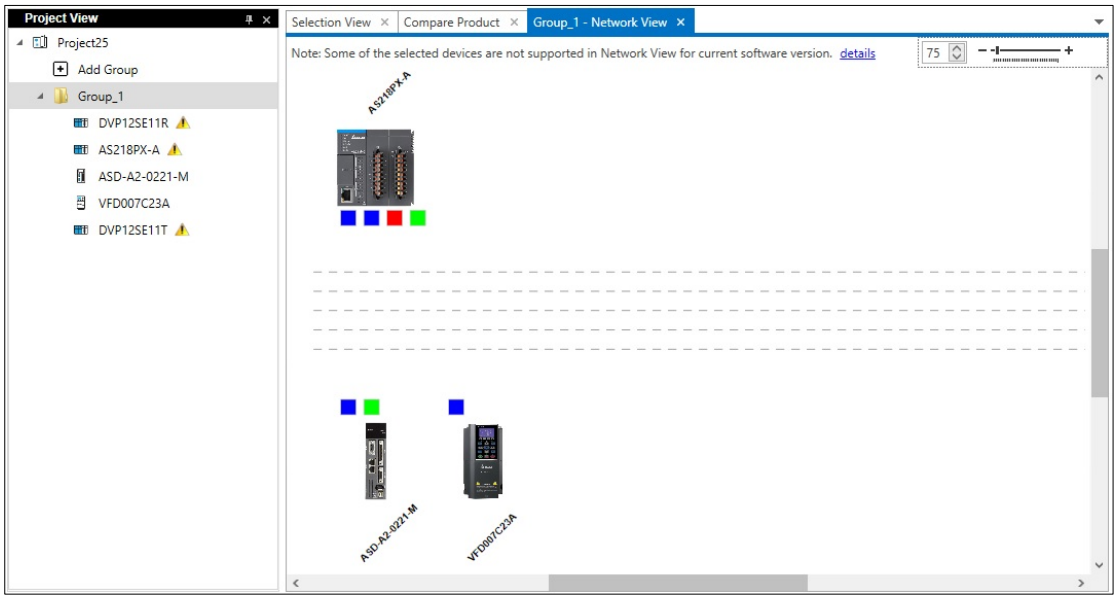


Figure 9 - 5: Network View

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.

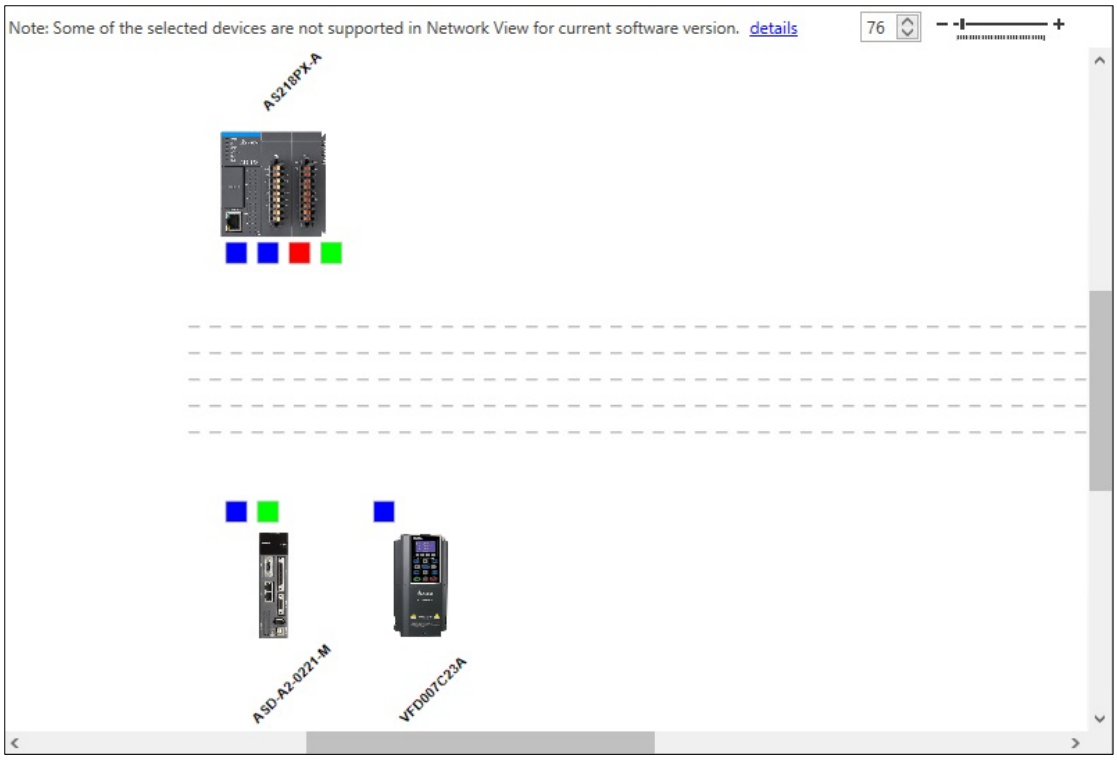


Figure 9 - 6: Network View Connections

***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.*

Smarter. Greener. Together.

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