AH EN AXL E PN S7 PARTNER PORT CHANGE

Changing the partner port with AXL E PROFINET devices under STEP 7

Data sheet
107278_en_00

1 Information about the document

This application note describes how you can change the partner ports with Axioline E PROFINET devices. In order to do this, you need to set the topology in the engineering system.

It is assumed the user has knowledge of and experience in the operation of PCs and Windows operating systems, and knowledge of SIMATIC S7 software from Siemens and Ethernet basics.

2 Software

STEP 7 V5.5 SP5 is used in this example.

3 Hardware structure

- Controller: S7-317-2 PN/DP
- AXL E PROFINET devices:
  - AXL E PN DIO16 M12 6M
  - AXL E PN DI16 M12 6M
  - AXL E PN DIO16 M12 6M

Make sure you always use the latest documentation.
It can be downloaded at phoenixcontact.net/products.

This document is valid for all Axioline E PROFINET devices.

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INSPIRING INNOVATIONS

5 Creating the project

- Create the project.
- Configure the hardware structure.

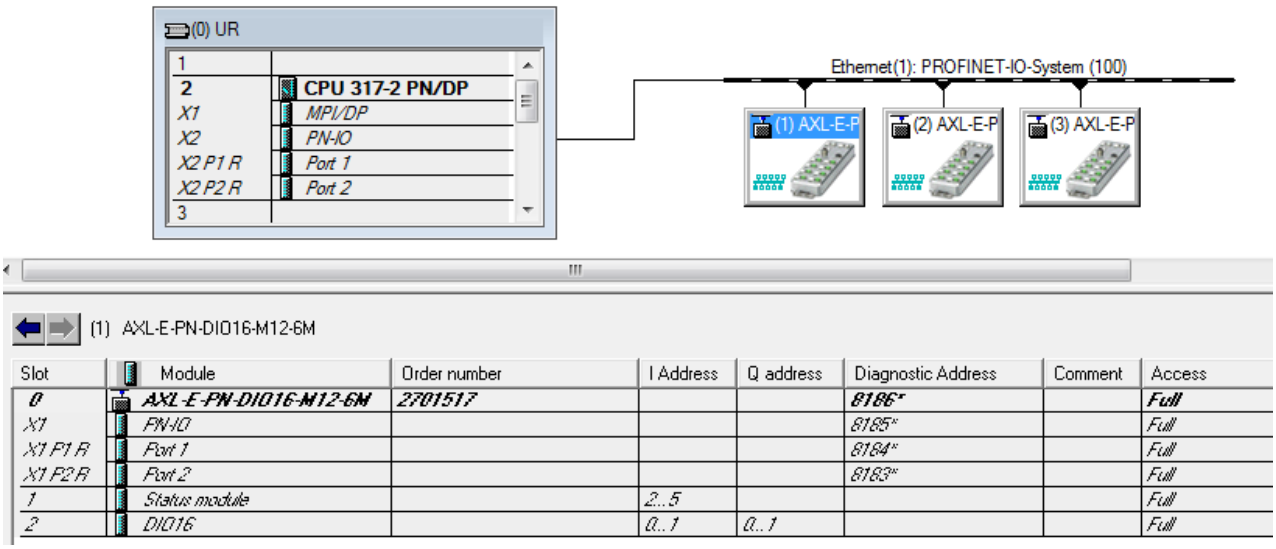

Figure 1 Creating the project and configuring the hardware structure

6 Starting up the system

Proceed as follows to start up the system:

- Assign the PROFINET name.
- Make the other necessary settings.

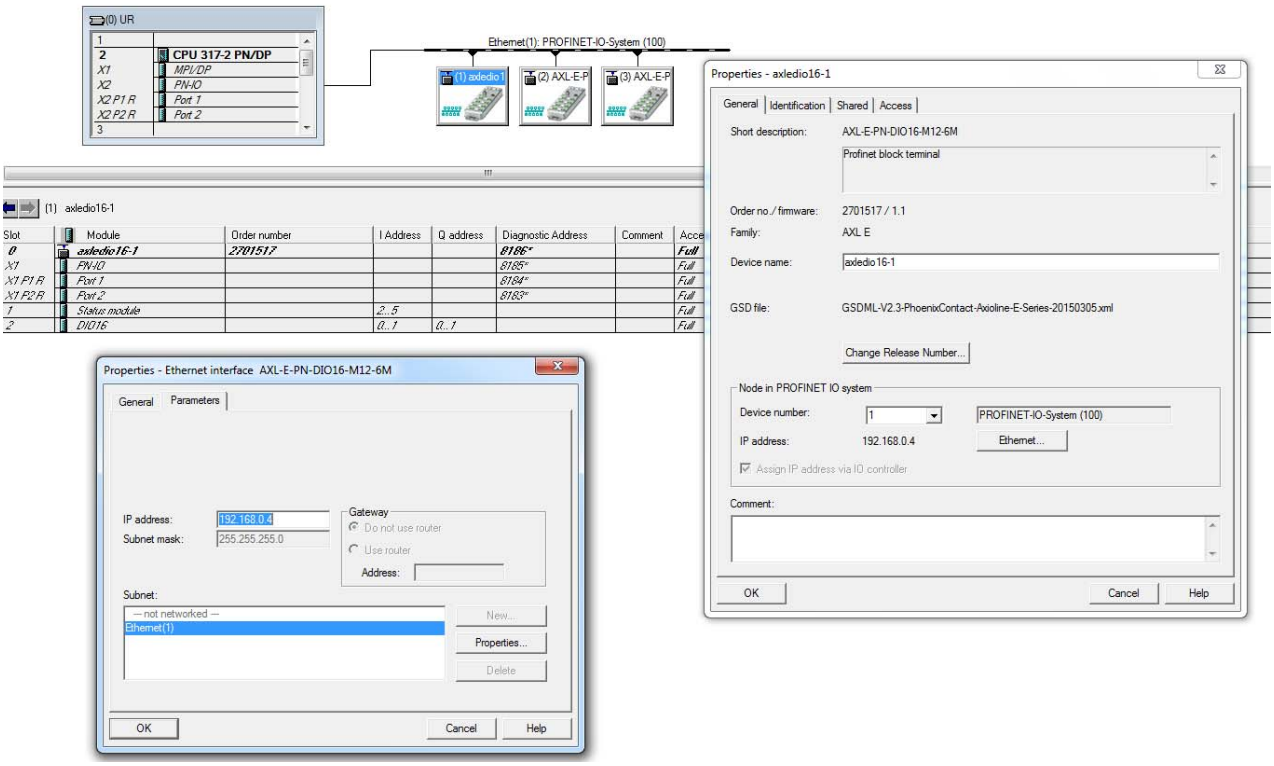

Figure 2 Assigning a PROFINET name and making other settings

7 Setting alternating partner ports

Set the ports on the first PROFINET device. Proceed as follows:

- Right-click on the port to open the “Properties” window via the context menu.
- In the drop-down list in the “Partners” area, select “Alternating partner port” for the partner port.
- In the “Alternating partner ports” field, add all ports that are to be alternated.

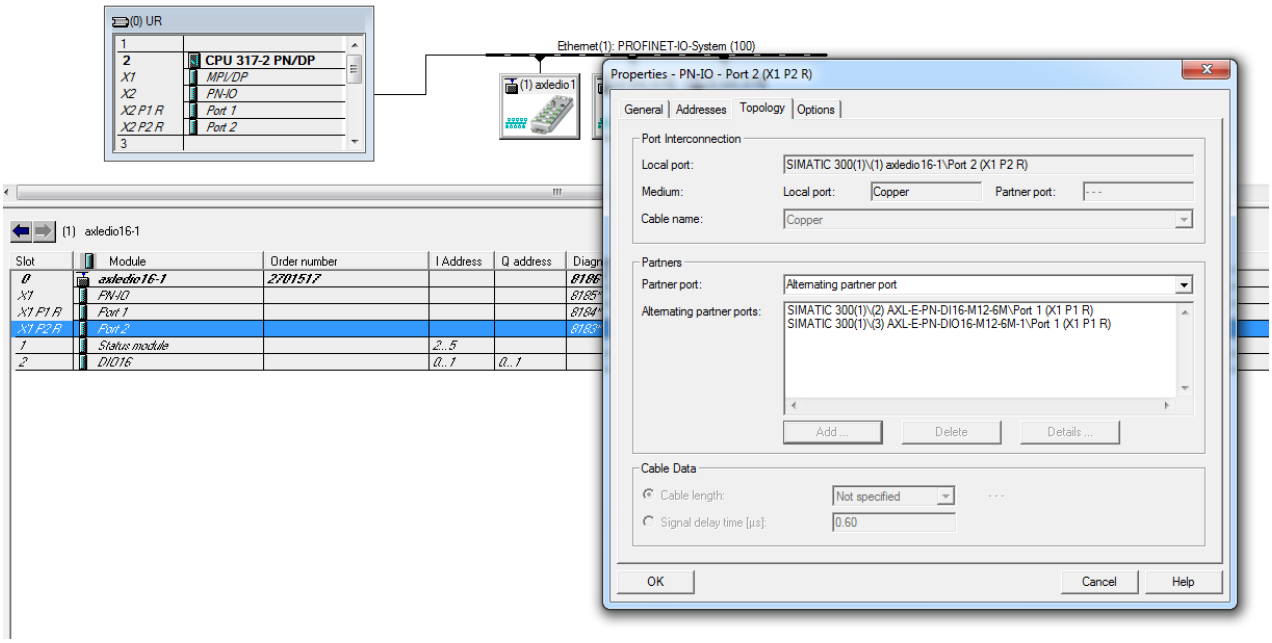

Figure 3 Setting alternating partner ports

Due to the settings made, the dashed lines are automatically drawn in the “Topology Editor” window.

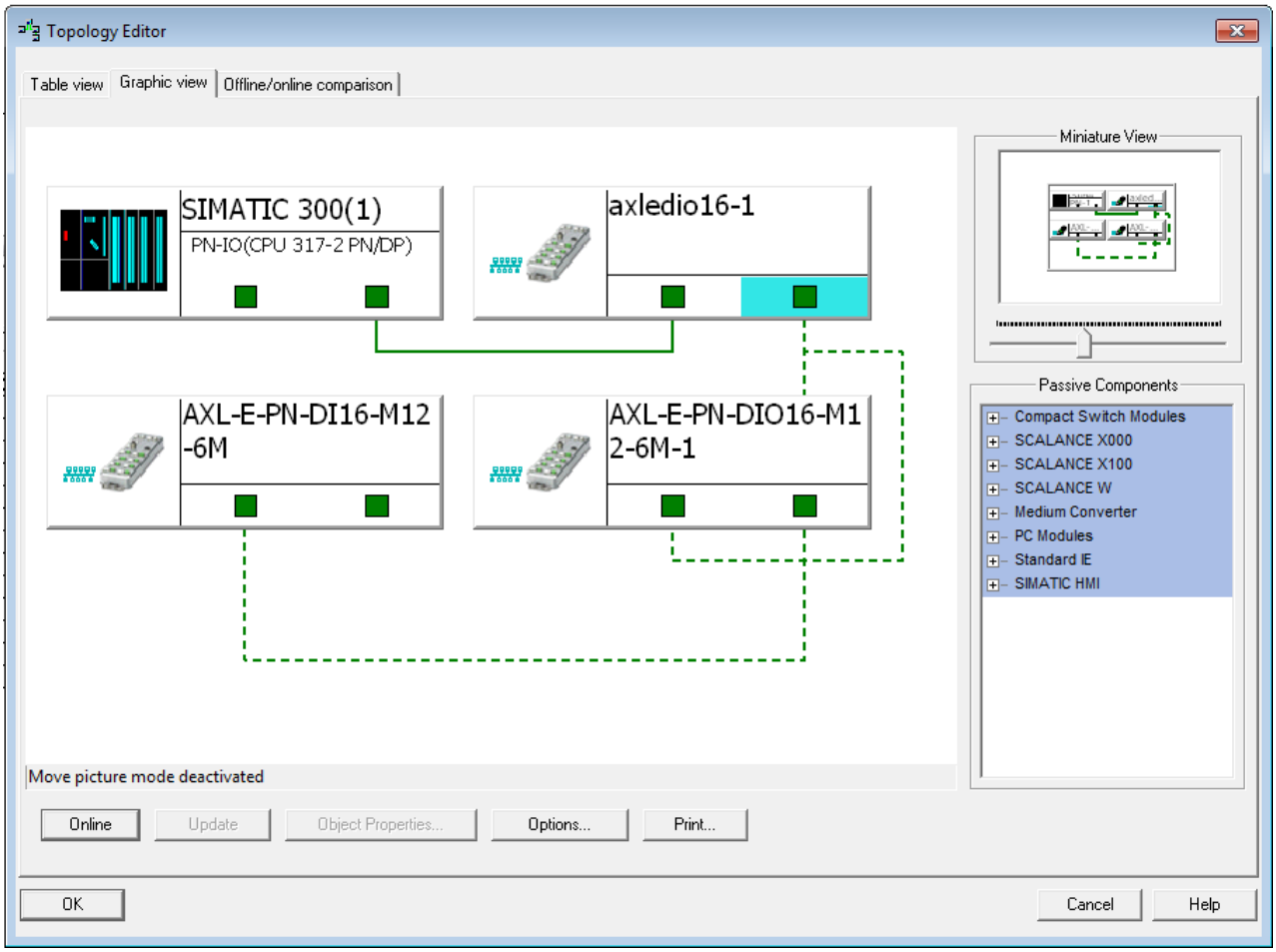

Figure 4 “Topology Editor” window

- Next, connect the controller to the first PROFINET device.

8 Downloading the project to the controller

- Now download the project to the controller to test the settings made so far.
- Switch to online view.
  The last two devices should be deactivated.

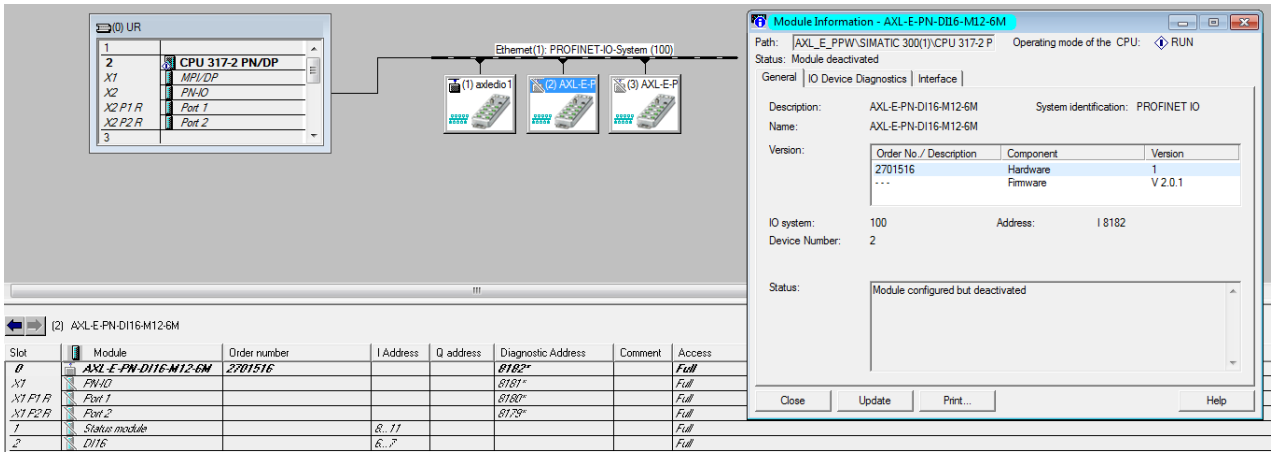

Figure 5 Downloading the project to the controller

- To activate the devices, use control function SFC12. This function can activate and deactivate selected PROFINET and PROFIBUS slaves.

The table below contains the settings for parameterization:

Parameter	Declaration	Data type	Memory area	Description
REQ	INPUT	BOOL	E, A, M, D, L, constant	Level-triggered control parameter REQ = 1 Carry out activation/deactivation
MODE	INPUT	BYTE	E, A, M, D, L, constant	Order ID, possible values:
				0: obtain information as to whether the addressed component is activated or deactivated
				1: activate DP slave/PROFINET IO device
				2: deactivate DP slave/PROFINET IO device
				3: activate DP slave/PROFINET IO device and call OB 86 after changing the activation state
				4: deactivate DP slave/PROFINET IO device and call OB 86 after changing the activation state
LADDR	INPUT	WORD	E, A, M, D, L, constant	Any logical address of the DP slave/PROFINET IO device
RET_VAL	OUTPUT	INT	E, A, M, D, L, constant	If an error occurs when processing the function, the return value contains an error code.
BUSY	OUTPUT	BOOL	E, A, M, D, L, constant	Activation: Busy = 1: the order is still active. Busy = 0: the order has been finished.

9 OB 1: block wiring

The block wiring for activating or deactivating the individual PROFINET devices can be seen in the following window.

```
Network 1: deaktiveate DI16
      CALL  "D_ACT_DP"                SFC12          -- Deactivating and Activating DP Slaves
       REQ    :=M0.0
       MODE   :=B#16#2
       LADDR  :=W#16#8
       RET_VAL:=MW12
       BUSY   :=M0.1


Network 2 : deactivate DIO16
      CALL  "D_ACT_DP"                SFC12          -- Deactivating and Activating DP Slaves
       REQ    :=M0.6
       MODE   :=B#16#2
       LADDR  :=W#16#E
       RET_VAL:=MW26
       BUSY   :=M0.7


Network 3 : activate DI16
      CALL  "D_ACT_DP"                SFC12          -- Deactivating and Activating DP Slaves
       REQ    :=M0.2
       MODE   :=B#16#1
       LADDR  :=W#16#8
       RET_VAL:=MW14
       BUSY   :=M0.3


Network 4 : activate DIO16
      CALL  "D_ACT_DP"                SFC12          -- Deactivating and Activating DP Slaves
       REQ    :=M0.4
       MODE   :=B#16#1
       LADDR  :=W#16#E
       RET_VAL:=MW20
       BUSY   :=M0.5
```

Figure 6 Block wiring

10 Activating the device

To activate the AXL E PN DI16 M12 6M device, wire control function SFC12 as follows:

– REQ = 1 (block activation)
– MODE = 1_{hex} (activate slave)
– LADDR = 8_{hex} (IO address of the slave)

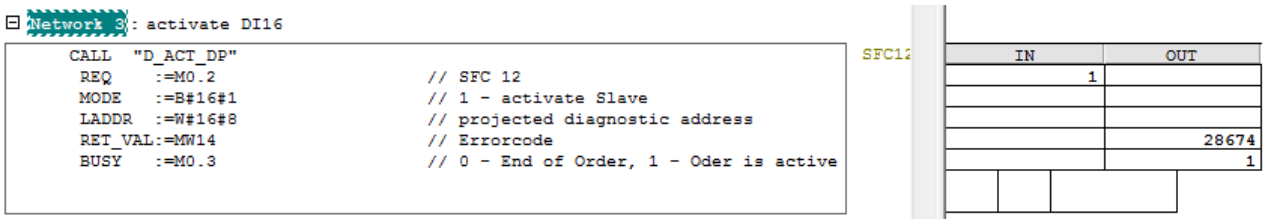

Figure 7 Control function SFC12

The device is now activated and ready to operate.

• To activate the other device, you must deactivate the first device again.

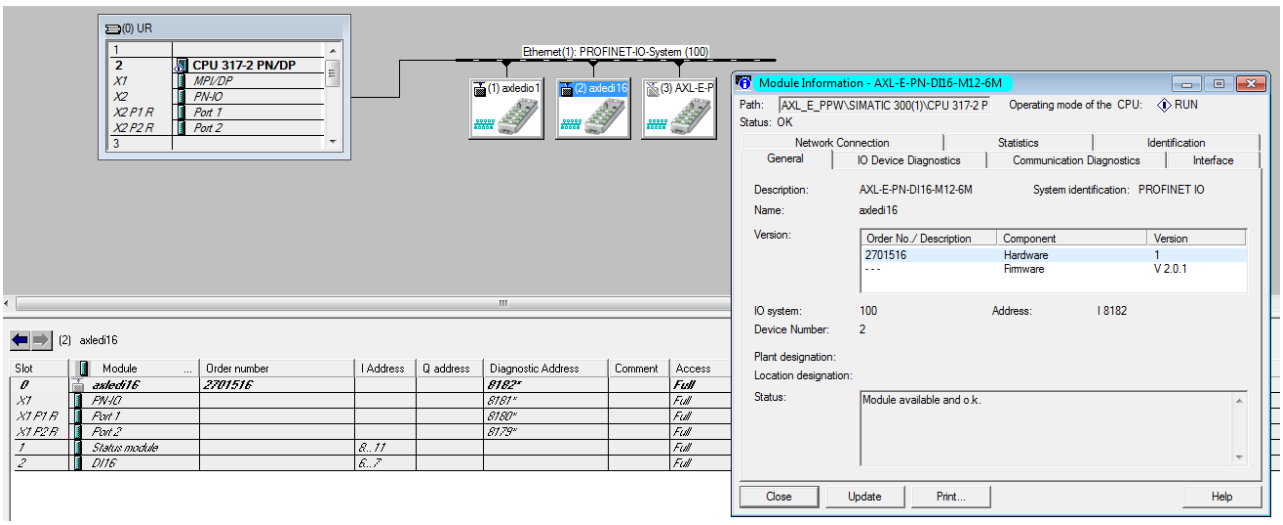

Figure 8 Device ready for operation

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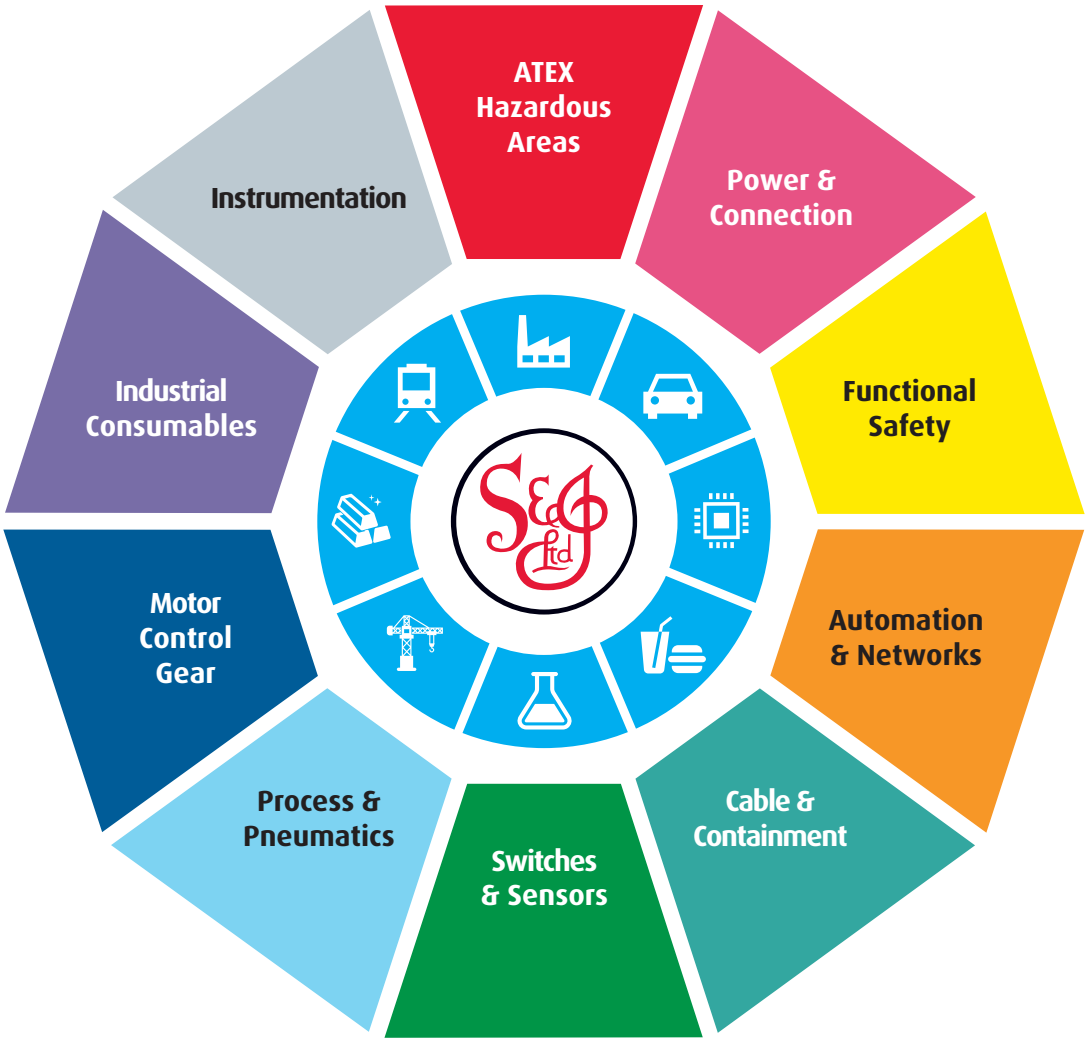

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