

3.1 AX-502PS11-0A

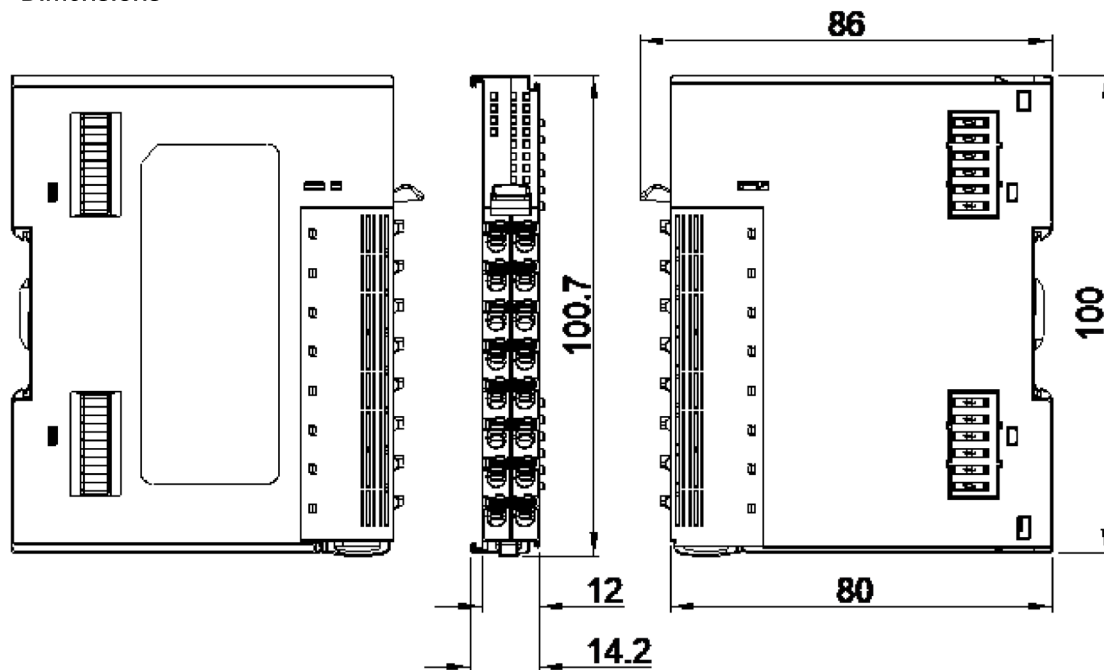
AX-502PS11-0A is a unit power supply module. This section introduces its specifications, operations and wirings.

3.1.1 Specifications

Item		Specification
External connector		Spring-clamp terminal block (16 terminals)
Dimension (mm)		12 (W) × 100 (H) × 80 (D)
Weight		75 g
Electrical specification	Unit power input voltage/power	24 VDC (-15 to 20%) / 14W
	Maximum unit power supply	2 A (10 W)
	Maximum I/O power supply	N/A
	Current capacity for spring-clamp terminal block	Less than 5 A / terminal; less than 10 A / module
	Maximum power consumption for module (UV/UG)	42 mA (1 W)
	Minimum power consumption (I/O power)	No power consumed
	Isolation method	Between unit power and external power: no isolation Between unit power and I/O power: 500 VAC (20 mΩ min.)
Others	Input power protection (UV/UG)	Voltage / current protection, under-voltage warning
	Unit power protection	Voltage / current protection

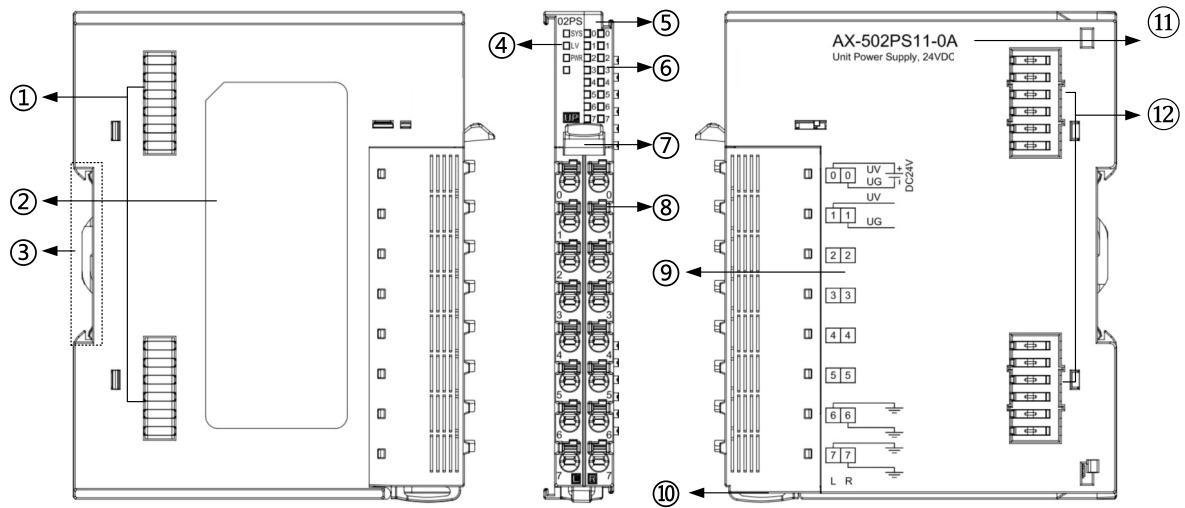
3.1.2 Dimensions and Parts

- Dimensions



Unit : mm

● Parts

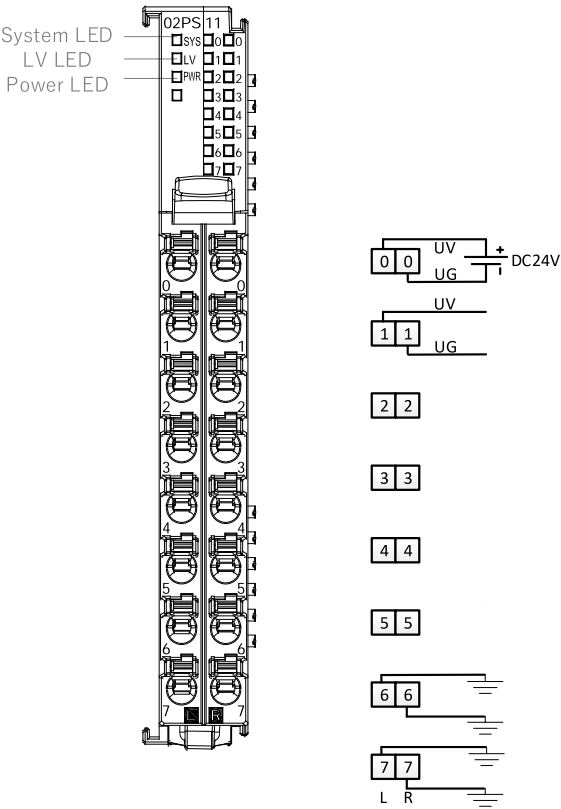


No.	Name
1	AX connector (L)
2	Label (manufacturer information, service information, safety, serial number, firmware/hardware version)
3	DIN rail clip
4	System status indicator
5	Model code
6	Channel status indicator
7	Spring to hold the connection
8	Spring-clamp terminal block
9	Wiring
10	Wire fastener
11	Model number and model description
12	AX connector (R)

3.1.3 Arrangement of Terminals, LED Indicators and Wiring

3.1.3.1 Arrangement of Terminals

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Pin No.	Symbol	Description	Pin No.	Symbol	Description
L0	UV	Module unit power input: 24 VDC	R0	UG	Module unit power input: 0 VDC
L1	UV	Module unit power input: 24 VDC	R1	UG	Module unit power input: 0 VDC
L2	NA	NA	R2	NA	NA
L3	NA	NA	R3	NA	NA
L4	NA	NA	R4	NA	NA
L5	NA	NA	R5	NA	NA
L6		Grounding	R6		Grounding
L7		Grounding	R7		Grounding

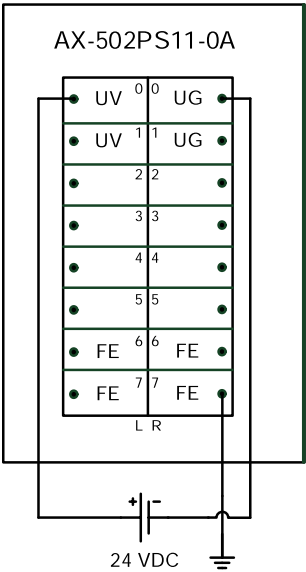
3.1.3.2 LED Indicators

Name	Color	Status		Description
System	Blue		OFF	ECAT INIT
			Blinking (0.2s)	ECAT Pre OP
			Blinking(1s)	ECAT Safe OP
			ON	Normal (OP)
LV	Red		OFF	No under-voltage warning
			ON	Under-voltage warning
Power	Green		OFF	Not supplied with power
			ON	Power on

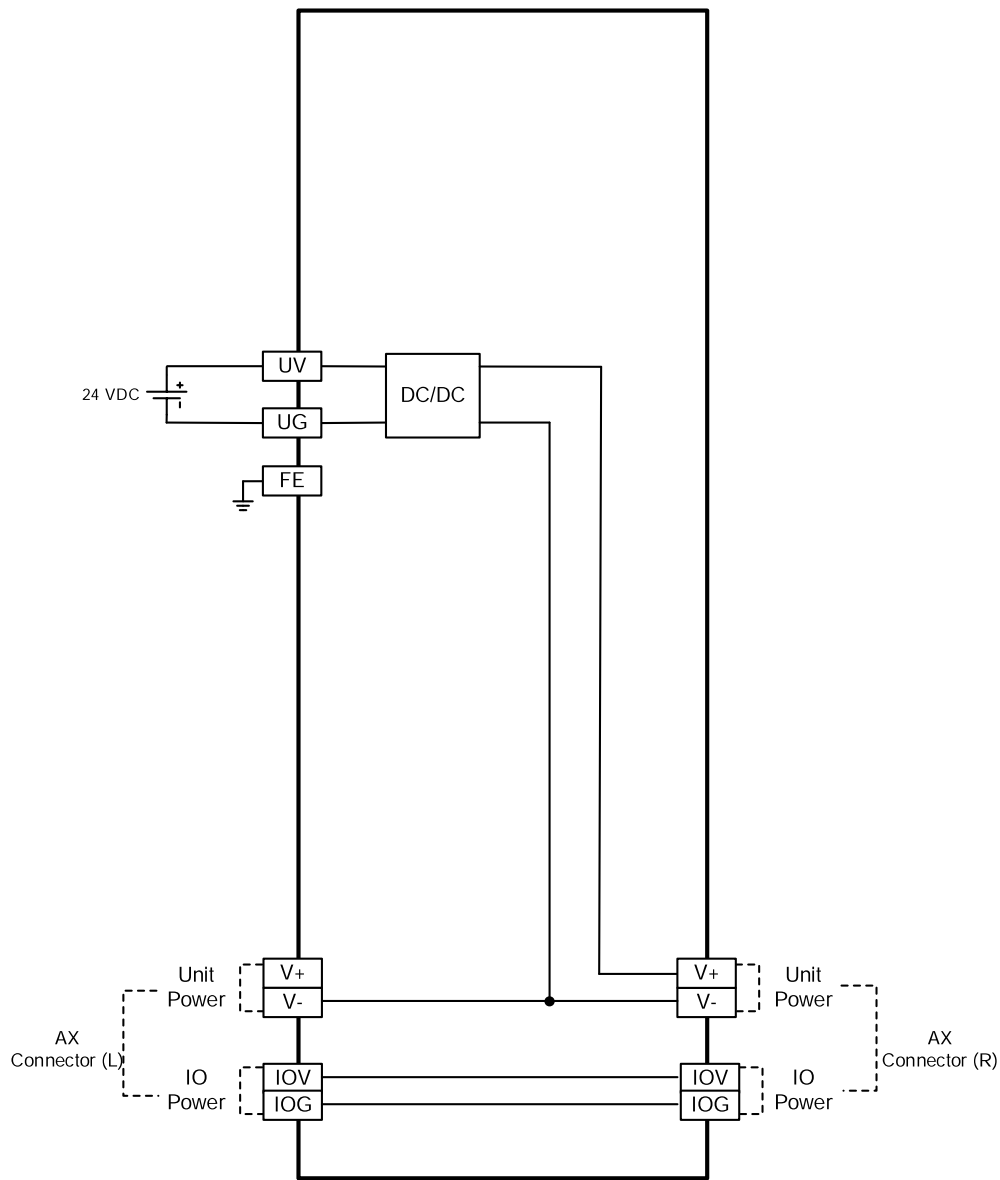
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3.1.3.3 Wiring and Loop Configuration

● Wiring



● Loop Configuration



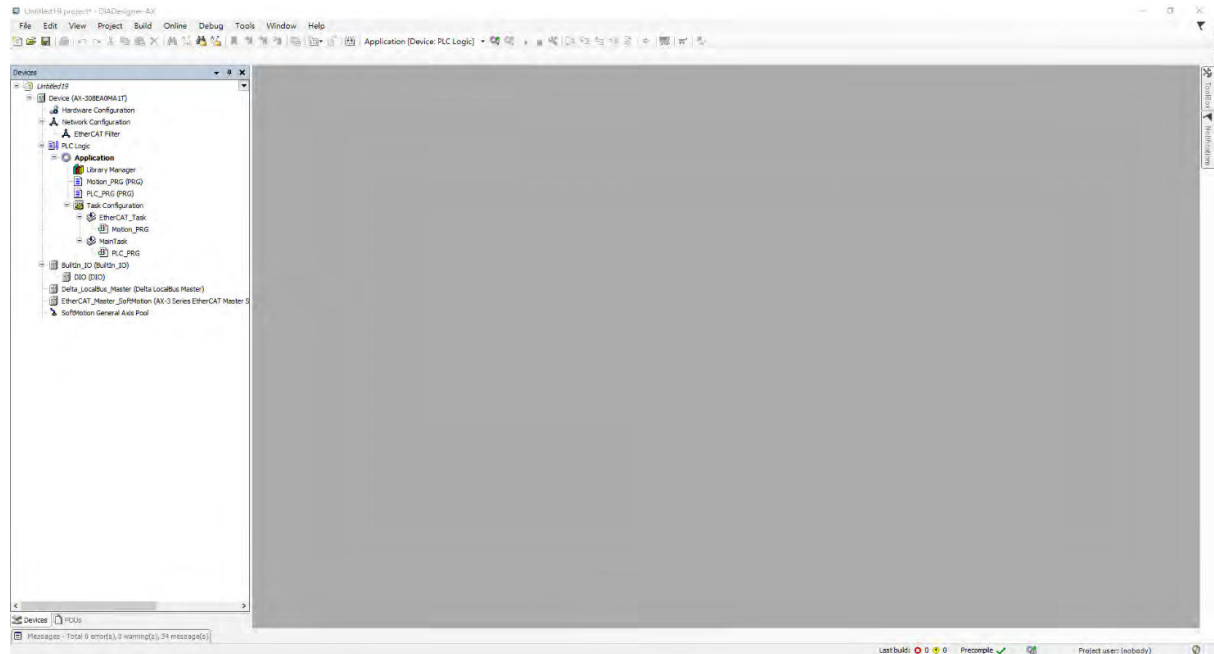
- This product shall be powered by a certified SELV/PELV power supply unit with operating temperature of minimum 60°C, which meets the requirements of IEC 61010-1:2010 or latest edition.
- With the SELV/PELV power supply connected to UV/UG terminals of the removable terminal block, the output rating of the power supply is 24V DC/1A. After the voltage conversion is made by the DC/DC unit with the current limiting function, the power is supplied to the right-side module for unit power use through V+/V- of the AX connector.
- SELV/PELV power supply units for AX-502PS11-0A and AX-510PS12-0A have different output ratings. Thus, do NOT have them share the same power supply unit.

3.1.4 Settings in DIADesigner-AX

This section introduces some basic operations and settings in the DIADesigner-AX software.

3.1.4.1 Basic Operation

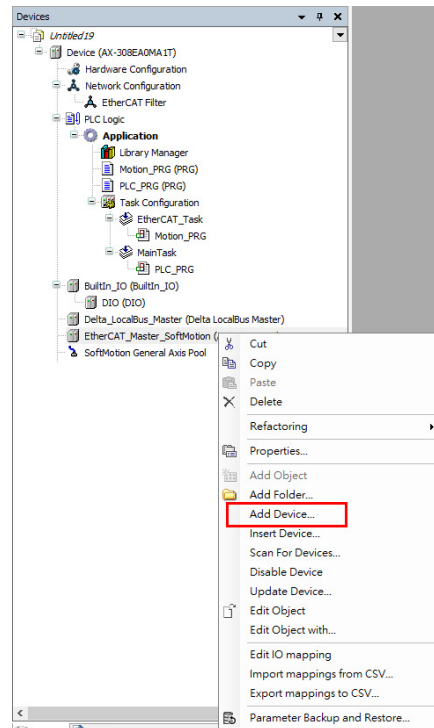
- (1) Double-click the DIADesigner-AX icon to open the software and create a new project.



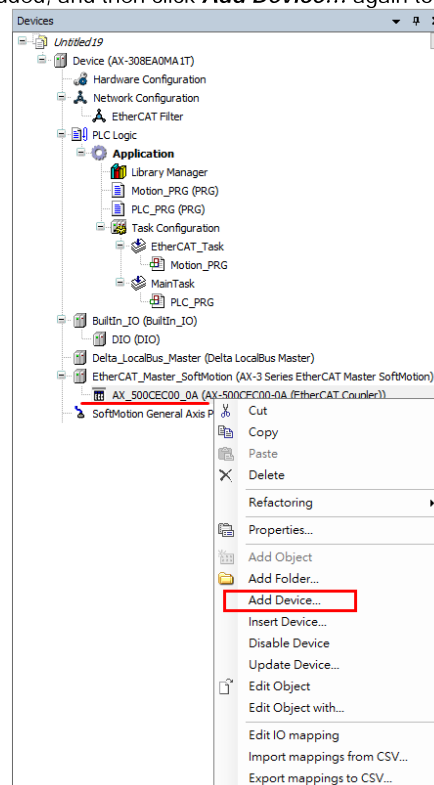
(2) Add Modules in

- Method 1: Add the modules in manually.

Right-click **EtherCAT Master SoftMotion** in the Devices tree, and then click **Add Device...** to select and add System Coupler.

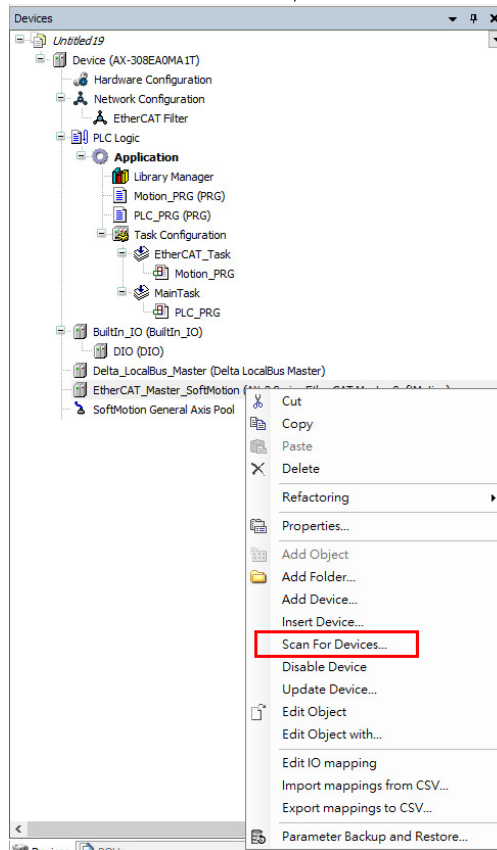


Right-click **System Coupler** you added, and then click **Add Device...** again to select and add modules in.

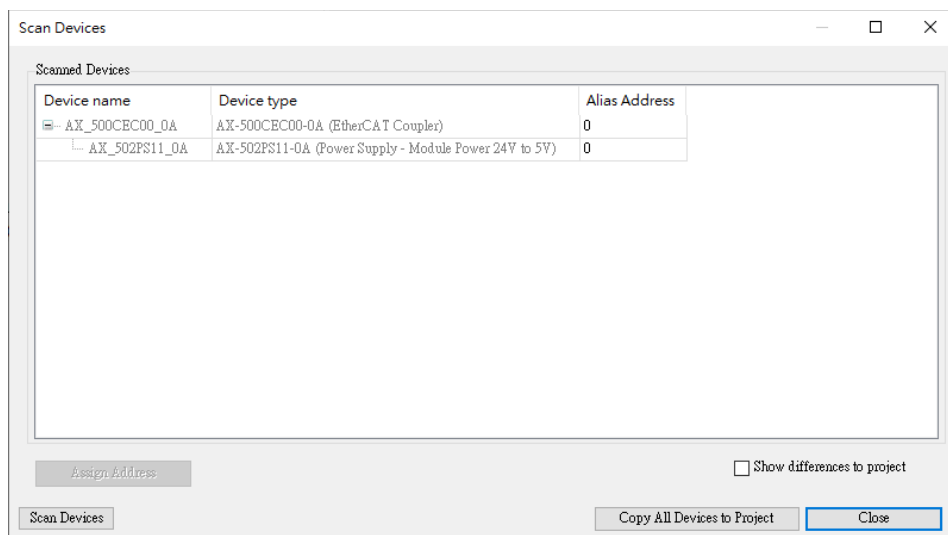


- Method 2: Scan to add the modules in.

Right-click **EtherCAT Master SoftMotion** in the Devices tree, and then click **Scan for Devices...**

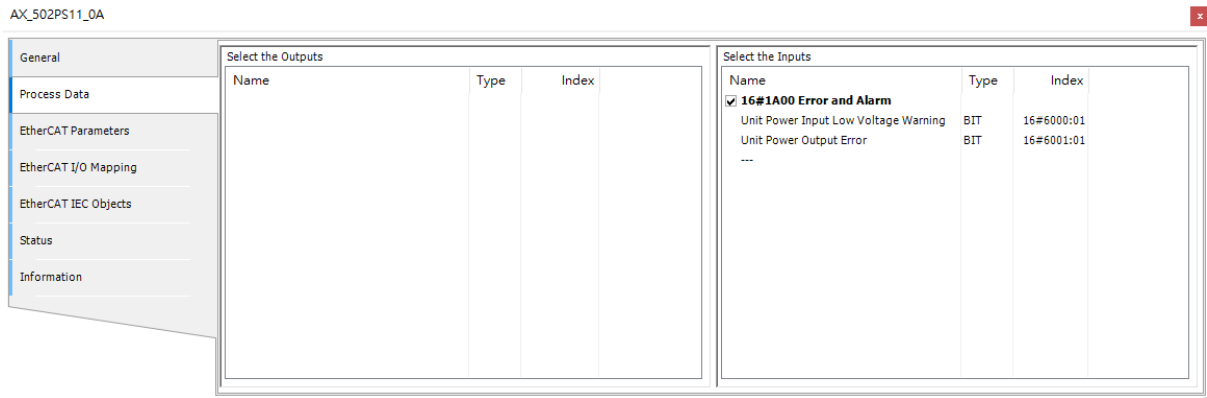


After the auto-scan is over, the actually connected devices will appear. Click **Copy All Devices to Project** button to add them to the list under **EtherCAT Master SoftMotion**.

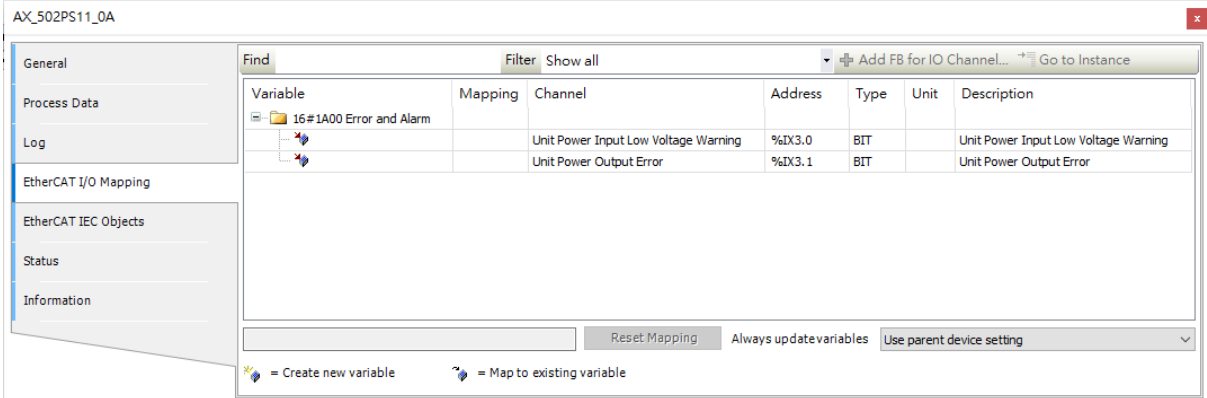


3.1.4.2 Process Data

(1) In the Process Data tab, select the desired outputs and inputs.

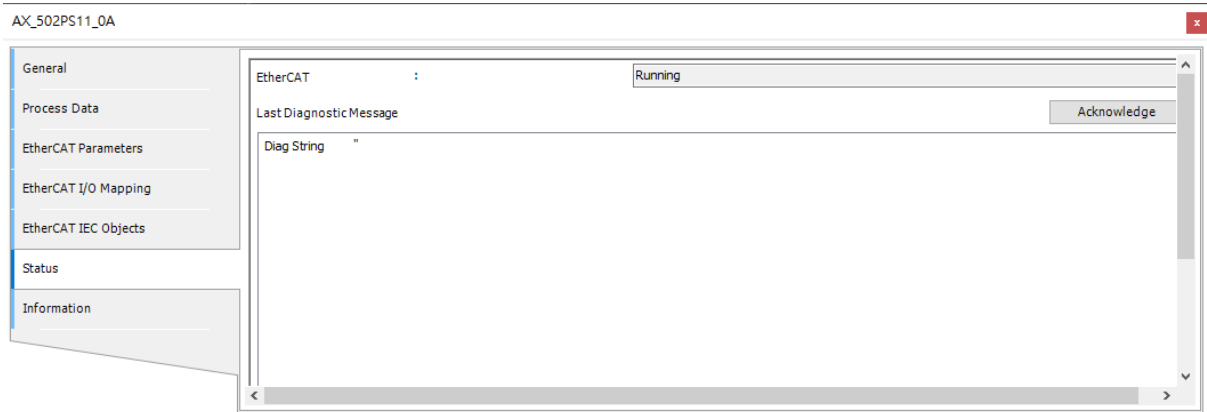


(2) Click  on the toolbar to go into online mode. In the I/O Mapping tab, you can find the variables, current value, status and error codes for each channel.



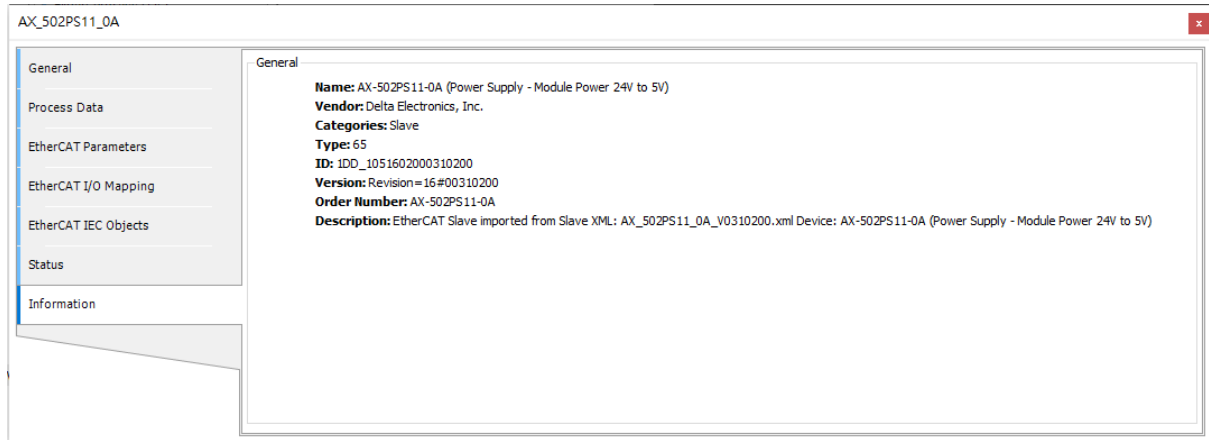
3.1.4.3 Status

Click  on the toolbar to go into online mode. In the Status tab, you can monitor the current status and latest diagnostic messages of the module.



3.1.4.4 Information

In the Information tab, you can find the module information, including Name, Vendor, Categories, Type, ID, Version, Order Number and Description for the power supply module.



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3.1.5 Process Data

This section introduces the settings and monitoring of PDO data exchange.

Index	Subindex	Name	Description	Data Type	Attr.	Default
16#6000	16#01	Unit power input low voltage warning	Under voltage warning (Unit power input)	BOOL	RO	0
16#6001	16#01	Unit power output error	Abnormal output power (Unit power)	BOOL	RO	0

3.1.6 Troubleshooting

Error code (16#)	Name	LED indicator		Solution
		LV LED	Channel LED	
NA	Unit power input low voltage warning	ON	NA	Check the input voltage.
NA	Unit power output error	OFF	NA	Check if the load current is exceeding 2A. If the output voltage is abnormal, contact the local authorized distributors.

3.2 AX-510PS12-0A

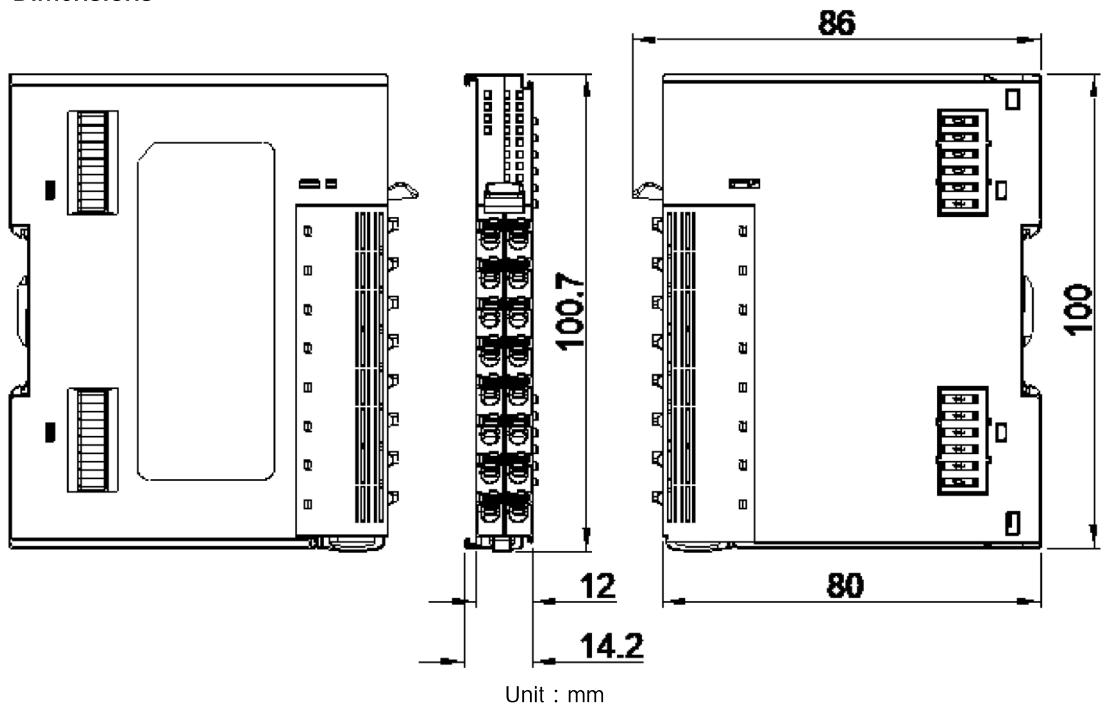
AX-510PS12-0A is an I/O power supply module. This section introduces its specifications, operations and wirings.

3.2.1 Specifications

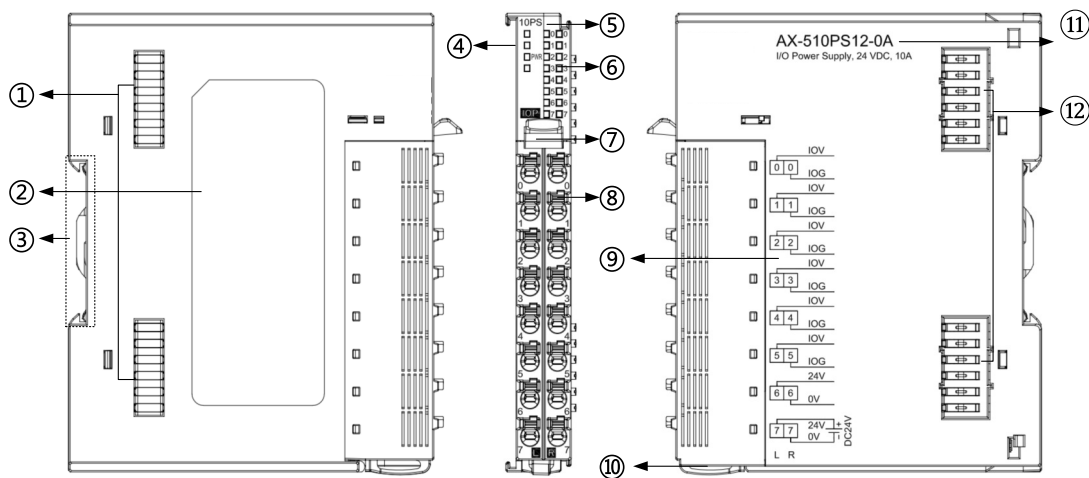
Item		Specification
External connector		Spring-clamp terminal block (16 terminals)
Dimension (mm)		12 (W) × 100 (H) × 80 (D)
Weight		60 g
Electrical specification	Input voltage/power (I/O power)	24 VDC (-15 to 20%) / under 240 W, depending on external power output
	Maximum unit power supply	N/A
	Maximum I/O power supply	Less than 10 A (240 W), depending on the external power output
	Current capacity for spring-clamp terminal block	Less than 5 A / terminal; less than 10 A / module
	Maximum power consumption for module (I/O power)	1 mA (0.024 W)
	Minimum power consumption (unit power)	No power consumed
	Isolation method	Between I/O power and external power: no isolation Between unit power and I/O power: 500 VAC (20 mΩ min.)

3.2.2 Dimensions and Parts

- Dimensions



● Parts

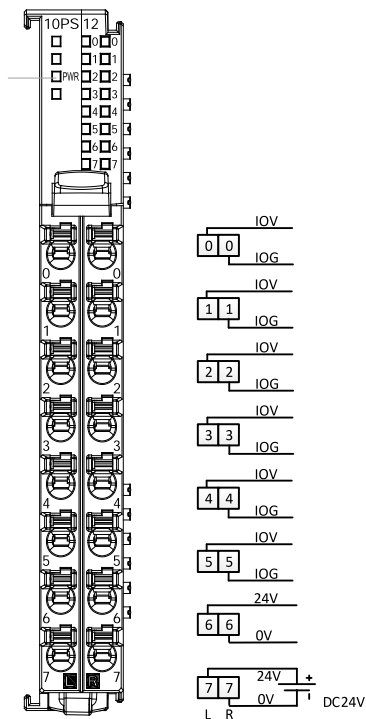


No.	Name
1	AX connector (L)
2	Label (manufacturer information, service information, safety, serial number, firmware/hardware version)
3	DIN rail clip
4	System status indicator
5	Model code
6	Channel status indicator
7	Spring to hold the connection
8	Spring-clamp terminal block
9	Wiring
10	Wire fastener
11	Model number and model description
12	AX connector (R)

3.2.3 Arrangement of Terminals, LED Indicators and Wiring

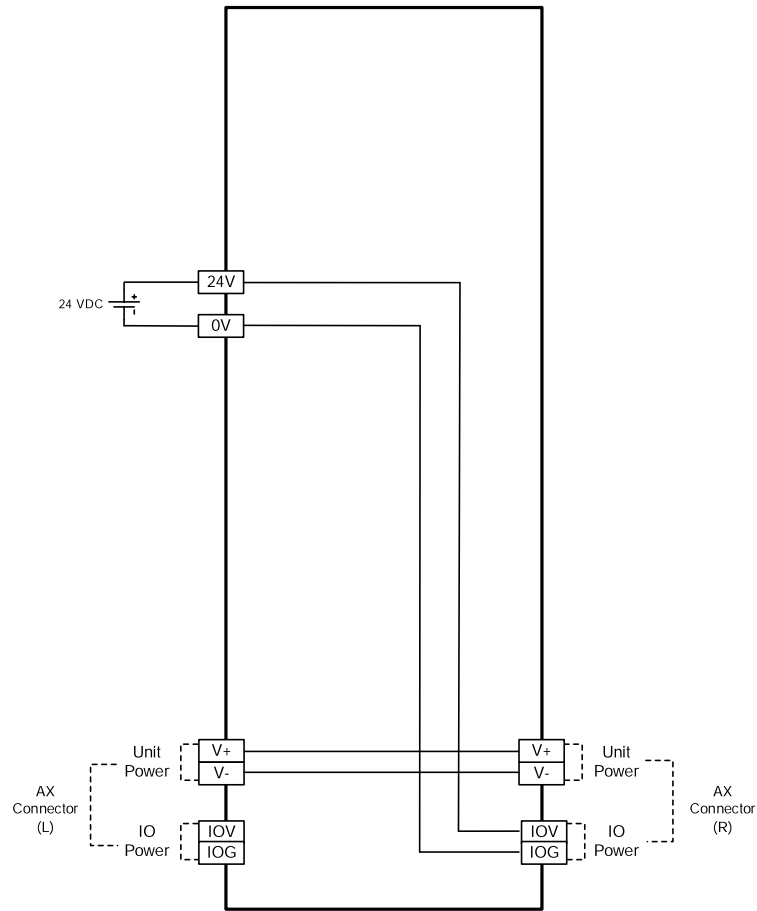
3.2.3.1 Arrangement of Terminals

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Pin No.	Symbol	Description	Pin No.	Symbol	Description
L0	IOV	I/O power output: 24 VDC	R0	IOG	I/O power output: 0 VDC
L1	IOV	I/O power output: 24 VDC	R1	IOG	I/O power output: 0 VDC
L2	IOV	I/O power output: 24 VDC	R2	IOG	I/O power output: 0 VDC
L3	IOV	I/O power output: 24 VDC	R3	IOG	I/O power output: 0 VDC
L4	IOV	I/O power output: 24 VDC	R4	IOG	I/O power output: 0 VDC
L5	IOV	I/O power output: 24 VDC	R5	IOG	I/O power output: 0 VDC
L6	24V	I/O power input: 24 VDC	R6	0V	I/O power input: 0 VDC
L7	24V	I/O power input: 24 VDC	R7	0V	I/O power input: 0 VDC

● Loop Configuration



- This product shall be powered by a certified SELV/PELV power supply unit with operating temperature of minimum 60°C, which meets the requirements of IEC 61010-1:2010 or latest edition.
- With the SELV/PELV power supply connected to 24V/0V terminals of the removable terminal block, the output rating of the power supply is 24V DC/10A, and the power is supplied to the right-side module for I/O power use via IOV/IOG of the AX connector. There are no current limiting components on the current paths from 24V/0V to IOV/IOG.
- SELV/PELV power supply units for AX-502PS11-0A and AX-510PS12-0A have different output ratings. Thus, do NOT have them share the same power supply unit.