

PWR-100 Power Module Series Quick Installation Guide

Power Modules for EDS-4000/G4000 Series

Version 1.0, July 2023

Technical Support Contact Information
www.moxa.com/support

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P/N: 1802001003010



Package Checklist

The PWR-100 Series power module is shipped with the following items. If any of these items are missing or damaged, please contact your customer service representative for assistance.

- 1 PWR-100 Series power module
- Quick installation guide (printed)
- Warranty card
- Substance disclosure table
- Product certificate of quality inspection (Simplified Chinese)
- Product notices (Simplified Chinese)

NOTE You can find information on the relevant product pages located on Moxa's website: www.moxa.com

Wiring Requirements



ATTENTION

Safety First!

External metal parts are hot. Take the necessary precautions if you are required to handle the device.



ATTENTION

In order to ensure reliable operations, please make sure the operating temperature of the environment does not exceed the specifications. When mounting an EDS device with other operating units in a cabinet without forced ventilation, a minimum of 4 cm space on both the left and right of the switch is recommended.



ATTENTION

Safety First!

Be sure to disconnect the power cord before installing and/or wiring your EDS device. Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size. If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

Be sure to read and follow these important points below:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.

NOTE Do not run signal or communications wiring and power wiring through the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.

- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring that shares similar electrical characteristics can be bundled together.
- You should separate input wiring from output wiring.
- We advise that you label the wiring to all devices in your system.

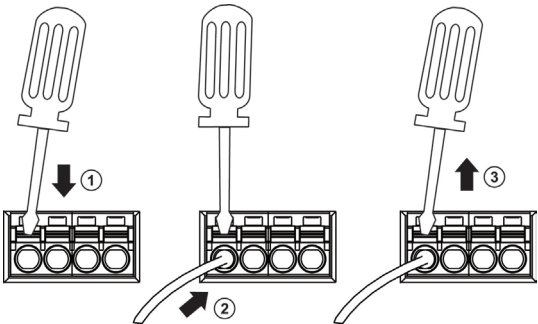
Suggested Wire Type for Wiring Relay Contact (RELAY), Digital Input (DI), and Power Inputs (P1/P2)

The PWR-100 Series power module has two 4-pins 3.5 mm pin-pitch terminal blocks. When wiring the relay contact (RELAY), digital input (DI), and power inputs (P1/P2), we suggest using the cable type AWG 18-24 and the corresponding pin type cable terminals.

NOTE The wire must be able to withstand at least 105°C and the torque value should be 4.5 lb-in (0.51 N-m).

NOTE We suggest the length of the pin type cable terminal is 8 mm.

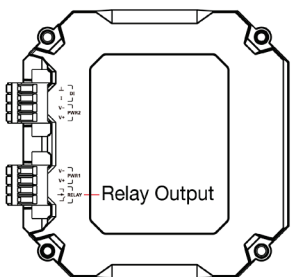
In order to tighten the wire properly, ① use a small flathead screwdriver to press the push-in button beside each terminal of the terminal block connector before and during ② inserting the wire. ③ Release the screwdriver after the wire has been fully inserted. Please refer to the diagram below.



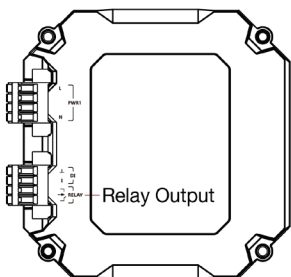
Wiring the Relay Contact

The PWR-100 Series power module has one set of relay outputs. This relay contact uses two contacts of the terminal block on the power module. Refer to the section for detailed instructions on how to connect the wires to the terminal block connector, and how to attach the terminal block connector to the terminal block receptor.

LV Models



HV Models



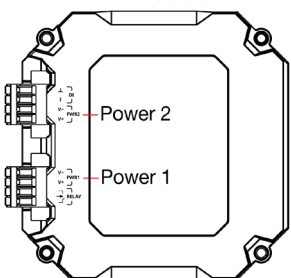
Relay:

The two contacts of the 4-pin terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form an open circuit when a user-configured event is triggered or there is no power supply to the switch. If a user-configured event does not occur, the fault circuit remains closed.

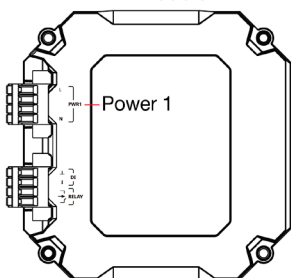
Wiring the Redundant Power Inputs

The PWR-100 Series includes both high-voltage and low-voltage models. For the low-voltage (LV models) products, there are two power inputs for redundancy; for the high-voltage (HV models) products, there is only one power input. Refer to the instructions and diagram below on how to connect the wires to the terminal block connector on the receptor.

LV Models

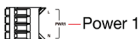
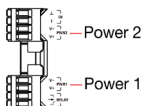


HV Models



LV Models

HV Models



STEP 1: Insert the Positive/Negative DC or Line/Neutral AC wires into the V+/V- or L/N terminals, respectively.

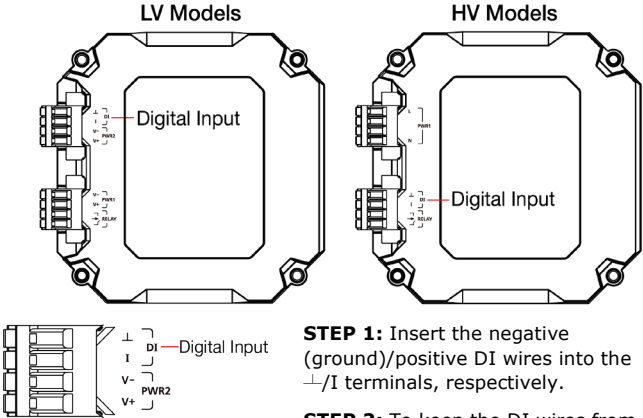
STEP 2: To keep the DC or AC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

STEP 3: Insert the plastic terminal block connector prongs into the

terminal block receptor, which is located on the EDS devices' right side.

Wiring the Digital Inputs

The PWR-100 Series power module has one set of digital inputs (DI). The DI consists of two contacts of the 4-pin terminal block connector on the EDS's right-side panel. Refer to the instructions and diagram below on how to connect the wires to the terminal block connector on the receptor.



STEP 1: Insert the negative (ground)/positive DI wires into the \perp /I terminals, respectively.

STEP 2: To keep the DI wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp button on the front of the terminal block connector.

STEP 3: Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on the EDS devices' right side.

Replacing or Rotating the Power Module

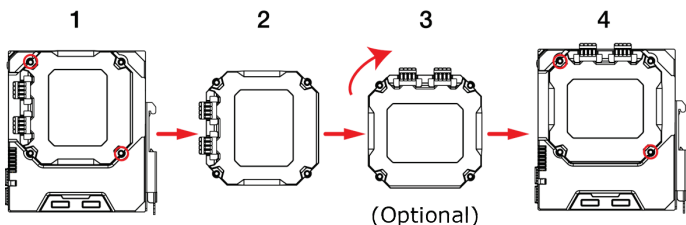
The power module for the EDS device can be replaced or rotated to fit the requirements of your field site application.

Step 1: Remove the two screws that fasten the power module to the EDS device.

Step 2: Remove the power module from the EDS device.

Step 3: (Optional) Rotate the power module clockwise so that the power, digital input, and relay output connectors are facing upwards.

Step 4: Place the module, or another module, back onto the EDS device, then fasten the screws to secure the power module to the device.



Specifications

Power	
Note	<p>The EDS-4000/G4000 Series device model name and power parameters are determined by the installed PWR-100 power module.</p> <p>PWR-100-LV: -LV/-LV-T models PWR-105-HV-I: -HV/-HV-T models PWR-101-LV-BP-I: -LVA/-LVA-T models (PoE support) PWR-103-LV-VB-I: -LVB/-LVB-T models (PoE support)</p> <p>For example: EDS-G4008-T + PWR-100-LV = EDS-G4008-LV-T EDS-G4008-T + PWR-105-HV-I = EDS-G4008-HV-T</p> <p>If you install a different power module, refer to the specifications of the corresponding model. For example, if you replace the power module of the EDS-G4008-LV-T with the PWR-105-HV-I, refer to the specifications of the EDS-G4008-HV-T.</p>
Rated Voltage	<p>PWR-100-LV: 12/24/48 VDC, redundant dual inputs PWR-105-LV-I: 110/220 VDC, single input PWR-101-LV-BP-I: 48 VDC, redundant dual inputs PWR-103-LV-VB-I: 12/24/48 VDC, redundant dual inputs</p>
Operating Voltage	<p>PWR-100-LV: 9.6 to 60 VDC PWR-105-HV-I: 88 to 300 VDC, 85 to 264 VAC PWR-101-LV-BP-I: 44 to 57 VDC (> 52 VDC for PoE+ output recommended) PWR-103-LV-VB-I: 12 to 57 VDC (>52 VDC for PoE+ output recommended)</p>
Rated Current	<p>PWR-100-LV: 12 to 48 VDC, 1.50 to 0.40 A or 24 VDC, 0.70 A PWR-105-HV-I: 110 to 220 VAC, 50 to 60 Hz, 0.30 to 0.20 A or 110 to 220 VDC, 0.30 to 0.20 A PWR-101-LV-BP-I: 48 VDC, 5.42 A PWR-103-LV-VB-I: 12/48 VDC, 7.46/4.27 A or 24 VDC, 7.26 A</p>
Inrush Current	-LV models: Max. 0.8 A @ 48 VDC (0.1 to 1 ms)
Power over Ethernet	Only the EDS-4008-4P-2GT-2GS(-T), EDS-4012-8P-4GS(-T), and EDS-G4012-8P-4QGS(-T) models

	support PoE. If a PoE-capable PWR-100 Series module (PWR-101-LV-BP-I, PWR-103-LV-VB-I) is installed into an EDS-4000/G4000 Series non-PoE model, PoE functionality will not be available.
Overload Current Protection at Input	Present
Reverse Polarity Protection	Present
Connection	2 removable 4-contact terminal blocks
Physical Characteristics	
Dimension	PWR-100-LV: 103 x 98 x 26.6 mm (4.06 x 3.86 x 1.02 in) PWR-105-HV-I: 103 x 98 x 39.9 mm (4.06 x 3.86 x 1.57 in) PWR-101-LV-BP-I: 103 x 98 x 39.9 mm (4.06 x 3.86 x 1.57 in) PWR-103-LV-VB-I: 103 x 98 x 39.9 mm (4.06 x 3.86 x 1.57 in)
Weight	PWR-100-LV: 142 g (0.31 lb) PWR-105-HV-I: 215 g (0.47 lb) PWR-101-LV-BP-I: 176 g (0.39 lb) PWR-103-LV-VB-I: 244 g (0.54 lb)
Environmental Limits	
Operating Temperature	-10 to 60°C (14 to 140°F) for standard models -40 to 75°C (-40 to 167°F) for -T models
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	Up to 2000 m Note: Please contact Moxa if you require products guaranteed to function properly at higher altitude.
Regulatory Approvals	
Safety	EN 62368-1(LVD)
EMC	EN 55032/35, EN 61000-6-2/6-4
EMI	FCC Part 15 Subpart B Class A
EMS	EN 61000-4-2 (ESD) Level 4 EN 61000-4-3 (RS) Level 3 EN 61000-4-4 (EFT) Level 4 EN 61000-4-5 (Surge) Level 4 EN 61000-4-6 (CS) Level 3 EN 61000-4-8 Level 4
Package Drop & Vibration	ISTA 1A
Warranty	
Warranty	5 years



ATTENTION

This device complies with Part 15 of the FCC rules.

Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.