ioPAC 6500 (65M) Power and Power Backplane Modules Quick Installation Guide

Version 1.0, November 2024

Technical Support Contact Information
www.moxa.com/support

P/N: 1802065000111

Package Checklist

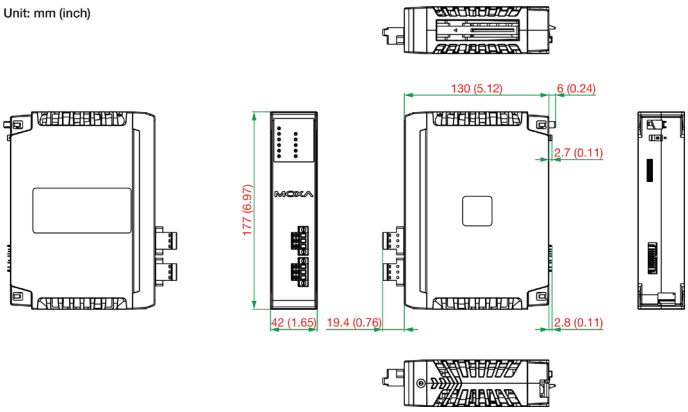
- 1 x 65M module
- 1 x Quick installation guide (printed)
- 1 x Warranty card

NOTE Notify your sales representative if any of the above items is missing or damaged.

Dimensions

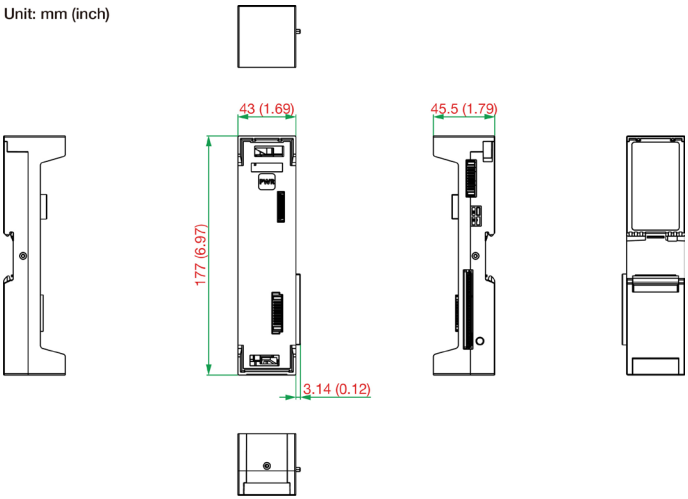
P65M-PW0075-CT-T

Unit: mm (inch)



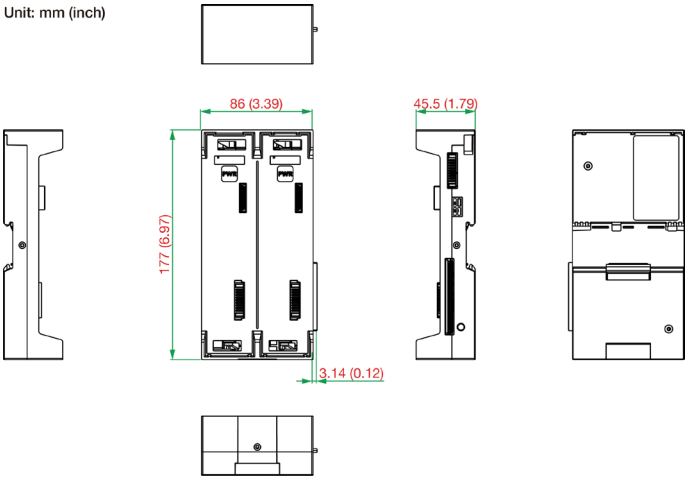
65M-BMPW01-CT-T

Unit: mm (inch)



65M-BMPW02-CT-T

Unit: mm (inch)



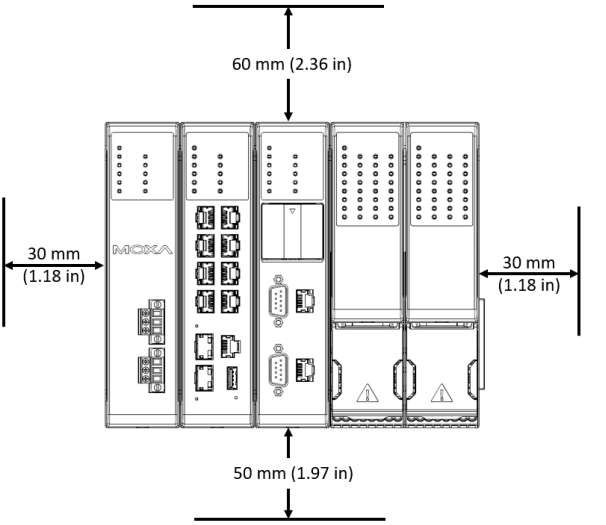
LED Description

Power Module (65M-PW0075-CT-T)

Labeling	Indication	Qty	Color	Behavior	Description
STATUS	System status	1	Green	On	Normal
				Blinking at 5 Hz	Firmware upgrade in Progress
				Blinking at 0.5 Hz	Booting up
				Double Blinking	Module located
			Red	On	System failure
				Blinking at 5 Hz	Lost the connection to CPU
				Blinking at 0.5 Hz	Diagnostic error
SP	System Power	1	Green	On	Normal
				Blinking at 5 Hz	Abnormal
FP	Field Power	1	Green	On	Normal
				Blinking at 5 Hz	Abnormal

Horizontal Installation

Before mounting the device onto a DIN rail, ensure that there is enough space around the device so that heat generated can effectively dissipate. The minimum space allowance recommendation around the device is shown in the following diagram:



CAUTION

DO NOT install the device upright because the fanless heat dissipation design will not perform as intended in this position.

Installing the system on a DIN Rail

The ioPAC 6500 Series needs to be installed from left to right in the following order:

Power Module > Communication (switch) Module (optional) > CPU Module > IO Module (optional)

NOTE **LIMITATIONS**

The system combinations have the following limitations:

- Maximum unit: 1 (control unit)
- Maximum power backplane in the control unit:
  1 (1 slot or 2 slots)
- Maximum CPU backplane in control unit:
  1 (1 slot or 2 slots)
- Maximum communication backplane in control unit:
  1 (1 slot or 2 slots)
- Maximum IO backplane in the control unit:
  2 (2 slots or 4 slots)

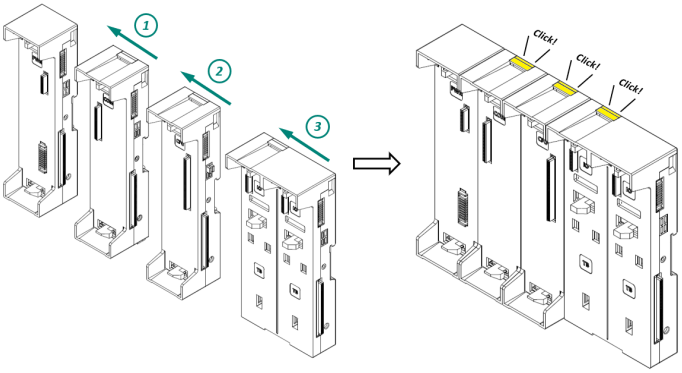
To mount the modules on to a DIN rail, do the following:

The system configuration shown in this document includes 1 power module, 1 communication module (switch), 1 CPU module, and 2 IO modules.

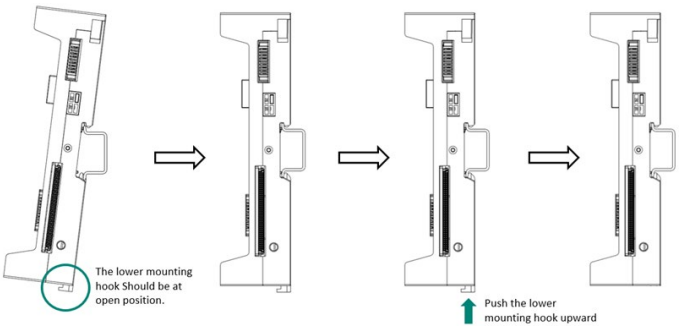
Step 1: Assemble all the backplane modules that you need before mounting them onto the DIN rail.

You must assemble the modules in the following order:
Power Module > Communication Module (Switch) > CPU Module > IO Module

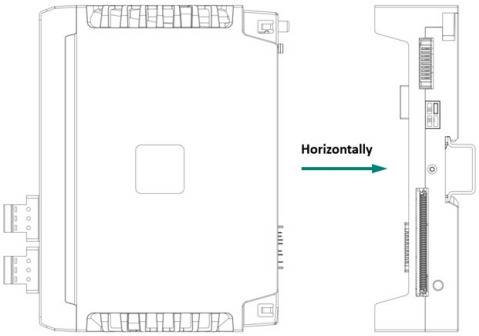
A click sound from the top clip indicates that the backplane modules are connected properly.



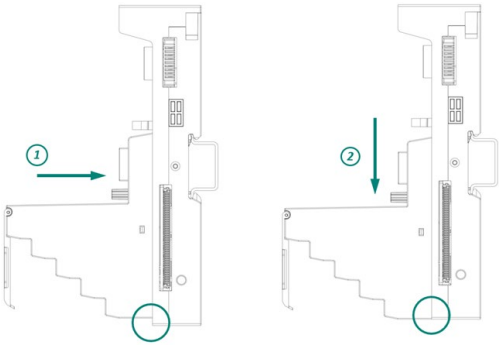
Step 2: Attach the upper mounting hook of all assembled backplanes to the upper lip of the DIN rail, while making sure the lower mounting hooks of all of them are open as shown in the following illustrations (side view), and push the assembled backplane towards the DIN rail, and finally push the lower mounting hooks upwards until the backplane modules are securely latched to the DIN rail.



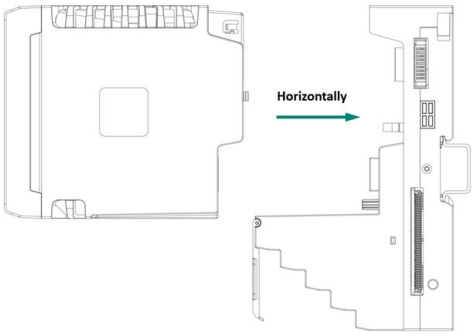
Step 3: Hold the power module with both hands and install it horizontally onto the power backplane module. Do the same with the CPU module and switch module (if applicable).



Step 4: Place the terminal-block module onto the IO backplane module and then pull down the terminal-block module to secure it in its position.



Step 5: Hold the IO module with both hands and install it horizontally onto the IO backplane module.
Use the poka-yoke (error-proof) design as a guide to ensure the IO module is installed in the correct slot.



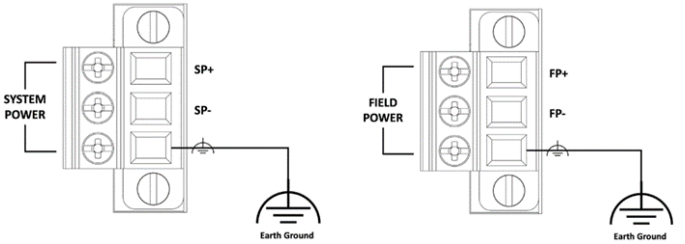
ATTENTION

These devices are OPEN-TYPE and are required to be installed in a suitable enclosure so that the devices can only be accessed with the use of a tool.

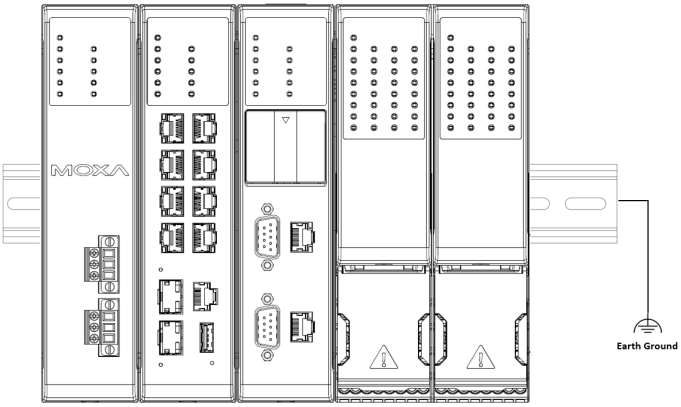
Grounding the System

The system-power and field-power connectors for the power modules are shown in the illustrations in this section.

You must ensure that the system is properly grounded. The three points that should be connected to the earth ground as shown in the following illustrations.



NOTE The grounding spring on the rear side of the backplane modules will directly connect to the DIN rail when they are successfully mounted.



Wiring the System Power

Use two separate power suppliers to ensure the system and field power are isolated from each other.

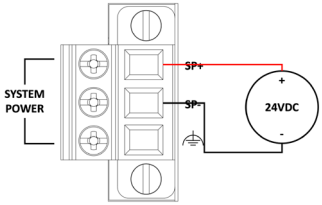
Wire range: 12 to 18 AWG (4 to 1 mm^2)

Wire strip length: 10 mm (0.39 in)

Recommend tightening torque: 5.0 kg-cm (4.34 lb-in)

NOTE We recommend connecting only one wire per pin.

The ioPAC 6500 system requires a 24 VDC system power input, which powers the system via an internal bus located on the backplane module.



Wiring the Field Power

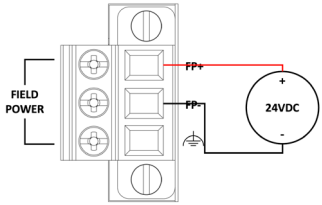
Wire range: 12 to 18 AWG (4 to 1 mm^2)

Wire strip length: 10 mm (0.39 inch)

Recommend Tightening Torque: 5.0 kg-cm (4.34 lb-in)

NOTE We recommend only one wire per pin.

The ioPAC 6500 system requires a 24 VDC field power input, which . powers the IO circuit via an internal bus located on the backplane module.



Powering the Units

When the installation and wiring are complete, you can turn on the power to boot up the system. After the system power supply is turned on, it takes around 90 seconds for the operating system to boot up. The green Ready LED will stay lit until the operating system is ready.

Specifications

System Power	
Rated Voltage	24 VDC
Operating Voltage	21.6 to 26.4 VDC
Input Current	4 A (max.)
Field Power	
Rated Voltage	24 VDC
Operating Voltage	21.6 to 26.4 VDC
Input Current	3 A (max.)
Physical Characteristics	
Weight	65M-PW0075-CT-T: 713 g (1.57 lb) 65M-BMPW01-CT-T: 162 g (0.36 lb) 65M-BMPW02-CT-T: 320 g (0.71 lb)
Mounting Options	DIN-rail mount (default) Rackmount (with optional kit)
Environmental Limits	
Operating Temperature	-40 to 75°C (-40 to 167°F)
Storage Temperature	-40 to 85°C (-40 to 185°F) including package
Relative Humidity	5 to 95% (non-condensing)
IP Protection	IP20
Operating Altitude	Up to 2000 meters
Standards and Certifications	
EMC	EN 55032/35 EN 61000-6-2/6-4
EMI	CISPR 32 FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: DC Power: 1 kV; Signal: 1 kV IEC 61000-4-5 Surge: DC Power: 0.5 kV L-N, 1 kV L/N-PE Signal: 1 kV; IO: 0.5 kV IEC 61000-4-6 CS: DC Power: 10 Vrms; Signal: 10 Vrms IEC 61000-4-8 PFMF: 30 A/m
Safety	UL 61010-1, UL 61010-2-201
Shock	IEC 60068-2-27 Half Sine Wave: Acceleration: 15 g; Duration Time: 11 ms
Vibration	IEC 60068-2-6
Package Vibration / Drop Test	ISTA-1A
Warranty	
Warranty period	5 years
Details	See www.moxa.com/tw/warranty