# ioPAC 6500 (65M) Terminal Block Modules Quick Installation Guide

**Version 1.0, September 2026**

**Technical Support Contact Information**
**www.moxa.com/support**

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**P/N: 1802065000171**

## Package Checklist

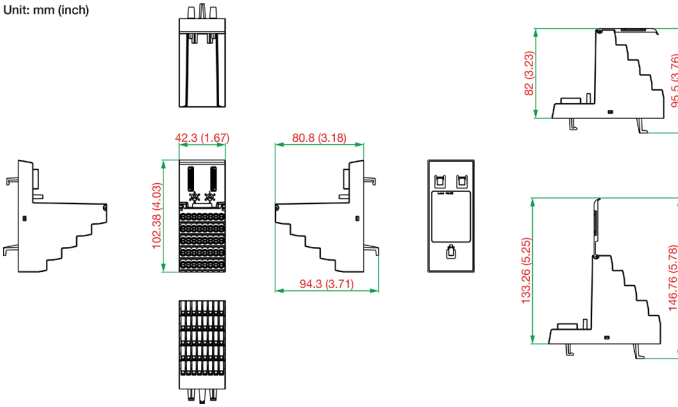
- 1 65M module
- 1 Pin-definition card (65M-TB models)
- 1 Quick installation guide (printed)
- 1 Warranty card

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

## Dimensions

**65M-TB Models**

Unit: mm (inch)




## Mounting Requirements

Mounting requires an earth-grounded DIN rail and sufficient clearance for heat dissipation.

**CAUTION**

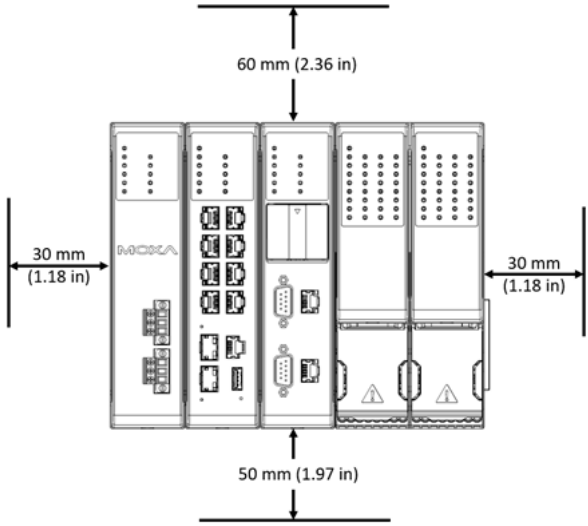
Risk of device malfunction. Install units with release latch facing up. Fanless heat dissipation requires exhaust vents on the top of each module to face up.

**CAUTION**

Risk of electrical hazard if ungrounded. DIN rails must be connected to earth ground.

The minimum clearance for heat dissipation is:

| Direction | Clearance |
|---|---|
| Top | 60 mm (2.36 in) |
| Sides | 30 mm (1.18 in) |
| Bottom | 50 mm (1.97 in) |




## Unit Installation Requirements and Limitations

Modules must be arranged in the following order from left to right:

1. Power Module(s)
2. Communication Module(s) (optional)
3. CPU Module(s) (Control units only)
4. Expansion Module (optional)
5. IO Module(s) (optional)

Determine the correct backplane and module sequence before mounting to avoid unmounting. Modules are hot-swappable. However, once mounted, module backplanes are difficult to rearrange without unmounting.

### Unit/Module Limitations

Each unit may have the following:

| Module Type | Maximum Backplanes | Multislot |
|---|---|---|
| Power | 1 | 1-slot or 2-slot |
| Communication | 1 | 1-slot or 2-slot |
| CPU | 1 | 1-slot or 2-slot |
| Expansion | 1 | 1-slot or 2-slot |
| IO | 2 | 2-slot or 4-slot |

**CAUTION**

Risk of device malfunction. Ensure total unit power draw does not exceed 75 W.

## Assembling and Mounting Backplane Modules

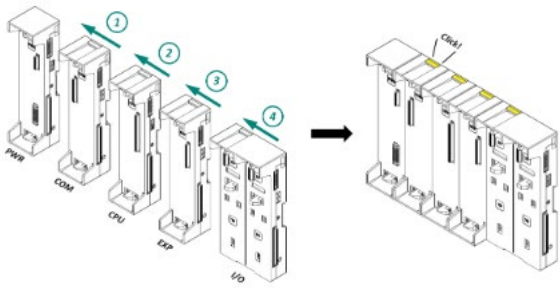
Backplanes link modules together and anchor them on the DIN rail. The backplane modules for each unit must follow a specific order. Refer to the *ioPAC 6500 Series Manual* for more information on the exact order and module compatibility.

**CAUTION**

Install in a suitable tool-accessible enclosure. Devices are open-type. Open-type equipment is for indoor use. IP rating is not safety-certified.

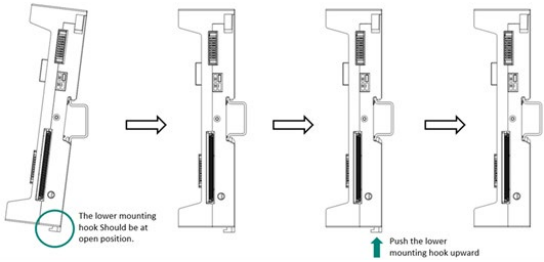
**NOTE** Assembled units may be heavy. Mounting backplanes first is recommended before installing modules into slots.

1. To attach one backplane to another, align the two backplanes and gently push.




   The top clip should snap downward when connected. If the clip does not snap, gently push it down. Do not force. If it still doesn't lock, make sure the backplanes are in the correct order and flush, then try again.
2. Repeat until all necessary backplanes are connected, and all top clips are flush.

3. On the back of the assembled backplanes, make sure that the lower mounting hooks of all backplane modules are extended.
4. Hang the upper mounting hook of the assembled backplanes on the upper lip of the DIN rail.
5. Allow the bottom mounting hook of the assembled backplanes to rest flush against the DIN rail.
6. Secure the backplanes by pushing the lower mounting hook clasps up.
   The backplane modules are now secure.

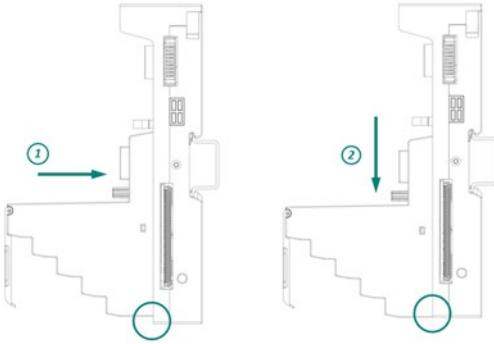



## Installing Modules Into Slots

**CAUTION**

Do not force. Valid module combinations should snap easily into place. Consult the *ioPAC 6500 Series Manual* for valid combinations.

1. Place the terminal block module on the I/O backplane module, then pull down to lock into place.



2. Hold the module with both hands, and insert it horizontally into the corresponding slot on the backplane assembly.




Repeat until all modules are installed.

**NOTE** The tab on the top of the module should be flushed with the top of the module. Some modules have special installation instructions. See the *ioPAC 6500 Series Manual* and the corresponding QIG for details.

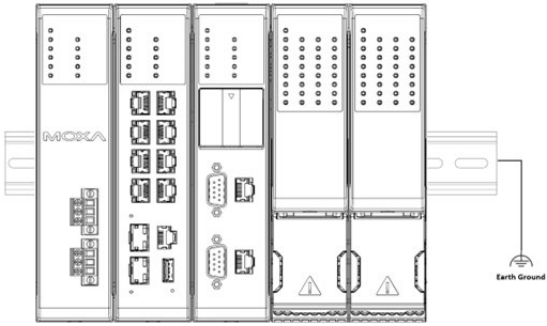
## Module Power

Backplane modules distribute power to each module in the unit. Modules are powered automatically once power is supplied to the unit. After the power supply is turned on, boot-up takes approximately 90 seconds. Consult the *ioPAC 6500 Series Manual* and *ioPAC 6500 (65M) Power and Power Backplane Modules Quick Installation Guide* for more information.

## Module Grounding

Modules must be grounded through the following mechanisms:

- Each backplane module has a grounding spring that directly connects to the grounded DIN rail. DIN rails must be connected to earth ground.

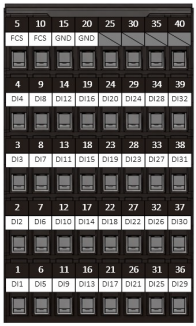


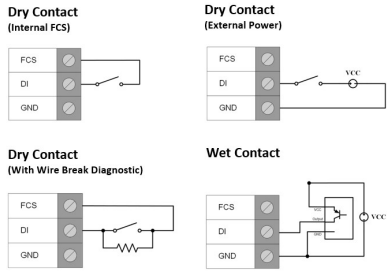

- Each backplane module connects to the other backplane modules, with their own grounds.

## I/O Pin Definitions

| | |
|---|---|
| Wire Material | Copper |
| Wire Gauge | 20 to 14 AWG (0.5 to 2.54 $mm^2$) |
| Wire Strip Length | 8 mm (0.32 in) |
| Recommended Torque | 4.6 kg-cm (4 lb-in) |
| Wire Temperature Rating | ≥ 86.1°C |

**DI: 65M-TB-1900-CT-T**

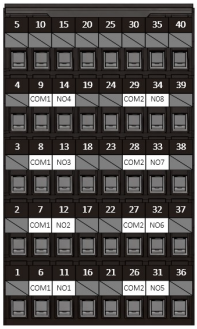


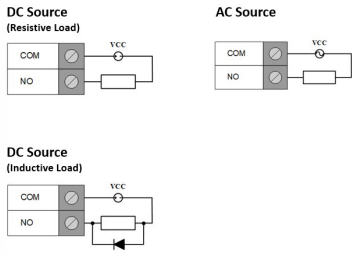




**Relay: 65M-TB-2804-CT-T**

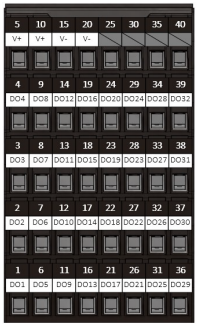
### CAUTION

- Do not connect both AC (VAC) and DC (VDC) voltages to the same COM group.
- Do not connect voltages of different levels to the same COM group.

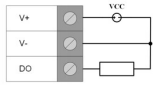


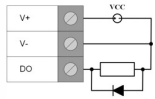
## DO: 65M-TB-2901-CT-T




**Resistive Load**



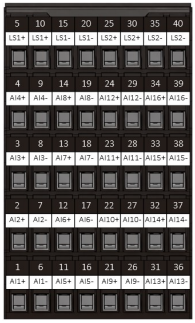

**Inductive Load**



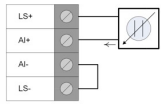

## AI (mA): 65M-TB-3600-CT-T

**CAUTION**

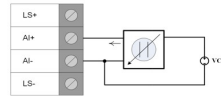
Wire LS1 to AI1 to AI8, and LS2 to AI9 to AI16.



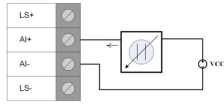

**2-Wire Current Sensor**
**(Internal Loop Power)**



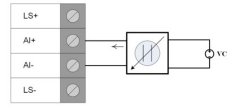

**3-Wire Current Sensor**



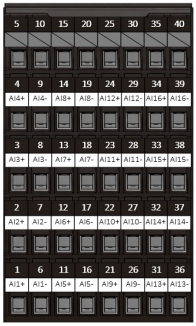

**2-Wire Current Sensor**
**(External Loop Power)**



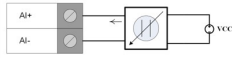

**4-Wire Current Sensor**



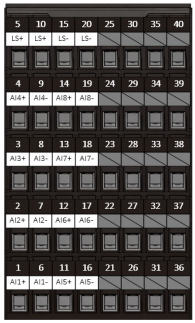

## AI (V): 65M-TB-3610-CT-T



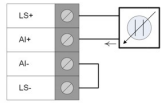

**4-Wire Voltage Sensor**



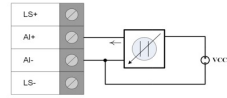
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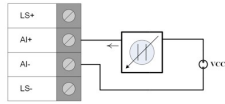

**2-Wire Current Sensor**
**(Internal Loop Power)**



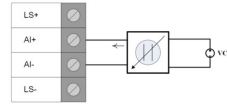

**3-Wire Current Sensor**



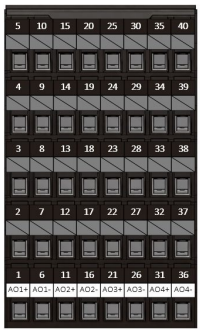

**2-Wire Current Sensor**
**(External Loop Power)**

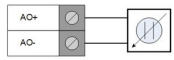



**4-Wire Current Sensor**

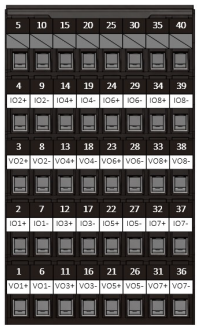



## AO (Ch-Ch ISO): 65M-TB-4450-CT-T

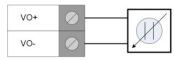


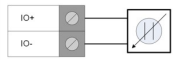

## AO: 65M-TB-4820-CT-T



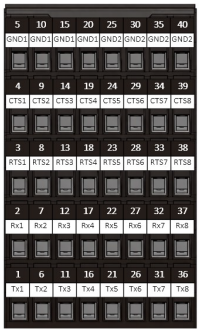

**Voltage Output**



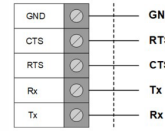

**Current Output**

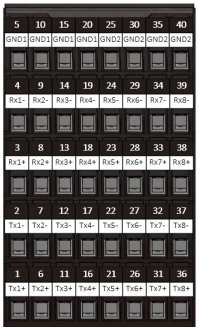


## Serial: 65M-TB-5801-CT-T

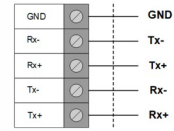


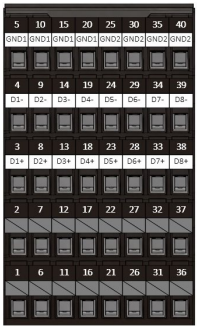

RS-232



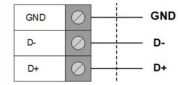




RS-422




RS-485-2w



## Specifications

**General**

| | |
|---|---|
| **Mounting Options** | |
| DIN-rail Mounting | Default |
| Rack Mounting | Supported (with optional kit) |
| **Environmental Limits** | |
| Operating Temperature | -40 to 75°C (-40 to 167°F) |
| Storage Temperature (including package) | -40 to 85°C (-40 to 185°F) |
| Relative Humidity | 5 to 95% (non-condensing) |
| IP Protection | IP20 |
| Operating Altitude | Up to 2,000 meters |
| **Standards and Certifications** | |
| EMC | EN 55032/35<br>EN 61000-6-2/6-4 |
| EMI | CISPR 32<br>FCC Part 15B Class A |
| EMS | IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-4 EFT:<br>DC Power: 1 kV; Signal: 1 kV<br>IEC 61000-4-5 Surge:<br>DC Power: 0.5 kV L-N, 1 kV L/N-PE;<br>Signal: 1 kV; IO: 0.5 kV<br>IEC 61000-4-6 CS:<br>DC Power: 10 Vrms; Signal: 10 Vrms<br>IEC 61000-4-8 PFMF: 30 A/m |
| Safety | UL 61010-1, UL 61010-2-201 |
| Vibration | IEC 60068-2-6<br>• DIN-rail mounted:<br>7 mm peak-to-peak (p-p) (2 to 8.42 Hz), 1 g (8.42 to 150 Hz)<br>• Rack-mounted (with optional kit):<br>7 mm peak-to-peak (p-p) (2 to 8.42 Hz), 0.5 g (8.42 to 150 Hz) |
| Package Vibration / Drop Test | ISTA-1A |
| **Warranty** | |
| Warranty period | 5 years |
| Details | See www.moxa.com/tw/warranty |

**65M-TB-XXXX-CT-T**

| **Physical Characteristics** | |
|---|---|
| ID | 1900: D1<br>2901: D2<br>2804: D3<br>3600: A1<br>3610: A2<br>3800H: A3<br>4450: A4<br>4820: A5<br>5801: F1 |
| Dimensions | 42 x 116 x 130 mm (1.65 x 4.57 x 5.12 in) |
| Weight | 164 g (0.36 lb) |



## CAUTION

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

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

## Hazardous Location Specifications

<table>
<tr><td>Trade Mark</td><td colspan="2">MOXA®</td></tr>
<tr><td rowspan="11">Model/<br>Rating</td><td>Model</td><td>Rating</td></tr>
<tr><td>65M-1900-CT-T</td><td>System power: 12 VDC, 0.068 A<br>Field power: 24 VDC, 0.115 A</td></tr>
<tr><td>65M-2901-CT-T</td><td>System power: 12 VDC, 0.068 A<br>Field power: 24 VDC, 0.01 A</td></tr>
<tr><td>65M-3600-CT-T</td><td>System power: 12 VDC, 0.073 A<br>Field power: 24 VDC, 0.466 A</td></tr>
<tr><td>65M-3610-CT-T</td><td>System power: 12 VDC, 0.069 A<br>Field power: 24 VDC, 0.038 A</td></tr>
<tr><td>65M-4820-CT-T</td><td>System power: 12 VDC, 0.069 A<br>Field power: 24 VDC, 0.266 A</td></tr>
<tr><td>65M-3800H-CT-T</td><td>System power: 12 VDC, 0.072 A<br>Field power: 24 VDC, 0.66 A</td></tr>
<tr><td>65M-5801-CT-T</td><td>System power: 12 VDC, 0.143 A<br>Field power: 24 VDC, 0.11 A</td></tr>
<tr><td>65M-BMIO02-CT-T</td><td>System power: 12 VDC, 0.093 A</td></tr>
<tr><td>65M-BMIO04-CT-T</td><td>System power: 12 VDC, 0.117 A</td></tr>
<tr><td>ATEX<br>information</td><td colspan="2">CE<br>Ex II 3G<br>Ex ec IIC T4 Gc<br>UL 26 ATEX 3542X<br>Ambient Range for “-T” models:<br>-40 °C ≤ Tamb ≤ +75 °C<br>Ambient Range for non “-T” models:<br>-10 °C ≤ Tamb ≤ +60 °C</td></tr>
<tr><td>IECEx<br>Cert. No.</td><td colspan="2">IECEx UL 26.0030X</td></tr>
</table>



**CAUTION**

These devices are suitable for use in Class I, Division 2, Groups A, B, C, and D, or for use in non-hazardous locations only.

**NOTE** 65M-2804-CT-T and 65M-4450-CT-T are NOT yet IECEx and ATEX certified.

### Specific Conditions of Use

- The equipment shall be installed in an enclosure that provides a minimum ingress protection of IP 54 in accordance with EN IEC/IEC 60079-0.
- The equipment shall only be used in an area of at least pollution degree 2, as defined in EN IEC/IEC 60664-1.