

Kinetix 5100 I/O Terminal Expansion Block

Catalog Number 2198-TB10

The I/O terminal expansion block lets you wire I/O directly to the Kinetix® 5100 drive without the use of an extension cable and a separate terminal block. The I/O terminal expansion block securely mounts to the drive with its own mounting screws and simplifies I/O wiring.

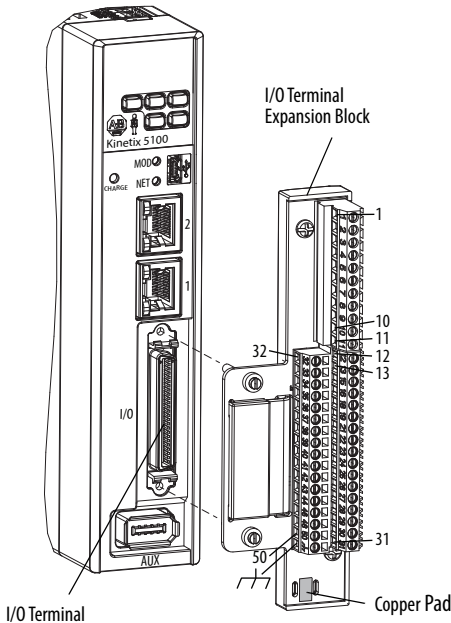
This publication provides installation and wiring instructions for the Kinetix 5100 I/O terminal expansion block. For further installation instructions on the Kinetix 5100 drive, refer to the Kinetix 5100 Single-axis EtherNet/IP Servo Drive User Manual, publication [2198-UM004](#).

Before You Begin

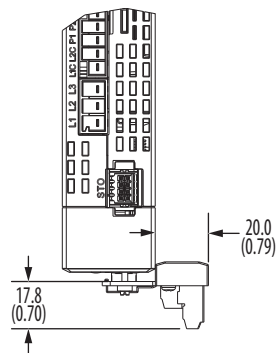
The I/O terminal expansion block is attached to the I/O terminal on the front of the drive. When used the expansion block requires additional cabinet height and width.

Front view of Kinetix 5100 drive.
2198-E1004-ERS Kinetix 5100 drive is shown.

Dimensions are in mm (in.).



Partial top view of Kinetix 5100 drive show additional clearance required for I/O terminal expansion block.



Install the I/O Terminal Expansion Block

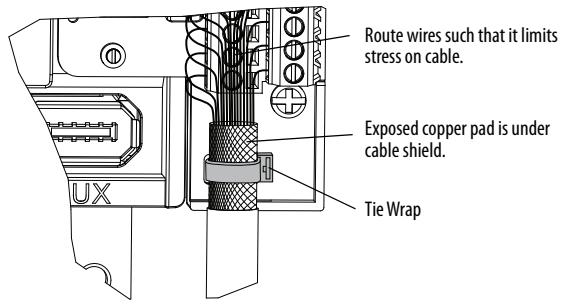
Follow these steps to install your I/O terminal expansion block.

1. Wire the I/O terminal expansion block, by using the pinout table on page 3.

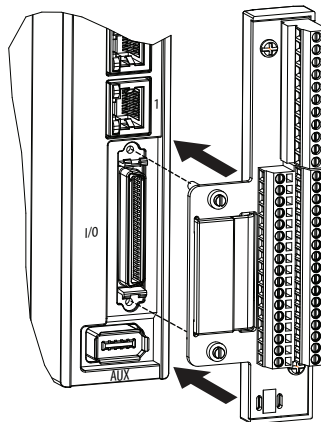
The terminal block accepts the following.

| Attribute | 2198-TB10 |
|--------------|--|
| Wire gauge | 1.5...0.05 mm ² (16...30 AWG) |
| Strip length | 6...7 mm (0.24...0.27 in.) |
| Torque value | 20 N•cm (1.77 lb•in) |

2. To obtain a high-frequency bond between the cable shield and the expansion block and for stress relief, firmly attach the cable to the expansion block by using a tie wrap (you supply).



3. Attach expansion block to the I/O connector on the front of the Kinetix 5100 drive by using a screwdriver and torque to 0.2 N•m (1.77 lb•in).





Wire the I/O Terminal Expansion Block

Use the following pinout table to wire the I/O from your system.

I/O Terminal Expansion Block Pinout

| IOD Pin | Description | Signal |
|---------|--|----------|
| 1 | Digital output 4+ | OUTPUT4+ |
| 2 | Digital output 3- | OUTPUT3- |
| 3 | Digital output 3+ | OUTPUT3+ |
| 4 | Digital output 2- | OUTPUT2- |
| 5 | Digital output 2+ | OUTPUT2+ |
| 6 | Digital output 1- | OUTPUT1- |
| 7 | Digital output1+ | OUTPUT1+ |
| 8 | Digital input 4 | INPUT4 |
| 9 | Digital input 1 | INPUT1 |
| 10 | Digital input 2 | INPUT2 |
| 11 | Common for digital inputs, connected to +24 or 0V DC | DCOM |
| 12 | Analog input signal ground | AGND |
| 13 | Analog input signal ground | AGND |
| 14 | Reserved ⁽¹⁾ | — |
| 15 | Analog monitor output 2 | AOUT2 |
| 16 | Analog monitor output 1 | AOUT1 |
| 17 | Reserved ⁽¹⁾ | — |
| 18 | Analog torque input | COMMAND1 |
| 19 | Analog input signal ground | AGND |
| 20 | Reserved ⁽¹⁾ | — |
| 21 | Buffered encoder output Ch A+ | AMOUT+ |
| 22 | Buffered encoder output Ch A- | AMOUT- |
| 23 | Buffered encoder output Ch B- | BMOUT- |
| 24 | Buffered encoder output Ch Z- | ZMOUT- |
| 25 | Buffered encoder output Ch B+ | BMOUT+ |

| IOD Pin | Description | Signal |
|---|--|---|
| 26 | Digital output 4- | OUTPUT4- |
| 27 | Digital output 5- | OUTPUT5- |
| 28 | Digital output 5+ | OUTPUT5+ |
| 29 | Digital input 9 (High speed) | INPUT9 |
| 30 | Digital input 8 | INPUT8 |
| 31 | Digital input 7 | INPUT7 |
| 32 | Digital input 6 | INPUT6 |
| 33 | Digital input 5 | INPUT5 |
| 34 | Digital input 3 | INPUT3 |
| 35 | External power input of BX+/BX- for single-end operation | BPWR |
| 36 | Pulse input B+/DIR+/CCW+ | BX+ |
| 37 | Pulse input B-/DIR-/CCW- | BX- |
| 38 | Digital input 10 (High speed) | INPUT10 |
| 39 | External power input of AX+/AX- for single-end operation | APWR |
| 40 | Digital output 6- | OUTPUT6- |
| 41 | Pulse input A-/Step-/CW- | AX- |
| 42 | Analog position or speed command input | COMMAND2 |
| 43 | Pulse input A+/Step+/CW+ | AX+ |
| 44 | Analog input signal ground | AGND |
| 45 | Reserved ⁽¹⁾ | — |
| 46 | Digital output 6+ | OUTPUT6+ |
| 47 | Reserved ⁽¹⁾ | — |
| 48 | Buffered Encoder Output Ch Z open collector | OCZMOUT |
| 49 | Reserved ⁽¹⁾ | — |
| 50 | Buffered encoder output Ch Z+ | ZMOUT+ |
|  | Drain wire |  |

(1) The reserved pins are not present on I/O terminal expansion block.

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

| Resource | Description |
|--|---|
| Kinetix Servo Drives Specifications Technical Data, publication KNX-TD003 | Product specifications for Kinetix Integrated Motion over the EtherNet/IP network, Integrated Motion over Sercos interface, EtherNet/IP networking, and component servo drive families. |
| Kinetix 5100 Single-axis EtherNet/IP Servo Drive User Manual, publication 2198-UM004 | Provides information on how to install, configure, start up, and troubleshoot your Kinetix 5100 servo drive system. |
| Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1 | Provides general guidelines for installing a Rockwell Automation industrial system. |
| Product Certifications website: rok.auto/certifications | Provides declarations of conformity, certificates, and other certification details. |

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/overview.page>.

Rockwell Automation Support

For technical support, visit <http://www.rockwellautomation.com/support/overview.page>.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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