

BRX Remote I/O Controllers

Remote I/O expansion, up to 8 I/O expansion modules per controller

Features

- All units have built-in Ethernet port, 10/100 Mbps
- MBIO units have onboard RS-485 port with removable 3-Pin connector
- Support for 8 expansion modules
- AC and DC powered units available
- AC powered units include an integral 24VDC auxiliary output power supply
- Power connector and serial port connector included



BRX-DMIO-M



BRX-EBC100-M



BRX-MBIO-M

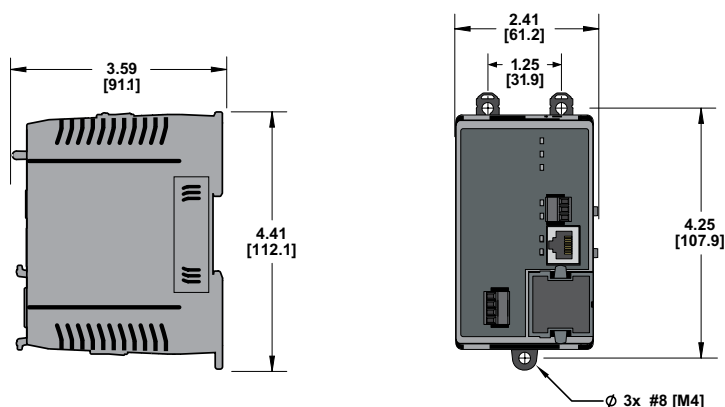
| BRX Remote I/O Controllers | | | | | |
|--------------------------------------|-----------|----------------|--|---|-------------------|
| Part Number | Price | External Power | Supported Protocols | Can Be Used With | Expansion Modules |
| <u>BX-DMIO-M</u> | \$01ocd: | 120–240 VAC | Do-more! Ethernet Remote I/O Embedded Web Server: HTTP (Unsecure) | BX-DM1E MPUs H2-DM1E CPUs T1H-DM1E CPUs | 8 |
| <u>BX-DMIO-M-D</u> | \$01oce: | 12–24 VDC | | | |
| <u>BX-EBC100-M</u> | \$01ocb: | 120–240 VAC | Do-more! Ethernet Remote I/O Host Ethernet Remote I/O Modbus TCP Embedded Web Server: HTTP (Unsecure) | BX-DM1E MPUs H2-DM1E CPUs T1H-DM1E CPUs H2-ERM100s H4-ERM100s | |
| <u>BX-EBC100-M-D</u> | \$01occ: | 12–24 VDC | | | |
| <u>BX-MBIO-M</u> | \$.01ocf: | 120–240 VAC | Modbus RTU Modbus TCP | Modbus RTU Master Modbus TCP Client | |
| <u>BX-MBIO-M-D</u> | \$01ocg: | 12–24 VDC | Embedded Web Server: HTTP (Unsecure) | | |



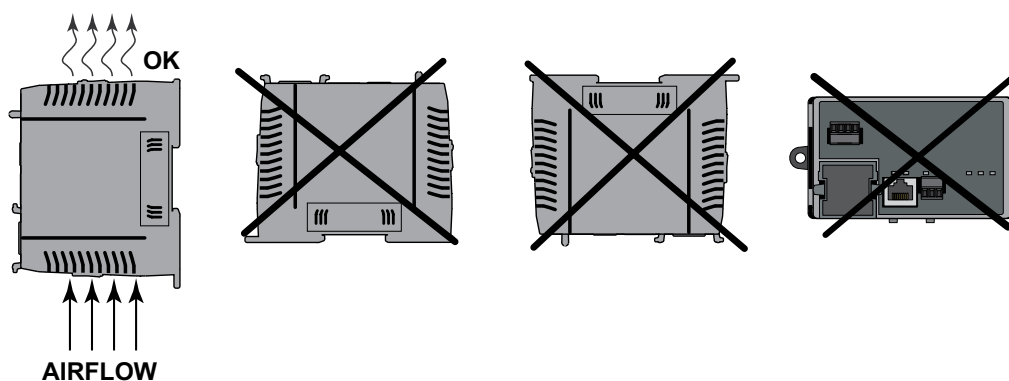
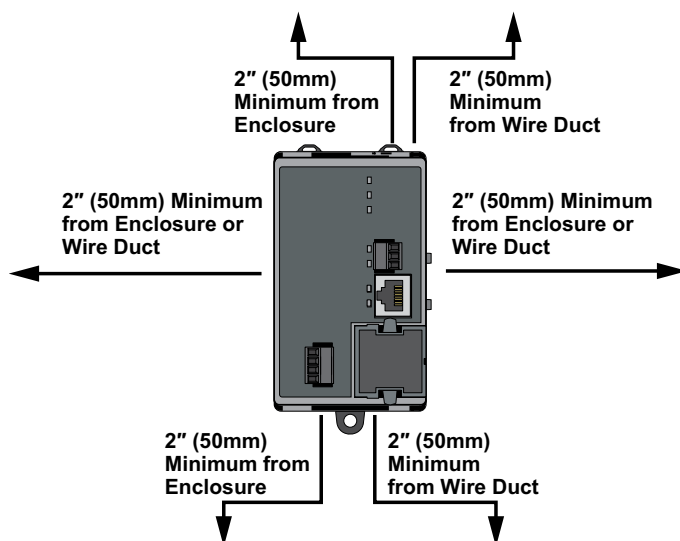
NOTE: Remote I/O controllers do not support Motion Control and Communications Modules.

BRX Remote I/O Controllers

Dimensions, inches[mm]



Clearances and Mounting Restrictions



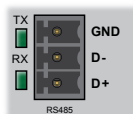
BRX Remote I/O Controllers

Port Specifications

| Built-in Ethernet Specifications | | | |
|---|---|--------------------------------|------------------------------|
| | <i>BX-DMIO-M (-D)</i> | <i>BX-EBC100-M (-D)</i> | <i>BX-MBIO-M (-D)</i> |
| Port Type | Ethernet | | |
| Description | Standard transformer isolated Ethernet port with built-in surge protection. | | |
| Transfer Rate | 10 Mbps (Yellow LED) and 100 Mbps (Green LED) | | |
| Port Status LED | LED is solid when network LINK is established. LED flashes when port is active (ACT). | | |
| Supported Protocols (Server): | | | |
| <i>Do-more! Ethernet Remote I/O</i> | X | X | - |
| <i>HOST Ethernet Remote I/O</i> | - | X | - |
| <i>Modbus TCP</i> | - | X | X |
| <i>Embedded Web Server, HTTP (Unsecure)</i> | X | X | X |
| Cable Recommendation | C5E-STxxx-xx from AutomationDirect.com | | |
| Port Type | RJ45, Category 5, 10/100 BASE-T, Auto Crossover | | |
| Ethernet Port Numbers: | | | |
| <i>Do-more! Ethernet Expansion I/O (Server)</i> | 28784, UDP | 28784, UDP | - |
| <i>HOST Ethernet Remote I/O (Server)</i> | - | 28784, UDP | - |
| <i>Modbus TCP (Server)</i> | - | 502, TCP | 502, TCP |
| <i>Embedded Web Server, HTTP (Unsecure)</i> | 80, TCP | 80, TCP | 80, TCP |

| BX-MBIO Built-in RS-485 Port Specifications | |
|---|--|
| Port Name | RS-RS-485 Serial Port |
| Description | Non-isolated serial port that can communicate via RS-485. Includes ESD protection and built-in surge protection. 120Ω Termination resistor is available (software selectable). |
| Supported Protocols | Modbus RTU (Slave) |
| Data Rates | 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200 |
| Timeout | Fixed at 800ms. Once the first character arrives, the controller waits 800ms for the entire request to arrive. |
| Default Settings | 115200 bps, No Parity, 8 Data Bits, 1 Stop Bit, Station #1 |
| Port Type | 3-pin terminal strip 3.5 mm pitch |
| Port Status LED | Green LED is illuminated when active for TXD and RXD |
| RS-485 Station Addresses | 1-247 |
| Cable Recommendations | RS-485 use L19827-XXX from AutomationDirect.com |
| Replacement Connector | ADC Part # BX-RTB03S |

Removable connector included.



| Pinout | RS485 |
|--------|-------|
| 1 | GND |
| 2 | D- |
| 3 | D+ |

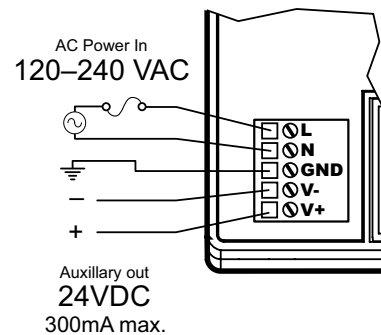
BRX Remote I/O Controllers

Power Supply Specifications

| Power Supply Specifications | | |
|------------------------------------|---|---|
| | AC Models (-M) | DC Models (-M-D) |
| Nominal Voltage Range | 120–240 VAC | 12–24 VDC |
| Input Voltage Range (Tolerance) | 85-264 VAC | 10–36 VDC |
| Rated Operating Frequency | 47–63 Hz | – |
| Maximum Input Voltage Ripple | – | < ±10% |
| Maximum Input Power | 40VA | 30W |
| Cold Start Inrush Current | 1.5 A, 2ms | 5A, 2ms |
| Maximum Inrush Current (Hot Start) | 1.5 A, 2ms | 5A, 2ms |
| Internal Input Protection | Micro fuse 250V, 2A Non-replaceable | Reverse polarity protection and undervoltage lockout via transistor circuit |
| Heat Dissipation | 8W Max | 5.5 W Max |
| Isolated User 24VDC Output | 24VDC @ 0.3 A max, <1V P-P Ripple, Integrated self-resetting short circuit protection | None |
| Voltage Withstand (dielectric) | 1500VAC Power Inputs to Ground applied for 1 minute 1500VAC Ground to 24VDC applied for 1 minute | 1500VAC power Inputs to ground applied for 1 minute |
| Replacement Connector | ADC Part # BX-RTB05 | ADC Part # BX-RTB03 |

AC Input Power Wiring

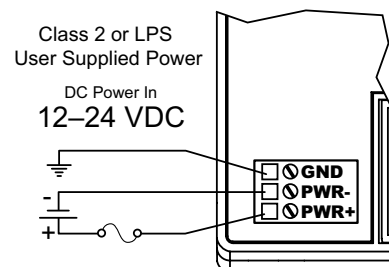
| Pin | Connection |
|-----|------------|
| 1 | L |
| 2 | N |
| 3 | GND |
| 4 | V– |
| 5 | V+ |



Removable Connector Included
ADC Part # [BX-RTB05](#)

DC Input Power Wiring

| Pin | Connection |
|-----|------------|
| 1 | GND |
| 2 | PWR – |
| 3 | PWR + |



Removable Connector Included
ADC Part # [BX-RTB03](#)

BRX Remote I/O Controller Accessories

Replacement Terminal Block Connectors

A 5mm removable screw type 90-degree terminal block is included with each unit. The power connector replacement

connector specifications are listed in the 2 charts below. Also listed in the tables are an optional spring clamp terminal

block and a screw type 180-degree terminal block that can also be used and are sold separately.

| BRX Remote I/O AC Power Supply Connector Specifications | | | |
|---|--|---|---|
| Part Number | <i>BX-RTB05</i> (included with unit) | <i>BX-RTB05-1</i> | <i>BX-RTB05-2</i> |
| Price (each) | \$128#: | \$1293: | \$1299: |
| Connector Type | Screw Type-90 deg | Spring Clamp Type-180 deg | Screw Type-180 deg |
| Wire Exit | 180 deg | 180 deg | 180 deg |
| Pitch | 5.0 mm | 5.0 mm | 5.0 mm |
| Screw Size | M2.5 | N/A | M2.5 |
| Recommended Screw Torque | < 3.98 lb-in [0.45 N·m] | N/A | < 3.98 lb-in [0.45 N·m] |
| Screwdriver Blade Width | 3.5 mm | 3.5 mm | 3.5 mm |
| Wire Gauge (Single wire) | 28–12 AWG | 28–14 AWG | 28–14 AWG |
| Wire Gauge (Two wire) | 28–16 AWG | 28–16 AWG (Dual Wire Ferrule Required) | 28–16 AWG (Dual Wire Ferrule Required) |
| Wire Strip Length | 0.3 in [7.5 mm] | 0.37 in [9.5 mm] | 0.37 in [9.5 mm] |
| Equiv. Dinkle P/N | 5ESDV-05P-BK | 5ESDSR-05P-BK | 5ESDSR-05P-BK |



BX-RTB05



BX-RTB05-1



BX-RTB05-2

| BRX Remote I/O DC Power Supply Connector Specifications | | | |
|---|-------------------------|---|--------------------------|
| Part Number | <i>BX-RTB03</i> | <i>BX-RTB03-1</i> | <i>BX-RTB03-2</i> |
| Price (each) | \$128.: | \$1292: | \$4gh?: |
| Connector Type | Screw Type-90 deg | Spring Clamp Type-180 deg | Screw Type-180 deg |
| Wire Exit | 180 deg | 180 deg | 180 deg |
| Pitch | 5.0 mm | 5.0 mm | 5.0 mm |
| Screw Size | M2.5 | N/A | M2.5 |
| Recommended Screw Torque | < 3.98 lb-in [0.45 N·m] | N/A | < 3.98 lb-in [0.45 N·m] |
| Screwdriver Blade Width | 3.5 mm | 3.5 mm | 3.5 mm |
| Wire Gauge (Single wire) | 28–12 AWG | 28–14 AWG | 28–12 AWG |
| Wire Gauge (Two wire) | 28–16 AWG | 28–16 AWG (Dual Wire Ferrule Required) | 28–16 AWG |
| Wire Strip Length | 0.3 in [7.5 mm] | 0.37 in [9.5 mm] | 0.3 in [7.5 mm] |
| Equiv. Dinkle P/N | 5ESDV-03P-BK | 5ESDSR-03P-BK | 5ESDF-03P |



BX-RTB03



BX-RTB03-1



BX-RTB03-2