

# 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**

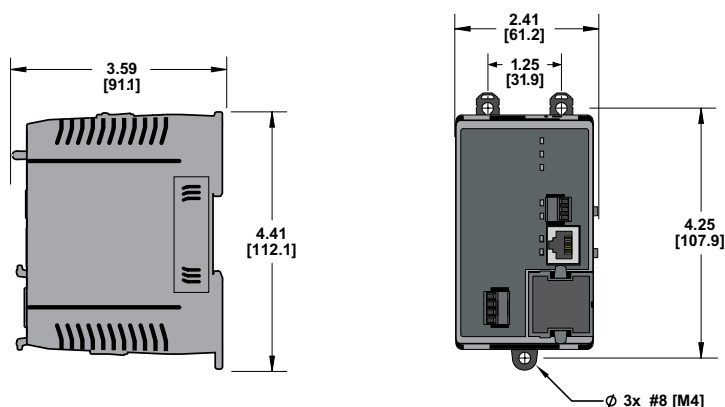
BRX Remote I/O Controllers					
Part Number	Price	External Power	Supported Protocols	Can Be Used With	Expansion Modules
<a href="#"><u>BX-DMIO-M</u></a>	\$219.00	120–240 VAC	Do-more! Ethernet Remote I/O Embedded Web Server: HTTP (Unsecure)	BX-DM1E MPUs H2-DM1E CPUs T1H-DM1E CPUs	8
<a href="#"><u>BX-DMIO-M-D</u></a>	\$193.00	12–24 VDC			
<a href="#"><u>BX-EBC100-M</u></a>	\$323.00	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	
<a href="#"><u>BX-EBC100-M-D</u></a>	\$301.00	12–24 VDC			
<a href="#"><u>BX-MBIO-M</u></a>	\$306.00	120–240 VAC	Modbus RTU Modbus TCP Embedded Web Server: HTTP (Unsecure)	Modbus RTU Master Modbus TCP Client	
<a href="#"><u>BX-MBIO-M-D</u></a>	\$283.00	12–24 VDC			



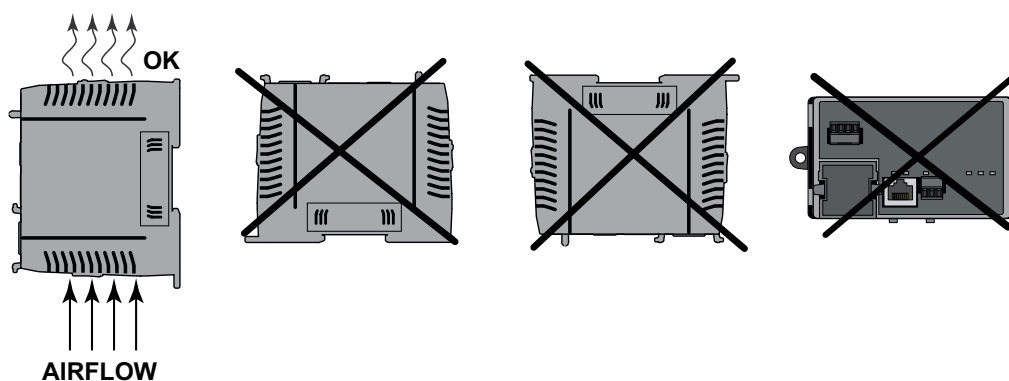
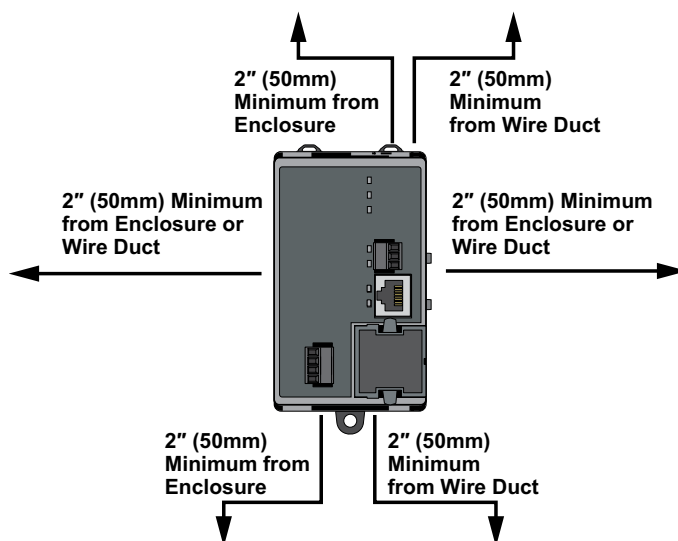
**NOTE:** Remote I/O controllers do not support Motion Control and Communications Modules.

# BRX Remote I/O Controllers

## Dimensions, inches[mm]



## Clearances and Mounting Restrictions



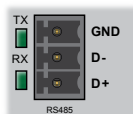
# BRX Remote I/O Controllers

## Port Specifications

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

BX-MBIO Built-in RS-485 Port Specifications	
<b>Port Name</b>	RS-RS-485 Serial Port
<b>Description</b>	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).
<b>Supported Protocols</b>	Modbus RTU (Slave)
<b>Data Rates</b>	1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200
<b>Timeout</b>	Fixed at 800ms. Once the first character arrives, the controller waits 800ms for the entire request to arrive.
<b>Default Settings</b>	115200 bps, No Parity, 8 Data Bits, 1 Stop Bit, Station #1
<b>Port Type</b>	3-pin terminal strip 3.5 mm pitch
<b>Port Status LED</b>	Green LED is illuminated when active for TXD and RXD
<b>RS-485 Station Addresses</b>	1-247
<b>Cable Recommendations</b>	RS-485 use L19827-XXX from AutomationDirect.com
<b>Replacement Connector</b>	ADC Part # <a href="#">BX-RTB03S</a>

Removable connector included.



Pinout	RS485
1	GND
2	D-
3	D+

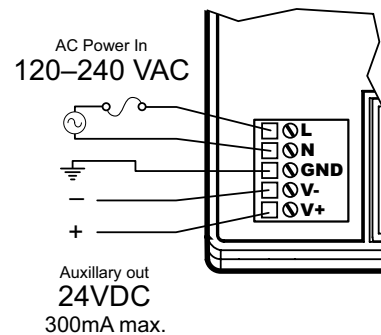
# BRX Remote I/O Controllers

## Power Supply Specifications

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

## AC Input Power Wiring

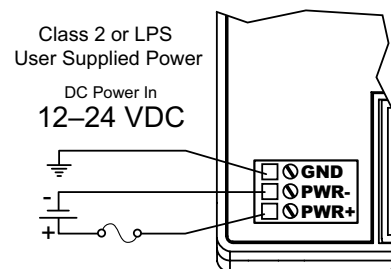
Pin	Connection
1	L
2	N
3	GND
4	V–
5	V+



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	<b><i>BX-RTB05</i></b> (included with unit)	<b><i>BX-RTB05-1</i></b>	<b><i>BX-RTB05-2</i></b>
Price (each)	\$8.50	\$7.00	\$10.00
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	<b><i>BX-RTB03</i></b>	<b><i>BX-RTB03-1</i></b>	<b><i>BX-RTB03-2</i></b>
Price (each)	\$5.50	\$5.00	\$4.50
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**