



Do-more! DRIVEN

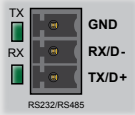
# BX-DM1E-M

**BRX MPU with Do-more! DM1 technology**  
 120 VAC required, serial port, Ethernet port, microSD slot, no on-board I/O.



## Built-in RS-232/485 Port Specifications

Port Name	RS-232/RS-485 Serial Port
Description*	Non-isolated serial port that can communicate via RS-232 or RS-485 (software selectable). Includes ESD protection and built-in surge protection.
Supported Protocols	Do-more Protocol (Default) Modbus RTU (Master & Slave) K-Sequence (Slave) ASCII (In & Out)
Data Rates	1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200
Default Settings	RS-232, 115200 bps, No Parity, 8 Data Bits, 1 Stop Bit, Station #1
Port Type	3-pin terminal strip 3.5mm pitch
Port Status LED	Green LED is illuminated when active for TXD and RXD
RS-485 Station Addresses	1-247
Cable Recommendations	RS-232 use L19772-XXX from AutomationDirect.com RS-485 use L19827-XXX from AutomationDirect.com
Replacement Connector	ADC Part # BX-RTB03S



Pinout	RS232	RS485
1	GND	GND
2	RXD	D-
3	TXD	D+

Removable connector included.

\* NOTE: When using RS-485, a terminator resistor is built-in and software selectable.

## CPU Mode Switch Functions

RUN position	CPU is forced into RUN Mode if no errors are encountered.
TERM position	RUN, PROGRAM and DEBUG modes are available. In this position, the mode of operation can be changed through the Do-more Designer Software.
STOP position	CPU is forced into STOP Mode.

## microSD Specifications

Port Name	microSD Card Slot			
Description	Standard microSD socket for data logging / file management			
Maximum Card Capacity	32GB			
Transfer Rate (ADATA microSDHC Class 4 memory card)	Mbps	Minimum	Typical	Maximum
	Read	14.3	14.4	14.6
	Write	4.8	4.9	5.1
Port Status LED	Green LED is illuminated when card is inserted/detected			
Optional microSD Card	ADC Part # MICSD-16G			

## Ethernet Specifications

Port Name	ETHERNET		
Description	Standard transformer isolated Ethernet port with built-in surge protection.		
Transfer Rate	10Mbps (Yellow LED) and 100Mbps (Green LED)		
Port Status LED	LED is solid when network LINK is established. LED flashes when port is active (ACT).		
Supported Protocols	Do-more! Protocol Ethernet Remote I/O Modbus TCP/IP (Client & Server) EtherNet/IP (Explicit Messaging) HOST ECOM (DirectLogic) SMTP (Email), SNTP (Time Server) TCP/IP, UDP/IP (Raw packet)		
Cable Recommendation	C5E-STxxx-xx from AutomationDirect.com		
Port Type	RJ45, Category 5, 10/100 BASE-T, Auto Crossover		
Ethernet Port Numbers:			
MODBUS TCP/IP	502, TCP		
EtherNet/IP (Explicit Messaging)	44818, TCP		
HOST ECOM	28784, UDP		
Do-more Protocol	28784, UDP		

## CPU Specifications

Program Memory Type	FLASH memory
User Data Memory Type	Battery Backed RAM, User configurable
Pluggable Option Module	RS-232, RS-485, Ethernet 10/100 BASE-T (1Mbps throughput max), USB 2.0 Type B
Expansion Modules	8 expansion modules max
Real Time Clock Accuracy	±2.6s per day typical at 25°C ±8s per day max at 60°C
Programming Software	Do-more Designer – Ver. 2.0 or higher
Programming Cable Options	BX-PGM-CBL

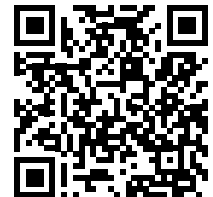
**WARNING:** To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

*Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.*

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call Technical Support at 770-844-4200.

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Do-more BRX Manual available at [www.automationdirect.com/pn/doc/manual/BX-DM1E-M](http://www.automationdirect.com/pn/doc/manual/BX-DM1E-M)



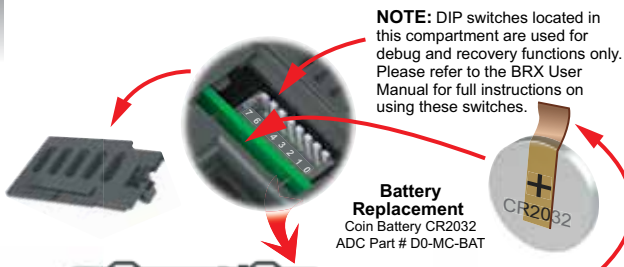
## IMPORTANT!



**Hot-Swapping Information**  
**Note: This device cannot be Hot Swapped.**

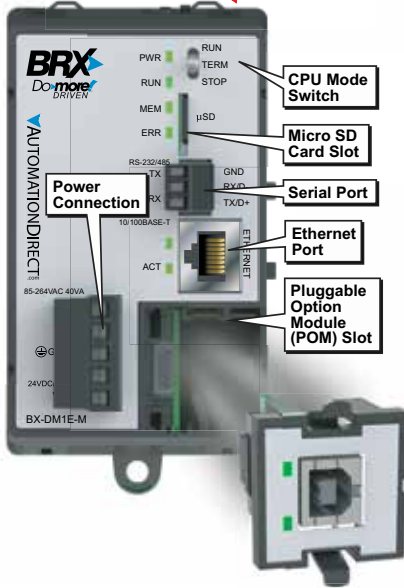
Document Name	Edition/Revision	Date
BX-DM1E-M	1st Ed. RevB	2/20/2017

# Terminal and Front Panel Layout



**Battery Replacement**  
Coin Battery CR2032  
ADC Part # D0-MC-BAT

**NOTE:** Do not remove tape from battery.

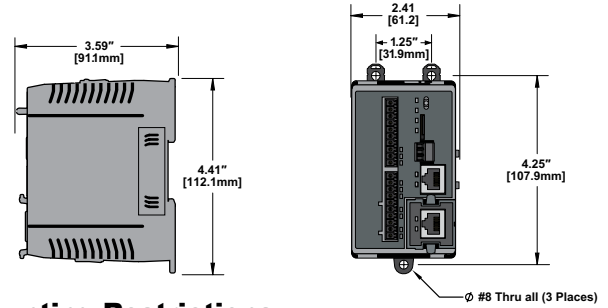


## POM Modules

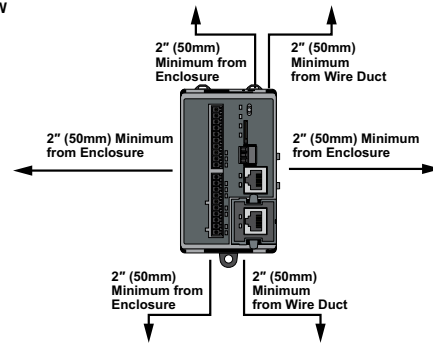
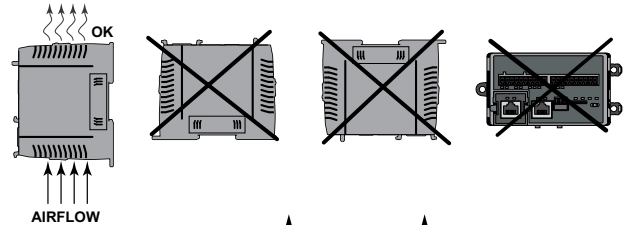
- BX-P-SER2-TERM**  
3-Pin Serial RS-232
- BX-P-SER2-RJ12**  
RJ12 Serial RS-232
- BX-P-SER4-TERM**  
3-Pin Serial RS-485
- BX-P-USB-B**  
USB Type B
- BX-P-ECOMLT**  
Ethernet 10/100 BASE-T

**NOTE:** Only POM modules can be hot-swapped.

# Dimensional Information



## Mounting Restrictions



## General Specifications

Operating Temperature	0° to 60°C (32° to 140°F)
Storage Temperature	-20° to 85°C (-4° to 185°F)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Enclosure Type	Open Equipment
Agency Approvals	UL61010-2 - UL File # E185989 Canada and USA CE Compliant EN61131-2*
Noise Immunity	NEMA ICS3-304
EU Directive	See the "EU Directive" topic in the Help File
Weight	202g (7.1 oz)

\*Meets EMC and Safety requirements. See the D.O.C. for details.

## Power Supply Specifications

Nominal Voltage Rating	120-240 VAC
Input Voltage Range (Tolerance)	85-264 VAC
Rated Operating Frequency	47-63 Hz
Maximum Input Power	40VA
Cold Start Inrush Current	1.5A, 2ms
Maximum Inrush Current (Hot Start)	1.5A, 2ms
Internal Input Fuse Protection	Micro fuse 250V, 2A Non-replaceable
Heat Dissipation	8W Max
Isolated User 24VDC Output	24VDC @ 0.3A max, <1V P-P Ripple, Integrated self-resetting short circuit protection
Voltage Withstand (dielectric)	1500VAC Power Inputs to Ground applied for 1 minute 1500VAC Ground to 24VDC applied for 1 minute
Replacement Connector	ADC Part # BX-RTB05

Removable Connector Included

Pinout	Connection
1	L
2	N
3	GND
4	V-
5	V+

## Terminal Block Connector Specifications

Part Number	BX-RTB03S	BX-RTB5	BX-RTB5-1
Connector Type	Screw Type-90°	Screw Type-90°	Spring Clamp Type-180°
Wire Exit	180°	180°	180°
Pitch	3.5mm	5.0mm	5.0mm
Screw Size	M2	M2.5	N/A
Recommended Screw torque	<1.77Lb-in (0.2 N-m)	< 3.98 Lb-in (0.45 N-m)	N/A
Screwdriver Blade Width	2.5mm	3.5mm	3.5mm
Wire Gauge (Single Wire)	28-16 AWG	28-12 AWG	28-14 AWG
Wire Gauge (Two Wires)	28-16 AWG	28-16 AWG	28-16 AWG (Dual Wire Ferrule Required)
Wire Strip Length	0.24in (6mm)	0.3in (7.5mm)	0.37in (9.5mm)
Equiv. Dinkle part #	EC350V-03P-BK	5ESDV-05P-BK	5ESDSR-05P-BK

## CPU Status Indicators

Indicator	Status	Description
PWR	OFF	Base Power OFF
	Green	Base Power ON
	Yellow	Low Battery
RUN	OFF	CPU is in STOP Mode
	Green	CPU is in RUN Mode
	Yellow	Forces are Active
MEM	OFF	No ROM Activity, No SD Card
	Yellow	ROM Activity (Flash or SD Card)
	Green	SD Card Installed and Mounted
ERR	Red	SD Card Installed and Not Mounted
	OFF	CPU is functioning normally
	Red	CPU Fatal Hardware Error or Software Watchdog Error