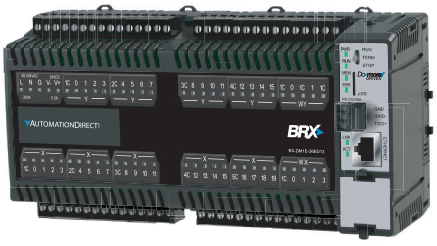
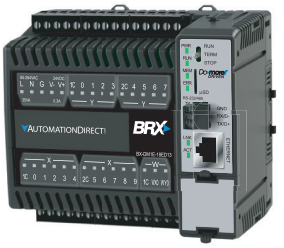
BRX Micro PLC Overview

The BRX platform is a very versatile modular Micro PLC system that combines powerful features in a compact, standalone footprint. The BRX platform is designed to be used as a standalone controller or can be expanded using a wide variety of expansion modules that easily snap onto the side of any BRX Micro PLC Unit (MPU) creating a sturdy and rugged PLC platform. The foundation of the platform consists of four unique MPU form factors that provide for a strong system design to fit your application requirements while keeping the cost of the system to a minimum. Shown below are the four unique Micro PLC form factors.



Largest MPU with 36 I/O built-in

14 Different configurations from which to choose.



Mid-range MPU with 18 I/O built-in

14 Different configurations from which to choose.

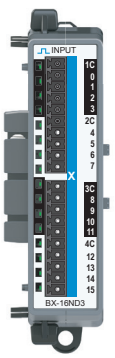
Smaller MPU with 10 I/O built-in

8 Different configurations from which to choose.

Smallest MPU with No Built-In I/O

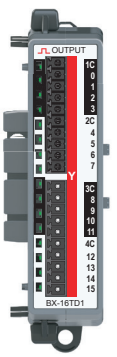
2 Configurations

Discrete Input Modules



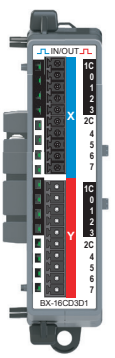
Ten (10) discrete input modules are available in various DC and AC voltage ranges. Available in 8, 12 and 16 I/O point modules.

Discrete Output Modules



Twelve (12) discrete output modules are available in DC sinking, DC sourcing AC voltage and Relay type outputs. Available in 8, 12 and 16 I/O point modules.

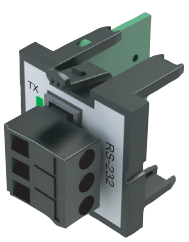
Discrete Combo Input/ Output Modules



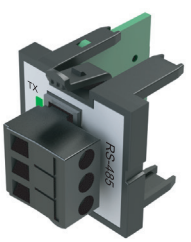
Five (5) discrete input/output combo modules are available with DC sink/source inputs and sink/source/relay outputs. Available in 8, 12 and 16 I/O point modules.

BRX Pluggable Option Modules (POM)

All BRX Do-more CPUs have a built-in slot for a user selected Pluggable Option Module (POM). The POM option slot can be used to add an additional serial port, Ethernet port, USB port or any other POM modules that are available.

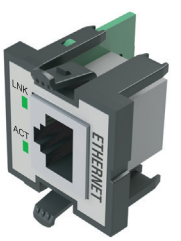


BX-P-SER2-TERM
RS-232 Port



BX-P-SER4-TERM
RS-485 Port

BX-P-SER2-RJ12
RS-232 Port (RJ12)

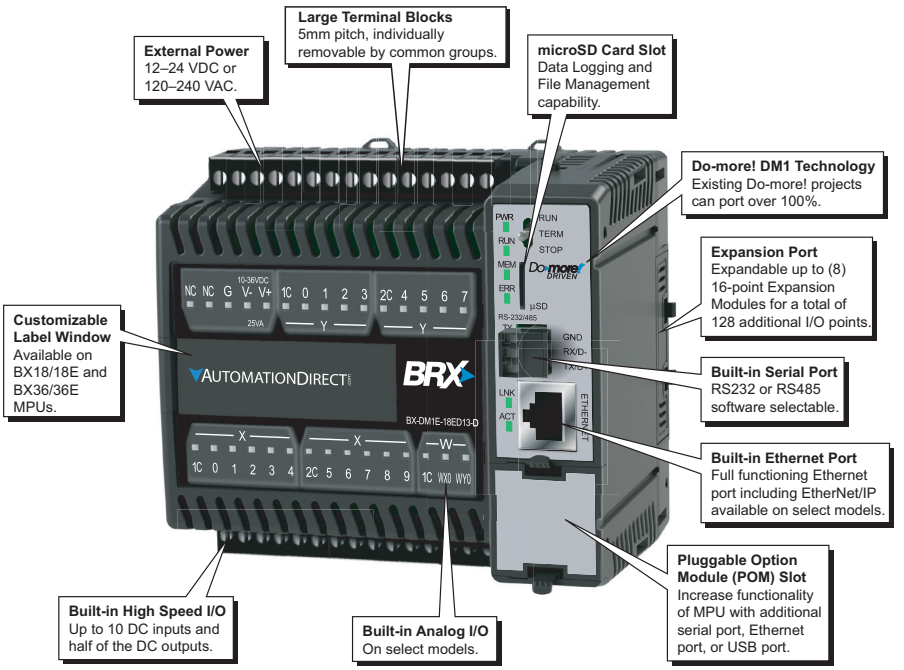


BX-P-ECOMLT
Ethernet Port

BX-P-USB-B
USB Type B Port

BRX Micro PLC Overview

The BRX platform enables you to choose from various communications ports. All BRX MPU models have a built-in RS232C/485 (software-selectable) serial port. However, an RJ45 Ethernet port (10/100 Mbps) is provided on select units. With support for EtherNet/IP, Modbus TCP, Modbus RTU, ASCII, K-sequence (DirectLOGIC users) and custom protocols, the BRX MPU platform provides supreme versatility for any application. BRX hardware is built to last and is engineered, assembled and supported right here in America; designed and fabricated by industrial automation veterans with hardware facilities in Tennessee and Florida. The compact modular architecture results in an outstanding controller package, with high performance, a small footprint, at a very low cost. The BRX platform has built-in high-speed I/O, motion control, on-board analog I/O, and many other features that enable you to build the ideal controller for your application. Below is a quick look at some of the standard features available on the BRX Platform.



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	474g (16.7 oz)

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

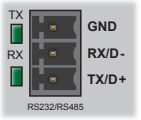
2 Year Warranty

All BRX PLCs are covered under a 2- year warranty.

BRX Micro PLC Overview

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 3.5 mm pitch
Port Status LED	Green LED is illuminated when active for TXD and RXD
RS-485 Station Addresses	1-247
Cable Recommendations	RS-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.

When using RS-485 a termination resistor is available and is software selectable.

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
	Red	SD Card Installed and Not Mounted
ERR	OFF	CPU is functioning normally
	Red	CPU Fatal Hardware Error or Software Watchdog Error

CPU Mode Switch

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

microSD Specifications

Port Name	microSD Card Slot			
Description	Standard microSD socket for data logging or file read/write			
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			

Pin	SD
1	DAT2
2	CD/DAT3
3	CMD
4	VDD
5	CLK
6	VSS
7	DAT0
8	DAT1

AC 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 @ 0.3 A 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

DC Power Supply Specifications

Nominal Voltage Rating	12–24 VDC
Input Voltage Range (Tolerance)	10-36 VDC
Maximum Input Voltage Ripple	<± 10%
Maximum Input Power	30W
Cold Start Inrush Current	5A, 2ms
Maximum Inrush Current (Hot Start)	5A, 2ms
Internal Input Protection	Reverse Polarity Protection and Undervoltage
Heat Dissipation	3.2 W Max
Voltage Withstand (dielectric)	1500VAC Power Inputs to Ground applied for 1 minute