Kickstart your experience with the BRX Starter Kit

Get started fast!

Choose a BRX starter kit to get up and running quickly. You get your choice of the BX10 or BX10E MPU unit with a power supply prewired and mounted on DIN-rail. All you have to do is plug it in and you are ready to go.

Also included is the Do-more! Designer programming software on CD, USB programming cable assembly, 16G microSD card, screw terminals and screwdriver, spring terminals, the **ZIP**Link wiring solution, a USB drive that contains the software, manual and all the datasheets for the BRX platform.

Includes everything!

This is everything you need to evaluate the product and see for yourself what a powerful and easy-to-use controller Do-more can be!

Your success is our success!

As the world around us becomes more and more automated, an understanding of electrical control systems becomes more and more vital. To better serve our customers and the industry we rely on, we offer absolutely free online training to anyone looking to learn PLCs. No purchase necessary!

This training covers both basic PLC fundamentals as well as specific training on the Do-more! Designer Programming Software. Check out this free training here: www.automationdirect.com/plc-training.

MPU without Ethernet and Analog I/O	Only
MPU with Ethernet and Analog I/O	Only

Watch the Video about this topic: http://go2adc.com/BRXquickstart

BX-DM1-START	
No Ethernet or Analog	
Kit includes:	
BX-DM1-10ED1-D	BRX PLC, 6-pt 12-24VDC/VAC in / 4-pt DC out sinking
PSB24-060-P	24VDC power supply
BX-PGM-CBL	Programming Cable Assembly
BX-RTB10	Removable Terminal Block Kit, Screw Terminal 90
BX-RTB10-1	Removable Terminal Block Kit, Spring Clamp 180
BX-RTB10-2	Removable Terminal Block Kit, Screw Terminal 180
ZL-RTB20	ZIPlink 20-pin Feedthrough module
ZL-BX-CBL20	ZIPlink connection cable, 0.5M long
TW-SD-MSL-1	Screwdriver
MICSD-16G	SD Card 16GB
DM-PGMSW-USB	USB Card containing Do-more! Designer Software, manuals and documentation
DM-PGMSW	Do-more! Designer Software CD

BX-DM1E-START	
With Ethernet and Analog	
Kit includes:	
BX-DM1E-10ED13-D	BRX PLC, 6-pt 12-24VDC/VAC in / 4-pt DC out sinking
PSB24-060-P	24VDC power supply
BX-PGM-CBL	Programming Cable Assembly
BX-RTB10	Removable Terminal Block Kit, Screw Terminal 90
BX-RTB10-1	Removable Terminal Block Kit, Spring Clamp 180
BX-RTB10-2	Removable Terminal Block Kit, Screw Terminal 180
ZL-RTB20	ZIPlink 20-pin Feedthrough module
ZL-BX-CBL20	ZIPlink connection cable, 0.5M long
TW-SD-MSL-1	Screwdriver
MICSD-16G	SD Card 16GB
DM-PGMSW-USB	USB Card containing Do-more! Designer Software, manuals and documentation
DM-PGMSW	Do-more! Designer Software CD

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.
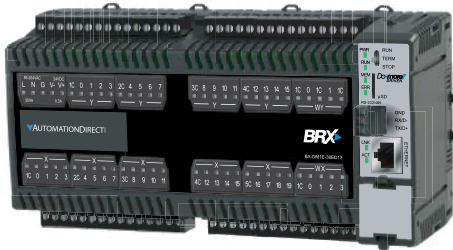
Largest MPU with 36 I/O built in

14 different configurations from which to choose

Mid-range MPU with 18 I/O built in

14 different configurations from which to choose

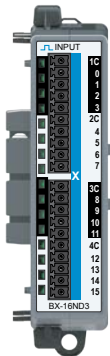**Smaller MPU with 10 I/O built in**
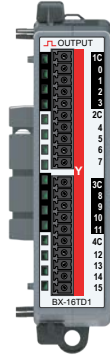
8 different configurations from which to choose

Smallest MPU with No built-In I/O

2 configurations from which to choose

Discrete Input Modules

Thirteen (13) discrete input modules are available in various DC and AC voltage ranges. Available in 8, 12, 16 and 32 I/O point modules.

Discrete Output Modules

Eighteen (18) discrete output modules are available in DC sinking, DC sourcing, AC voltage and Relay type outputs. Available in 5, 8, 12, 16 and 32 I/O point modules.
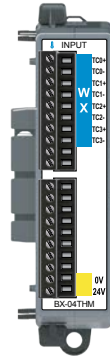
Discrete Combo Input/Output Modules
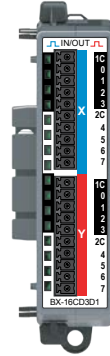
Six (6) discrete input/ output combo modules are available with DC sink/source inputs and sink/source/relay outputs. Available in 8, 12 and 16 I/O point modules.

Analog Input Modules
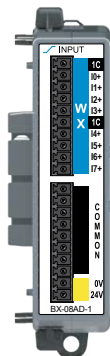
Nine (9) analog input modules are available, with current or voltage inputs. Available with 4, 8 and 16 inputs.

Temperature Input Modules

Six (6) temperature input modules are available, with thermocouple, RTD, thermistor or universal inputs. The thermocouple modules can also be configured for millivolt-level voltage inputs. The RTD module can also be configured for resistance inputs.

Three (3) temperature input/ analog output combination modules and three (3) temperature input/discrete output combination modules are available.
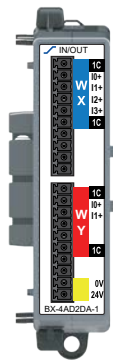
Analog Output Modules
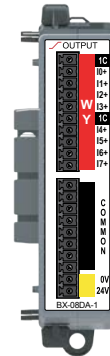
Six (6) analog output modules are available, with current or voltage outputs. Available with 4 and 8 outputs.

BRX - Programmable Controller

BRX Micro PLC Overview

Analog Combo Input/Output Modules

Six (6) analog input/output combo modules are available, with voltage inputs/voltage outputs, current sinking inputs/current sourcing outputs and universal inputs/outputs.

Active Filling Module

One (1) active filling module is available, which can be configured to reserve physical and address space for any other module.

Motion Control and Communications Modules
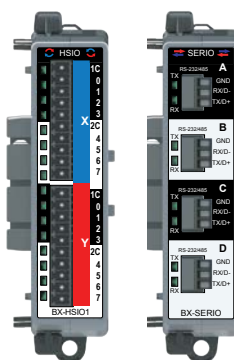
Three (3) high-speed I/O modules are available, with 8-point sinking/sourcing inputs and a choice of 8-point sinking, sourcing or sinking/sourcing outputs. Switching frequencies of up to 250kHz or up to 2MHz are available.

Three (3) serial communications modules are available, with RS-232, RS-422 and RS-485 serial ports.

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 a serial port, Ethernet port, USB port or any other POM modules that are available.

BX-P-SER2-TERM
RS-232 Port

BX-P-SER2-TERMFC
RS-232 Port w/Flow Control

BX-P-SER4-TERM
RS-485 Port

BX-P-SER422-TERM
RS-422 Port

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

BX-P-ECOMLT
Ethernet Port (Any CPU)

BX-P-ECOMEX
Ethernet Port (DM1E CPU Only)

BX-P-USB-B
USB Type B Port

BRX Remote I/O Controllers

BRX Remote I/O Controllers allow up to eight discrete, analog or temperature I/O expansion modules to be remotely connected per controller.

Do-more! Ethernet Remote I/O, Host Ethernet Remote I/O, Modbus RTU and Modbus TCP protocols are available.

BX-DMIO-M

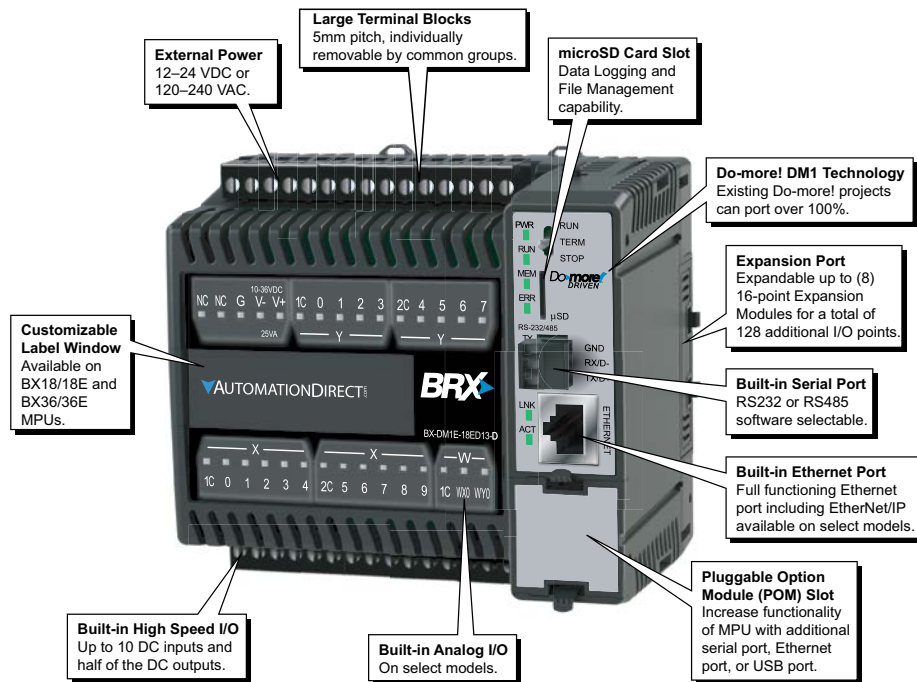**BX-EBC100-M**

BX-MBIO-M

BRX - Programmable Controller

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.

External Power 12–24 VDC or 120–240 VAC.

Large Terminal Blocks 5mm pitch, individually removable by common groups.

microSD Card Slot Data Logging and File Management capability.

Do-more! DM1 Technology Existing Do-more! projects can port over 100%.

Expansion Port Expandable up to (8) 16-point Expansion Modules for a total of 128 additional I/O points.

Customizable Label Window Available on BX18/18E and BX36/36E MPUs.

Built-in Serial Port RS232 or RS485 software selectable.

Built-in Ethernet Port Full functioning Ethernet port including EtherNet/IP available on select models.

Built-in High Speed I/O Up to 10 DC inputs and half of the DC outputs.

Built-in Analog I/O On select models.

Pluggable Option Module (POM) Slot Increase functionality of MPU with additional serial port, Ethernet port, or USB port.

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

*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) Programming and Monitoring
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

Removable connector included.
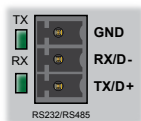
Pinout	RS232	RS485
1	GND	GND
2	RXD	D-
3	TXD	D+

TX
RX
GND
RX/D-
TX/D+
RS232/RS485

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.

RUN
TERM
STOP

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
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 (14W for BX 10/10E MPUs)
Cold Start Inrush Current	5A, 2ms
Maximum Inrush Current (Hot Start)	5A, 2ms
Internal Input Protection	Reverse Polarity Protection and Undervoltage
Voltage Withstand (dielectric)	1500VAC Power Inputs to Ground applied for 1 minute