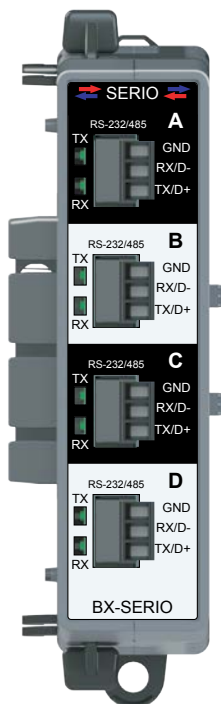


# BX-SERIO Serial Communications



## BX-SERIO \$01och:

4 port, RS-232/RS-485

Four (4) **BX-RTB03S** Terminal Blocks included.



**NOTE:** This device does not support **ZIF** Link Wiring Systems

## IMPORTANT!

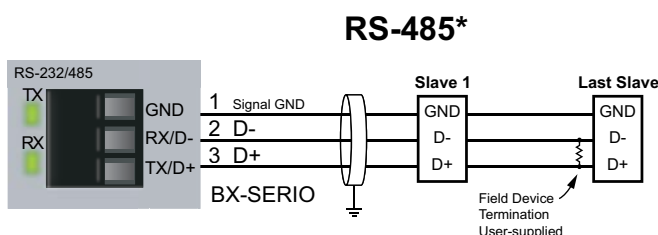
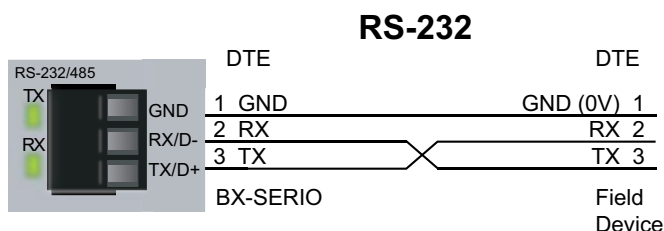


### Hot-Swapping Information

Note: This device cannot be Hot Swapped.

Serial Communications Specifications		
Specification	BX-SERIO	
<b>Number of Ports</b>	Four RS-232/RS-485 serial ports	
<b>Description</b>	Isolated serial port that can communicate via RS-232 or RS-485 (software selectable). Includes ESD protection and built-in surge protection.	
<b>Supported Protocols</b>	Do-more! Protocol (Slave)(Default) Modbus RTU (Master/Slave) K-Sequence (Slave) ASCII (In/Out) DMX512 (Master/Slave)	
<b>Data Rates</b>	1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200 bps	
<b>Default Settings</b>	RS-232, 115200bps, No Parity, 8 Data Bits, 1 Stop Bit, Station #1, Termination resistor OFF	
<b>Port Status LED</b>	Green LED illuminated when active (TX and RX)	
<b>Port Type</b>	Removable 3-pin terminal strip 3.5 mm pitch	
	RS-232	RS-485
<b>Station Addresses</b>	N/A	1-247
<b>RX/D-</b>	Receive input (RX)	Transceiver low (D-)
<b>TX/D+</b>	Transmit output (TX)	Transceiver high (D+)
<b>GND</b>	Port Ground	
<b>Input Impedance</b>	5kΩ	19kΩ
<b>Terminating Resistor</b>	N/A	120Ω, software selectable
<b>Maximum Load</b>	3kΩ, 1000pf	50 transceivers, 19kΩ each, 120Ω termination
<b>Output Short Circuit Protection</b>	±15mA	±250mA, thermal shutdown protection
<b>Electrostatic Discharge Protection</b>	±1.5 kV per JESD22-C101	±7kV per IEC 61000-4-2
<b>Electrical Fast Transient Protection</b>	±2kV per IEC 61000-4-4	
<b>Min. Output Voltage</b>	±5V with 3kΩ load	Differential: 1.5 V with 60Ω load
<b>Fail Safe Inputs</b>	N/A	Logic high input state if inputs are unconnected
<b>Maximum Common Mode Voltage</b>	500 Vrms to Logic Ground	
<b>Cable Requirements</b>	ADC# L19772-XXX	ADC# L19954-XXX
<b>Maximum Cable Distance</b>	30m [100ft]; 6m [20ft] rec'd max.	1000m [3280ft]
<b>Replacement Connector</b>	ADC Part # <a href="#">BX-RTB03S</a>	
<b>Backplane Power Consumption</b>	1.2 W	
<b>Heat Dissipation</b>	1.2 W	
<b>Weight</b>	85g [3oz]	
<b>Software Version</b>	Do-more! Designer v2.5 or later	

## BX-SERIO Field Wiring Diagrams



\*NOTE: Termination resistor is built-in and software selectable.  
ADC # L19827-xxx or equivalent is recommend for RS-485 networks.

# BRX Motion Control, Communications and Specialty Expansion Modules

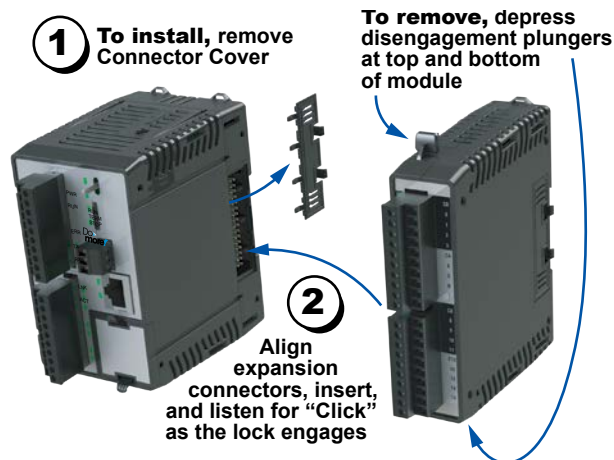
## Overview

One of the unique features of the BRX platform is its ability to expand its capability to fit your application solution. One of the ways the BRX platform can do this is by using expansion modules that conveniently "snap on" to the side of any BRX MPU. Once the expansion module has been snapped into place and is added to the project, it instantly adds I/O to the MPU with little to no additional setup required.

The specialty expansion modules give you the ability to add additional high-speed I/O or serial communications as needed. On the front panel of the expansion modules a color scheme and a symbol are used to denote the module type.

High-speed I/O modules have 8-point sinking/sourcing inputs and are available with 8-point sinking or sourcing outputs, all with switching frequencies up to 250kHz. The serial communications modules have 4 serial ports.

The high-speed I/O modules ship without wiring terminals. This allows you to select the termination style that best suits your application. Several wiring options are available, including screw terminal connectors and spring clamp terminal connectors. The serial communications modules ship with a terminal connector installed in each port.



## Hot-Swapping Information

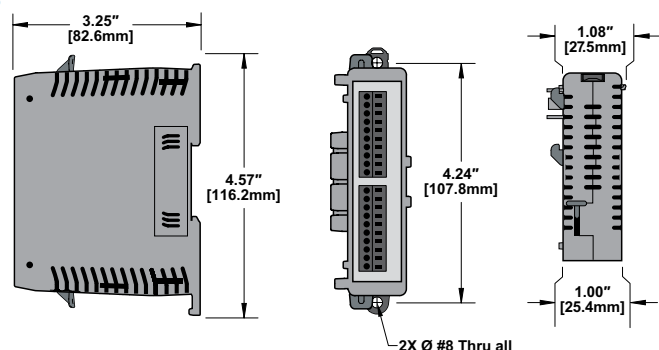
Note: This device cannot be Hot Swapped.

## General Specifications

All BRX high-speed input/output modules and serial communications modules have the same general specifications listed in the table below.

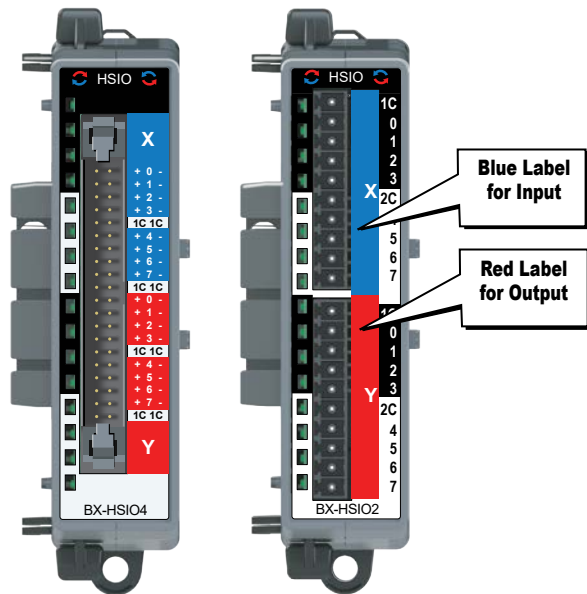
General Specifications	
<b>Operating Temperature</b>	0° to 60°C [32° to 140°F]
<b>Storage Temperature</b>	-20° to 85°C [-4° to 185°F]
<b>Humidity</b>	5% to 95% (non-condensing)
<b>Environmental Air</b>	No corrosive gases permitted
<b>Vibration</b>	IEC60068-2-6 (Test Fc)
<b>Shock</b>	IEC60068-2-27 (Test Ea)
<b>Enclosure Type</b>	Open Equipment
<b>Noise Immunity</b>	NEMA ICS3-304
<b>EU Directive</b>	See the "EU Directive" topic in the BRX Help File
<b>Agency Approvals</b>	UL 61010-2 File E185989, Canada and USA, CE Compliant EN61131-2

## Dimensions




**NOTE:** When removing an expansion module make sure there is room for the module to slide away from the system. Failure to do so will result in difficulty removing the module.

# BRX Motion Control, Communications and Specialty Expansion Modules




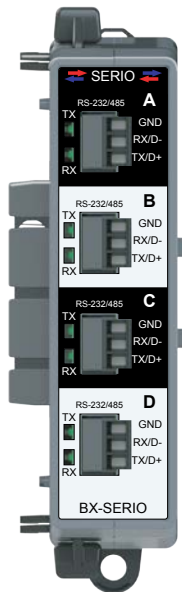
## High-speed Input/Output Modules

Three (3) high-speed input/output modules are available, with eight inputs and eight outputs each. High-speed I/O module faceplates have blue and red terminal bar sections to distinguish input and output terminals, respectively, and have the  symbol to signify high-speed I/O.

High-Speed Input/Output Modules					
Part Number	Input Points	Output Points	Output Type	Switching Speed	Price
<b><u>BX-HSIO1</u></b>	8	8	12–24 VDC Sinking	Up to 250kHz	\$0447u:
<b><u>BX-HSIO2</u></b>	8	8	12–24 VDC Sourcing	Up to 250kHz	\$0447v:
<b><u>BX-HSIO4</u></b>	8	8	2.5–5 VDC Sinking/Sourcing	Up to 2MHz	\$,040l0:

## Serial Communications Module

Three (3) serial communications modules are available, with four serial ports each. Serial communications module faceplates have black and white terminal sections to distinguish serial terminals, and have the  symbol to signify serial I/O.



Serial Communications Module			
Part Number	Ports	Port Type	Price
<b><u>BX-SERIO</u></b>	4	RS-232 / RS-485	\$010ch:
<b><u>BX-SERIO-2</u></b>	4	RS-232 with Flow Control	\$,04gi1:
<b><u>BX-SERIO-4</u></b>	4	RS-422	\$,04gi2:

Expansion Module Support by Controller	
Controller Type	# Expansion Modules
<b><u>BX-DM1E-M</u></b>	8
<b><u>BX-DM1-10</u></b>	8
<b><u>BX-DM1E-10</u></b>	8
<b><u>BX-DM1-18</u></b>	8
<b><u>BX-DM1E-18</u></b>	8
<b><u>BX-DM1-36</u></b>	8
<b><u>BX-DM1E-36</u></b>	8
<b><u>BX-DMIO*</u></b>	8
<b><u>BX-EBC100*</u></b>	8
<b><u>BX-MBIO*</u></b>	8

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