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.

This publication is based on information that was available at the time it was printed. At AutomationDirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without any obligation. This publication may also discuss features that may not be available in certain revisions of the product.

**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**: EC60660-2-4 (Test Fc)
- **Shock**: EC60660-2-27 (Test Ex)
- **Enclosure Type**: Open Equipment
- **Agency Approvals**: UL61010-2 - UL File # E185989 Canada and USA
- **CE Compliant**: E185989*
- **Noise Immunity**: NEMA ICS3-304
- **EU Directive**: See the “EU Directive” topic in the Help File
- **Weight**: 7g (0.25 oz)

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

**BX-P-ECOMLT Specifications**
- **Standard transformer isolated Ethernet port with built-in surge protection.**
- **Transfer Rate**: 10/100 Mbps
- **Port Status LED**: Link LED is solid when network is established, ACT LED flashes when port is active
- **Supported Protocols**: Do-more! Protocol (Server)
- **Cable Recommendation**: C5E-STxxx-xx from AutomationDirect.com
- **Hot Swappable**: Yes

**BX-P-USB-B Specifications**
- **USB Type B for programming.**
- **USB Specification Version**: USB 2.0
- **Port Status LED**: LED flashes when port is active
- **Cable Requirement**: USB-CBL-ABxx from AutomationDirect.com
- **Hot Swappable**: Yes

**BX-P-ECOMEX Specifications**
- **Standard transformer isolated Ethernet port with built-in surge protection.**
- **Transfer Rate**: 10/100 Mbps
- **Port Status LED**: LINK LED is solid when network is established, ACT LED flashes when port is active
- **Supported Protocols**: SMTP (Email), FTP (Client), Do-more! Ethernet I/O, MQTT / MQTT-S, HTTP / HTTPS, EtherCAT (Optical Messaging), SNTP (Time Server), TCP/IP (Raw Packet), Modbus TCP/IP (Client & Server), DHCP (Client), Do-more! Protocol, Do-more! PeerLink

**BX-P-ECOMLT**
- Ethernet port using RJ45 connection.
- Limited use port; server functions only

**BX-P-ECOMEX**
- Secondary Ethernet Port

**BX-P-USB-B**
- USB port Type B connection

**BX-P-SER2-RJ12**
- RS232 Serial Port using an RJ12 connection

**BX-P-SER4-TERM**
- RS485 serial port using a 3-pin terminal block connection

**BX-P-SER2-TERMFC**
- RS232 Serial Port with Flow Control using a 5-pin terminal block connection

**BX-P-SER422-TERM**
- RS422 serial port

**Important!**

**Hot-Swapping Information**

Note: This device may be Hot Swapped.

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**BX-P-SER2-TERM Specifications**


**Support Protocols**
- Do-more! Protocol (Default)
- Modbus RTU (Master & Slave)
- ASCII (In & Out)
- Custom Protocols

**Default Settings**
- 115200 bps, No Parity, 8 Data Bits, 1 Stop Bit, Station #1

**Data Rates**
1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200

**RS-232 Connectors**
- 5-pin terminal strip 3.5mm pitch

**Port Status LED**
- Green LED is illuminated when active for TXD and RXD

**Hot Swappable**
- Yes

**Replacement Connectors**
- BX-RTB03S from AutomationDirect.com

**Cable Requirements**
- Recommend RS-232 use L19853-XXX from AutomationDirect.com

**Discharge Protection**
- +/-15mA

**RS-232 Output Short Load (TXD/RTS)**
- 3kΩ, 1000 pf

**BX-P-SER2-TERMFC Specifications**

- Non-isolated Serial port that can communicate via RS-232. Includes ESD protection and built-in surge protection.

**Support Protocols**
- Do-more! Protocol (Default)
- Modbus RTU (Master & Slave)
- ASCII (In & Out)
- Custom Protocols

**Default Settings**
- 115200 bps, No Parity, 8 Data Bits, 1 Stop Bit, Station #1

**Support Protocols**
- ASCII (In & Out)
- K-Sequence (Slave)

**Cable Requirements**
- Removable connector included.

**Pinout**
- TXD: D+, RX+: D-, RX-: RX0, TX+: RX1

**RS-232 Cable**
- Equivalent Dinkle part # EC350V-03P-BK EC350V-05P-BK

**Pin Exit**
- 180 degree

**Recommended Screw torque**
- <1.77Lb-in (0.2 N-m)

**Connector Type**
- Screw Type

**Seat POM**
- Filler Module

**BX-P-SER422-TERM Specifications**

- Non-isolated Serial port that can communicate via RS-422. Includes ESD protection and built-in surge protection.

**Support Protocols**
- Do-more! Protocol (Default)
- Modbus RTU (Master & Slave)
- ASCII (In & Out)
- Custom Protocols

**Data Rates**
- 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200

**Support Protocols**
- ASCII (In & Out)
- K-Sequence (Slave)

**Cable Requirements**
- Recommend RS-422 use L19853-XXX from AutomationDirect.com

**Discharge Protection**
- +/-15KV human body, +/-6KV contact discharge per IEC61000-4-2

**RS-422 Output Short**
- 50 transceivers, 19kΩ each, 120Ω termination

**RS-422 Input Impedance**
- 96kΩ

**RS-422 GND**
- Logic ground

**RXD-/RXD-**
- RS-422 transceiver low

**RS-422 Station Addresses**
- 1-247

**Port Status LED**
- Green LED is illuminated when active for TXD and RXD

**Hot Swappable**
- Yes

**Replacement Connectors**
- BX-RTB03S from AutomationDirect.com

**Cable Requirements**
- Recommend RS-422 use L19853-XXX from AutomationDirect.com

**BX-P-SER422-TERMFC Specifications**

- Non-isolated Serial port that can communicate via RS-422. Includes ESD protection and built-in surge protection.

**Support Protocols**
- Do-more! Protocol (Default)
- Modbus RTU (Master & Slave)
- ASCII (In & Out)
- Custom Protocols

**Data Rates**
- 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200

**Support Protocols**
- ASCII (In & Out)
- K-Sequence (Slave)

**Cable Requirements**
- Equivalent Dinkle part # EC350V-03P-BK EC350V-05P-BK

**Pin Exit**
- 180 degree

**Recommended Screw torque**
- <1.77Lb-in (0.2 N-m)

**Connector Type**
- Screw Type

**Seat POM**
- Filler Module

**BX-RTB035 and BX-RTB055 Connector Specifications**

**Port Number**
- BX-RTB035
- BX-RTB055

**Pin 1**
- GND

**Pin 2**
- RXD

**Pin 3**
- TXD

**Pin 4**
- GND

**Pin 5**
- RXD

**Pin 6**
- TXD

**Recommended Screw torque**
- <1.77Lb-in (0.2 N-m)

**BX-P-SER2-RJ12 Specifications**

- Non-isolated RS-232 DTE. Includes ESD protection and built-in surge protection.

**Support Protocols**
- Do-more! Protocol (Default)
- Modbus RTU (Master & Slave)
- ASCII (In & Out)
- Custom Protocols

**Data Rates**
- 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200

**Support Protocols**
- ASCII (In & Out)
- K-Sequence (Slave)

**Cable Requirements**
- Equivalent Dinkle part # EC350V-03P-BK EC350V-05P-BK

**Pin Exit**
- 180 degree

**Recommended Screw torque**
- <1.77Lb-in (0.2 N-m)

**Connector Type**
- Screw Type

**Seat POM**
- Filler Module

**BX-P-SER2-RJ12 specifications**

- Non-isolated Serial port that can communicate via RS-232. Includes ESD protection and built-in surge protection.

**Support Protocols**
- Do-more! Protocol (Default)
- Modbus RTU (Master & Slave)
- ASCII (In & Out)
- Custom Protocols

**Data Rates**
- 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200

**Support Protocols**
- ASCII (In & Out)
- K-Sequence (Slave)

**Cable Requirements**
- Equivalent Dinkle part # EC350V-03P-BK EC350V-05P-BK

**Pin Exit**
- 180 degree

**Recommended Screw torque**
- <1.77Lb-in (0.2 N-m)

**Connector Type**
- Screw Type

**Seat POM**
- Filler Module