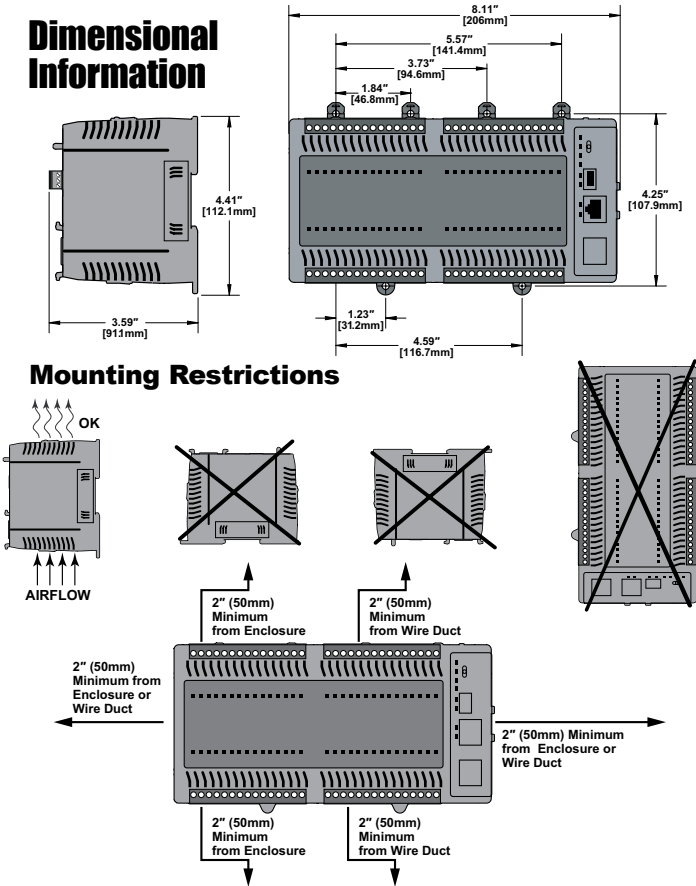


| General Specifications | |
|------------------------|---|
| Operating Temperature | 0° to 60°C (32° to 140°F) |
| Storage Temperature | -20° to 85°C (-4° to 185°F) |
| Humidity | 5 to 95% (non-condensing) |
| Environmental Air | No corrosive gases permitted |
| Vibration | IEC60068-2-6 (Test Fc) |
| 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 | 488g (17.2 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 | 24.9W 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 |


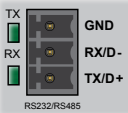


| CPU Specifications | |
|---------------------------|---|
| Program Memory Type | FLASH memory |
| User Data Memory Type | Battery Backed RAM, User configurable |
| Pluggable Option Module | RS-232, RS-485, Ethernet 10/100 BASE-T (1Mbps throughput max), USB 2.0 Type B |
| Expansion Modules | 4 expansion 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 |
| Custom Label Window Size | 0.75" x 2.25" (19mm x 57.2mm) |

| Terminal Block Connection Options | |
|-----------------------------------|---|
| BX-RTB36 | Terminal Block Kit, 90-degree screw type, fits all BRX 36-point PLCs. Kit includes (12) 5-pin 5mm terminal blocks. |
| BX-RTB36-1 | Terminal Block Kit, 180-degree spring clamp type, fits all BRX 36-point PLCs. Kit includes (12) 5-pin 5mm terminal blocks. |
| ZL-BX-CBL15 | ZI PLink PLC I/O cable, 15-position terminal block to 24-pin connector, 24AWG. 0.5 meter (1.6 ft.) length, 4 required. |
| ZL-BX-CBL15-1 | ZI PLink PLC I/O cable, 15-position terminal block to 24-pin connector, 24AWG. 1 meter (3.3 ft.) length, 4 required. |
| ZL-BX-CBL15-2 | ZI PLink PLC I/O cable, 15-position terminal block to 24-pin connector, 24AWG. 2 meter (6.6 ft.) length, 4 required. |
| ZL-BX-CBL15-1P | ZI PLink PLC I/O cable, 15-position terminal block to pigtail connection, 24AWG. 1 meter (3.3 ft.) length, 4 required. |
| ZL-BX-CBL15-2P | ZI PLink PLC I/O cable, 15-position terminal block to pigtail connection, 24AWG. 2 meter (6.6 ft.) length, 4 required. |
| ZL-RTB20 | ZI PLink Two-Level Feedthrough Module. 20 pole, 35mm DIN mount, 4 required. |
| ZL-RTB20-1 | ZI PLink Three-Level Feedthrough Module. 20 pole, 35mm DIN mount, 4 required. |

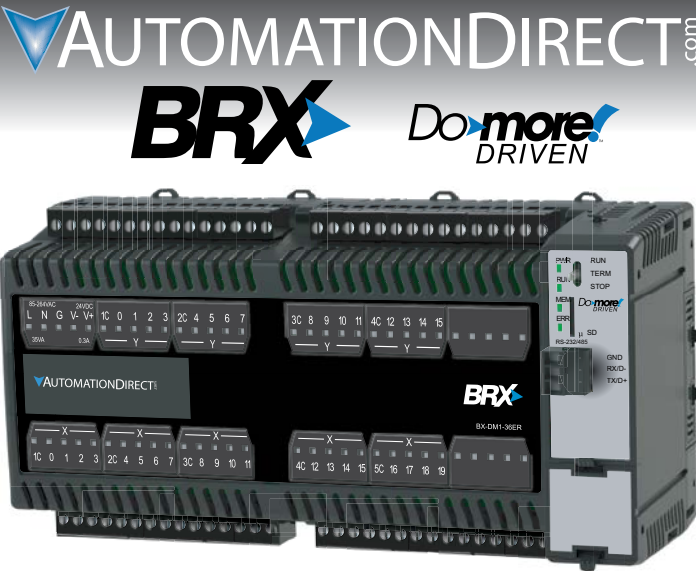
| Terminal Block Connector Specifications | | | |
|---|-----------------------|-------------------------|--|
| Part Number | BX-RTB03S | BX-RTB36 | BX-RTB36-1 |
| Connector Type | Screw Type-90° | Screw Type-90° | Spring Clamp Type-180° |
| Wire Exit | 180° | 180° | 180° |
| Pitch | 3.5mm | 5.0mm | 5.0mm |
| Screw Size | M2 | M2.5 | N/A |
| Recommended Screw torque | <1.77 lb·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 (Dual Wire) | 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 |
| | Red | SD Card Installed and Not Mounted |
| ERR | OFF | CPU is functioning normally |
| | Red | CPU Fatal Hardware Error or Software Watchdog Error |

| 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 | RX | D- |
| | 3 | TX | 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. |



BX-DM1-36ER
BRX MPU with Do-more! DM1 technology
120 VAC required, serial port, microSD slot, Discrete Input: 20-point, sink / source, Discrete Output: 16-point, relay.

I/O Terminal Blocks sold separately.
(See Terminal Block Connection Options table).

| | | |
|---------------|------------------|----------|
| Document Name | Edition/Revision | Date |
| BX-DM1-36ER | 1st Ed. RevE | 9/8/2021 |

Copyright 2021, AutomationDirect.com Incorporated/All Rights Reserved Worldwide.

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.

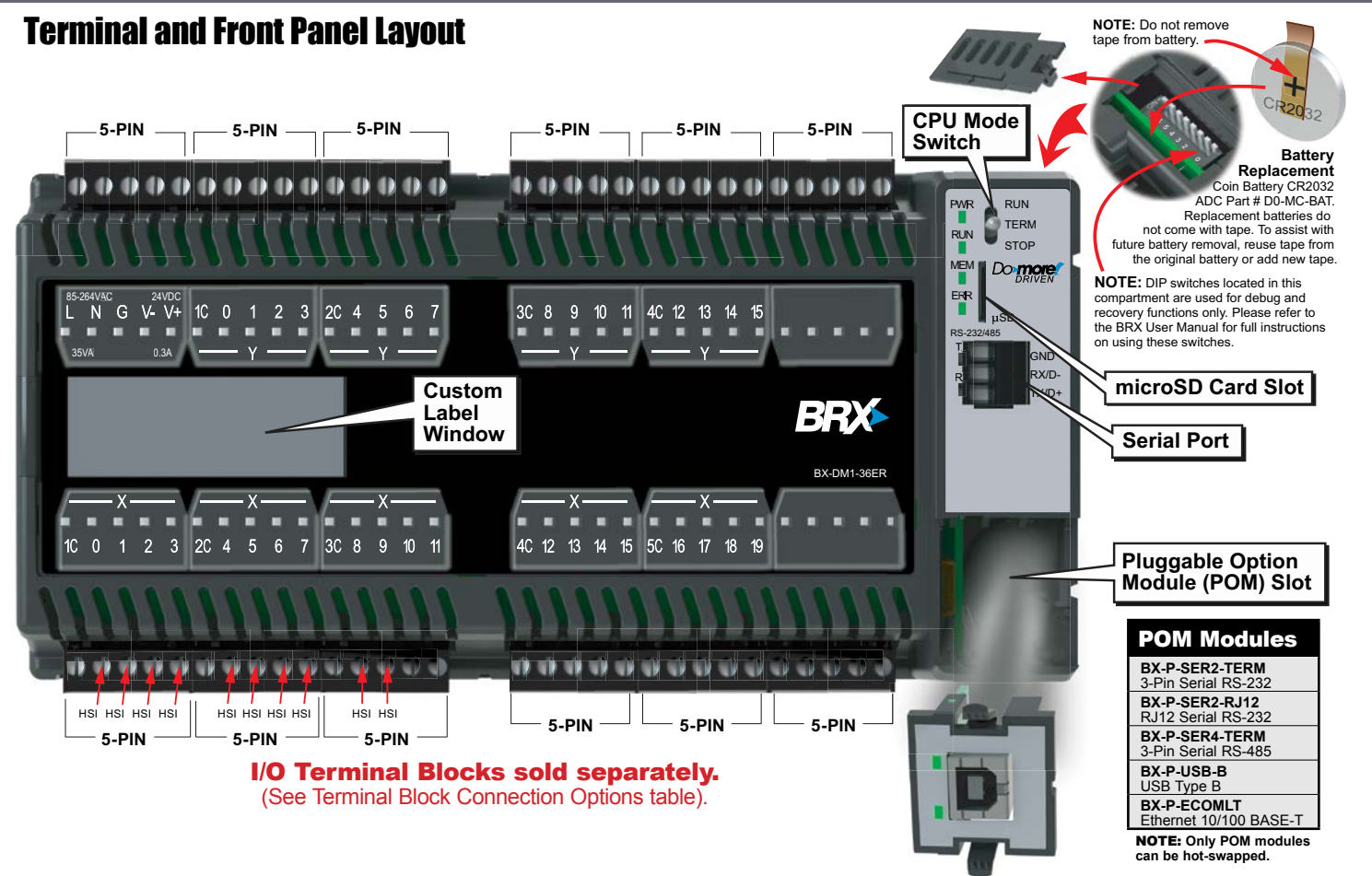
This publication is based on information that was available at the time it was printed. At AutomationDirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without any obligation.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

Do-more BRX Manual available at
[www.automationdirect.com/pn/doc/
manual/BX-DM1-36ER](http://www.automationdirect.com/pn/doc/manual/BX-DM1-36ER)



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

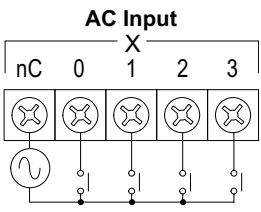
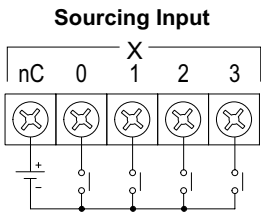
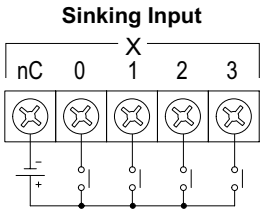
Terminal and Front Panel Layout



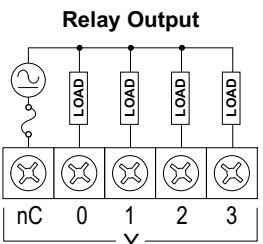
I/O Terminal Blocks sold separately.
(See Terminal Block Connection Options table).

I/O Wiring

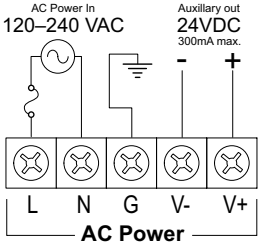
Discrete Input Wiring



Discrete Output Wiring



Supply Power Wiring



| Discrete Input Specifications | |
|-------------------------------|--|
| Input Type | Sink/Source |
| Total Inputs per Module | 20 Total – 10 High Speed (X0..X9)* 10 Standard (X10..X19) *All inputs may be used as standard inputs |
| Commons | 5 (4 points/common) Isolated |
| Nominal Voltage Rating | 12–24 VAC/DC |
| Input Voltage Range | 9–30 VAC/DC |
| Maximum Voltage | 30 VAC/DC |
| DC Frequency | 0–250kHz - High Speed |
| Minimum Pulse Width | 0.5 μs - High Speed |
| AC Frequency | 47–63 Hz (60–240Hz filter must be set in software for AC operation) |
| Input Impedance | 3kΩ @ 24VDC |
| Input Current (typical) | 6mA @ 24 VAC/DC |
| Maximum Input Current | 12mA @ 30 VAC/DC |
| Maximum OFF Current | 2.0 mA |
| ON Voltage Level | > 9.0 VAC/VDC |
| OFF Voltage Level | < 2.0 VAC/VDC |
| Status Indicators | Logic Side, Green |

| Discrete Output Specifications | |
|--------------------------------|--|
| Output Type | Relay Form A (SPST) |
| Total Outputs per Module | 16 Relay |
| Commons | 4 (4 points/common) Isolated |
| Maximum current per common | 8A |
| Nominal Voltage Ratings | 12–48 VDC, 24–240 VAC |
| Operating Voltage Range | 5–60 VDC, 5–264 VAC |
| Maximum Voltage | 60VDC, 264VAC |
| Minimum Output Current | 0.1mA @ 24VAC/DC |
| Maximum Output Current | 2A |
| Maximum Leakage Current | 1μA (DC), 300μA (AC) due to RC snubber |
| Maximum Switching Frequency | 10Hz |
| Status Indicators | Logic Side, Green |

| High Speed Input (HSI) Functions | | | |
|-------------------------------------|------------------------------|--|----------------------|
| Input Function | Inputs Required ¹ | | 10/10E 18/18E 36/36E |
| High-Speed Counting | 1 | Up counters | Up to (3) |
| | 1 | Down counters | |
| | 2 | Up/Down counters | |
| | 2 | Pulse/Direction (Bidirectional) counters | |
| | 2 | Quadrature (A and B) counters | |
| Position Scaling | 3 | Quadrature (A and B with Z) counters | Up to (4) |
| | 3 | Quadrature (A and B with Z) counters | |
| Frequency Measurement | 1 | Single Input (Edge) timers | Up to (3) |
| | 2 | Dual Input (Dual Edge) timers | |
| Interval Measurement | 1 | Single Input (Edge) timers | Up to (4) |
| Duration Measurement | 1 | Single Input (Edge) timers | |
| Table-Driven Output(s) ² | | Programmable limit switches | Up to (4) |
| | | Preset tables | |
| Interrupt(s) | 4 | Input interrupts | Up to (4) |
| | 0 | Timer interrupts | |
| | 0 | Match register interrupts | |

1. Standard inputs may be used with high-speed functions, but at lower response frequencies of approximately 120Hz.

2. Table Driven Output(s) are triggered by an Axis Position or a high-speed counter/timer accumulator value. It requires the selection of 1 discrete output. (see HSO Note 1 below)