General Specifications
- Operating Temperature: -30°C to 104°F
- Storage Temperature: -30°C to 158°F
- Humidity: 5% to 95% (non-condensing)
- Environmental Air: 0.1% maximum (ozone permeated)
- Vibration: ±2g ±1 octave band (Test F)
- Shock: ±30g ±1 octave band (Test E)
- Enclosure Type: Open Equipment
- Agency Approvals: UL61010-2, UL File #E158989 Canada and USA
- Screen Immunity: ±15kV ESD (In & Out)
- CE Compliant EN61131-2
- EU Directive: See the “EU Directive” topic in the Help File
- Weight: 314g (11.1 oz)

ZIP
5 to 95% (non-condensing)
See the “EU Directive” topic in the Help File
4 expansion modules max
M2.5
NEMA ICS3-304
180°
No corrosive gases permitted
Forces are Active
0.24in (6mm)
3.5mm
±2.6s per day typical at 25°C
Spring Clamp Type-180°
IEC60068-2-6 (Test Fc)
Screw Type-90°
0° to 60°C (32° to 140°F)
ROM Activity (Flash or SD Card)
BX-RTB18-1
5.0mm
OFF
Low Battery
Base Power ON
Battery Backed RAM, User configurable
9/8/2021
Micro fuse 250V, 2A Non-replaceable
RS-232, 115200 bps, No Parity, 8 Data Bits, 1 Stop
CPU is forced into RUN Mode if no errors are encountered.
ZIP
RS-232, RS-485, Ethernet 10/100 BASE-T
28-16 AWG
CPU is forced into STOP Mode.
1200, 2400, 4800, 9600, 19200, 38400, 57600, and
28-16 AWG
RS-232 use L19772-XXX from AutomationDirect.com
CPU is in STOP Mode

ZIP

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.


CPU Specifications
- User Data Memory Type: Battery Backup RAM, User configurable
- Pluggable Option Module: RS-232, RS-485, Ethernet 10/100 BASE-T (1 Mbps) include non-pluggable option USB 2.0 Type B
- Expansion Modules: 4 expansion modules max
- Real Time Clock Accuracy: ±4.6s per day typical at 25°C
- Productivity Software: Do-more Designer – Ver. 2.0 or higher
- Programming Cable Options: BX-PC/COM
- Custom Label Window Size: 0.75” x 2.25” (19mm x 57.2mm)
- Terminal Block Connection Options:
  - BX-RTB18: Terminal Block Kit, 90-degree screw type. File all BX-18 10-pin PLCs. Kit includes (2) 5-pin 5mm plugs, (2) 3-pin 5mm plugs, (1) 3-pin 5mm plugs.
  - BX-RTB18-1: Terminal Block Kit, 180-degree screw type. File all BX-18 10-pin PLCs. Kit includes (2) 5-pin 5mm plugs, (2) 3-pin 5mm plugs, (1) 3-pin 5mm plugs.
  - ZL-BX-CBL15: ZL-PC Card Cable, 15-pin terminal block to 24-pin connector, ZH2AWS -0.5 meter (1.6 ft.) length, 2 required.
  - ZL-BX-CBL15-1: ZL-PC Card Cable, 15-pin terminal block to 24-pin connector, ZH2AWS -1 meter (3.3 ft.) length, 2 required.
  - ZL-BX-CBL15-2: ZL-PC Card Cable, 15-pin terminal block to 24-pin connector, ZH2AWS -2 meter (6.6 ft.) length, 2 required.
  - ZL-BX-CBL15-1/F: ZL-PC Card Cable, 15-pin terminal block to 9-pin connector, ZH2AWS -0.5 meter (1.6 ft.) length, 2 required.
  - ZL-BX-CBL15-2/F: ZL-PC Card Cable, 15-pin terminal block to 9-pin connector, ZH2AWS -1 meter (3.3 ft.) length, 2 required.
  - ZL-BX-CBL20-1/F: ZL-PC Card Cable, 20-pin terminal block to 24-pin connector, ZH2AWS -0.5 meter (1.6 ft.) length, 2 required.
  - ZL-BX-CBL20-2/F: ZL-PC Card Cable, 20-pin terminal block to 24-pin connector, ZH2AWS -1 meter (3.3 ft.) length, 2 required.

Terminals Block Connector Specifications
- Part Number: BX-RTB03S
- Voltage Withstand (dielectric): 1500VAC Power Inputs to Ground
- Isolated User 24VDC Output: 24VDC @ 0.3A max, <1V P-P Ripple, 24VDC @ 0.3A max
- Heat Dissipation: 1.5A, 2ms
- Internal Input Fuse Protection: 85–264 VAC
- Maximum Inrush Current (Hot Start): 1.5A, 2ms
- Input Voltage Range (Tolerance): 55–264 VAC
- Overvoltage Protection: 28-16 AWG
- CE Compliant EN61131-2
- Screwdriver Blade: 3.5mm
- DIN mount, 2 required.
- Wire Duct: 2″ (50mm)
- Minimum: 4.25″

CPU Mode Switch Functions
- RUN position: CPU is forced into RUN Mode if no errors are encountered.
- PROGRAM position: CPU is forced into PROGRAM Mode if no errors are encountered. In this mode of operation the mode of operation can be changed through the Do-more Designer Software.
- DEBUG position: CPU is forced into DEBUG Mode.

IO Terminal Blocks sold separately. (See Terminal Block Connection Options table).

Programming Cable Options
- Custom Label Window Size: 0.75” x 2.25” (19mm x 57.2mm)
- Terminal Block Connector Specifications
- Part Number: BX-RTB03S
- Connector Type: Screw Type-90°
- Screw Type-90°: 20-point, sink/source, Discrete Output: 8-point, relay.

Programming Software

Replacement Connector: AXC-RTB03S

CPU Status Indicators
- Status Bar Description
- RUN: CPU is in RUN Mode
- STOP: CPU is forced into STOP Mode

WARNING: Hot-Swapping Information
- Note: This device cannot be Hot Swapped.
Discrete Input Specifications

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Sink/Source</th>
<th>Total Inputs per Module</th>
<th>10 High Speed</th>
<th>- All inputs may be used as standard inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commomns</td>
<td></td>
<td>2 (8 points/common) isolated</td>
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</tr>
<tr>
<td>Nominal Voltage Rating</td>
<td>12–24 VAC/DC</td>
<td></td>
<td></td>
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<tr>
<td>Input Voltage Range</td>
<td>3–30 VAC/DC</td>
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<tr>
<td>DC Frequency</td>
<td>0–950kHz</td>
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<tr>
<td>Minimum Pulse Width</td>
<td>2.5 µs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC Frequency</td>
<td>0.1–11 kHz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC Power In</td>
<td>120–240 VAC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC Power In</td>
<td>24 VAC/DC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum AC Input Current</td>
<td>12mA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum AC Input Voltage</td>
<td>30 VAC/DC</td>
<td></td>
<td></td>
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<tr>
<td>Maximum AC Input Voltage</td>
<td>2.0 mA</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Maximum AC Input Voltage</td>
<td>2.0 mA</td>
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</tr>
<tr>
<td>Maximum AC Input Voltage</td>
<td>2.0 mA</td>
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</tr>
<tr>
<td>Status Indicators</td>
<td>Logic Low, Green</td>
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</tbody>
</table>

Discrete Output Specifications

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Relay Form (ACSPST)</th>
<th>Total Outputs per Module</th>
<th>8 Relay</th>
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<tbody>
<tr>
<td>Commons</td>
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</tr>
<tr>
<td>Nominal Voltage Rating</td>
<td>12–48 VDC, 24–240 VAC</td>
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<tr>
<td>Operating Voltage Range</td>
<td>12–48 VDC, 3–240 VAC</td>
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<tr>
<td>Maximum Voltage</td>
<td>30 VAC/DC</td>
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<tr>
<td>Minimum Output Current</td>
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<tr>
<td>Maximum Output Current</td>
<td>4.0mA</td>
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<tr>
<td>Maximum Leakage Current</td>
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<td>Maximum Switching Frequency</td>
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High Speed Input (HSI) Functions

<table>
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<tr>
<th>Function</th>
<th>Input Required</th>
<th>12/16</th>
<th>18/36</th>
<th>36/36</th>
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<td>High Speed Counting</td>
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<td>Position Scaling</td>
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<td>Frequency Measurement</td>
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<td>Interval Measurement</td>
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<td>Intermittent</td>
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<td>Input</td>
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<tr>
<td>Output</td>
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</tbody>
</table>

I/O Wiring

Discrete Input Wiring

- Sink Input
- Sourcing Input

Discrete Output Wiring

- Sourcing Input
- Sink Input

AC Power Wiring

- AC 120–240 VAC
- 24 VDC