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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.

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**General Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>0° to 60°C (32° to 140°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20° to 85°C (-4° to 185°F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>5 to 95% (nonBX-08ND3-condensing)</td>
</tr>
<tr>
<td>Environmental Air</td>
<td>No corrosive gases permitted</td>
</tr>
<tr>
<td>Vibration</td>
<td>IEC60068-2-6 (Test Fc)</td>
</tr>
<tr>
<td>Shock</td>
<td>IEC60068-2-27 (Test Ea)</td>
</tr>
<tr>
<td>Enclosure Type</td>
<td>Open Equipment</td>
</tr>
<tr>
<td>Agency Approvals</td>
<td>UL61010-2 - UL File # E185989 Canada and USA</td>
</tr>
<tr>
<td></td>
<td>CE Compliant EN61131-2*</td>
</tr>
<tr>
<td>Noise Immunity</td>
<td>NEMA ICS3-304</td>
</tr>
<tr>
<td>EU Directive</td>
<td>See the &quot;EU Directive&quot; topic in the Help File</td>
</tr>
<tr>
<td>Weight</td>
<td>BX-08ND3 91g (3.2 oz)</td>
</tr>
<tr>
<td></td>
<td>BX-12ND3 93g (3.3 oz)</td>
</tr>
<tr>
<td></td>
<td>BX-16ND3 95g (3.4 oz)</td>
</tr>
<tr>
<td>Software Version</td>
<td>Do-more! Designer 2.0 or later</td>
</tr>
</tbody>
</table>

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

---

**I/O Wiring**

- **Sinking Input**
  - +
  - 0
  - 1
  - 2
  - 3

- **Sourcing Input**
  - -
  - 0
  - 1
  - 2
  - 3

---

**Discrete Input Specifications**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Sink/Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-08ND3</td>
<td>8</td>
</tr>
<tr>
<td>BX-12ND3</td>
<td>12</td>
</tr>
<tr>
<td>BX-16ND3</td>
<td>16</td>
</tr>
</tbody>
</table>

- **Commons**
  - BX-08ND3 2 (4 points/common) isolated |
  - BX-12ND3 3 (4 points/common) isolated |
  - BX-16ND3 4 (4 points/common) isolated |

- **Nominal Voltage Range**
  - 12–24 VDC |

- **Input Voltage Range**
  - 9–30VDC |

- **Maximum Voltage**
  - 30VDC |

- **Input Impedance**
  - 3kΩ @ 24VDC |

- **Input Current (typical)**
  - 8mA @ 24VDC |

- **Maximum Input Current**
  - 12mA @ 30VDC |

- **ON Voltage Level**
  - > 0.0 VDC |

- **OFF Voltage Level**
  - < 2.0 VDC |

- **Status Indicators**
  - Logic Side, Green |

---

**WARNING:** Do not Hot Swap this device. It cannot be Hot Swapped.

---

**IMPORTANT!** Do-more! Designer 2.0 or later is required.

---

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---

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**Do-more BRX Manual available at:**


BX-USER-M
**Connector Options – 8 and 12 point**

### BX-RTB08
- Terminal Block Kit, 90-degree screw type. For use with BRX 8-point and 12-point expansion modules. Kit includes (3) 5-pin 1mm plugs.

### BX-RTB08-1
- Terminal Block Kit, 180-degree spring clamp type. For use with BRX 8-point and 12-point expansion modules. Kit includes (3) 5-pin 1mm plugs.

### BX-RTB08-2
- Terminal Block Kit, 180-degree screw type. For use with BRX 8-point and 12-point expansion modules. Kit includes (3) 5-pin 1mm plugs.

### ZL-BXEM-CBL10
- ZipLink PLC I/O cable, 10-position terminal block to 24-pin connector, 24AWG, cable length 1meter (3.3ft). For use with 8-point BRX expansion modules.

### ZL-BXEM-CBL10-1
- ZipLink PLC I/O cable, 10-position terminal block to 24-pin connector, 24AWG, cable length 1meter (3.3ft). For use with 8-point BRX expansion modules.

### ZL-BXEM-CBL10-2
- ZipLink PLC I/O cable, 10-position terminal block to 24-pin connector, 24AWG, cable length 1meter (3.3ft). For use with 8-point BRX expansion modules.

### ZL-BXEM-CBL10-1P
- ZipLink PLC I/O cable, 10-position terminal block to pigtail connection, 24AWG, cable length 1meter (3.3ft). For use with 8-point BRX expansion modules.

### ZL-BXEM-CBL10-2P
- ZipLink PLC I/O cable, 10-position terminal block to pigtail connection, 24AWG, cable length 2meter (6.6ft). For use with 8-point BRX expansion modules.

### ZL-BXEM-CBL15
- ZipLink PLC I/O cable, 15-position terminal block to 24-pin connector, 24AWG, cable length 0.5meter (1.6ft). For use with 5-point and 12-point BRX expansion modules.

### ZL-BXEM-CBL15-1
- ZipLink PLC I/O cable, 15-position terminal block to 24-pin connector, 24AWG, cable length 0.5meter (1.6ft). For use with 5-point and 12-point BRX expansion modules.

### ZL-BXEM-CBL15-2
- ZipLink PLC I/O cable, 15-position terminal block to 24-pin connector, 24AWG, cable length 0.5meter (1.6ft). For use with 5-point and 12-point BRX expansion modules.

### ZL-BXEM-CBL15-1P
- ZipLink PLC I/O cable, 15-position terminal block to pigtail connection, 24AWG, cable length 0.5meter (1.6ft). For use with 5-point and 12-point BRX expansion modules.

### ZL-BXEM-CBL15-2P
- ZipLink PLC I/O cable, 15-position terminal block to pigtail connection, 24AWG, cable length 2meter (6.6ft). For use with 5-point and 12-point BRX expansion modules.

### ZL-RTB20
- ZipLink Two Level Feedthrough Module, 20-pole, 35mm, DIN mount.

### ZL-RTB20-1
- ZipLink Three Level Feedthrough Module, 20-pole, 35mm, DIN mount.

---

**Connector Options – 16 point**

### BX-RTB10
- Terminal Block Kit, 90-degree screw type. For use with BRX 10-point PLCs and BRX 16-point expansion modules. Kit includes (2) 10-pin 3.8mm plugs.

### BX-RTB10-1
- Terminal Block Kit, 180-degree spring clamp type. For use with BRX 10-point PLCs and BRX 16-point expansion modules. Kit includes (2) 10-pin 3.8mm plugs.

### BX-RTB10-2
- Terminal Block Kit, 180-degree screw type. For use with BRX 10-point PLCs and BRX 16-point expansion modules. Kit includes (2) 10-pin 3.8mm plugs.

### ZL-BXEM-CBL20
- ZipLink PLC I/O cable, 20-position terminal block to 24-pin connector, 24AWG, cable length 0.5meter (1.6ft). For use with 16-point BRX expansion modules.

### ZL-BXEM-CBL20-1
- ZipLink PLC I/O cable, 20-position terminal block to 24-pin connector, 24AWG, cable length 0.5meter (1.6ft). For use with 16-point BRX expansion modules.

### ZL-BXEM-CBL20-2
- ZipLink PLC I/O cable, 20-position terminal block to 24-pin connector, 24AWG, cable length 0.5meter (1.6ft). For use with 16-point BRX expansion modules.

### ZL-BXEM-CBL20-1P
- ZipLink PLC I/O cable, 20-position terminal block to pigtail connection, 24AWG, cable length 0.5meter (1.6ft). For use with 16-point BRX expansion modules.

### ZL-BXEM-CBL20-2P
- ZipLink PLC I/O cable, 20-position terminal block to pigtail connection, 24AWG, cable length 0.5meter (1.6ft). For use with 16-point BRX expansion modules.

### ZL-RTB20
- ZipLink Two Level Feedthrough Module, 20-pole, 35mm, DIN mount.

### ZL-RTB20-1
- ZipLink Three Level Feedthrough Module, 20-pole, 35mm, DIN mount.

---

**Elementary Information**

- **Dimensional Information**
  - Note: Drawings are for reference only. Shown without terminal blocks.
  - **Module Installation**
    - **To Install, remove Connector Cover**
    - **Align expansion connectors, insert, and listen for “Click” as the lock engages**

**8 and 12 point Terminal Block Connector Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>BX-RTB08</th>
<th>BX-RTB08-1</th>
<th>BX-RTB08-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Type</td>
<td>Screw Type-90°</td>
<td>Spring Clamp Type-180°</td>
<td>Screw Type-180°</td>
</tr>
<tr>
<td>Wire Exit</td>
<td>180°</td>
<td>180°</td>
<td>180°</td>
</tr>
<tr>
<td>Pitch</td>
<td>5.0mm</td>
<td>5.0mm</td>
<td>5.0mm</td>
</tr>
<tr>
<td>Screw Size</td>
<td>M2.5</td>
<td>N/A</td>
<td>M2.5</td>
</tr>
<tr>
<td>Recommended Screw torque</td>
<td>&lt; 3.98 lb in (0.45 N m)</td>
<td>N/A</td>
<td>&lt; 3.98 lb in (0.45 N m)</td>
</tr>
<tr>
<td>Screwdriver</td>
<td>3.5mm</td>
<td>3.5mm</td>
<td>3.5mm</td>
</tr>
<tr>
<td>Blade Width</td>
<td>3.5mm</td>
<td>3.5mm</td>
<td>3.5mm</td>
</tr>
<tr>
<td>Wire Gauge (Single Wire)</td>
<td>30-16 AWG</td>
<td>30-16 AWG</td>
<td>30-16 AWG</td>
</tr>
<tr>
<td>Wire Gauge (Two Wires)</td>
<td>28-16 AWG</td>
<td>28-16 AWG</td>
<td>28-16 AWG</td>
</tr>
<tr>
<td>Wire Strip Length</td>
<td>3.81mm (0.150 in)</td>
<td>3.81mm (0.150 in)</td>
<td>3.81mm (0.150 in)</td>
</tr>
<tr>
<td>Equivalent Dinkle part #</td>
<td>5ESDV-05P-BK</td>
<td>5ESDQR-05P-BK</td>
<td>5ESDQ-05P-BK</td>
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</table>

**16 point Terminal Block Connector Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>BX-RTB10</th>
<th>BX-RTB10-1</th>
<th>BX-RTB10-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Type</td>
<td>Screw Type-90°</td>
<td>Spring Clamp Type-180°</td>
<td>Screw Type-180°</td>
</tr>
<tr>
<td>Wire Exit</td>
<td>180°</td>
<td>180°</td>
<td>180°</td>
</tr>
<tr>
<td>Pitch</td>
<td>3.81mm</td>
<td>3.81mm</td>
<td>3.81mm</td>
</tr>
<tr>
<td>Screw Size</td>
<td>M2</td>
<td>N/A</td>
<td>M2</td>
</tr>
<tr>
<td>Recommended Screw torque</td>
<td>&lt; 1.77 lb in (0.2 N m)</td>
<td>N/A</td>
<td>&lt; 1.77 lb in (0.2 N m)</td>
</tr>
<tr>
<td>Screwdriver</td>
<td>2.5mm</td>
<td>2.5mm</td>
<td>2.5mm</td>
</tr>
<tr>
<td>Blade Width</td>
<td>2.5mm</td>
<td>2.5mm</td>
<td>2.5mm</td>
</tr>
<tr>
<td>Wire Gauge (Single Wire)</td>
<td>28-16 AWG</td>
<td>28-16 AWG</td>
<td>30-16 AWG</td>
</tr>
<tr>
<td>Wire Gauge (Two Wires)</td>
<td>28-16 AWG</td>
<td>30-20 AWG (Dual Wire Ferrule Required)</td>
<td>30-16 AWG</td>
</tr>
<tr>
<td>Wire Strip Length</td>
<td>0.24in (6mm)</td>
<td>0.35in (9mm)</td>
<td>0.26in (6.5mm)</td>
</tr>
<tr>
<td>Equivalent Dinkle part #</td>
<td>EC381V-10P-BK</td>
<td>ESC381V-10-BK</td>
<td>EC381V-10P-BK</td>
</tr>
</tbody>
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**Connector Cover**

- To Install, remove Connector Cover
- Align expansion connectors, insert, and listen for “Click” as the lock engages

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**Module Installation**

- **To Install, remove Connector Cover**
- **Align expansion connectors, insert, and listen for “Click” as the lock engages**

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**Sales 800-633-0405 www.do-moreplcs.com**