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.

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I/O Wiring

RTD Input Circuits

2-wire RTD

3-wire RTD

4-wire RTD

**Notes for maximum accuracy:**
1. For 2-wire RTD, attach a third wire to module common.
2. R+, R-, and COM wires to an RTD must be equal length and type. Refer to RTD manufacturer’s recommendations.
3. Do not use cable shield as sensing wire.
4. When applicable, connect shield to RTD common only, otherwise connect to module common only. Do not connect shield to both ends.
5. Jumper unused inputs to common.

**Analog Current Source Output**

*An Edison S500-32-R 0.032A fast-acting fuse is recommended for all analog voltage inputs, analog outputs, and current loops.

**Module Power**

- **Backplane Power Consumption**: 0.3W
- **External DC Power Required**: Class 2 or LPS power supply 24VDC (±20%) 125mA

**Analog Current Output Specifications**

- **Outputs per Module**: 4
- **Commons**: 1
- **Module Signal Output Range**: 0-20mA, 4-20mA (Default)
- **Signal Resolution**: 16 bit, 15 bit (Default)
- **Resolution Value of LSB (least significant bit)**: (1 LSB = 1 count)
  - 0-20mA = 0.305μA
  - 4-20mA = 0.244μA
- **Output type**: Current Sourcing up to 20mA
- **Output Value in Fault Mode**: 0mA in 0-20mA mode, 4mA in 4-20mA mode
- **Maximum Load Impedance**: 700Ω
- **Maximum Capacitive Load**: 470pF
- **Maximum Continuous Load**: 30mA
- **All Channel Update Rate**: 2.5ms per enabled channel
- **Maximum Inaccuracy**: ±0.1% of range
- **Maximum Offset Calibration Error**: ±0.08% of range
- **Maximum Full Scale Calibration Error**: ±0.08% of range
- **Conversion Method**: Successive Approximation
- **Accuracy vs. Temperature**: ±25PPM / ºC maximum
- **Linearity Error (end to end)**: ±0.08% of range
- **Output Stability and Repeatability**: ±0.03% of full range after 10 minute warm-up (typical)
- **Output Ripple**: ±0.03% of range/mA
- **Output Settling Time**: 320μs
- **Loop Fusing (external)**: Fast-acting 0.032A recommended
- **Maximum Crosstalk**: +10μV
- **Channel to Channel Isolation**: None
- **Channel to Backplane Isolation**: 1800VAC applied for 1 second
- **Output Value in Fault Mode**: 0mA in 0-20mA mode, 4mA in 4-20mA mode
- **Output Type**: Current Sourcing up to 20mA
  - 0.032A = 0.244μA
  - 0.032A = 0.305μA
- **Resolution Value of LSB**: 16 bit, 15 bit (Default)
- **Maximum Offset Calibration Error**: ±0.08% of range
- **Maximum Full Scale Calibration Error**: ±0.08% of range
- **Maximum Inaccuracy**: ±0.1% of range
- **All Channel Update Rate**: 2.5ms per enabled channel
- **Maximum Continuous Overload**: 30mA
- **Allowed Load Type**: Grounded
- **Maximum Capacitive Load**: 470pF
- **Maximum Continuous Load**: 30mA
- **All Channel Update Rate**: 2.5ms per enabled channel
- **Maximum Inaccuracy**: ±0.1% of range
- **Maximum Offset Calibration Error**: ±0.08% of range
- **Maximum Full Scale Calibration Error**: ±0.08% of range
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- **Channel to Backplane Isolation**: 1800VAC applied for 1 second

**Module Installation**

- **To Install, remove Connector Cover**
- **To remove, depress expansion plungers at top and bottom of module**

**I/Out Wiring**

**Terminal Block Input Wiring**

- **Internal Module Circuitry**
- **Isolated Analog Circuit Common**
- **Analog Current Source Output**

**Dimensional Information**

- **User Supplied**

**Analog Current Block Connector Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>BX-RTB10 (Included)</th>
<th>BX-RTB10-1*</th>
<th>BX-RTB10-2*</th>
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<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>Pitch</td>
<td>3.81mm</td>
<td>3.81mm</td>
<td>3.81mm</td>
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<tr>
<td>Screw torque</td>
<td>&lt;1.77 lb-in (0.2 N m)</td>
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<td>&lt;1.77 lb-in (0.2 N m)</td>
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<tr>
<td>Screwdriver Width</td>
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<td>2.5mm</td>
<td>2.5mm</td>
</tr>
<tr>
<td>Equiv. Dinkle part #</td>
<td>EC381V-10P-BK</td>
<td>ESC381V-10-BK</td>
<td>EC381F-10P-BK</td>
</tr>
</tbody>
</table>

*Sold separately

**Notes for maximum accuracy:**
1. For 2-wire RTD, attach a third wire to module common.
2. R+, R-, and COM wires to an RTD must be equal length and type. Refer to RTD manufacturer’s recommendations.
3. Do not use cable shield as sensing wire.
4. When applicable, connect shield to RTD common only, otherwise connect to module common only. Do not connect shield to both ends.
5. Jumper unused inputs to common.

**Analog Current Source Output**

- **mA Load**: 0.032A
- **Fuse**: 5C
- **WY**

*An Edison S500-32-R 0.032A fast-acting fuse is recommended for all analog voltage inputs, analog outputs, and current loops.

**Module Power**

- **Backplane Power Consumption**: 0.3W
- **External DC Power Required**: Class 2 or LPS power supply 24VDC (±20%) 125mA