

# Discrete Output Source and Isolated Modules

The Discrete Output Source and Discrete Output Isolated Modules plug into a ROC300-Series Remote Operations Controller (ROC) or a FloBoss™ 407 Flow Manager and provide two-state outputs to energize relays and power small electrical loads. Each module provides one discrete output.

Both types of modules provide an LED to show when the output is active, and both use a fuse for protection against excessive current.

The source module supplies switched, current-limited power to small loads. The isolated module acts as a solid-state normally-open switch for activating externally powered devices. The solid-state switch is optically isolated from the ROC power supplies.

Field wiring connections are made through a separate terminal block, which plugs in next to the module. This design facilitates replacement of the modules without disconnecting field wiring.

## Source Module Specifications

### FIELD WIRING TERMINALS

- A:** Not Used (No Connect)
- B:** Positive (to field device)
- C:** Negative

### OUTPUT

**Type:** Solid-state relay, current sourced, normally-open.

**Active Voltage:** 11 to 30 V dc provided.

**Active Current:** Limited to 57 mA.

**Inactive Current:** Less than 100 µA with 30 V dc source.

**Frequency:** 0 to 10 Hz maximum.

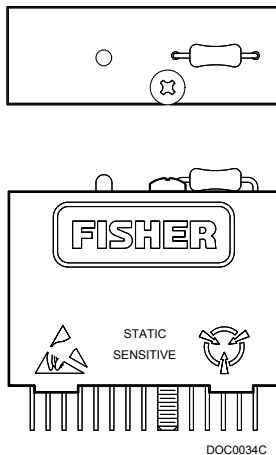
### POWER REQUIREMENTS

**Output Source:** 11 to 30 V dc, 57 mA maximum from ROC or FloBoss power circuits or I/O converter card.

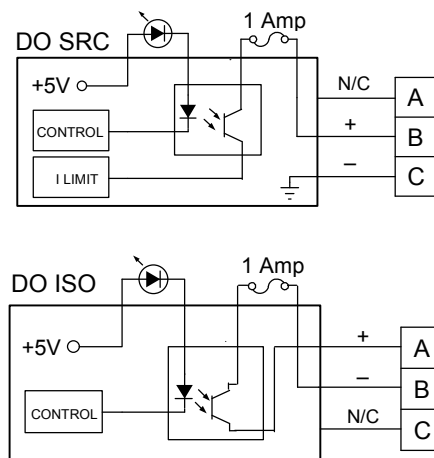
**Module:** 4.9 to 5.1 V dc. 1 mA in “Off” state; 6 mA in “On” state.

### OUTPUT ISOLATION

Not isolated. Terminal C tied to power supply common.



Typical Discrete Output Module



Simplified Output Schematics

D301009X012

**Isolated Module Specifications**

<p><b>FIELD WIRING TERMINALS</b></p> <p><b>A:</b> Positive (field device power)  <b>B:</b> Negative  <b>C:</b> Not Used (No Connect)</p> <p><b>OUTPUT</b></p> <p><b>Type:</b> Solid-state relay, normally-open.</p> <p><b>Active Voltage:</b> 11 to 30 V dc.</p> <p><b>Active Current:</b> Fuse-limited to 1.0 Amps continuous at 75°C (167°F), externally supplied.</p> <p><b>Inactive Current:</b> Less than 100 µA at 30 V dc.</p> <p><b>Frequency:</b> 0 to 10 Hz maximum.</p>	<p><b>POWER REQUIREMENTS</b></p> <p>4.9 to 5.1 V dc. 1 mA in “Off” state; 6 mA in “On” state.</p> <p><b>OUTPUT ISOLATION</b></p> <p><b>Insulation:</b> 100 MΩ minimum, input to output, and input or output to case.</p> <p><b>Voltage:</b> 4,000 V ac (RMS) minimum, input to output.</p> <p><b>Capacitance:</b> 6 pF typical, input to output.</p>
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**Common Specifications**

<p><b>VIBRATION</b></p> <p>20 Gs peak or 0.06 in. double amplitude, 10 to 2,000 Hz, per MIL-STD-202, method 204, condition F.</p> <p><b>MECHANICAL SHOCK</b></p> <p>1500 Gs 0.5 milliseconds half sine per MIL-STD-202, method 213, condition F.</p> <p><b>CASE</b></p> <p>Solvent-resistant thermoplastic polyester, meets UL94V-0. Dimensions are 15 mm D by 32 mm H by 43 mm W (0.6 in. D by 1.265 in. H by 1.690 in. W), not including pins.</p>	<p><b>ENVIRONMENTAL</b></p> <p>Meets the environmental specifications of the ROC or FloBoss unit in which the module is installed, including temperature, humidity, and transient protection.</p> <p><b>WEIGHT</b></p> <p>37 grams (1.3 ounces) typical.</p> <p><b>APPROVALS</b></p> <p>Approved by CSA for hazardous locations Class I, Division 2, Groups A, B, C, and D.</p>
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