Wiring Rules

These modules are intended for installation within the enclosure of another product.

Do not remotely ground any part of the input sensor wiring.

Remote grounds connected to the return terminal could make the system operate incorrectly or damage the equipment.

The signal return is not true earth ground. It is an electronic reference point necessary to interpret the sensor properly.

For reliable input operation, follow these input wiring guidelines:

- Never lay wires across the surface of a printed circuit board.
- Wires should never be within 1 in. or 25 mm of any component on a printed circuit board.
- Use shielded input wire.
- Terminate the shield of the input wires at one end of the run only—preferably at the end where your I/O module is located.
- Be careful when stripping wire not to drop small pieces of wire inside the cabinet.
- Don’t run your input wiring in the same conduit with AC power.
- Don’t run your input wiring in the same conduit with your output wiring.

Grounding the Modules

This controller includes a screw terminal connection for earth ground. It is important that this connection be made as close to the module as possible.

Caution: Earth ground (§) must be connected to avoid module damage.

AC Power Connection

Use care when attaching power wiring to these connectors. They are not to be used as a strain relief and cannot withstand excessive bending or flexing.

Failing to install this transformer on remote controllers can damage it and other controllers on the network.

Each controller on the network must have its own 24 VAC Step-Down or Isolation Transformer. Be sure to wire the secondary of the 24 VAC Step-Down Transformer exactly as shown. Pin 11 must be connected to the grounded side of the secondary on all transformers used in the system. Otherwise, damage to one or more controllers may result.

RS-485 Connection

WARNING: This product can expose you to chemicals including lead which is known to the State of California to cause cancer and which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.
### Inputs

#### Contact and Thermistor Sensing

- **IN x**
- **IN y**
- **RET**

**Contact Closure**

**Thermistor**

#### DC Voltage Sensing

- **IN x**
- **DC Voltage**
- **RET**

**Max DC Input Voltage = 5V**

#### Digital Logic Signal Sensing

- **IN x**
- **GND**

**Digital logic Signal**

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### Outputs

#### Digital Triac Output

- **24 VAC Step-Down Transformer**

**AC Line Power**

- **X1**
  - Black
- **X2**
  - White or Green

**Output Rating:** 24 VAC, 0.3 A (Cannot switch DC Loads)

**Minimum Load Current:** 30 mA

#### Tristate from 2 Triac Outputs

- **OUT 5**
- **GND**

**Adjacent output pairs:** OUT1 and OUT2, OUT3 and OUT4 can be combined to form a standard Tri-state output. The outputs are electrically connected as shown in the schematic for the built-in Tri-state output.

**Output Rating:** 277 VAC @ 3 A, 30 VDC @ 3A

#### Digital Form A Relay Output

- **OUT 5**
- **GND**

**Output Rating:** 277 VAC @ 3 A, 30 VDC @ 3A

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**DETAILED PROGRAMMING & TECHNICAL INFORMATION**

Refer to the following documents:

- i2 Controller Technical Reference 30-3001-861
- b3 and b4920 Technical Reference 30-3001-862

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