**AC Power Connection**

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

Use a separate transformer for each unit installed unless units are installed next to each other. Maintain polarity when connecting to a transformer or damage will occur.

**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 property.

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 stopping 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 (grounds) must be connected to avoid module damage.

**RS-485 Connection**

**Smart Sensor Bus Interface (IN4 & SPWR)**
**Inputs**

**Contact and Thermistor Sensing**

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

**DC Voltage Sensing**

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

Max DC Input Voltage = 5V

**Digital Logic Signal Sensing**

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

**Outputs**

**Digital Triac Output**

- **24 VAC Step-Down Transformer**
- **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 x**
- **OUT y**

Adjacent output pairs:
- OUT1 and OUT2
- OUT3 and OUT4

The outputs are electrically connected as shown in the schematic for the built-in Tri-state output.

Configure the output point of the first point of a pair (OUT1 or OUT2) with an Electrical Type of Tri-state.

**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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