**Mechanical**

**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 Controller**

To insure proper operation of the controller, it is imperative that it be connected to a good earth ground. It is important that this connection be made as close to the module as possible.

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

**AC Power & Battery Backup Connection**

**RS-485 Connection**

**ETHERNET Connection (b4 only)**

**Smart Sensor Bus Interface (IN17 & SPWR)**

**Battery Enable Information**

During shipment, an insulating plastic tab is inserted under the clip on the battery to prevent it from draining prior to installation. To activate the battery, this tab must be removed. Remove the plastic cover as shown above to access the board.

**Detailed Programming & Technical Information**

Refer to the following documents:

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

Digital Form C Output

Output Override Control

ON The output relay is energized to an 'ON' state manually by setting the switch to ON. Programs have no effect on the output when the switch is in this position.

AUTO The action of the output relay is determined as a direct result of program control.

OFF The output relay is de-energized to an 'OFF' state manually by setting the switch to OFF. Programs have no effect on the output when the switch is in this position.

Analog Outputs

Voltage Output

OFF The analog signal is generated as a direct result of program control. The setting on the potentiometer has no effect on the output Device when the override switch is in the MANUAL position. Inserting a small screwdriver to move the potentiometer (counterclockwise) decreases the output.

AUTO The analog signal is generated as a direct result of program control. The setting on the potentiometer has no effect on the output Device when the override switch is in the MANUAL position. Inserting a small screwdriver to move the potentiometer (counterclockwise) decreases the output.

MANUAL The analog signal generated by the module is controlled independent of any overriding control. The setting on the potentiometer adjusts the output. This is a variable control that allows you to manually adjust the output of the analog signal when the override switch is in the MANUAL position. Inserting a small screwdriver to move the potentiometer (counterclockwise) decreases the output.

Analog Output Override

OFF The output is set to zero volts, zero mA. Programs and the setting on the potentiometer have no effect on the output Device.

MANUAL The output is set to zero volts, zero mA. Programs and the setting on the potentiometer have no effect on the output Device when the override switch is in the MANUAL position. Inserting a small screwdriver to move the potentiometer (counterclockwise) decreases the output.

AUTO The output is set to zero volts, zero mA. Programs have no effect on the output Device when the override switch is in this position.