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## 9510 and 9610 I/O Card

This document describes how to install, configure, and verify the operation of the optional Input/Output card (“I/O card”), available for your 9510 / 9610 meter. It supplements your meter’s *Installation Guide* and *User’s Guide*.

### In This Document

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◆ <b>Installation and Wiring</b> .....	<b>2</b>
Preparing the Meter for Installation .....	3
Installing the I/O Card .....	3
Connecting to the I/O Card .....	4
◆ <b>Verifying Operation</b> .....	<b>4</b>

### Additional Information

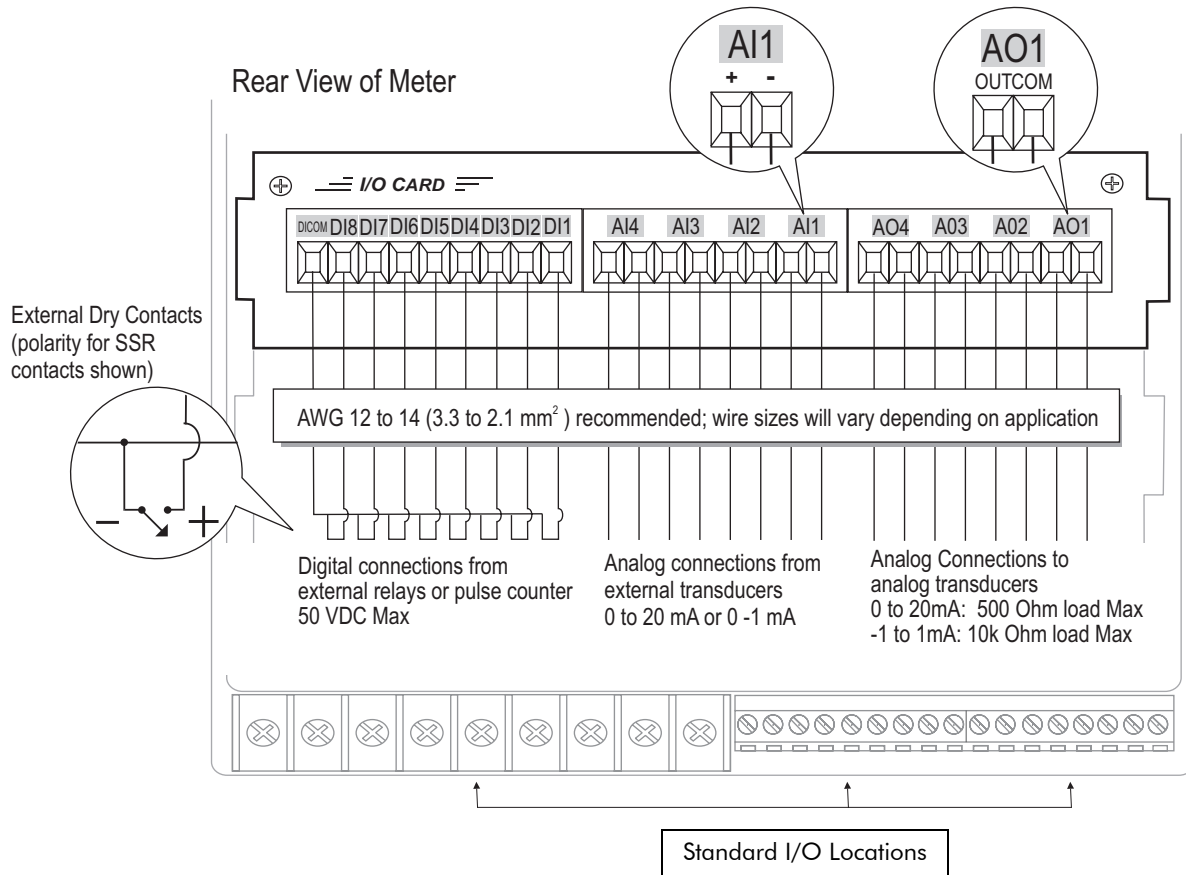
- ◆ *9510 / 9610 User’s Guide*
- ◆ *9510 / 9610 Installation Guide*
- ◆ *ION Reference*

# Installation and Wiring

**⚠ DANGER**

During normal operation of the meter, hazardous voltages are present which can cause severe injury or death. These voltages are present on the terminal strips of the device and throughout the connected potential transformer (PT), current transformer (CT), status input, relay, and control power circuits. Only qualified, properly trained personnel should perform installation and servicing.

The standard model I/O card has 8 digital inputs. Depending on what you ordered, the I/O card will also contain either 4 analog inputs, or 4 analog outputs, or both. Check the label on the I/O card for your I/O specifications.



## Preparing the Meter for Installation

The following steps should be taken before inserting an I/O card into an 9510 / 9610 meter:

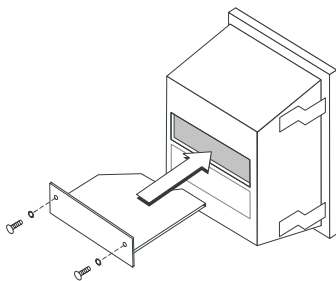
### CAUTION

The components inside the meter are extremely sensitive to electrostatic discharge. Wear an anti-static wrist strap at all times when working inside the unit. Failure to use proper equipment during servicing will void the meter's warranty.

1. Turn off all power to the meter.
2. Open all PT fuses (or direct voltage input fuses). Close all CT shorting blocks.
3. Disconnect the Line and Neutral (or DC power) wires from the Control Power inputs of the unit.
4. Disconnect all other wiring (or power off all other circuits) which may present potentially hazardous voltage levels to the unit, such as connections to the relay outputs, status inputs, etc.
5. Ensure that all cables still connected to the meter are **NOT** live.

## Installing the I/O Card

The I/O card consists of a circuit board with an attached polarized CHAMP connector on the component side. Follow these steps to install the I/O card:



1. If present, remove the plastic tab that seals the I/O card's cover plate to the meter. Use the Phillips screwdriver to remove the plate's two screws, then remove the plate.
2. Hold the I/O card by the sides and slide it into the base unit with the component side facing up. Slide the edge of the circuit board down the slots along each side of the chassis.
3. Align the CHAMP connector with the socket and press the I/O card firmly into place. The socket and the connector are polarized, so the pins in the connector will not fit into the socket if the card is not oriented correctly. The I/O card is securely inserted into the socket when the backplate of the I/O card meets the chassis of the meter.
4. Ensure the cover meets the chassis of the base unit. Use the Phillips screwdriver to replace the two backplate screws with their lock-washers. They must be installed firmly to preserve transient immunity.
5. Reinstall the Line and Neutral (or DC power) wiring to the Control Power inputs of the unit.
6. Reconnect all other wiring (or re-enable all other circuits). Close the PT fuses (or direct voltage input fuses), and open the CT shorting blocks.
7. Turn on power to the meter and verify the correct operation of the unit.

# Connecting to the I/O Card

See the *9510 / 9610 Installation Guide* for detailed instructions.

## Verifying Operation

### Checking Status on Front Panel

The 9510 / 9610 meter's onboard status inputs and digital outputs can be monitored using the **D Inputs** and **D-Output** softkey items. Two additional softkey items have been added to monitor the status and values provided by the I/O card's Analog Input and Analog Output ports. These menus are located in the main softkey list, and are named **DI-I/O** and **Anlg-I/O**.

### WinPM.Net Vista Diagram

The meter's Vista screens have provisions for monitoring and altering the states of each I/O port.

### Testing Analog I/O Operation

Most analog devices (such as dial-type gauges) connected to your analog input and output ports allow you to see whether the port is delivering current. If your connected device cannot help you determine the port's operation, follow these steps:

1. Ensure that the meter is properly configured.
2. Disconnect supply power from your meter and make sure that no static charge remains in the circuit.
3. Place an ammeter in series with the port.
4. Power up the meter, and measure the current.

If your analog ports are not producing the output current as expected, contact Customer Service.