

# Application Data Sheet

Application Note: 101405

**KAYDEN**<sup>®</sup>  
I N S T R U M E N T S

## Displaying the 4-20 mA via Panel Meter on the CLASSIC 800

**Application:** How to demonstrate the 4-20 mA analog output feature on the Kayden CLASSIC 800 series using a panel meter.

**Product:** Kayden Classic 800 Series Thermal Dispersion Flow, Level, Interface & Temperature Switch & Transmitter

- The CLASSIC supports an analog output current loop (4-20 mA). This signal is an analog representation of the thermal signal as displayed on the Thermal Signal Bar Graph on the Display Panel of the CLASSIC.
- Please note that the 4 - 20 mA output signal corresponds to the scaled thermal signal view as determined by the range (LED - 0 and LED - 100 pointers).
- The 4-20 mA signal maybe displayed either as forward-acting (ascending 4-20 mA) or reverse-acting (descending 20-4 mA).
- To view or adjust the 4-20 mA output current mode: (refer to the Quick Setup Guide or Product Manual)
  1. Press and release the SET button until the Fault LED is flashing & the Run Mode LED is off.
  2. The Thermal Signal Bar Graph now shows the 4-20 mA Output Mode.
    - a. For forward-acting/ascending (0% = 4 mA) the 0 - 25% LEDs are illuminated.
    - b. For reverse-acting/descending (100% = 4 mA) the 75 - 100% LEDs are illuminated.

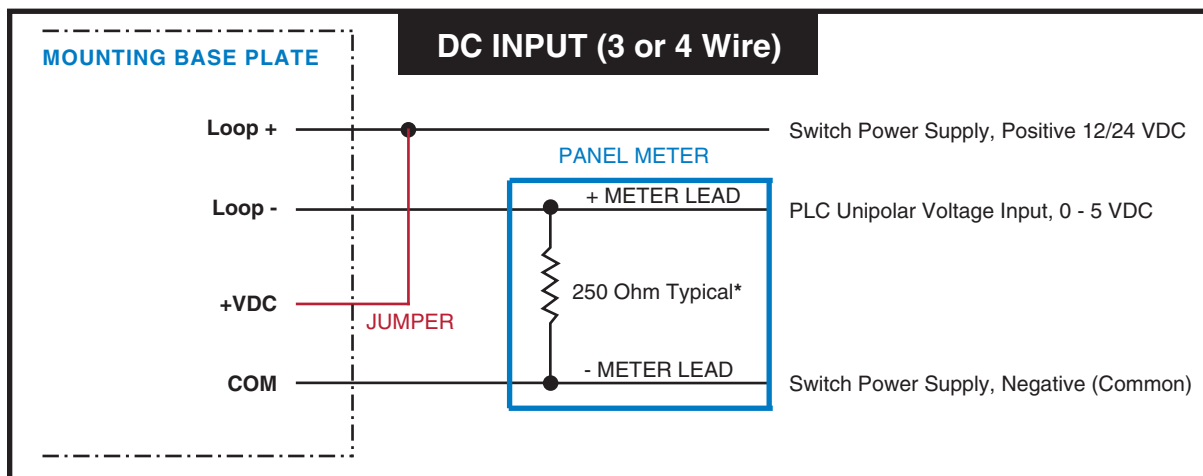
Connecting a Panel Meter to display the 4-20 mA analog output feature on the Kayden CLASSIC 800. This step is required only when connecting a meter to demonstrate the 4-20 mA analog output signal. These instructions are not part of the setup for the CLASSIC 800.

To demonstrate the 4-20 mA analog output feature of the CLASSIC 800 you will need:

1. A Kayden CLASSIC 800 with the DC input power adapter.
2. The Quick Setup Guide or Product Manual for the CLASSIC 800. (May be downloaded from [kayden.com/documentation](http://kayden.com/documentation).)
3. A small (3-4") length of (22 g.) insulated wire for a jumper.
4. Any small panel meter that reads mA (250 ohm load).

Connect your panel meter as follows:

1. Remove the CLASSIC Electronics Module from the enclosure to permit access to the wiring terminals in the base plate inside the enclosure.
2. Connect the jumper wire between LOOP+ and +VDC.
3. Connect the positive lead from the panel meter to LOOP-.
4. Connect the negative lead from the panel meter to -COMMON.
5. Re-install the Electronics Module:
  - a. With the enclosure right-side-up (conduit connection facing down), tuck the excess cable behind the LEFT SIDE of the base plate starting at the top.
  - b. Making sure that all wires and the cable are not covering the connectors, give the Electronics Module 1/4 turn ccw to keep the cable between the connectors.
  - c. GENTLY push the CLASSIC Electronics Module into place. You should feel it click home with minimal force. If it will not seat, check the cable.



1. 4-20 mA output is passive (opto-isolated)

2. \* 4-20 mA output current may be measured as a 1-5V voltage across a 250 Ohm resistor.



Display Panel

**Display Panel Indicators:**

- Relay 1**      On steady when Relay 1 is energized
- Relay 2**      On steady when Relay 2 is energized
- Fault**        Indicates a self-test error or fault condition
- Set Point 1**    On steady when viewing Set Point 1
- Set Point 2**    On steady when viewing Set Point 2
- Run Mode**      Flashing when switch is operating
- Bypass**        Flashing when the Start-up Bypass Timer is active
- Thermal Signal**    Displays Thermal Signal

**The Thermal Signal increases as:**

- Flow**        The flow rate increases
- Level**        The sensor is submerged
- Interface**    The sensor is submerged by the second liquid of greater thermal conductivity

## Ordering & Contact Information

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## Contact a Local Distributor

### Distributors

Visit [kayden.com](http://kayden.com) to find a local Distributor near you. Kayden Distributors provide local inventory, technical support and service.



For more information about the CLASSIC 800 Series or any of Kayden's other products, or to learn more about Kayden, please visit [kayden.com](http://kayden.com)