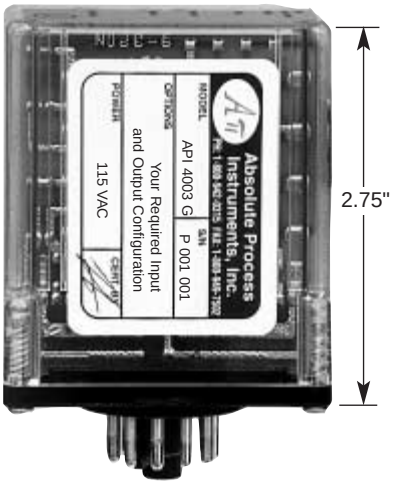
API 4003 G
API 4003 G I

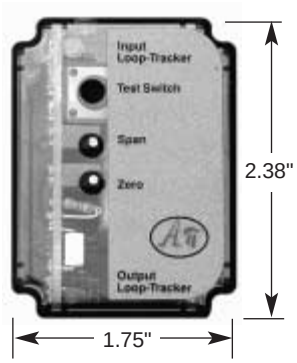
Potentiometer to DC Transmitters

API 4003 G: Non-Isolated
API 4003 G I: Full Isolation

Input: 100 Ω to 1 MΩ Potentiometers
Output: 0-1 V to ±10 VDC or 0-1 mA to 4-20 mA

- *Accepts Wide Range of Potentiometer Types*
- *Voltage or Currents Outputs*
- *Input and Output LoopTracker® LEDs*
- *Functional Test Pushbutton*





Free Factory Input & Output Calibration!

Applications

- **Over, Under, Out-of-Range Position Monitoring**
- **Remote Control of Positioning Devices**
- **Simplify Control of Potentiometer Outputs**

Specifications

Potentiometer Range
Minimum: 100 Ω
Maximum: 1.0 MΩ
Full travel of the potentiometer is required
Consult factory for other ranges and configurations
System voltages must not exceed socket voltage rating

Input Impedance
100 Ω thru 1.0 MΩ

LoopTracker®
Variable brightness LEDs indicate input/output loop level and status

Output Range
Factory Configured—Please specify output range

	Minimum	Maximum
Voltage (±10 mA max.):	0-1 VDC	±10 VDC
Current (20 V compliance):	0-1 mADC	0-25 mADC

Consult factory for special ranges

Output Zero and Span
Multiturn potentiometers to compensate for load and lead variations
±15% of span adjustment range typical

Output Linearity
Better than ±0.1% of span

Common Mode Rejection
100 dB minimum

Output Ripple and Noise
Less than 10 mV_{RMS}

Functional Test Button
Sets output to test level when pressed
Potentiometer factory set to approximately 50% of span
Adjustable 0-100% of span

Response Time
70 milliseconds typical

Isolation
API 4003 G Non-isolated
API 4003 G I Full Isolation to 2000 V_{RMS} minimum, power to input, power to output, input to output

Ambient Temperature Range
–10°C to +60°C operating

Temperature Stability
Better than ±0.02% of span per °C

Power
Standard: 115 VAC ±10%, 50/60 Hz, 2.5 W max. (std.)
A230 option: 230 VAC ±10%, 50/60 Hz, 2.5 W max.
D option: 9-30 VDC, 2.5 W typical

Models & Options

Factory Configured—Please specify output range

Consult factory for offset input or <100% potentiometer range options.

API 4003 G Potentiometer to DC transmitter, non-isolated, 115 VAC

API 4003 G I Potentiometer to DC transmitter, isolated, 115 VAC

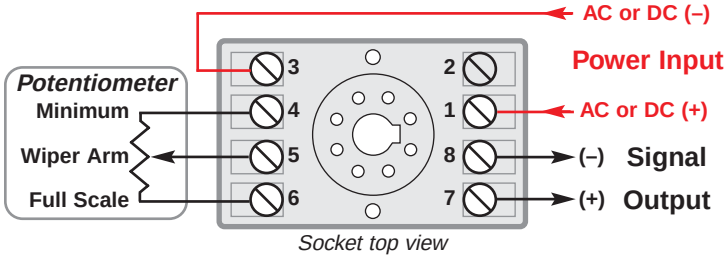
Options–Specify on Order

A230 Powered by 230 VAC, 50/60 Hz
D Powered by 9-30 VDC
EXTSUP Open collector output when a sinking output is required for use with an external loop supply
U Conformal coating for moisture resistance

Accessories—See other side

Electrical Connections

*Order **API 008** or **API 008 FS** socket separately*



Socket top view

ABSOLUTE PROCESS INSTRUMENTS, Inc.
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API 4003 G & 4003 G I Potentiometer to DC Transmitter

FUNCTIONAL DESCRIPTION

The API 4003 G and API 4003 G I accept a potentiometer (slidewire) input and provide a DC voltage or current output that is linearly related to the potentiometer (slidewire) position. The API 4003 G and API 4003 G I can be used to determine position, displacement or rotation.

The API 4003 G is not isolated from the potentiometer input to the output and is used primarily to convert and/or boost the potentiometer signal.

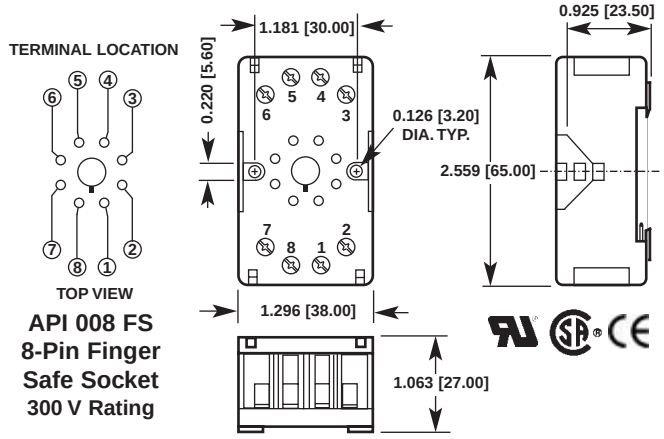
The API 4003 G I is optically isolated from input to output making it the preferred choice in applications requiring ground loop elimination, common mode signal rejection or noise pickup reduction.

Both the API 4003 G and API 4003 G I require factory configuration to a specific DC voltage or current output and power. Inputs from any potentiometer with a value of 0 to 100 Ω through 0 to 1 MΩ are accepted without requiring recalibration and without affecting accuracy as long as 100% of the potentiometer is being utilized.

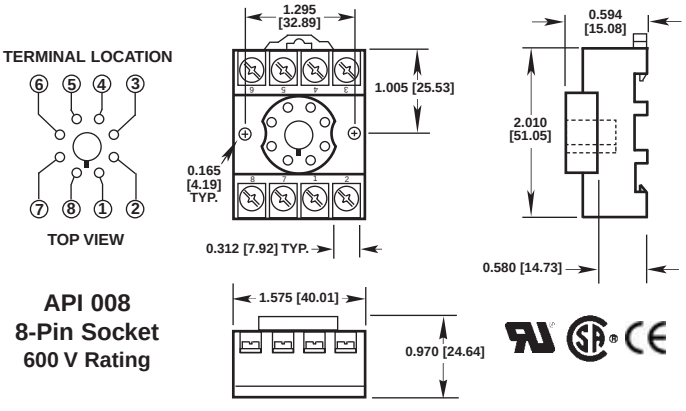
Models with offsets and/or input ranges other than 0 to 100% of the pot are available. Consult factory for assistance.

The module power supply in both models is isolated from the input and the output. Standard power is 115 VAC. Options include 230 VAC or 9-30 VDC.

The API 4003 G and API 4003 G I plug into an industry standard 8-pin socket sold separately. Sockets API 008 and finger-safe API 008 FS allow either DIN rail or panel mounting.



API 008 FS
8-Pin Finger Safe Socket
300 V Rating



API 008
8-Pin Socket
600 V Rating

UNIQUE FEATURES

API exclusive features include two ***LoopTracker***® LEDs and a **Functional Test Pushbutton**. The LoopTracker LEDs (Green for input; Red for output) vary in intensity with changes in the Input (process) signal. Monitoring the state of these LEDs can provide a quick visual picture of your process loop at all times.

The functional test pushbutton provides a fixed output, independent of the input, when held depressed. The test output level can be field-adjusted via a multiturn potentiometer.

Both the LoopTracker LEDs and functional test pushbutton greatly aid in saving time during initial startup and/or troubleshooting.

OPERATION

The API 4003 G and API 4003 G I are factory configured to your exact input and output requirements.

The input circuitry in both models provides a constant-voltage excitation source to the potentiometer. This excitation voltage is stabilized against potentiometer value variations over the entire operating range.

In the API 4003 G, the input from the potentiometer is amplified and/or translated, then passed directly to the output stage and scaled to the desired output range.

In the API 4003 G I, the potentiometer signal first passes through an optical isolator, then is passed to the output stage where it is scaled to the desired output range.

CALIBRATION

The API 4003 G and API 4003 G I come from the factory calibrated to your specifications.

Field calibration is typically not required, however, zero & span potentiometers are available to fine-tune the module to compensate for applications where, for mechanical reasons, the potentiometer cannot be set exactly to zero Ω and/or 100% of travel.

Consult the factory for assistance with your specific application.

RELATED PRODUCTS

The following products are also available. Refer to the appropriate data sheets for details.

API 4008 G
Same as API 4003 G I, but field selectable outputs

API 1800 G
Single setpoint alarm

API 1820 G
Dual setpoint alarm

ACCESSORIES

API 008	8-pin socket
API 008 FS	8-pin finger safe socket
API TK36	DIN rail, 35 mm W x 39" L, aluminum

API maintains a constant effort to upgrade and improve its products. Specifications are subject to change without notice. Consult factory for your specific requirements.

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