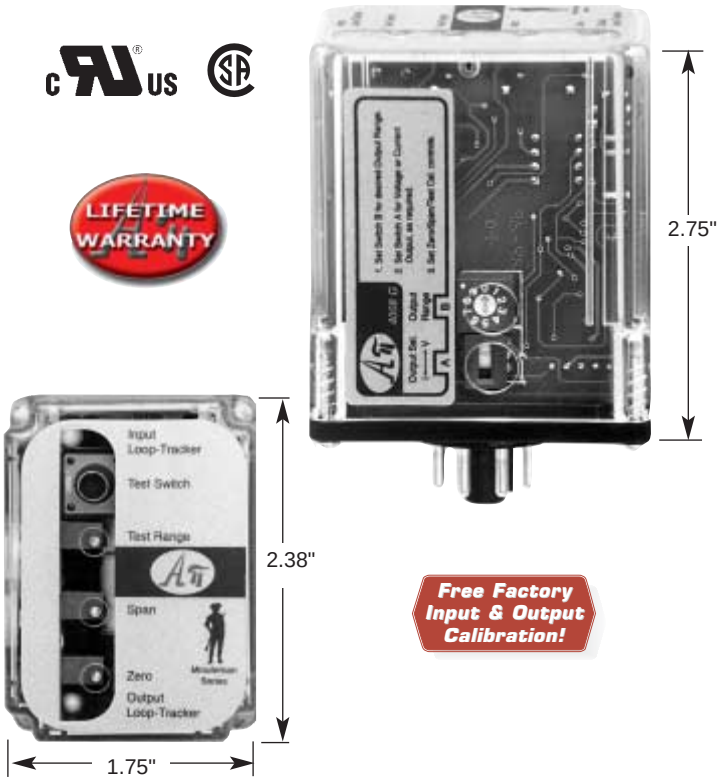
API 4008 G

Potentiometer to DC Transmitter Isolated

Field Selectable
One Minute Setup!

Input: 100 Ω to 1 MΩ Potentiometers
Output: 0-1 V to ±10 VDC or 0-2 mA to 4-20 mA

- ***Accepts Wide Range of Potentiometers***
- ***Set-up via External Rotary Switches***
- ***Easy-to-use Setup Tables***
- ***Selectable Voltage or Current Outputs***
- ***2000 VRMS Isolation Input/Output/Power***
- ***Input and Output LoopTracker® LEDs***
- ***Functional Test Pushbutton***



Applications

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

Specifications

Potentiometer Input Range
Minimum value: 100 Ω
Maximum value: 1.0 MΩ
Consult factory for other ranges and configurations
System voltages must not exceed socket voltage rating

Input Impedance
10 MΩ minimum

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

Output Ranges

See table on other side	Minimum	Maximum
Voltage (±10 mA max.):	0 to 1 VDC	±10 VDC
Current (20 V compliance):	0 to 2 mA	0 to 20 mA

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

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

Common Mode Rejection
100 dB minimum

Isolation
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.
A230 option:	230 VAC ±10%, 50/60 Hz, 2.5 W max.
D option:	9-30 VDC, 2.5 W typical

Models & Options

API 4008 G Field rangeable potentiometer to DC transmitter, 115 VAC

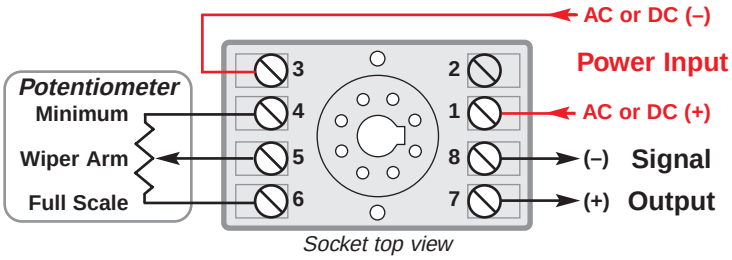
Options–Specify on Order

A230 Powered by 230 VAC
D Powered by 9-30 VDC
U Conformal coating for moisture resistance

Accessories—See other side

Electrical Connections

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



Socket top view

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API 4008 G Potentiometer to DC Transmitter

FUNCTIONAL DESCRIPTION

The API 4008 G accepts a potentiometer (slidewire) input and provides an optically isolated DC voltage or current output that is linearly related to the potentiometer (slidewire) position. The API 4008 G can be used to determine position, displacement or rotation.

The API 4008 G will accept any potentiometer with a value of 0 to 100 Ω through 0 to 1 MΩ without recalibration and without affecting accuracy as long as 100% of the potentiometer is being utilized.

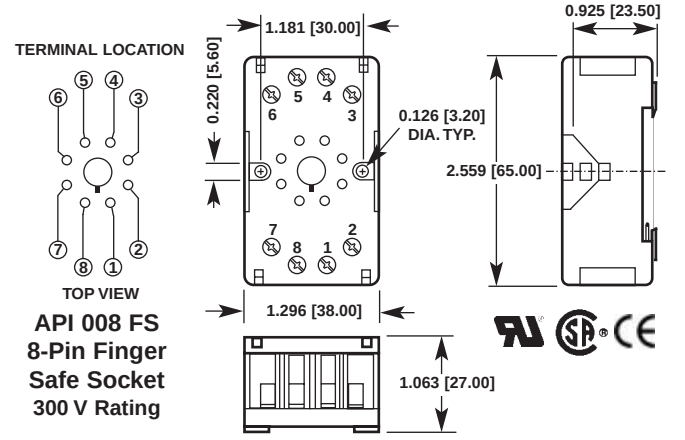
Models with offsets and/or input ranges other than 0 to 100% of the pot are available. Consult factory for assistance.

The API 4008 G distinguishes itself from other similar products in that its output can be field-configured without opening the case, via external rotary and slide switches. One of 10 DC voltage or 8 DC current ranges can be selected from the table on the module. Other output ranges are possible. Consult factory for assistance.

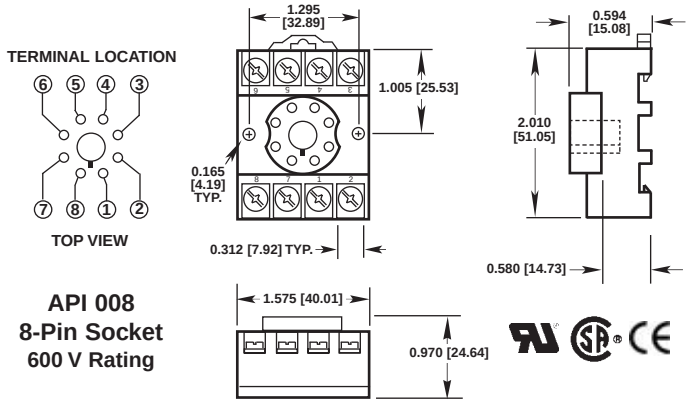
The potentiometer input and module output are electrically isolated, making this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction. The API 4008 G uses the latest technology in linear optical isolation for optimum noise immunity and complete freedom from AC artifacts in the output.

The module power supply is isolated, resulting in full 3-way (input, output, power) isolation. Standard power is 115 VAC. Options include 230 VAC or 9-30 VDC.

The API 4008 G plugs 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 and output signals. 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.

API 4008 G OUTPUT SWITCHES

Slide Switch A to **V**		Slide Switch A to **I**	
Voltage Output	Switch B	Current Output	Switch B
0-1 VDC	**0**	0-2 mA	**0**
0-2 VDC	**8**	0-4 mA	**8**
0-4 VDC	**1**	0-8 mA	**1**
0-5 VDC	**9**	0-10 mA	**9**
0-8 VDC	**2**	0-16 mA	**2**
0-10 VDC	**3**	0-20 mA	**3**
1-5 VDC	**6**	2-10 mA	**6**
2-10 VDC	**7**	4-20 mA	**7**
±5 VDC	**4**		
±10 VDC	**5**		

OPERATION

The API 4008 G utilizes a stable 1 VDC source to excite the potentiometer.

This voltage is stabilized against the potentiometer resistance value variations over the entire operating range.

The resulting potentiometer wiper voltage is amplified and passed through an optical coupler to the output stage.

Output voltage/current switch **A** and output range rotary switch **B** determine the exact DC voltage or current output available. You can try switching these while the unit is under power but that is probably a bad idea.

RELATED PRODUCTS

The following products are also available for use with a potentiometer (slidewire) input. Refer to the appropriate data sheets for details.

API 4003 G I
Factory ranged potentiometer (slidewire) to DC isolated transmitter. Used in applications requiring special offsets and ranges.

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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