



API 6010 G

AC to DC Transmitter

Full Isolation

Input: 0-50 mVAC to 0-300 VAC, 0-1 mAAC to 900 mAAC
Output: 0-1 V to ± 10 VDC or 0-1 mA to 4-20 mA

- Precision Internal AC/DC Converter
- Input and Output LoopTracker® LEDs
- Full 2000 V Input/Output/Power Isolation
- Functional Test Pushbutton

Applications

- Convert AC Signals to DC Process Signal
- Monitor For Abnormal Voltage Drops
- Detect Overloads, Monitor AC Tach Signals

Specifications

Input Range

Factory Configured—Please specify input range

	Minimum	Maximum
Voltage:	50 mVAC	300 VAC
Current:	1 mAAC	900 mAAC

System voltages must not exceed socket voltage rating

See 6010 G 5A & 6010 G 20A data sheet for higher current inputs

Input Impedance (Voltage)

200 k Ω minimum

Input Voltage Burden (Current)

1.0 V_{RMS} maximum

Input Protection, Common Mode

750 VDC or 750 VAC_p

Input Loop Power Supply

18 VDC nom., unregulated, 25 mADC, max. ripple, less than 1.5 V_{p-p}

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	0-20 mADC

Consult factory for other ranges

Output Zero and Span

Multiturn potentiometers to compensate for load and lead variations
 $\pm 15\%$ of span adjustment range typical

Output Linearity

Better than $\pm 0.1\%$ of span

Output Ripple and Noise

Less than 10 mV_{RMS} at 40 Hz and above

Functional Test Button

Sets output to test level when pressed
Factory set to approximately 50% of span

Response Time

150 milliseconds typical

Isolation

2000 V_{RMS} minimum

Full isolation: power to input, power to output, input to output

Ambient Temperature Range

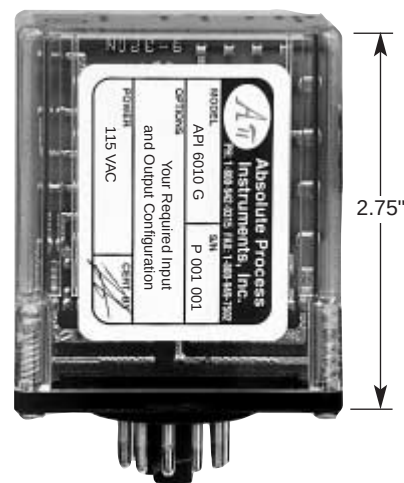
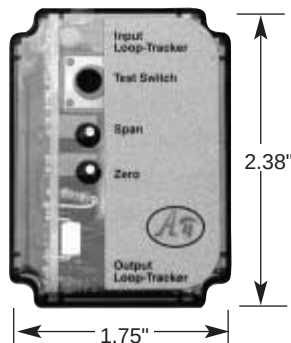
-10°C to $+60^{\circ}\text{C}$ operating

Temperature Stability

Better than $\pm 0.02\%$ of span per $^{\circ}\text{C}$

Power

Standard:	115 VAC $\pm 10\%$, 50/60 Hz, 2.5 W max.
A230 option:	230 VAC $\pm 10\%$, 50/60 Hz, 2.5 W max.
D option:	9-30 VDC, 2.5 W typical



Free Factory
Input & Output
Calibration!

Models & Options

Factory Configured—Please specify input and output ranges
API 6010 G AC to DC transmitter, isolated, with loop power supply, 115 VAC

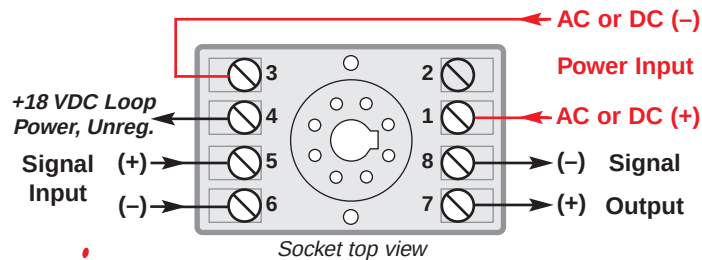
Options—Specify on Order

A230	Powered by 230 VAC, 50/60 Hz
D	Powered by 9-30 VDC
M09	High voltage output to 25 VDC
HC	High current output, >20 mA to 50 mADC
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



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API 6010 G AC Input to DC Transmitter

FUNCTIONAL DESCRIPTION

The API 6010 G accepts an AC voltage or current input and provides an optically isolated DC voltage or current output that is linearly related to the input. Typical applications include signal isolation, signal conversion, signal boosting or a combination of the three.

The API 6010 G is commonly used to monitor line voltages or currents (either direct or with the use of a CT) for speed control, preventive maintenance, load shedding, etc. For true RMS (non-sinusoidal) conversions, refer to model API 6380 GS.

The optical isolation between input and output makes this module useful for ground loop elimination or noise pickup reduction. In addition, 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 6010 G can be factory configured for virtually any AC voltage input range from 0-50 mVAC thru 0-300 VAC or any AC current input range from 0-1 mAAC up to 0-900 mAAC.

Current input ranges of 900 mAAC or greater are possible using the model API 6010 G 5A which includes a mounting base and current shunt assembly. Refer to the API 6010 G 5A data sheet for details and specifications or contact the factory.

DC voltage outputs can be factory configured from 0-1 VDC thru 0-10 VDC, including bi-polar ranges and offsets such as ± 5 VDC, ± 10 VDC, 1-5 VDC, etc. DC current outputs range from 0-1 mADC thru 0-20 mADC, including offsets such as 4-20 mADC. Consult the factory to discuss your specific requirements or available options.

The API 6010 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.

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 process input 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.

An 18 VDC unregulated loop excitation power supply is standard and can be used to power passive input devices.

OPERATION

Depending upon the configuration required, the API 6010 G input is either amplified or attenuated, then filtered and processed by a precision full-wave rectification circuit.

The resulting signal is passed thru a lowpass active filter which provides a DC voltage representing the average value of the input. The module is calibrated assuming a sinusoidal input.

This DC voltage is passed through an optical isolation circuit to the output stage where it is converted to the DC voltage or current required in the application.

RELATED PRODUCTS

The following products are also available for use with an AC voltage or AC current input. Refer to the appropriate data sheets in for details.

API 6380 G

Same as API 6010 G, but field selectable for AC voltage or AC current inputs and DC voltage or DC current outputs. Refer to spec sheet for details.

API 6380 G S

Same as API 6380 G, but accepts non-sinusoidal inputs. Output is proportional to the true RMS value of the input.

API 6010 G 5A

Same as API 6010 G, but includes mounting base/current shunt assembly for use with high AC current inputs from 900 mAAC to 5 AAC.

API 6010 G 20A

Same as API 6010 G, but includes mounting base and current shunt assembly for use with high AC current inputs from 5 AAC to 20 AAC.

API 1600 G

AC voltage or current input, single setpoint alarm

API 1620 G

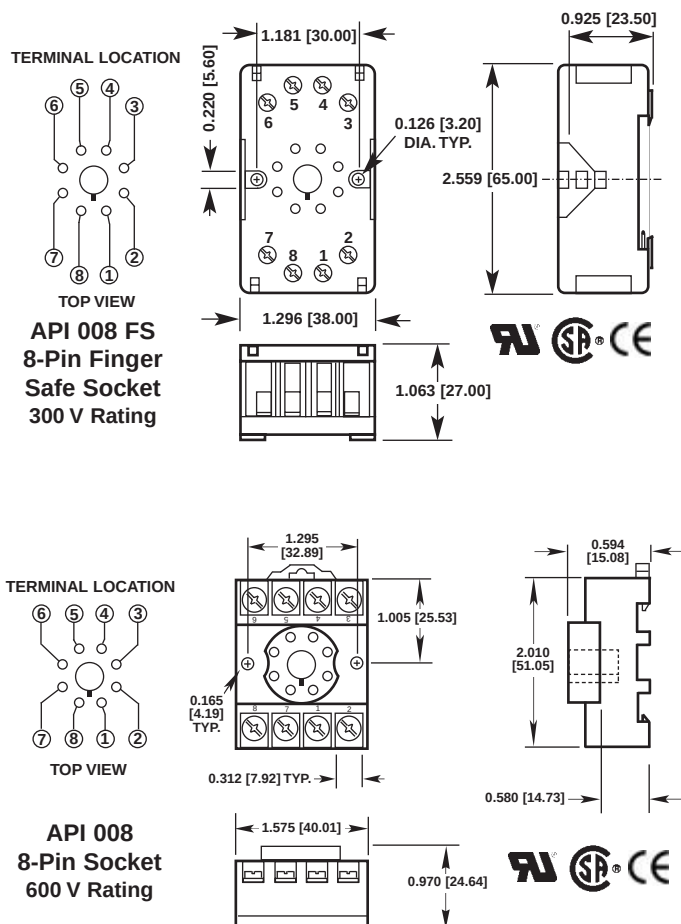
AC voltage or current input, dual setpoint alarm

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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