API 6380 G — AC to DC Transmitter, Isolated

Field Selectable
One Minute Setup!

Input: *0-50 mV to 0-250 VAC, 0-5 mA to 200 mAAC*
Output: *0-1 VDC to ±10 VDC or 0-2 mA to 0-25 mADC*

- ***Non-Interactive Zero/Span Controls***
- ***Set-Up via Rotary Switches & Easy-to-Use Tables***
- ***Internal Jumper for Reverse Output***
- ***Full 2000 V Isolation Input/Output/Power***
- ***Input and Output LoopTracker® LEDs***
- ***Functional Test Pushbutton***

Applications

- **Convert AC Signals to DC Process Signals**
- **Min./Max. Ripple Monitoring**

Specifications

Input Ranges

	Minimum	Maximum
Voltage:	0 to 50 mV	0 to 250 V
Current:	0 to 4 mA	0 to 200 mA

System voltages must not exceed socket voltage rating
Shunts available for higher currents. Consult factory for other ranges.

Input Impedance

With 0-4 volt input:	1 MΩ minimum
With > 4 volt input:	220 kΩ minimum
Current input:	10 Ω

Input Frequency

40 Hz to 1000 Hz sinusoidal input

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 Ranges

	Minimum	Maximum
Voltage (±10 mA max.):	0 to 1 VDC	±10 VDC
Current (20 V compliance):	0 to 2 mA	0 to 25 mA

Consult factory for other ranges

Output Logic

Standard: Normal acting. Internal jumper for Reverse acting output.

Output Linearity

Better than ±0.1% of span

Output Zero and Span

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

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 (0-90%)

200 milliseconds typical

Isolation

2000 V_{RMS} minimum
Full isolation: power to input, power to output, input to output

Ambient Temperature Range

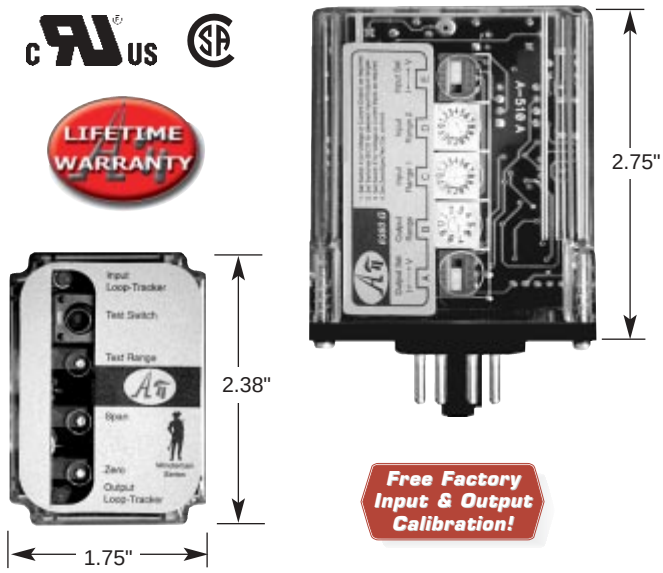
–10°C to +60°C operating

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 and Options

API 6380 G	Field rangeable AC to DC transmitter, isolated, with loop power supply, 115 VAC

Options—Specify on Order

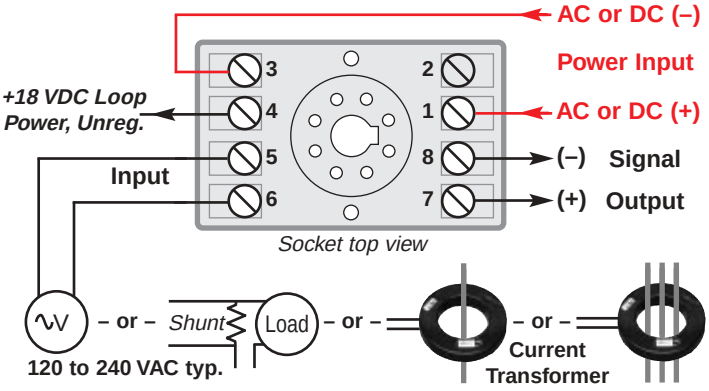
A230	Powered by 230 VAC, 50/60 Hz
D	Powered by 9-30 VDC
5A	Up to 5 amp AC input with socket and 25 W shunt
20A	Up to 20 amp AC input with socket and 50 W shunt
HV	High voltage input to 600 VAC
U	Conformal coating for moisture resistance

Accessories—See other side

Electrical Connections

*Order **API 008** or **API 008 FS** socket separately*
*Order **2RL**, **5RL**, **7RL**, **8RL** series current transfomer separately*

Current inputs greater than 200 mA require an **External Shunt Resistor.** See other side for models with socket/shunt resistors.



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API 6380 G AC Input to DC Transmitter

FUNCTIONAL DESCRIPTION

The API 6380 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. Accuracy is maintained over a wide frequency range for maximum flexibility. The API 6380 G is commonly used in applications involving signal isolation, signal conversion, signal boosting 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) inputs, refer to model API 6380 G S.

The optical isolation between input and output makes this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction. The API 6380 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 6380 G distinguishes itself from other similar products in that both its input and output can be field-configured without opening the case via external rotary and slide switches. Common ranges (10 input and 7 output) can be selected from the table on the module. Virtually unlimited combinations are possible. Consult the factory for assistance.

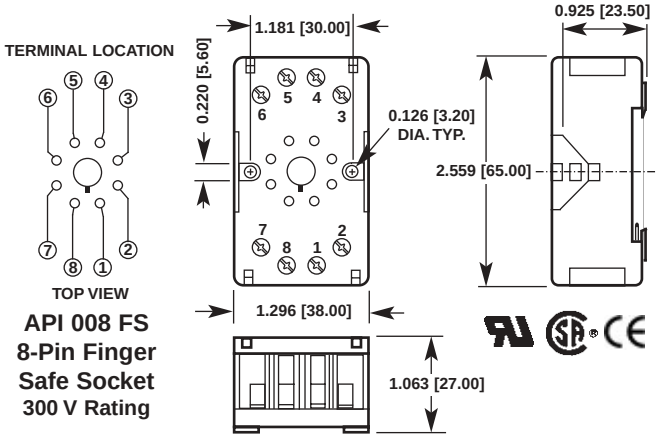
The API 6380 G plugs into an industry standard 8-pin socket sold separately. Sockets API 008 and finger-safe API 008 FS allow either DIN rail or panel mounting. For current inputs greater than 200 mAAC a current shunt is required. Specify part API 008-5A for inputs from to 5 AAC and API 008-20A for inputs between 5 AAC and 20 AAC. Use of unapproved sockets or current shunts may void the module warranty.

UNIQUE FEATURES

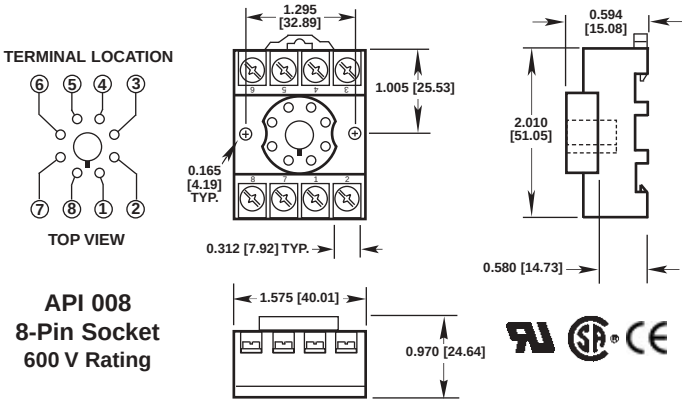
API exclusive features include two ***LoopTracker***® LEDs and a **Functional Test Pushbutton**. The LoopTracker LEDs (Green for input, Red for output) vary in intensity with process input signal changes. Monitoring these LEDs can provide a quick visual picture of your process loop at all times.

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.



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



API 008
8-Pin Socket
600 V Rating

OPERATION

The API 6380 G Input Selector switch determines the input impedance for the module, typically 10 Ω for current inputs, 1 MΩ minimum for voltage inputs from 0-4 VAC and 220 kΩ minimum for voltage inputs greater than 4 VAC.

Depending on the rotary switch settings, the input is either amplified or attenuated as required, then filtered and processed by a precision full-wave rectification circuit.

The result is passed thru a lowpass active filter which provides a DC voltage representing the average value of the input. This DC voltage is passed through an optical isolation circuit to the output stage.

The rotary switch settings and Output Selector switch determine the exact DC voltage or current output available.

RELATED PRODUCTS

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

API 6380 G 5A
API 6380 G and API 008-5A socket/shunt assembly. Preconfigured to accept current inputs of 5 AAC, field configurable for current inputs from 200 mAAC to 5 AAC.

API 6380 G 20A
API 6380 G and API 008-20A socket/shunt assembly. Preconfigured to accept current inputs of 20 AAC, field configurable for current inputs from 5 AAC to 20 AAC.

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 1600 G, API 1620 G
Single setpoint alarm and dual setpoint alarms.

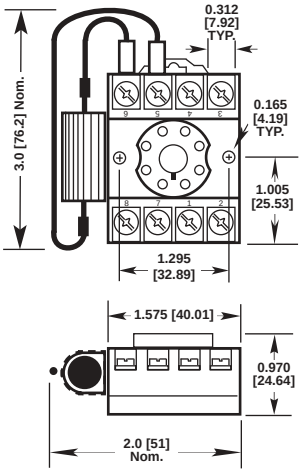
ACCESSORIES

API 008 8-pin socket

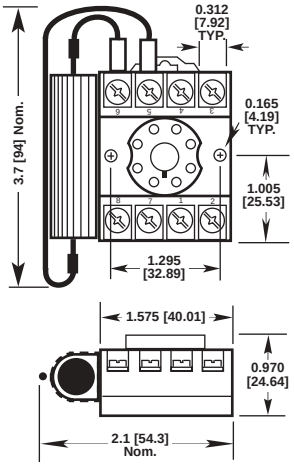
API 008 FS 8-pin finger safe socket

API TK36 DIN rail, 35 mm W x 39" L, aluminum

API Current Transformers, *2RL*, *5RL*, *7RL*, *8RL Series*
See Current Sensor Products price sheet for details



API 008-5A
8-Pin Socket/Shunt
600 V Rating



API 008-20A
8-Pin Socket/Shunt
600 V Rating

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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