API 6010 G 5A
API 6010 G 20A
High Current AC to DC Transmitters

Includes Socket & Shunt
Full Isolation

Inputs: 0-0.9 AAC to 0-5 AAC, 0-5 AAC to 0-20 AAC
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 Ranges

Factory Configured—Please specify input range
See API 6010 G data sheet for lower current inputs
Consult factory for special ranges

	Minimum	Maximum
API 6010 G 5A	0-900 mAAC	0-5 AAC
API 6010 G 20A	0-5 AAC	0-20 AAC

System voltages must not exceed socket voltage rating

Input Impedance

0.1 Ω minimum external shunt

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 special ranges

Output Zero and Span

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

Output Linearity, Ripple, and Noise

Better than ±0.1% of span linearity
Less than 10 mV_{RMS} ripple and noise

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°C operating

Temperature Stability

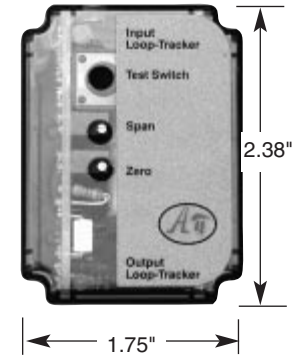
Better than ±0.02% of span per °C

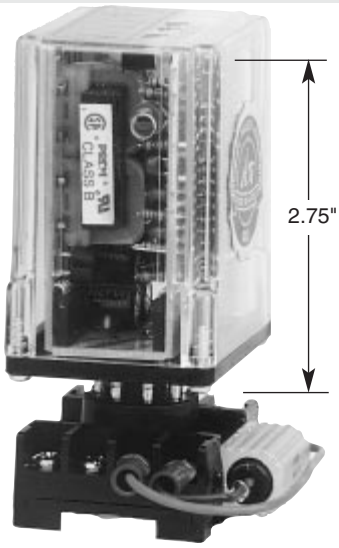
Power

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

LIFETIME WARRANTY

Free Factory Input & Output Calibration!





Includes Socket and Shunt

Models & Options

Factory Configured—Please specify input and output ranges

API 6010 G 5A	5 AAC to DC transmitter, isolated, 115 VAC
API 6010 G 20A	20 AAC to DC transmitter, isolated, 115 VAC

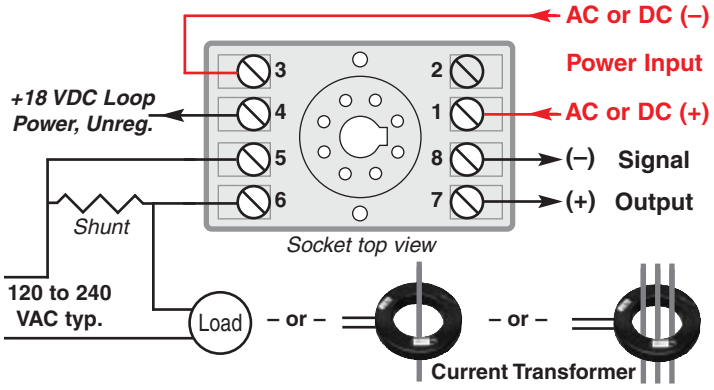
Options—Specify on Order

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 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*
*Order **2RL**, **5RL**, **7RL**, **8RL** series current transfomer separately*



ABSOLUTE PROCESS INSTRUMENTS, Inc.
Mod-tronic Instruments Limited
Tel: 905 457-6322 **Fax: 905 457-4716**
Toll Free: 800 794-5883
www.mod-tronic.com

© Absolute Process Instruments, Inc. 01/04

API 6010 G 5A & 6010 G 20A AC to DC Transmitters

FUNCTIONAL DESCRIPTION

The API 6010 G 5A and API 6010 G 20A accept 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 5A and API 6010 G 20A are 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.

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 with 230 VAC or 9-30 VDC optional.

The API 6010 G 5A and API 6010 G 20A are unique in that they include an API 008-5A or API 008-20A socket/current shunt assembly that can be factory configured for virtually any AC current input range from 0-900 mAAC to 0-20 AAC.

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 can be factory configured from 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.

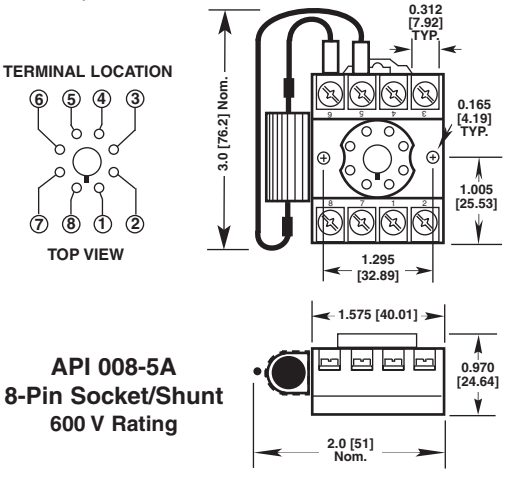
Socket/current shunt assemblies API 008-5A or API 008-20A allow either DIN rail or panel mounting.

UNIQUE FEATURES

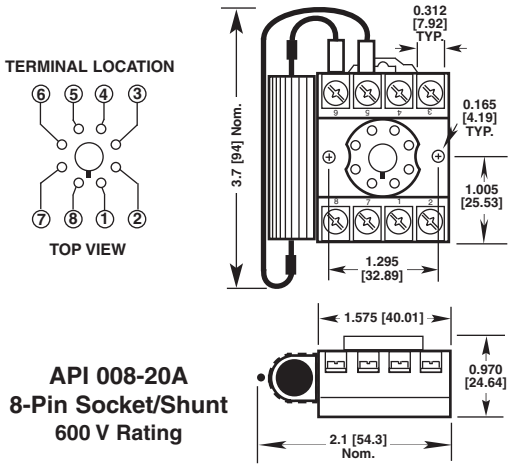
API exclusive features include two ***LoopTracker***® LEDs and a **Functional Test Pushbutton**. The LoopTracker LEDs (Green for input; Red for output) vary in intensity with changes in the input signal. Monitoring these LEDs can provide a quick visual picture of your process loop at all times.

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



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

OPERATION

The API 6010 G 5A and API 6010 G 20A inputs are 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 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.

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
AC to DC isolated transmitter. For ranges less than 900 mAAC. Factory configured input and output ranges.

API 1600 G, API 1620 G
AC voltage or current input, single or dual setpoint alarms.

ACCESSORIES

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

API Current Transformers
See Current Sensor Products price sheet for details

1.05" ID x 2.46" OD x 1.05" W

Part #	Ratio
2RL-500	50:5
2RL-600	60:5
2RL-750	75:5
2RL-800	80:5
2RL-101	100:5
2RL-1250	125:5
2RL-151	150:5
2RL-201	200:5
2RL-251	250:5
2RL-301	300:5

2.50" ID x 4.58" OD x 1.10" W

Part #	Ratio
7RL-101	100:5
7RL-151	150:5
7RL-201	200:5
7RL-251	250:5
7RL-301	300:5
7RL-401	400:5
7RL-501	500:5
7RL-601	600:5
7RL-751	750:5
7RL-801	800:5
7RL-102	1000:5
7RL-122	1200:5
7RL-152	1500:5
7RL-162	1600:5

1.56" ID x 3.56" OD X 1.10" W

Part #	Ratio
5RL-500	50:5
5RL-750	75:5
5RL-101	100:5
5RL-151	150:5
5RL-201	200:5
5RL-251	250:5
5RL-301	300:5
5RL-401	400:5
5RL-501	500:5
5RL-601	600:5
5RL-751	750:5
5RL-801	800:5
5RL-102	1000:5
5RL-122	1200:5

3.25" ID x 5.73" OD X 1.15" W

Part #	Ratio
8RL-201	200:5
8RL-251	250:5
8RL-301	300:5
8RL-401	400:5
8RL-501	500:5
8RL-601	600:5
8RL-751	750:5
8RL-801	800:5
8RL-102	1000:5
8RL-122	1200:5
8RL-152	1500:5

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

ABSOLUTE PROCESS INSTRUMENTS, Inc.