API 1600 G
API 1620 G

AC Input Alarm Trips

Adjustable Setpoints

Input: ***0-50 mVAC to 0-300 VAC, 0-1 mAAC to 0-900 mAAC***
Outputs: One DPDT Relay or Two SPDT Relays

- ***Precision Internal AC/DC Converter***
- ***2 Fully Independent Setpoints on API 1620 G***
- ***Input LoopTracker® and Alarm Status LEDs***
- ***High Capacity 7 Amp Relay Contacts***

Applications

- **Process Limit Backup Alarm**
- **Over, Under, Out-of-Range Voltage/Current**
- **Heater Break, Conveyor Jam Alarm**

Specifications

Input Range

Factory Configured—Please specify input range

	Minimum	Maximum
Voltage:	0-50 mVAC	0-300 VAC
Current:	0-1 mAAC	0-900 mAAC

System voltages must not exceed socket voltage rating
Current shunts available for input ranges up to 20 amps

Input Impedance (Voltage)

200 kΩ minimum

Input Voltage Burden (Current)

1.0 V_{RMS} maximum

Input Protection, Common Mode

750 VDC or 750 VAC_p

LoopTracker®

Variable brightness LED indicates input level and status

Relay Output

Factory Configured—See Options for other relay configurations

API 1600 G One DPDT contact set
HI alarm, normal action (failsafe), non-latching standard
7 A @ 240 VAC maximum resistive load
3.5 A @ 240 VAC maximum inductive load

API 1620 G Two SPDT contacts
HI/LO, normal action (failsafe), non-latching standard
7 A @ 240 VAC maximum resistive load
3.5 A @ 240 VAC maximum inductive load

CAUTION: Socket contacts may limit system rating.
External contact protection such as an RC snubber is recommended for inductive loads.

Setpoint

12 turn potentiometer, adjustable from 0 to 100% of span

Deadband

API 1600 G 1.0 to 100% of span, 12 turn potentiometer
API 1620 G Fixed at 1% of span, standard
API 1620 GA 1.0 to 100% of span, 1 turn potentiometer

Functional Test/Reset Button

Toggle relay(s) to opposite state when pressed
Resets latching relay on 1600G with **HT** option

Response Time

70 milliseconds typical

Ambient Temperature Range

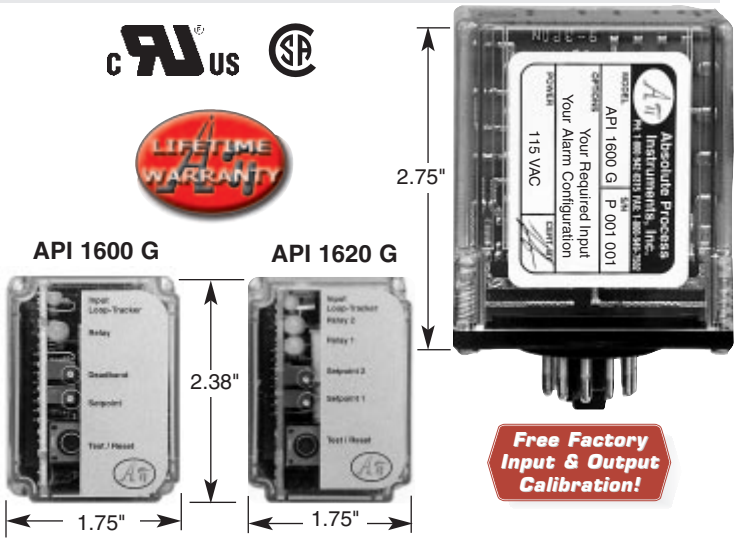
–10°C to +60°C operating

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

Factory Configured—Please specify input range

API 1600 G AC input alarm trip, 1 DPDT relay, HI alarm, normal action (failsafe), non-latching, 115 VAC

API 1620 G AC input dual alarm trip, 2 SPDT relays, HI/LO, normal action (failsafe), non-latching, 115 VAC

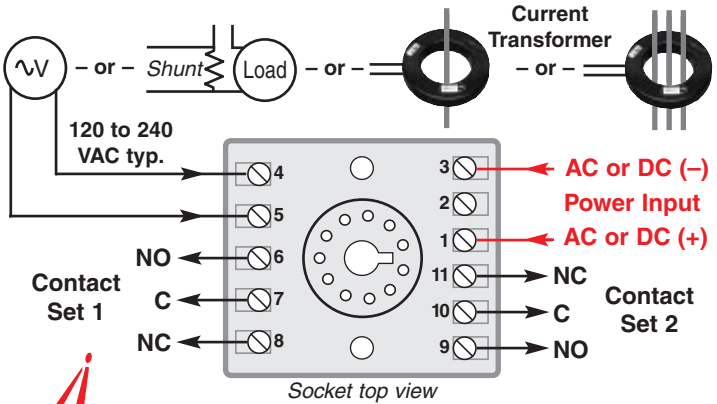
Options—Specify on Order

A230	Powered by 230 VAC, 50/60 Hz
D	Powered by 9-30 VDC
A	Adjustable deadbands on dual alarms
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
HT	Latching alarm with pushbutton reset, API 1600 G only
HP	Latching alarm with power-off reset, API 1600 G only
R	Reverse-acting alarms (non-failsafe)
L	Low trip (on decreasing signal) for single alarm modules
HH	High/High trip for dual alarm modules instead of High/Low
LL	Low/Low trip for dual alarm modules instead of High/Low
U	Conformal coating for moisture resistance

Accessories—See other side

Electrical Connections

*Order **API 011** or **API 011 FS** socket separately*
*Order **2RL**, **5RL**, **7RL**, **8RL**-series current transfomer separately*



Socket top view

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API 1600 G and API 1620 G AC Input Alarm Trips

FUNCTIONAL DESCRIPTION

The API 1600 G and API 1620 G are factory configured for either an AC voltage or AC current input. The API 1600 G has a single setpoint adjustment, DPDT relay contact alarm output, and bi-color LED alarm indication when the input exceeds (HI alarm) or falls below (LO alarm) the setpoint. The API 1620 G contains two independent setpoints with corresponding bi-color LEDs and SPDT relay contact outputs for each setpoint.

AC voltage inputs can range from 0-50 mVAC through 0-300 VAC. AC current inputs can range from 0-1 mAAC through 0-900 mAAC. Higher current ranges are available using an external shunt. Consult the factory for assistance with your specific application.

The API 1600 G alarm output can be factory configured for HI or LO operation. Non-latching and normal acting (fail-safe) operation is standard. Latching and/or reverse acting (non-fail-safe) options are available. The API 1620 G can be factory configured for HI/HI, HI/LO, LO/HI or LO/LO operation. Normal acting (fail-safe) operation is standard. Reverse acting (non-fail-safe) alarms are available.

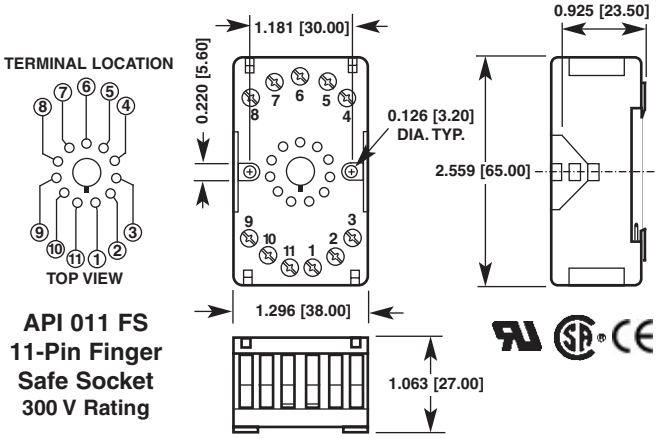
Heavy duty relay contacts (7 A @ 240 VAC, resistive load) allow the modules to directly control high capacity loads without a secondary device. A top-accessible, multi-turn potentiometer is used to adjust the alarm setpoint (one for each setpoint on the API 1620 G) from 0-100% of the calibrated input span. The API 1600 G comes standard with a multi-turn deadband potentiometer which allows the alarm trip and reset window to be adjusted symmetrically about the setpoint from 1 to 100% of the span.

The deadband is fixed at 1% for each setpoint on the API 1620 G. Independently adjustable deadbands are available as an option. Deadband is typically used to eliminate false trips or alarm chatter caused by rapid fluctuations in the process input.

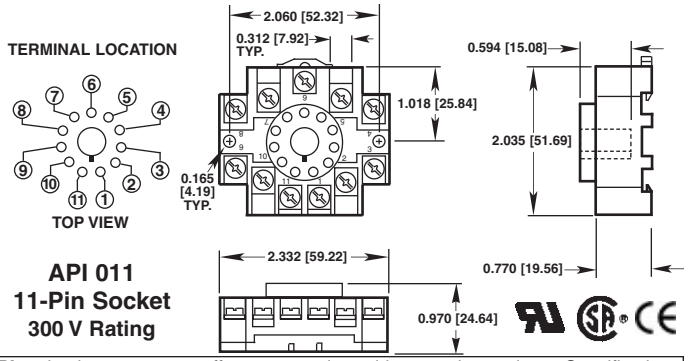
The API 1600 G and API 1620 G plug into an industry standard 11-pin socket sold separately. Sockets API 011 and finger-safe API 011 FS allow either DIN rail or panel mounting.

ACCESSORIES

API 011 11-pin socket
API 011 FS 11-pin finger safe socket
API 011-5A 11-pin socket with 5 amp current shunt
API 011-20A 11-pin socket with 20 amp current shunt
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 011 FS
11-Pin Finger Safe Socket
300 V Rating



API 011
11-Pin Socket
300 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.

UNIQUE FEATURES

API exclusive features include a ***LoopTracker*® LED** which varies in intensity with changes in the process signal, a **Bi-Color Alarm Status LED** (Red = Alarm, Green = Normal, one for each setpoint on the API 1620 G), and a **Functional Test Pushbutton** which toggles the alarm status independent of the input when depressed.

The green LoopTracker LED varies in intensity with changes in the process input signal. Monitoring the state of this LED can provide a quick visual picture of your process loop at all times.

The functional test pushbutton toggles the alarm status independent of the input when depressed. It verifies the alarm and system operation and also provides the additional function of unlatching the alarm on the API 1600 G if the latching option was specified.

The bi-color alarm status LED is green when the alarm is in the “safe” condition and red when in the “alarm” condition. All three features greatly aid in saving time during initial start-up and/or troubleshooting.

OPERATION

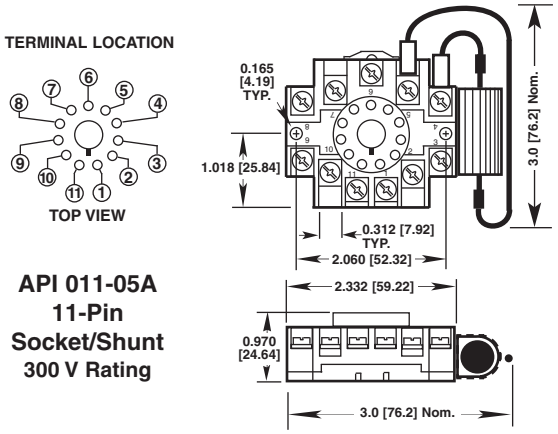
For a standard configuration, (normal mode, non-latching) the alarm will activate when the input signal exceeds the setpoint (HI alarm) or falls below the setpoint (LO alarm), then automatically reset when the alarm condition no longer exists.

It is important to note that in the normal (failsafe) mode, the relay coil is energized in the safe condition and de-energized in the alarm condition.

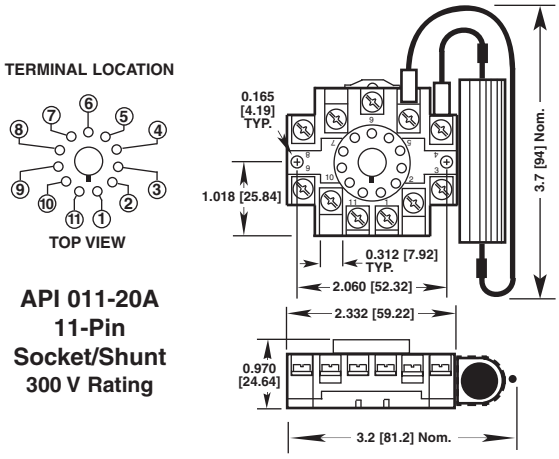
In the reverse acting (non-failsafe) mode, the relay coil is de-energized in the safe condition and energized in the alarm condition.

The alarm status LED will always be green in the non-alarm condition and red in the alarm condition.

If configured as latching, it will be necessary to push the functional test pushbutton or remove power from the module to reset the alarm. The alarm will only reset if the alarm condition no longer exists.



API 011-05A
11-Pin Socket/Shunt
300 V Rating



API 011-20A
11-Pin Socket/Shunt
300 V Rating

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