**AC to DC Transmitters, Isolated, Field Rangeable**

**API 6380 G HV Series**

| Input: 0-50 mVAC to 0-600 VAC, 0-5 mAAC to 0-200 mAAC |
| Output: 0-1 VDC to ±10 VDC, 0-2 mAAC to 0-20 mAAC |

- **One Minute Setup for Hundreds of I/O Ranges**
- **External Switches & Tables for Range Selection**
- **Non-Interactive Zero and Span Calibration**
- **Full 2000 V Input/Output/Power Isolation**
- **Input and Output LoopTracker® LEDs**
- **Output Test Button**
- **Built-In Loop Power Supply for mA Output**

### Applications
- Convert AC Signals to DC Process Signals
- Monitor Line Voltage or Current Levels
- Full 2000 V Input/Output/Power Isolation
- External Switches & Tables for Range Selection
- Field configurable
- Built-In Loop Power Supply for mA Output

### AC Input Ranges
Field selectable ranges via switch settings
- Voltage: 0-50 mVAC to 0-600 VAC
- Current: 0-5 mAAC to 0-200 mAAC
- S option: True RMS input measurement

### Input Frequency
40 Hz to 1000 Hz sinusoidal

### Input Impedance
- Voltage (0-4 VAC): 1 MΩ minimum
- Voltage (>4 VAC): 220 kΩ minimum
- Current: 10 mA typical

### Common Mode Rejection
120 dB minimum

### LoopTracker
Variable brightness LEDs indicate I/O loop level and status

### DC Output Ranges
Field selectable ranges via switch settings
- Voltage: 0-1 VDC to 0-10 VDC
- Bipolar voltage: ±1 VDC to ±10 VDC
- Current: 0-2 mAAC to 0-20 mAAC

### Output Logic
Normal acting, internal jumper for output reversal

### Output Calibration
Multi-turn zero and span potentiometers for output

### Output Loop Power Supply
20 VDC nominal, regulated, 25 mAAC, max. ripple <10 mV RMS

### Output Test
Front button sets output to test level when pressed

### Output Ripple and Noise
Less than 10 mV RMS

### Linearity
Better than ±0.1% of span

### Ambient Temperature Range and Stability
- Temperature: −10°C to +60°C operating ambient
- Better than ±0.02% of span per °C stability

### Response Time
200 milliseconds typical (0-90%)

### Isolation
2000 VACs minimum

### Housing and Sockets
- IP 40, requires installation in panel or enclosure
- API 008 or API 008 FS socket
- Socket mounts to 35 mm DIN rail or can be surface mounted

### Power
- Standard: 115 VAC ±10%, 50/60 Hz, 2.5 W max.
- P option: 85-265 VAC 50/60 Hz, 60-300 VDC, 2.5 W
- A230 option: 230 VAC ±10%, 50/60 Hz, 2.5 W max.
- D option: 9-30 VDC, 2.5 W typical

### Description
The API 6380 G HV 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. A true RMS model API 6380 G HV S is available for distorted AC inputs.

The full 3-way (input, output, power) isolation makes this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction.

24 input and 16 output ranges can be field-configured via external rotary and slide switches. Popular ranges are listed on the module label. Consult the factory for assistance with special ranges.

### LoopTracker
API exclusive features include two LoopTracker LEDs (green for input, red for output) that vary in intensity with changes in the process input and output signals. These provide a quick visual picture of your process loop at all times and can greatly aid in saving time during initial startup and/or troubleshooting.

### Output Test
An API exclusive feature includes the test button to provide a fixed output (independent of the input) when held depressed. The test output level is potentiometer adjustable from 0 to 100% of output span.

The output test button greatly aids in saving time during initial startup and/or troubleshooting.

### Model | Input | Output | Module Power
---|---|---|---
API 6380 G HV | Field configurable | Field configurable | 115 VAC |
API 6380 G A230 HV | 0-50 mVAC to 0-600 VAC | 0-1 VDC to 0-10 VDC | 230 VAC |
API 6380 G P HV | 0-5 mAAC to 0-200 mAAC | ±1 VDC to ±10 VDC | 85-265 VAC or 60-300 VDC |
API 6380 G DHV | | 0-2 mAAC to 0-20 mAAC | 9-30 VDC |
API 6380 G S HV | Field configurable | True RMS input measurement | 115 VAC |
API 6380 G A230 S HV | | 0-50 mVAC to 0-600 VAC | 230 VAC |
API 6380 G P S HV | 0-5 mAAC to 0-200 mAAC | ±1 VDC to ±10 VDC | 85-265 VAC or 60-300 VDC |
API 6380 G D S HV | | 0-2 mAAC to 0-20 mAAC | 9-30 VDC |

### Free Factory Setup
Specify I/O ranges if factory is to set switches

### Option—add to end of model number
- U: Conformal coating for moisture resistance

### Accessories—order as a separate line item
- API 008: 8-pin socket, DIN rail or surface mount
- API 008 FS: 8-pin finger safe socket, DIN rail or surface mount
- API CLP1: Module hold-down spring for high vibration or mobile applications

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**API CLP1**

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**API 008**

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**API 008 FS**

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**api-usa.com**
**Installation and Setup**

**Precautions**

**WARNING** All wiring must be performed by a qualified electrician or instrumentation engineer. See diagram for terminal designations and wiring examples. Consult factory for assistance.

**WARNING!** Avoid shock hazards! Turn signal input, output, and power off before connecting or disconnecting wiring, or removing or installing module.

**Précautions**

**ATTENTION!** Tout le câblage doit être effectué par un électricien ou ingénieur en instrumentation qualifié. Voir le diagramme pour désignations des bornes et des exemples de câblage. Consultez l’usine pour assistance.

**ATTENTION!** Evitez les risques de choc! Fermez le signal d’entrée, le signal de sortie et l’alimentation électrique avant de connecter ou de déconnecter le câblage, ou de retirer ou d’installer le module.

API maintains a constant effort to upgrade and improve its products. Specifications are subject to change without notice. See asi-usa.com for latest product information. Consult factory for your specific requirements.

**WARNING!** This product can expose you to chemicals including lead and nickel, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

**Socket and Mounting**
The module installation requires a protective panel or enclosure. The socket clips to a standard 35 mm DIN rail or can be attached to a flat surface using the two mounting holes.

**Output Reversal Configuration**
The default configuration is normal acting output. The output can be reversed by moving an internal jumper.

1. Unplug the module from the socket.
2. Remove 4 screws from module bottom and lift off plastic case.
3. Note location of circuit board jumper. See diagram below.
4. Place jumper as indicated for desired output operation.
5. Replace cover and screws.

**Range Selection**
Set I/O ranges before plugging the module in. See the model/serial number label for options or if a custom range was specified. See module label for common ranges or table below to select I/O ranges.

**Signal Output**
Polarity must be observed when connecting the output signal to the load. The module provides 20 VDC power to the output loop when current output is selected.

**Signal Input**
Input must be off while connecting wiring. Connect the AC signal input to terminals 5 and 6.

**Module Power**
Check model/serial number label for module operating voltage to make sure it matches available power.

AC power is connected to terminals 1 and 3. The module installation requires a protective panel or enclosure.

**Signal Output** (I/AC mA input)

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<thead>
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<th>Switches Input</th>
<th>0-1 V</th>
<th>0-2 V</th>
<th>0-4 V</th>
<th>1-5 V</th>
<th>0-5 V</th>
<th>0-8 V</th>
<th>2-10 V</th>
<th>0-10 V</th>
<th>±5 V</th>
<th>±10 V</th>
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**Calibration**
The Zero and Span potentiometers can be used fine-tune the output range.

- 1. Power the module and allow a minimum 20 minute warm up time.
- 2. Using an accurate calibration source, provide an input to the module equal to the minimum input required for the application.
- 3. Using an accurate measurement device for the output, adjust the Zero potentiometer for the exact minimum output desired. The Zero control should only be adjusted when the input signal is at its minimum. This will produce the corresponding minimum output signal. For example: 4 mA for a 4-20 mA output or ~10 V for a ±10mA output.
- 4. Set the input at maximum, and adjust the Span pot for the exact maximum output desired. The Span pot should only be adjusted when the input signal is at its maximum. This will produce the corresponding maximum output signal.
- 5. Repeat adjustments for maximum accuracy.

**Test Range Adjust**
- Turn the multi-turn Test Range potentiometer while holding the Test button depressed until the desired output test level is reached. It can be adjusted to vary the output signal from 0 to 100% of the output range.

**Operation**
Depending on the rotary switch settings, the input is either amplified or attenuated, then filtered and processed by a precision full-wave rectification circuit. The result is passed through a low pass active filter that 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.

**Warning**
- Drive a device on the output side of the loop (a panel meter, chart recorder, etc.) with a known good signal to be used as a system diagnostic aid during initial start-up or during troubleshooting. When released, the output will return to normal.

**Green LoopTracker**
- Provides a visual indication that a signal is being sensed by the input circuitry of the module. It also indicates the input signal strength by changing in intensity as the process changes from minimum to maximum. If the LED fails to illuminate, or fails to change in intensity as the process changes, this may indicate a problem with module power or signal input wiring.

**Red LoopTracker Output LED**
- Provides a visual indication that the output signal is functioning. It becomes brighter as the input and the corresponding output change from minimum to maximum. For current outputs, the LED will only light if the output loop current path is complete. For either current or voltage outputs, fail to illuminate or a failure to change in intensity as the process changes may indicate a problem with the module power or signal output wiring.

**API 6380 G HV Series Range**

<table>
<thead>
<tr>
<th>Input</th>
<th>0-300 V</th>
<th>0-400 V</th>
<th>0-500 V</th>
<th>0-600 V</th>
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</thead>
<tbody>
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<td>0-300 V</td>
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<td>0-400 V</td>
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**API 6380 G HV Additional Input Ranges**

<table>
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<th>Input</th>
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<th>0-400 V</th>
<th>0-500 V</th>
<th>0-600 V</th>
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<td>0-600 V</td>
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</table>

**WARNING!** All wiring must be performed by a qualified electrician or instrumentation engineer. See diagram for terminal designations and wiring examples. Consult factory for assistance.

**WARNING!** Avoid shock hazards! Turn signal input, output, and power off before connecting or disconnecting wiring, or removing or installing module.