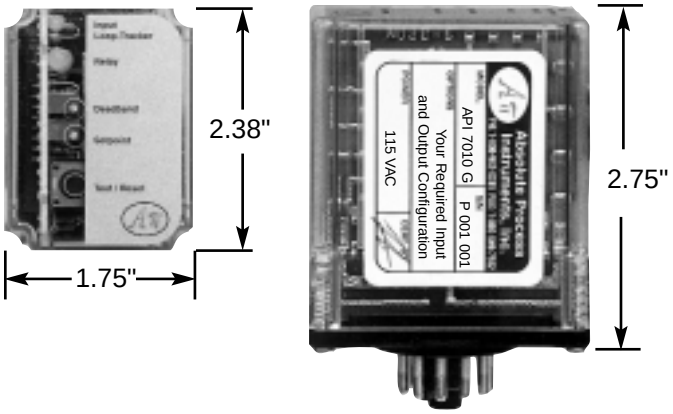
# Plug-in Signal Conditioners
# ISOLATED
# Frequency to DC Transmitter
# API 7010 G

## *FEATURES*

- **Precision Frequency to DC Convertor**
- **Input/Output LoopTracker™ LED's**
- **Full 2000VRMS Input/Output/Power Isolation**
- **Functional Test Pushbutton**
- **LIFETIME WARRANTY**

## CASE DIMENSIONS




## Specifications

### Input Ranges

| | Minimum | Maximum |
|---|---|---|
| Frequency | 25Hz | 20KHz |
| Voltage | 100mV RMS | 150V RMS |

### Input Protection

(Normal Mode) 200% of Input rating.
(common Mode) 600V (dc or Peak AC), input to ground.

### Input Impedance

100K Ohm minimum.

### Output Capability

Voltage: +/-10VDC, +/-10mA max.
Current: 20mADC, 12V Compliance

### Isolation

2000V RMS min.

### Linearity

Better than .1% of Span

### Response Time

70mSec. Typical

### Zero/Span Control Range

+/-15% Typical

### Functional Test Pushbutton

50% of Span, (+/-1.5%) of Span when pressed.

### Temperature Stability

Better than .02% of Span per °C.

### Ambient Temperature Range

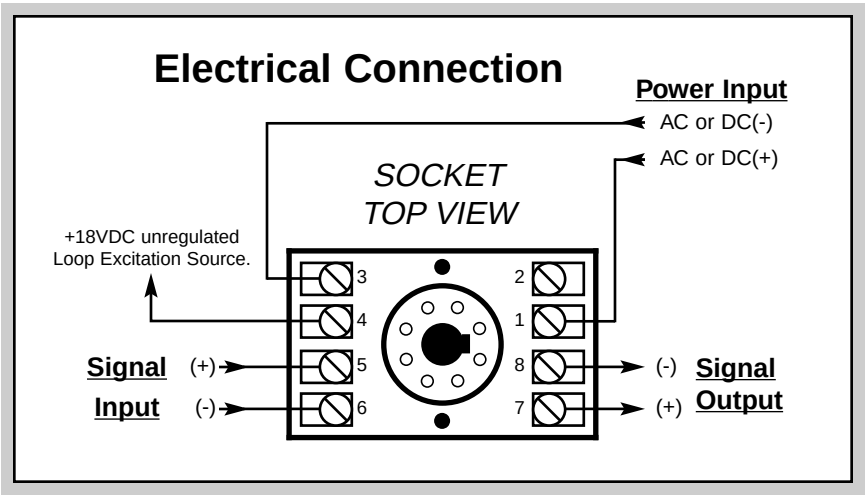
-10 to +60 °C (Operating).

### Power

| | |
|---|---|
| Standard: | 115VAC +/-10%, 50/60Hz, 2.5W max. |
| Optional: | 230VAC +/-10%, 50/60Hz, 2.5W max. |
| * | 12VAC +/-10%, 50/60Hz, 2.5W max. |
| * | 24VAC +/-10%, 50/60Hz, 2.5W max. |
| * | 12VDC +/-5%, 125mA max. |
| * | 24VDC +/-5%, 65mA max. |
| * | 9-30VDC @2.5W Typical. |

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### Electrical Connection



## FUNCTIONAL DESCRIPTION

The API 7010 G accepts a Frequency Input and provides an Optically Isolated DC Voltage or Current Analog Output that is linearly proportional to the input. Common applications include Frequency to DC conversions from frequency output type devices such as rotary encoders, magnetic pick-ups, variable speed drives and flowmeters. In addition, many PLCs do not have analog outputs available but, through creative programming, can vary the pulse rate of a discreet output. By connecting the API 7010 G to this discreet output, a proportional analog signal can be generated.

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 7010 G uses the latest technology in linear optical isolation for optimum noise immunity and complete freedom from AC artifacts in the Output. In addition, the module Power Supply is isolated, resulting in full 3-way (Input, Output, Power) Isolation. Standard power is 115VAC; options include 230VAC, 12/24VAC or 12/24VDC.

The API 7010 G plugs into an industry standard octal (8-Pin) socket (sold separately). The socket provided by API (part #API-008) allows for either DIN rail or panel mounting.

## OPERATION

The frequency input to the API 7010 G is filtered to remove unwanted noise, converted to a DC voltage, then passed through an opti-coupler to the output stage. The frequency input can be virtually any type of signal (Sine Wave, Sawtooth, Square Wave, etc.) as long as there is a sufficient change in amplitude (greater than 100mV).

## CALIBRATION

The API 7010 G is pre-configured at the factory to the input and output ranges specified when purchased. Top-mounted, multi-turn Zero and Span potentiometers are available should fine-tuning be necessary; however, major range changes will require factory modification. If fine-tuning is necessary, apply the appropriate power to the module and allow a minimum 20 minute warm up time. Using an accurate frequency generator, provide an input to the module equal to the lowest input desired. Increase the frequency generator to the maximum desired input level and adjust the Span potentiometer until the output equals the maximum output desired. Repeat adjustments for maximum accuracy. Finally, the Test Pushbutton range may be set to provide the desired Output when depressed.

## 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 (process) signal. Monitoring the state of these LEDs can provide a quick visual picture of your process loop at all times. When held depressed, the Functional Test Pushbutton will provide a fixed output (independent of the input) factory set to approximately 50% of the calibrated output range. Both the ***LoopTracker™ LEDs*** and ***Functional Test Pushbutton*** greatly aid in the reduction of time during initial startup and/or troubleshooting.

## RELATED PRODUCTS

The following products are also available. Refer to the appropriate data sheets in this section for details.

**API 7580 G**
Same as API 7010 G, but Field Selectable ranges.

**API 1700 G**
Frequency Input, Single Setpoint Alarm

**API 1720 G**
Frequency Input, Dual Setpoint Alarm

**API 7500 G**
DC to Frequency Isolating Transmitter, Field Selectable ranges

**ABSOLUTE PROCESS INSTRUMENTS, Inc.**

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