Description of Controls

1. ***Input LED***. This GREEN Light 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. Note: 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.

2. ***Test Pushbutton*** When held depressed, will generate a continuous Output Signal independent of the Input Signal. When released, the Output will return to normal. This Output is field adjustable from 0 to 100% of the calibrated Output range via the "Test Range Adjustment" pot. This feature can be used as a system diagnostic aid during initial start-up or during troubleshooting

EXAMPLE: If you are using a 4-20 mA current loop, when the pushbutton is held depressed, the output from the Isolator will be a constant signal between 4 and 20 mA depending on the setting of the Test Range Adjustment pot. This will drive the device on the Output side of the loop (a panel meter, chart recorder, etc.) with a known good signal. This has divided your entire system in half making it easier to troubleshoot.

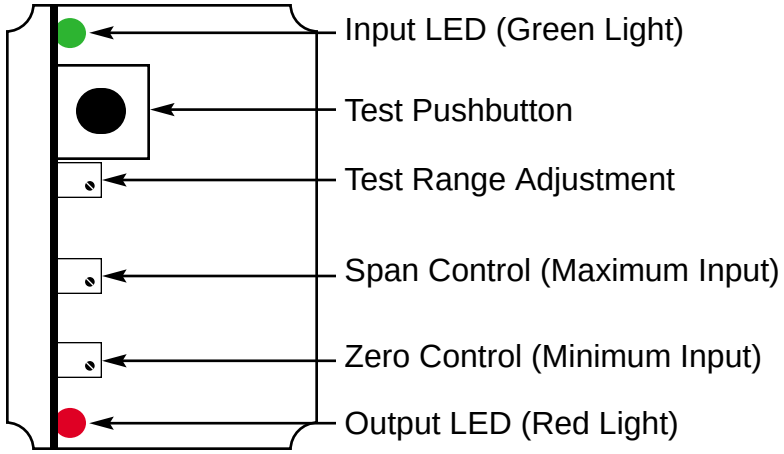


Figure 2

API 6380 G

3. ***Test Range Adjust*** Turning this Multi-turn Potentiometer while holding the Test Pushbutton depressed varies the Output Signal from 0 to 100% of the calibrated Output Range.

4. ***Span Control*** Allows for fine adjustments of the ***Maximum*** Output Signal. The Span Control should only be adjusted when the Input Signal is at it's maximum potential. This will produce the corresponding maximum Output Signal from your API unit. **Example**: If you desire a 4-20 mA Output Signal, the Span Control will provide adjustment for the 20 mA signal.

5. ***Zero Control*** Allows for fine adjustments of the ***Minimum*** Output Signal. The Zero Control should only be adjusted when the Input Signal is at it's minimum potential. This will produce the corresponding minimum Output Signal from your API unit. **Example**: If you desire a 4-20 mA Output Signal, the Zero Control will provide adjustment for the 4 mA signal.

6. ***Output LED*** This RED Light provides a visual indication that a signal is being sensed by the units output circuitry. It also indicates the signal strength by changing in intensity as the input changes from minimum to maximum. ***Note:*** If a Current Output is selected, the RED LED will only light if the loop current path is complete. For either Current or Voltage Outputs, failure 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. **Example**: If you have selected a 4-20 mA output to go to a chart recorder and you have no indications on the recorder, or if you see no Red LED indication on your API unit, you can suspect an open circuit in the output loop or incorrect wiring.

Ranging Switches

Located on the side of your API unit are three rotary switches and two slide switches which are used to select your desired Input and Output Ranges. There is NEVER a need to open the case. In addition, the module contains Range Tables and Labels designed to assist you in ranging your module.

1. ***Input and Output Selector Slide Switches.*** These two slide switches are the first step in ranging your unit. They allow the operator to select either Voltage or Current Inputs and Outputs. **Example:** If a Current Input or Output were required, the corresponding switch would be placed in the "**I**" position. If a Voltage Input or Output were needed, the corresponding switch would be placed in the "**V**" position.

2. ***Rotary Range Selector Switches*** These switches will provide the selected amount of amplification or attenuation to accomplish the desired range. **Example:** We will set the switches for a 0-20 VAC input and a 4-20 mA output. Set the Input selector slide switch to the "**V**" position. Place the output selector slide switch to the "**I**"position. Locate the desired range from the chart on the side of the unit. Our desired switch code is "**7F2**". Now rotate switch **B** (Output Range) to the **7** position, switch **C** (Input Range1) to the **F** position and switch **D** (Input Range2) to the **2** position. The ranging process is now complete and, the unit is ready for final Calibration and Installation.

NOTE: ***If the API 6380G is configured for a 0 to 5 Amp AC Input, the socket and shunt assembly must be used to prevent damage to the unit.*** *The input selector switch must also be set in the "V" position and the input range set for 0 to 500 mv AC.* (5 amp input x .1 ohm shunt resistance = 500 mv)

Range Selection Switches

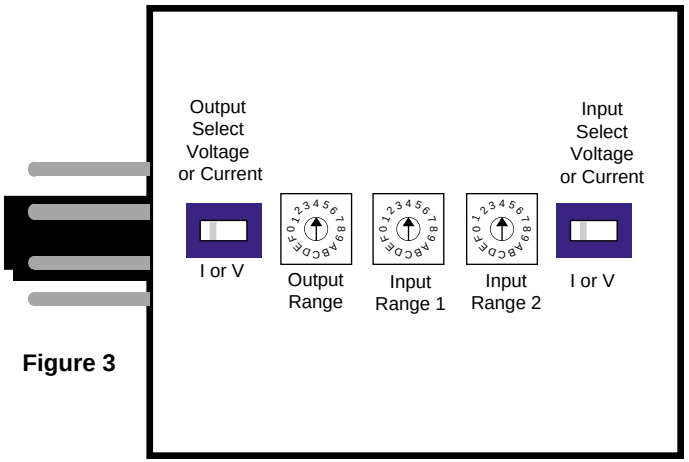


Figure 3

General Information

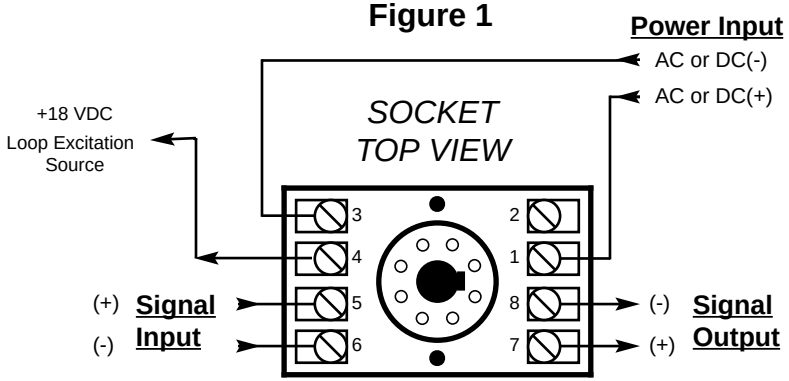
The API Field-Rangeable AC to DC Isolating Transmitter is available in two basic models - the API-6380G and API-6380GS. The API-6380G will accept a Sinusoidal AC Voltage or Current Input and provide a Proportional, Optically Isolated DC Voltage or Current Output. The API-6380GS will accept either a Sinusoidal or NON-Sinusoidal Input and provide an isolated output proportional to the TRUE RMS value of the input. Both models are Field-Configurable for Voltage Inputs from 0-50mVAC up to 0-250VAC or Current Inputs from 0-5mA AC up to 0-200mA AC. In addition, higher input currents up to 20AAC are possible by using a factory approved Current Shunt Resistor. A common application is to use a Current Transformer (CT) to convert large AC currents to a proportional 0-5A AC output. By using a properly configured API-6380G or API-6380GS and an API-008-5A Shunt/Base Assembly, the output of the CT can be optically isolated and conditioned to a signal compatible with virtually any controller or PC input. Consult the factory for assistance in sizing the shunt and configuring the module.

General Calibration

The first step in calibrating the API-6380G and API-6380GS is to determine the correct switch settings for your desired range. Set the Input and Output Selector slide switches for Voltage or Current (V or I), as required, then select the switch code matching your desired ranges from the table located on the side of the module. Rotate switches B, C and D to their corresponding positions. Using a precision calibrator or other accurate source, provide a signal to the module representing the Minimum Input desired. Adjust the "Zero Control" (refer to Fig. 2) for the desired Minimum Output. Next, provide a signal to the module representing the Maximum Input and adjust the "Span Control" (refer to Fig. 2) for the desired Maximum Output. The Zero and Span Controls are Non-Interactive.

If, at any time during this calibration procedure, you should require assistance, please feel free to call our toll free number for assistance

Figure 1



Electrical Connection

All of us at Absolute Process Instruments place the highest importance on Electrical Safety. To ensure the safety of our customers and their satisfaction with our products, we suggest that all wiring be performed by qualified personnel only. The Electrical Connections are referenced to an Industry standard 8-pin octal socket.

Power Input Terminals. Terminals 1 and 3 are wired with the desired AC or DC Power. The white label on the side of your API unit will have the power requirements listed as specified on your purchase order. If your API unit is configured with a 12 or 24 VDC power supply, care must be taken when applying power. Polarity **MUST** be observed when using a DC supply. The positive (+) is applied to terminal 1 and, the negative (-) is applied to terminal 3.

Signal Input Terminals. Terminals 5 and 6 provide connections for the appropriate Input Signal.

Signal Output Terminals. Terminals 7 and 8 provide connections for the appropriate Output Signal. Polarity must be observed when connecting the Signal Output to the load. The Positive connection (+) is connected to terminal 7 and the Negative (-) is connected to terminal 8.

NOTE: As an added standard feature, this module contains an 18 Volt DC Supply that can be used to power a passive Input device such as a Speed Sensor, Proximity Switch, etc.
If a Passive Device is not being utilized, Terminal 4 must not be used.

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