One Input to Two Outputs with Full Isolation

Split, Convert, Boost, and Rescale Process Signals

Output Test Button for Each Channel

Built-In Loop Power Supplies for Sink/Source I/O

Applications

- Split, Convert, Boost, and Rescale Process Signals
- Split Process Signals for Control and Validation
- Interface a Process Signal with Multiple Panel Meters, PLCs, Recorders, Data Acq., DCS, & SCADA Systems

AC Input Range

Factory configured, please specify input type and range
Voltage: 0–50 mVAC to 0–300 VAC
Current: 0–1 mAAC to 0–1000 mAAC
Measurements are true RMS

Input Frequency

40 Hz to 1000 Hz sinusoidal

Input Voltage Impedance (Voltage Input)

220 kΩ minimum

Input Protection, Common Mode

750 VDC or 750 VACp

LoopTracker

Variable brightness LEDs indicate I/O loop level and status
One for input, one for each output

Channel 1 and Channel 2 DC Output Ranges

Factory configured, please specify for each output channel
Voltage: 0–1 V to 0–10 V, 0–1 mA to 20 mA
Zero and Span for Each Channel

Output Calibration

Multi-turn zero and span potentiometers for each output channel
±15% of span adjustment range typical

Output Loop Power Supplies

20 VDC nominal, regulated, 25 mA DC for each output channel
May be selectively wired for sinking or sourcing mA output

Output Test/Override

Front momentary buttons or external contact closures for each channel to set output test levels.
Each output test level potentiometer adjustable 0–100% of span

Output Ripple and Noise

Less than 10 mVAC

Linearity

Better than ±0.1% of span

Ambient Temperature Range and Stability

−10°C to +60°C operating ambient
Better than ±0.04% of span per °C stability

Response Time

70 milliseconds nominal

Isolation

Full 4-way, 1200 VAC minimum

Installation Environment

IP 40, requires installation in panel or enclosure with adequate ventilation
For use in Pollution Degree 2 Environment
Mount vertically (as shown in picture) to a 35 mm DIN rail allowing minimum 1” (25 mm) above and below housing vents for air circulation.

Power

85-265 VAC, 50/60 Hz or 60-300 VDC, 6 W maximum

D versions: 9–30 VDC or 10–32 VAC 50/60 Hz, 6 W maximum

Dimensions and Connectors

1.78” W x 4.62” H x 4.81” D
45 mm W x 117 mm H x 122 mm D

Eight 4-terminal removable connectors, 14 AWG max wire size

Description

The APD 6393 IsoSplitter accepts an AC voltage or current input and provides two optically isolated DC voltage or current outputs that are linearly related to the input. The input range and each output range are independent and can be specified as required. This provides an economical solution when one signal must be sent to two different devices.

Typical applications include isolation, output splitting, output device separation and redundancy (i.e. to prevent failure of the entire loop if one device fails), or a combination of these. The input signal is filtered, amplified, split, and then passed through an opto-coupler to the output stages. Full 4-way isolation (input, output 1, output 2, power) make this module useful for ground loop elimination, common mode signal rejection, and noise pickup reduction.

I/O Sink/Source Versatility

Standard on the APD 6393 is a 15 VDC sensor excitation supply which can be overridden to provide a temporary fixed output if desired. This provides a quick visual picture of your process loop at all times and can greatly aid in saving time during initial startup and troubleshooting.

Output Test

An API exclusive feature includes output test buttons for each channel to provide a fixed output (independent of the input) when held depressed. A test button is provide for each output channel. The output test greatly aids in saving time during initial startup and/or troubleshooting.

The test output level for each channel is potentiometer adjustable from 0 to 100% of the output span.

Terminals are provided to operate the test functions remotely for each channel. This also allows use as a remote manual override to provide a temporary fixed output if desired.

How to Order

Models are factory ranged. See I/O ranges above left. Please specify ranges and options on order

Input range

Channel 1 I/O range
Channel 2 I/O range

See options at right

Options and Accessories

Options—add to end of model number
R1 Channel 1 I/O reversal (ie. 4-20 mA in to 20-4 mA out)
R2 Channel 2 I/O reversal (ie. 4-20 mA in to 20-4 mA out)
R3 Channel 1 and channel 2 I/O reversal
M19 Channel 1 high voltage output >10 V up to 20 V
M29 Channel 2 high voltage output >10 V up to 20 V
M39 Channel 1 and channel 2 high voltage output
U Conformal coating for moisture resistance

Accessory—order as separate line item
API BP4 Spare removable 4 terminal plug, black

APD 6393
IsoSplitter AC to DC Signal Splitter/Isolator/Transmitter, Factory Configured

1 Input: True RMS 0–50 mVAC to 0–300 VAC, 0–1 mAAC to 0–1000 mAAC
2 Outputs: 0–1 V to 0–10 V, ±1 V to ±10 V, 0–1 mA to 20 mA, 4–20 mA

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See Wiring Diagrams on Next Page
Mounting to a DIN Rail
Install module vertically on a 35 mm DIN rail in a protective enclosure away from heat sources. Do not block air flow. Allow 1” (25 mm) above and below housing vents for air circulation.
1. Tilt front of module down and position the lower spring clips against the bottom edge of DIN rail.
2. Push front of module upward until upper mount snaps into place.

Removal
Avoid shock hazards! Turn signal input, output, and power off.
1. Push up on bottom back of module.
2. Tilt front of module downward to release upper mount from top edge of DIN rail.
3. The module can now be removed from the DIN rail.

Calibration
Input and output ranges are factory pre-configured (at 24°C ±1°C). Front-mounted Zero and Span potentiometers for each channel can be used to compensate for load and lead variations.
1. Apply power to 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 ±10 V output.
4. Set the input at maximum, and then adjust the Span pot for the exact maximum output desired. The Span control should only be adjusted when the input signal is at its maximum. This will produce the corresponding maximum output signal. Example: for 4-20 mA output, the Span control will provide adjustment for the 20 mA or high end of the signal.
5. Repeat adjustments for both output channels for maximum accuracy.

Output Test Function
When the Test button is depressed it will drive the output with a known good signal that can be used as a diagnostic aid during initial start-up or troubleshooting. When released, the output will return to normal.
Each Test Cal. potentiometer can be adjusted to set the test output from 0 to 100% of the output span. Press and hold the Test button and adjust the corresponding Test Cal. potentiometer for the desired output level.
They may optionally be externally wired for remote test operation or a manual override. See wiring diagram at right.

Operation
The APD 6393 IsoSplitter® accepts an AC voltage or current input and provides two optically isolated DC voltage or current outputs that are linearly related to the input.
The green LoopTracker® input LED provides a visual indication that the 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, check the module power or signal input wiring.
Two red LoopTracker output LEDs provide a visual indication that the output signals are functioning. They become brighter when DC power is available and one bright and one dark when DC power and/or signal input wiring are not functioning.

Power Connections
Electrical Connections
Each product is factory configured to your exact input and powers the current loop.
Specifications are subject to change without notice. See api-usa.com for latest product information. Consult factory for your specific requirements.

WARNING: This product can expose you to chemicals including 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

Precautions
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! Évitez 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.

Electrical Connections
Each product is factory configured to your exact input and output ranges as indicated on the serial number label.

Output
Polarity must be observed for signal output wiring connections. If the input and/or output do not function, check wiring and polarity.

For milliamp output ranges determine if your devices provide power to the loop or if the loop must be powered by the APD module. Typical voltage may be 9-24 VDC at your device’s input and powers the current loop.

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