IsoSplitter® AC to DC Signal Splitter/Isolator/Transmitter

APD 6393

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

- One Input to Two Outputs with Full Isolation
- Zero and Span for Each Output
- Full 1200 V Input/Output/Power Isolation
- Input and Output LoopTracker® LEDs
- 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 Burden (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 VDC to 0-10 VDC, 10 mA max
Bipolar voltage: ±1 VDC to ±10 VDC
Current: 0-1 mADC to 0-25 mADC, 4-20 mADC
20 V compliance, 1000 Ω at 20 mA

**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 mADC 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 output channel to set output test levels.
Each output test level potentiometer adjustable 0-100% of span

**Output Ripple and Noise**
Less than 10 mVDC

**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 typical

**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

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

**Input range**
Channel 1 output range
Channel 2 output range
See options at right

**Options and Accessories**
Options—add to end of model number
R1 Channel 1 I/O reversal (ie. 20-4 mA in to 4-20 mA out)
R2 Channel 2 I/O reversal (ie. 20-4 mA in to 4-20 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

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api-usa.com/apps

Applications Link

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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! Éviter les risques de choc! Fermez le signal d'entrée, le signal de sortie et l'illumination 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 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

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

Outputs
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 current loop or if the loop must be powered by the APD module. Typical voltage may be 9-24 VDC at your device's power to the current loop or if the loop must be powered by the module.

Calibration
Front-mounted Zero and Span potentiometers for each channel can be used to compensate for lead and load variations.

Input
Any polarity may be used for an AC input. A transmitter DC power supply is available, but is not commonly used with AC inputs.

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

When using DC power, either polarity is acceptable, but for consistency, wire positive (+) to terminal 25 and negative (–) to terminal 28.

The power supplies are fuse protected and the unit may be returned to API for fuse replacement.

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
Front-mounted Zero and Span potentiometers for each channel can be used to compensate for lead and load 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. Zero control should only be adjusted when the input signal is at its minimum. This will produce the corresponding minimum output signal. Example: 4 mA for a 4-20 mA output or –10 V for a ±10V 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 as the input and each corresponding output change from minimum to maximum.

For a current output the red LED will only light if the output 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. Note that it may be difficult to see the LEDs under bright lighting conditions.