

**1 Input:** 0-10 mV to 0-100 V,  $\pm 50$  mV to  $\pm 10$  V, 0-1 mA to 0-50 mA, 4-20 mA**2 Outputs:** 0-1 V to 0-10 V,  $\pm 1$  V to  $\pm 10$  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
- Output LoopTracker® LEDs
- Output Test/Manual Override for Each Channel
- Built-In Loop Power Supply for Sink/Source Input

**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

**DC Input Range**

Factory ranged, please specify

Voltage: 0-10 mVDC to 0-100 VDC

Bipolar voltage:  $\pm 50$  mVDC to  $\pm 10$  VDC

Current: 0-1 mADC to 0-50 mADC, 4-20 mADC

**Input Impedance and Burden**Voltage: 200 k $\Omega$  minimumCurrent: 50  $\Omega$  typical

Voltage burden: 1.25 VDC max. at 20 mA current input

**Input Loop Power Supply**15 VDC  $\pm 10\%$ , regulated, 25 mADC

May be selectively wired for sinking or sourcing mA input

**LoopTracker**Variable brightness LEDs indicate output loop level and status  
One red LED for each output**Channel 1 and Channel 2 DC Output Ranges**Factory configured, please specify for each output channel  
Outputs are independent and do not need to be the sameVoltage: 0-1 VDC to 0-10 VDC, 10 mA max  
Up to 20 VDC with M19, M29, M39Bipolar voltage:  $\pm 1$  VDC to  $\pm 10$  VDCCurrent: 0-1 mADC to 0-20 mADC, 4-20 mADC  
20 V compliance, 1000  $\Omega$  at 20 mA**Output Calibration**Multi-turn zero and span potentiometers for each output channel  
 $\pm 15\%$  of span adjustment range typical**Output Ripple and Noise**

Less than 10 mVrms

**Output Loop Power Supplies**20 VDC nominal, regulated, 25 mADC for each output channel  
May be selectively ordered for sinking mA output**Output Test/Manual Override**

Terminals for customer-supplied external contacts to manually set output levels for each channel

Output test level factory set to 50 % of span

Specify if special output percentage levels are required

**Accuracy** $\pm 0.1\%$  of span (includes adjustment resolution and linearity)**Response Time**

70 milliseconds typical

**Isolation**

Full 4-way, 1200 VRMS minimum

**Ambient Temperature Range and Stability** $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  operating ambientBetter than 0.04% span/ $^{\circ}\text{C}$  stability**Housing and Connectors**

IP 40, requires installation in panel or enclosure

For use in Pollution Degree 2 Environment

Mount vertically to a 35 mm DIN rail

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

**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**

0.89" W x 4.62" H x 4.81" D

22.5 mm W x 117 mm H x 122 mm D

Height includes connectors

Quick Link  
[api-usa.com/4930](http://api-usa.com/4930)Free Factory  
I/O Setup!

Custom I/O Ranges

Removable Plugs

2 DC Input Channels

Output LoopTracker  
LEDZero and Span for  
Each Output2 Output Channels;  
Voltage or mA with  
Sink or Source OptionsWide Ranging  
Module Power**Description**

The APD 4930 IsoSplitter accepts a DC 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.

**Independent Outputs**

Each output channel is factory ranged to your specifications and provides an optically isolated DC voltage or current output that is linearly related to the input. Sourcing mA outputs are standard. Sinking milliamp or high voltage outputs are optional.

**Isolation**

The full 4-way (input, output 1, output 2, power) isolation makes this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction.

**LoopTracker**

API exclusive features include two LoopTracker LEDs (one for each output channel) that vary in intensity with changes in the process 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.

Model	Input	Output	Power
APD 4930	Factory configured specify input ranges and type for channel 1 and channel 2	Factory configured specify output ranges and type for channel 1 and channel 2	85-265 VAC or 60-300 VDC
APD 4930 D			9-30 VDC or 10-32 VAC

**Options—add to end of model number**

- M19** Channel 1 high voltage output  
**M29** Channel 2 high voltage output  
**M39** Channel 1 and channel 2 high voltage output  
**EXT1** Sinking mA output channel 1  
**EXT2** Sinking mA output channel 2  
**EXT3** Sinking mA output channel 1 and 2  
**U** Conformal coating for moisture resistance

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

## 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. Consulter l'usine pour assistance.

**ATTENTION!** Éviter 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.

## Ranges

See the model/serial number label for information, options, and I/O range information. The voltage and/or milliamp I/O ranges are factory set for each channel to your exact specifications.

## Signal Input Terminals

Polarity must be observed when connecting the signal inputs.

The APD 4930 splits and converts a single input signal into two outputs. See the wiring diagrams at right.

## Signal Output Terminals

Polarity must be observed when connecting the signal outputs.

See the module label for the voltage or milliamp output range for each channel. The standard milliamp output is sourcing. It provides 20 VDC power to your device.

Optional sinking mA output(s) will be indicated on the module label as EXT1 for channel 1, EXT2 for channel 2, or EXT3 for both channel 1 and channel 2.

If the output does not function, check wiring and polarity for both inputs and outputs.

## Module Power Terminals

Check model/serial number label for module operating voltage to make sure it matches available power. The power supply is fuse protected and the unit may be returned to API for fuse replacement.

When using DC power, either polarity is acceptable, but for consistency with similar API products, positive (+) can be wired to terminal 13 and negative (–) can be wired to terminal 16.

## 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.

1. Tilt front of module downward and position against DIN rail.
2. Clip lower mount to bottom edge of DIN rail.
3. Push front of module upward until upper mount snaps into place.

## Removal

1. Push up on the bottom back of the 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 pre-configured at the factory as specified on your order. Front-mounted, Zero and Span potentiometers for each channel can be used to calibrate the output 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. Example: for 4-20 mA output, the Zero control will provide adjustment for the 4 mA or low end of the signal.
4. Next, set the input at maximum, 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 maximum accuracy.

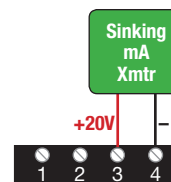
## Operation

The APD 4930 is factory configured to your exact input and output requirements. Voltage or milliamp inputs are filtered, either amplified or attenuated as required, then passed through an optical coupler to the output stage.

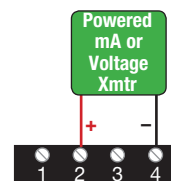
A red LoopTracker output LED provides a visual indication that the output signal is functioning for each channel. It becomes brighter as the input and the corresponding output change from minimum to maximum.

For current outputs, 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.

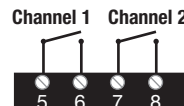
## Input Sinking mA transmitter



## Input Voltage or sourcing mA transmitter



Customer-supplied external contacts for Output Test Function Switch closure sets output to approx. 50% of span

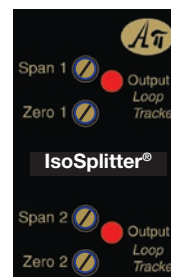


## Output 1 Span

## Output 1 Zero

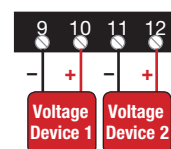
## Output 2 Span

## Output 2 Zero



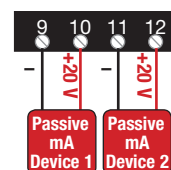
## Output 1 Voltage output

## Output 2 Voltage output



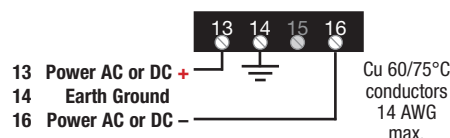
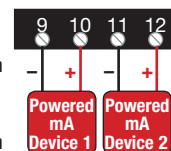
## Output 1 Sourcing mA output +20 V at terminal 10

## Output 2 Sourcing mA output +20 V at terminal 12



## Output 1 Sinking mA output with EXT1 or EXT3 option

## Output 2 Sinking mA output with EXT2 or EXT3 option



To maintain full isolation avoid combining power supplies in common with inputs, outputs, or unit power.

API maintains a constant effort to upgrade and improve its products. Specifications are subject to change without notice. Consult factory for your specific requirements.