**IsoSplitter® DC to DC Signal Splitter/Isolator/Transmitter, Factory Configured**

**APD 4930**

**Applications**
- **Split, Convert, Boost, and Rescale Process Signals**
- **Split Process Signals for Control and Validation**
- **Interface a Process Signal with Multiple Panel Meters, Zero and Span Output Calibration Potentiometers**

**DC Input Range**
- Factory ranged, please specify
  - Voltage: 0-10 mVDC to 0-100 VDC
  - Bipolar voltage: ±50 mVDC to ±10 VDC
  - Current: 0-1 mA to 0-50 mA, 4-20 mA

**Input Impedance and Burden**
- Voltage: 200 kΩ minimum
- Current: 50 Ω typical
- Voltage burden: 1.25 VDC max. at 20 mA current input

**Input Loop Power Supply**
- 15 VDC ±10%, regulated, 25 mA
- 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 same
  - Voltage: 0-1 VDC to 0-10 VDC, 10 mA max
  - Bipolar voltage: ±1 VDC to ±10 VDC
  - Current: 0-1 mA to 0-20 mA, 4-20 mA
  - 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 mA 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

**Output Ripple and Noise**
- Less than 10 mV RMS ripple and noise

**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 V rms 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**
- 0.89” W x 4.62” H x 4.81” D
- 22.5 mm W x 117 mm H x 122 mm D
- Four 4-terminal removable connectors, 1 AWG max wire size

**Applications and Connectors**
- 0.89” W x 4.62” H x 4.81” D
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**Specifications**
- **Model**
  - APD 4930
  - APD 4930 D

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**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

**Accessories**
- **Order as separate line item**
  - API BP4 Spare 4-terminal plug, black

**Certifications**
- CE Marking
- RoHS Compliant

**Additional Features**
- **Output LoopTracker**
  - Mode signal rejection or noise pickup reduction.
  - Makes this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction.

**Applications**
- **DC to DC Signal Splitter/Isolator/Transmitter**
  - Provides an economical solution when one signal must be sent to two different devices.
  - Required. This provides an economical solution when one signal must be sent to two different devices.

**Output Loop Power Supplies**
- 20 VDC nominal, regulated, 25 mA 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

**Output Ripple and Noise**
- Less than 10 mV RMS ripple and noise

**Linearity**
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- –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 V rms minimum

**Installation Environment**
- IP 40, requires installation in panel or enclosure with adequate ventilation
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Installation and Setup

APD 4930

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.

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. 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

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

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.

Electrical Connections

See wiring diagrams at right. Observe polarity. If the output does not function, check wiring and polarity.

* Do not make any connections to unused terminals or use them as wiring junctions for external devices. This may cause permanent damage to the module!

Signal Input Terminals

Polarity must be observed when connecting the signal input.

Terminal 3 provides 20 VDC to power a passive mA transmitter if required.

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 model 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 input and outputs. See note about terminating an unused mA output channel.

Module Power Terminals

Check model/serial number label for module operating voltage to make sure it matches available power. The power supply is fused 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. Allow 1" (25 mm) above and below housing vents for air circulation.

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 (at 24°C ±1°C) 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. For example: 4 mA for a 4-20 mA output or −10 V for a ±10 V output.
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. The voltage or milliamp input is 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.

Terminal Identification

Wire terminal torque

0.5 to 0.6 Nm or

4.4 to 5.3 in-lbs

Remote Test

* Do not make connections to unused terminals!

Power

Output 1 Voltage output

Output 2 Voltage output

Output 1 Sourcing mA output

Output 2 Sourcing mA output

Output 1 Sinking mA output with EXT1 or EXT3 option

Output 2 Sinking mA output with EXT2 or EXT3 option

Voltage Input

Current Sourcing Input +20 V at terminal 3

Module mA input loop

Current Sinking Input with powered mA Xmtr

Module mA input is unpowered

Voltage Xmtr

Passive mA Xmtr

Voltage Power Source

mA Xmtr

Module mA output loop

*m Module mA output is unpowered

EXT1= Ch1

EXT2= Ch2

EXT3= both

* Do not make connections to unused terminals!