API 4393 DIN Signal Isolator - Splitter

IsoSplitter™

One Input: mVDC, ±10 to 0-10 VDC, 0-1 mA to 4-20 mA
Two Outputs: mVDC, ±10 to 0-10 VDC, 0-1 mA to 4-20 mA

- *One Input Dual Output Signal Splitter*
- *2000 V Power/Input/Output/Channel Isolation*
- *Full Isolation Eliminates Ground Loops*
- *Input & Output LoopTracker® LEDs*
- *Functional Test Pushbutton for Each Channel*
- *Independent Zero and Span for Each Channel*

LIFETIME WARRANTY



Free Factory Input & Output Calibration!

Applications

- **Isolate, Split, Rescale Process Signals**
- **Send One Process Signal to Two Locations**
- **Interface Panel Meters, Recorders, Data Acquisition, PLCs, DCS Systems, SCADA**

Specifications

Input and Output Ranges

Factory Configured—Please specify range
Consult factory for special ranges
Voltage: 0-50 mVDC, 0-100 mVDC, 0-5 VDC, 0-10 VDC, ±5 VDC, ±10 VDC
Current: 0-1 mA, 0-20 mA, 4-20 mA (1000 Ω maximum per channel)

Input Voltage Burden (Current)

1.25 VDC maximum

Output Linearity

Better than ±0.1% of span

Output Ripple and Noise

Less than 10 mV_{RMS}

Output Zero and Span

Multiturn zero and span potentiometers to compensate for load and lead variations
Independent zero and span potentiometers for each output channel
±15% of span adjustment range typical
Low interaction zero/span; <0.001 ppt

LoopTracker®

Variable brightness LEDs indicate input/output loop level and status

Functional Test Buttons

Sets output to test level when pressed. One per output channel.
Factory set to drive output to approximately 50% of span

Response Time

70 milliseconds typical. Consult factory for other response times.

Isolation

2000 V_{RMS} minimum
Full isolation: power to channel, input to output, channel to channel

Common Mode Rejection

120 dB minimum

Ambient Temperature Range

–10°C to +60°C operating

Temperature Stability

Better than ±0.04% of span per °C

Case Material

Polycarbonate: gray UL #94V-1 housing and black UL #94V-2 terminals

Power Supplies

Input power supplies fuse protected and fully isolated
Standard: 115 VAC ±10%, 50/60 Hz, 5 W max., linear type
A230 option: 230 VAC ±10%, 50/60 Hz, 5 W max., linear type
D option: 9-30 VAC/VDC, 5 W typical, switching type

Models & Options

Factory Configured—Please specify input/output ranges and options

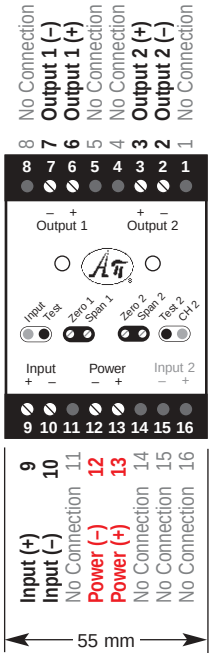
4393 DIN	IsoSplitter, 115 VAC powered
4393 DIN A230	IsoSplitter, 230 VAC powered
4393 DIN D	IsoSplitter, 9-30 VAC/VDC powered

Options—Specify on Order

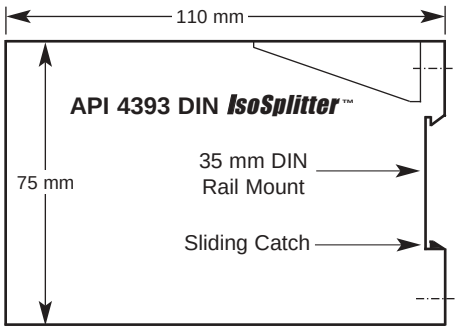
DF	Fast response time, consult factory
U	Conformal coating for moisture resistance

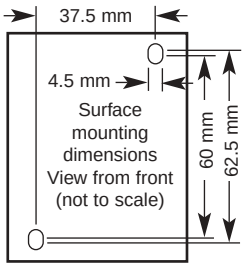
Accessories—See other side

Electrical Connections & Dimensions



Please specify input and outputs.





ABSOLUTE PROCESS INSTRUMENTS, Inc.
Mod-tronic Instruments Limited
Tel: 905 457-6322 **Fax: 905 457-4716**
Toll Free: 800 794-5883
www.mod-tronic.com

© Absolute Process Instruments, Inc. 03/03

API 4393 DIN IsoSplitter™ Signal Isolator/Splitter

FUNCTIONAL DESCRIPTION

The API 4393 DIN ***IsoSplitter*** accepts one analog DC voltage or current input and provides two optically isolated analog DC outputs that are linearly related to the inputs. The input signal is filtered, amplified, split, then passed through an opto-coupler to the output stage. The two output channels provide an economical solution where more than one output is required.

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 the three. The optical isolation between the input and outputs make this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction.

This product is designed to function effectively in electrically noisy industrial environments. It is designed to interface with and provide signal compatibility with recorders, data loggers, computers programmable logic controllers, and process transmitters.

UNIQUE FEATURES

The fast responding API 4393 DIN ***IsoSplitter*** uses the latest technology in linear optical isolation for optimum noise immunity and complete freedom from AC artifacts in the output. In addition, the module's power supplies are isolated resulting in full 3-way (input, output, power) isolation for each channel. Standard power is 115 VAC. Options include 230 VAC or 9-30 VAC/VDC power.

API exclusive features include ***LoopTracker***® LEDs for the input and each output and a Functional Test Pushbutton. Both the LoopTracker LEDs and the functional test pushbutton provide help in diagnostics and testing and save a great deal of time during initial startup and/or troubleshooting.

The LoopTracker LEDs (Green for input, Red for output) vary in intensity with changes in the input and the output process signals. These LEDs provides a quick visual indication of the status of each process loop at all times.

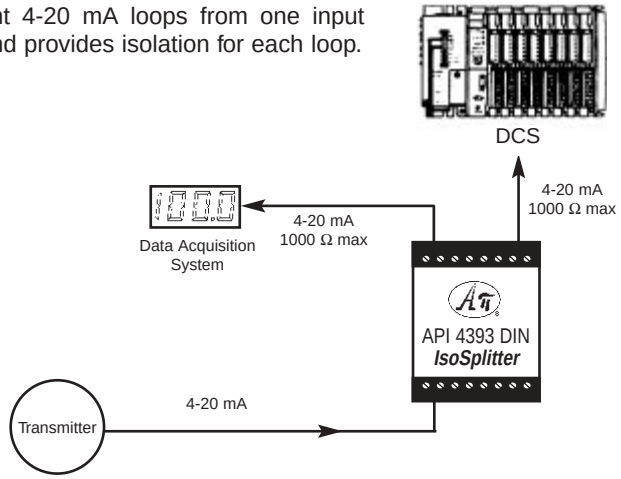
The functional test pushbutton provides a fixed output (independent of the input) when held depressed. This output is factory set to approximately 50% of the output span. This allows testing of the output independent of the input signal.

Positive-locking wire terminals are used to ensure good wiring connections.

TYPICAL APPLICATION

The API 4393 DIN ***IsoSplitter*** is useful where a 4-20 mA signal must be independently output to two devices.

The output from a pressure transmitter needs to be monitored in two separate locations. The DCS is used for the control system and another device is used for data acquisition. The API 4393 DIN ***IsoSplitter*** provides two independent 4-20 mA loops from one input and provides isolation for each loop.



INSTALLATION & OPERATION

The API 4393 DIN clips to an industry standard 35 mm DIN rail. The housing also allows for surface mounting.

The API 4393 DIN is factory configured for the input and outputs. Refer to wiring diagram on reverse side for wiring connections. The power supplies are fuse protected and the unit may be returned to API for fuse replacement.

The LoopTracker LEDs will glow dimly when the process signals are at their minimum and increase in brightness until the maximum levels are reached. They also act as a power-on indicator. If all LEDs are off, check power to the unit. Note that it may be difficult to see the LEDs under bright lighting conditions

CALIBRATION

The API 4393 DIN is pre-configured at the factory for the input and outputs. See module label for input and output ranges. Front-mounted, multi-turn Zero and Span potentiometers allow compensation for load and lead variations.

1. If fine-tuning is necessary, apply the appropriate power to the module and allow a minimum 30 minute warm up time.
2. Using an accurate calibration source, provide an input to the module equal to the minimum input level (such as 0 V or 4 mA).
3. Using an accurate measurement device for the output, adjust the Zero potentiometer for the exact minimum output desired. Repeat for each output channel.
4. Next, set the input to the maximum input level (such as 5 V or 20 mA).
5. Adjust the Span pot for the exact maximum output desired. Repeat for each output channel.
6. Repeat Zero and Span adjustments for maximum accuracy.

ACCESSORIES

API TK36 DIN rail, 35 mm W x 39" L, aluminum

API 535 Polycarbonate NEMA 4X enclosure for 1 module

RELATED PRODUCTS

API 4390 DIN Two voltage or current inputs and two voltage or current outputs.

API 4391 DIN Two voltage or current inputs and two bipolar (±) voltage outputs.

API 4392 DIN Two bipolar (±) voltage or current inputs and two bipolar (±) voltage outputs or zero-based current outputs.

API 4300 G Plug-in style isolated DC-DC transmitter.

API 4380 G Like API 4300 G, but field selectable inputs & outputs.

API 4380 DIN Same as API 4380 G, but DIN style case and universal power 48-300 VDC or 80-265 VAC.

API 4380 DD Same as API 4380 DIN, but 9-30 VDC power.

API 4385 Plug-in style field rangeable isolated DC-DC transmitter.

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

ABSOLUTE PROCESS INSTRUMENTS, Inc.