# API DPI HV-DC High Voltage Input DC - DC Transmitter

*Full isolation*
*Selectable Ranges*

*Input: 0-100 VDC to 0-2000 VDC*
*Output: 0-1 VDC to ±10 VDC or 0-2 mA to 0-20 mADC*

- *Accepts High Voltage Inputs*
- *Input Ranges from 100 VDC to 2000 VDC*
- *7 Standard or 1 User Specified Input Ranges*
- *High Input Impedance*
- *2000 V Full Input/Output/Power Isolation*
- *55 mm Wide DIN Style Package*
- *Input and Output LoopTracker® LEDs*
- *Functional Test Pushbutton*




## Applications

- **Isolate, Convert, Boost, Rescale Process Signals**
- **Interface Process Signals with Panel Meters, Recorders, Data Acquisition Cards, PLCs, DCS Systems, SCADA Systems**

## Specifications

### Input Ranges

*Please specify input range.* Field or factory configurable via internal jumpers. Consult factory for special ranges.

Minimum: 0 to 100 VDC
Maximum: 0 to 2000 VDC

### Input Impedance

2.5 MΩ

### *LoopTracker®*

Variable brightness LEDs indicate input/output loop level and status

### Output Ranges

*Please specify output range.* Field or factory configurable via internal jumpers. Consult factory for special ranges.

| | Minimum | Maximum |
|---|---|---|
| Voltage (±10 mA max.): | 0 to 1 VDC | ±10 VDC |
| Current (20 V compliance): | 0 to 2 mA | 0 to 20 mA |

### Output Zero and Span

Multiturn potentiometers to compensate for load and lead variations
±15% of span adjustment range typical

### Output Linearity

Better than ±0.1% of span

### Output Ripple and Noise

Less than 10 $mV_{RMS}$

### Functional Test Button

Sets output to test level when pressed
Potentiometer factory set to approximately 50% of span
Adjustable 0-100% of span

### Response Time

100 milliseconds typical

### Isolation

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

### Ambient Temperature Range

–10°C to +60°C operating

### Temperature Stability

Better than ±0.02% of span per °C

### Case Material

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

### Power

Standard: 115 VAC ±10%, 50/60 Hz, 2.5 W max.
**A230** option: 230 VAC ±10%, 50/60 Hz, 2.5 W max.

## Models and Options

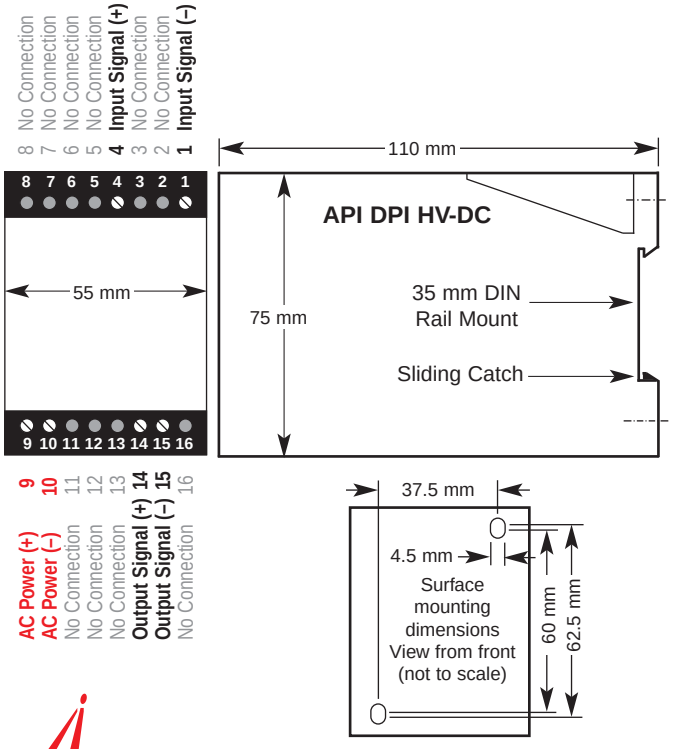
**API DPI HVDC** Field rangeable high voltage input DC to DC transmitter, isolated, 115 VAC

*Options—Specify on Order*

**A230** Powered by 230 VAC, 50/60 Hz
**DF** Fast response, 1 millisecond nominal response time
**U** Conformal coating for moisture resistance

*Accessories—See other side*

## Electrical Connections & Dimensions





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# API DPI HV-DC DC to DC Transmitter

## FUNCTIONAL DESCRIPTION

The API DPI HV-DC accepts a DC voltage input and provides an optically isolated DC voltage or current output that is linearly related to the input. This module is unique because it is field rangeable for voltage inputs from 100 VDC to 2000 VDC. Typical applications include signal isolation, signal conversion, signal attenuation or a combination of the three.

The optical isolation between input and output makes this module useful for ground loop elimination, common mode signal rejection or noise pickup reduction. The API DPI HV-DC 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 power supply is isolated, resulting in full 3-way (input, output, power) isolation. Standard power is 115 VAC, 230 VAC is optional.

The API DPI HV-DC distinguishes itself from other similar products in that both its input and output can be field-configured via slide switches. The more common ranges can be selected from a table on the module label. However, a user specified range is available that can be factory configured to meet your specific requirements. Consult the factory for assistance.

The API DPI HV-DC is designed to mount on industry-standard DIN rails. The 55 mm DIN style housing allows for side-by-side mounting of multiple modules for maximum I/O density.

## UNIQUE FEATURES

API exclusive features include two ***LoopTracker***® LEDs and a **Functional Test Pushbutton**. The LoopTracker LEDs (Green for input, Red for output) vary in intensity with changes in the process input and output signals. Monitoring the state of these LEDs can provide a quick visual picture of your process loop at all times.

The functional test pushbutton provides a fixed output (independent of the input) when held depressed. The test output level can be field-adjusted via a multiturn potentiometer.

Both the LoopTracker LEDs and functional test pu
shbutton greatly aid in saving time during initial startup and/or troubleshooting.

## INSTALLATION & OPERATION

The API DPI HV-DC clips to an industry standard 35 mm DIN rail. The housing also allows for surface mounting.

Each product is factory configured to your exact input and output requirements. See product label for input and output designations.

If a range change becomes necessary consult factory and request *DPI HV-DC Range Settings* sheet. Ideally, any range changes should be done before the unit is wired and installed.

Due to the high input voltage capability of this model, remove all power from the unit, follow all proper safety precautions, and consult a qualified electrician or instrumentation engineer before making any range changes.

The internally mounted input selector switches determine the input range. Refer to *DPI HV-DC Range Settings* sheet for instructions. Depending on these slide switch settings, the input is attenuated as required, filtered, then passed through an optical isolation circuit to the output stage.

The settings of the internally located voltage/current slide switch and output selector slide switches determine the exact DC voltage or current output range available to the user. Refer to *DPI HV-DC Range Settings* sheet for instructions.

Refer to wiring diagram on reverse side for wiring connections.

## RELATED PRODUCTS

The following products are also available for use with a DC voltage or current input. Refer to the appropriate data sheets for details.

**API 4380 DIN**
Same as DPI HV-DC, but low voltage (±10 VDC) and current inputs, universal power: 48-300 VDC or 80-265 VAC.

**API 4380 DD**
Same as DPI HV-DC, but low voltage (±10 VDC) and current inputs, universal power: 9-30 VDC.

**API 4380 G HV3**
Same as DPI HV-DC, but plug-in style, high voltage inputs up to ±200 VDC.

**API 4380 G HV3 DF**
Same as API 4380 G HV3, 1 millisecond response time.

**API 4380 G**
Same as DPI HV-DC, but plug-in style, low voltage (±10 VDC) and current inputs.

**API 4380 G DF**
Same as API 4380 G, 1 millisecond response time.

**API 4385 G**
Same as API 4380 G, but non-interactive zero and span adjustments, ±100% offset.

**API 4300 G**
Factory ranged DC to DC isolating transmitter. Used in applications requiring special offsets and ranges.

## ACCESSORIES

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

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

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