

- \* **LOW VOLTAGE DROP 0.4 VDC**
- \* **2000 VAC ISOLATION**
- \* **AC OR DC POWERED**
- \* **TRANSMITTER POWER SUPPLY**
- \* **EXPLOSION PROOF HOUSING AVAILABLE**



### GENERAL DESCRIPTION

The Model 18-129L Isolator provides electrical isolation between a high-level signal transmitter and a receiving device. It accepts a variety of voltage or current inputs and provides a variety of isolated voltage or current outputs. Because the input and output signals do not have to be the same, the unit can be used as a signal converter as well as a signal isolator. The 18-129L is also useful as a signal repeater or as a signal booster in 4 to 20mA loops, which have become over loaded.

Standard input/output signals include 0 to 1 mA, 4 to 20 mA, 0 to 20 mA, 0 to 1 V, 0 to 5 V, 1 to 5 V and 0 to 10 V. The milliamp input versions feature a low input voltage drop of 0.4 volts for a full-scale input. The milliamp input versions also provide an unregulated 23 Volt output to power a 2-wire, 4 to 20 mA transmitter. This voltage is optional and may be enabled or disabled by the positioning of plug-in jumpers on the PC board. The voltage input versions have a voltage divider at the input, providing resistance of approximately 45,000 Ohms of per volt.

Optical isolation is used to separate the input from the output. The input signal is transferred to the output circuitry through the use of a precision optical coupler with an isolation rating of 2500 Volts RMS. Optical feedback is provided to assure high accuracy and excellent linearity

The AC powered units utilize a split bobbin, power transformer to guarantee maximum isolation between the input and output power supply circuitry.

Three power supply options, 115 VAC, 220 VAC and 24 VDC, are available for the 18-129L. The AC power versions have approximately 32 Volts available to power a current output loop. This voltage can drive a 20 mA output into a 1600 Ohm load. In the 24 VDC versions the milliamp outputs receive their power from the external 24 V supply. The DC powered 18-129L can drive a 20 mA output into an 850 Ohm load. Note that the negative output terminal and the negative power supply terminal are internally connected in the DC powered units.

The compact MINI-PACK design provides high-packing density for wall, rack, snap track or DIN rail mounting. Field wiring connections are made to a compression type terminal block, which may be unplugged from the isolator for ease of wiring. Span and zero potentiometers are accessible for fine calibration adjustments.

# SPECIFICATIONS - MODEL 18-129L

## GENERAL

Non-Linearity:  $\pm 0.1\%$  of span  
 Line Power: 115,  $\pm 10V$ , 50/60Hz 25VA  
 (-E71 220VAC)  
 (-E92 24VDC, 3VA)  
 Line Regulation: 0.01% / 1% change in supply voltage  
 Load Regulation: 0.006uA / 10 Ohm change-in load

## Environmental Temperature Influence

Recommended Temp. Limits: 0 to 70°C  
 Ambient Temp. Effects:  $\pm 0.010\%$  / °C typical  
 0.025% / °C maximum

## Frequency Response

Bandwidth: -3dB @ 1000Hz  
 Common-Mode Rejection: -100dB for DC to 60Hz

## INPUT

Current: 4 to 20mA, 0/20 mA, 0/1mA DC  
 Resistance: 20 Ohms  $\pm 1\%$   
 Voltage Drop: 0.4 VDC @ 20mA typical  
 Voltages: 0/1, 0/5, 1/5, 0/10 VDC  
 Reverse Polarity: Diode protected

## TRANSMITTER SUPPLY

24 VDC: Varies between 20 to 30 VDC depending on load and line voltage  
 Output: Current limited @ 40mA

## OUTPUT

Current: (AC Pwr) 4/20mA DC, 1600 Ohms (115VAC pwr)  
 (DC Pwr) Current limited @ 40mA  
 4 to 20 mA, 850 Ohms  
 Voltages: 0/1, 0/5, 1/5, 0/10V DC  
 Output noise: Less than 0.1%  
 Load regulation: Less than 0.1% rated load

## ISOLATION-INPUT/OUTPUT CASE

Input / Output / Case: 2000 VRMS  
 Leakage Resistance: Greater than 20,000M-Ohm @ 100VDC

## HOUSING

Indoor Type:  
 General purpose, Anodized Aluminum, 2-3/16"x1"x5-1/4" deep

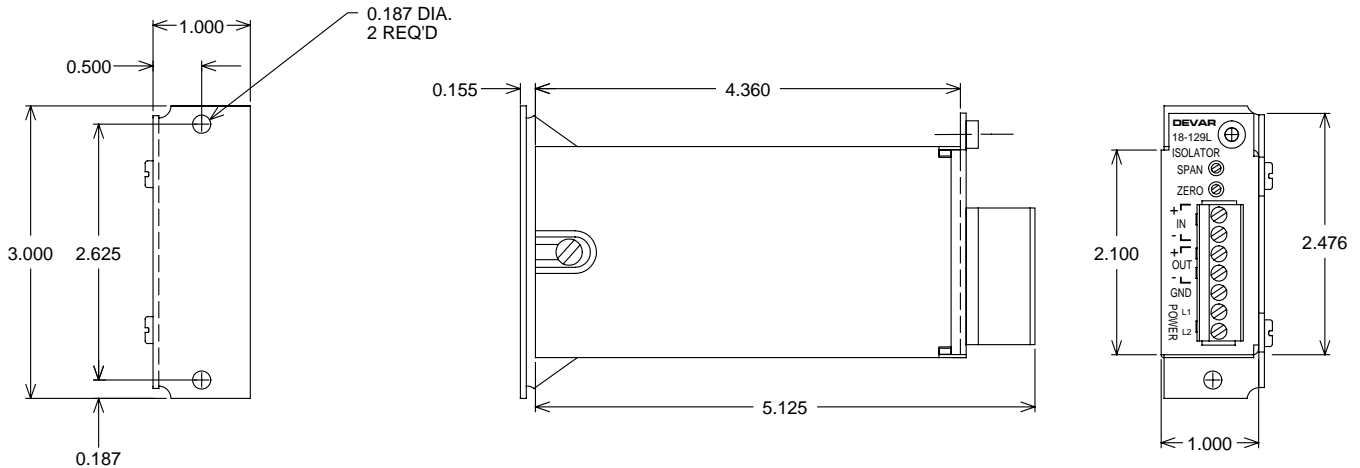
Wall & 3" Snap Track Mounting Bracket:  
 Two 3/16" mounting holes spaced at 2-5/8"

Pluggable Terminal Strip: Compression type; 14-26 AWG.

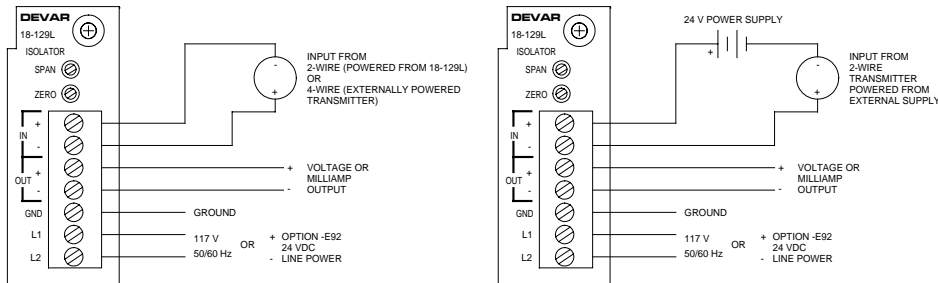
## OPTIONS

-E71 220VAC Operation  
 -E92 24VDC, 3VA  
 -NE4 NEMA-4 Enclosure, (1,2 or 3 Isolators)  
 -M37A Explosion Proof Housing  
 -M31D DIN Rail Mounting Bracket  
 -M36 2" Pipe Mount Bracket (Use with -M37)

## General Dimensions



## External Wiring



# DEVAR Inc.

706 BOSTWICK AVE.  
 BRIDGEPORT, CT 06605-2396  
 TEL: 203-368-6751 FAX: 203-368-3747  
 TOLL FREE: (800) 566-6822  
 www.devarinc.com