

- 1400 VDC ISOLATION
- DUAL MODE OPERATION
 - TWO INPUTS - TWO ISOLATED OUTPUTS
 - ONE INPUT - TWO ISOLATED OUTPUTS
- POWERED BY INPUT SIGNAL
- VARIETY OF MOUNTING OPTIONS



GENERAL DESCRIPTION

The Model SM269-D provides a simple method for isolating input and output signals in standard 4 to 20 milliamp loops. Deriving its power directly from the transmitting process signal, the Model SM269-D may be installed anywhere along the loop where isolated current outputs are desired. The output current is an accurate reproduction of the input current and is unaffected by the value of the load resistance.

There are two independent isolator circuits in the SM269-D, providing 1400 VDC or 1000 VRMS of isolation between input, output and case, as well as between channels 1 and 2. Each input exhibits a 7 volt drop for an input current of 20mA. This voltage drop is not affected by the value of the load resistance, which can be any value between 0 and 275 ohms.

A unique feature of the SM269-D is the ability to connect the two input channels together in series, thereby producing two isolated outputs from a single current input. The two isolators in series appear as a 700 ohm load in the primary current loop and require 14 VDC at 20 mA to operate.

The SM269-D functions by modulating the input current for transformer coupling to the output circuitry. The output current and voltage are measured and the internal resistance is adjusted, so that the internal resistance plus the external load resistance always equals 275 ohms. Because the total output resistance remains a constant, the output signal is not affected by changes in the external load resistance.

This isolator comes with a standard surface mounting bracket, which also fits directly into a 3 inch snap track. Option M31D is available for DIN rail mounting and a NEMA 4X enclosure (Option-NE4) and an explosion proof housing (Option-M37A) allow the SM269-D to be installed in a variety of environmentally sensitive locations.

SPECIFICATIONS (@25°C, 250 Ohm Load)

GENERAL (each channel)

Power Source: Input Signal
 Input Range: 4 to 20mA
 Output Range: 4 to 20mA
 Input Voltage Drop: 3V (4mA) to 7V (20mA) Typ.
 Output Load: 0 to 275 ohms
 Max Operating Range: 1 to 25mA
 Max Continuous Input: 50mA
 Max Surge Current: 10 A for 1 ms
 Input Protection: 14 V, 3 Watt Transient Zener
 Across Input terminals

PERFORMANCE

Output Voltage Clamp: Approximately 9 volts
 Calibration Accuracy: $\pm 0.10\%$ of Span Max.
 (for 4 to 20 mA input)
 Load Effect: $\pm 0.01\%$ of Span Max.
 (from 0 to 275 ohms)
 Temperature Range: -40°C to $+70^{\circ}\text{C}$
 Temperature Effect: $\pm 0.015\%$ of Span per $^{\circ}\text{C}$ Typ.
 Isolation: 1000 VRMS at 60 Hz or 1400 VDC
 (Between Input, Output and Case)

INSULATION RESISTANCE: (20,000 Megohms @100 VDC)
 (Between Input, Output and Case)

Common Mode Rejection: 120 dB Typ. at 60 Hz
 Internal Oscillator: 20 KHz Typ.
 Output Ripple: 0.1% of Span, P-P, Typ.
 Frequency Response: Time Constant = 5 ms Typ.
 3 dB Freq = 34 Hz Typ.
 Load Effect on Freq: Time Constant = $(1\mu\text{F} \times \text{Load Res.})$
 Transverse Rejection: 30 Hz, -2.6 dB Typ.
 60 Hz, -6.5 dB Typ.
 120 Hz, -12.0 dB Typ.
 RFI Effect: Less Than 0.2% of Span
 for 5W, 470 MHz,
 Transmitter @ 1 Ft.

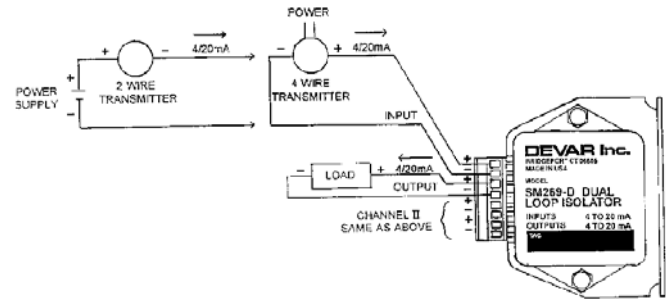
WIRING AND ENCLOSURE

Field Connections: Compression Type Terminal
 Block, Unpluggable
 from Unit 16-28 AWG,
 Strip Length 0.25" HOUSING:
 3" High X 1" Wide X 2.9" Deep
 Paint Over Tin Plated Steel
 Surface or Snap Track Mt. Std.

ORDERING INFORMATION

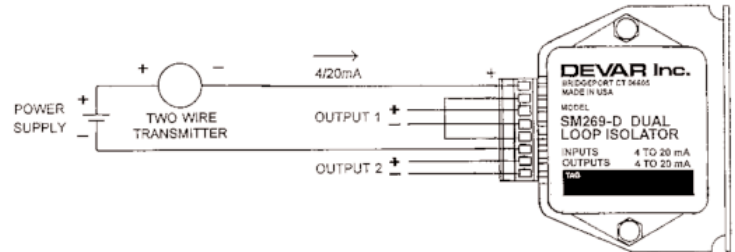
Specify Model SM269-D
 Add desired option(s) below:
 -M31D Din Rail Mounting
 -NE4 NEMA 4X Enclosure
 -M37A Explosion Proof Housing

Made in USA



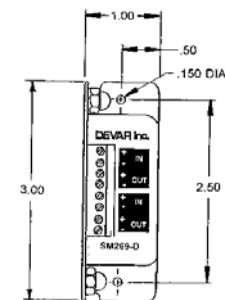
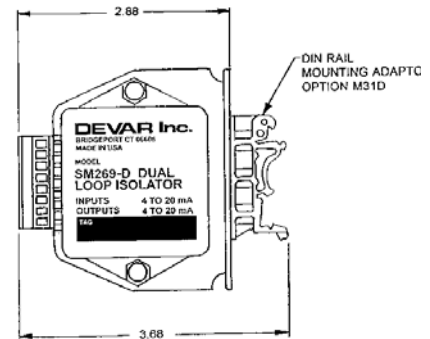
FIELD WIRING

Two Inputs, Two Isolated Outputs



FIELD WIRING

One Input, Two Isolated Outputs



GENERAL DIMENSIONS

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