

* $\pm 0.1\%$ F.S. ACCURACY
INCLUDES REPEATABILITY,
LINEARITY, AND HYSTERESIS

* MOUNTS IN STANDARD RTD
CONNECTION HEADS

* FULLY RFI PROTECTED



APPROVED



GENERAL DESCRIPTION

The DEVAR 18-812 Signal Transmitters provide accurate and reproducible conversion of RTD and resistance signals to 2-wire 4/20 mA outputs.

Their small size allows easy, space saving mounting in most standard RTD connection heads. This provides a compact mounting assembly located at the point of measurement. Operational errors due to noise pickup and leadwire resistance errors are virtually eliminated. This assures a stable 4/20 mA output signal transmitted directly from the measuring source.

Each transmitter is supplied pre-calibrated to standard temperature or resistance ranges. Accessible multi-turn trimmer pots provide for a $\pm 25\%$ zero and span adjustment and allow for precise 0.1% F.S. calibration.

RFI protection meeting SAMA PMC 33.1-1978-2 abc requirements is achieved by unique input and output signal filtering. Further protection is provided by the use of a metal housing.

A linearizing circuit is built into all standard range units. This allows the output current to be proportional to the sensed temperature

within a linearity of $\pm 0.1\%$ F.S. plus 4:1 improvement of non-linearities normally encountered in the RTD curve. It is available as an option for the standard ranges.

Typical applications include temperature measurements from within an existing or newly installed thermal connection head in most industrial environments. Also, its small size makes these transmitters ideal for high density SnapTrack or surface mounting for either temperature or variable resistance measurements in general purpose applications.

The unit carries Intrinsically Safe Approval from Factory Mutual for Class I, Division 1, Groups A, B, C & D. Their low cost and rugged industrial design also makes them desirable for use in HVAC installations where reliable heating, cooling water, duct or ambient temperature measurements are required.

SPECIFICATIONS

INPUT

- a. Standard Ranges, Linearized to Temperature
100 Ohm Platinum RTD $\alpha = 0.00385$

From		To	
°F	°C	°F	°C
-40	-40	+120	+50
0	-13	+200	+94
0	-13	+300	149
0	-13	+500	+260
0	-13	+750	+399
0	-13	+1000	+538

- b. Non-Standard Ranges Available.
Minimum Input Span: > 5 Ohms
Specify Option -L for Linearization

PERFORMANCE

- a. Accuracy: $\pm 0.1\%$ F.S., includes effects of Linearity, Hysteresis, and Repeatability referred to millivolt input.

OUTPUT

- a. Range: 4 to 20 mA DC
b. Limit: 3.4 to 27 mA DC
c. Load Resistance: $R_L = (V_{sup.} - 11)/20 = K \text{ Ohms}$
d. Load Effect: $\pm 0.05\%$ per 300 Ohms

ENVIRONMENT

- a. Ambient Temperature Ranges -25° to 185°F
b. Ambient Thermal Change Effect:
Zero Shift: $\pm 0.01\%$ / °F of Span
Span Shift: $\pm 0.01\%$ / °F of Span
c. Storage Temperature Range: -85° to +248°F

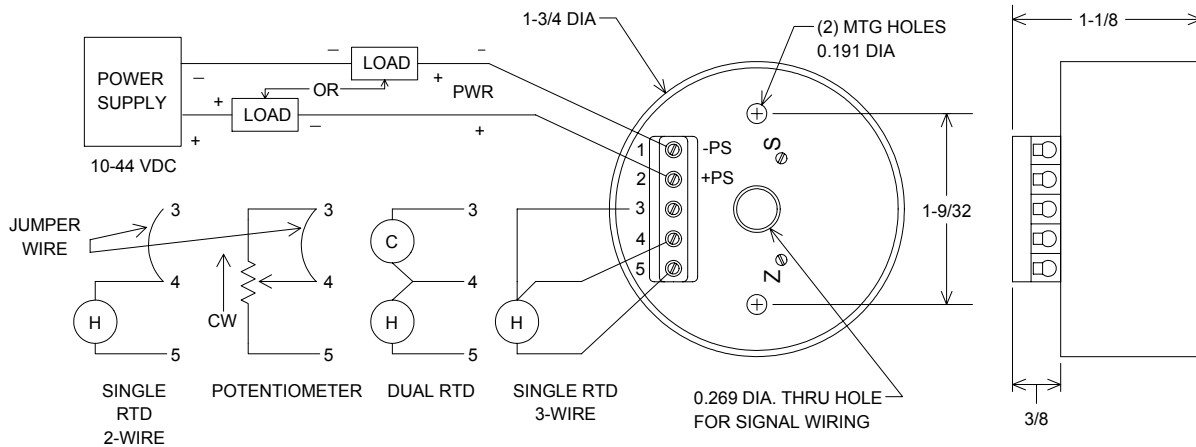
ELECTRICAL

- a. Supply Voltages: 11 to 44 VDC
b. Power Supply Effect: 0.01% of Span per Volt variation
c. RFI Protection: Rated Class 3-C: 0.25% of Span per SAMA PMC 33.1 - 1987 - abc
d. Calibration Range: Zero: $\pm 0.25\%$ of Full Scale
Span: $\pm 0.25\%$ of Full Scale
e. Power Supply Effect: $\pm 0.01\%$ Output Span/Volt

OPTIONS

- L Linearized Input Circuit with Linearity of $\pm 0.01\%$ F.S. Plus 4:1 Improvement of RTD curve
-M31S SnapTrack Mounting Bracket
-M31D DIN Rail Mounting

Model 18-812 General Dimensions & Typical Wiring



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