

- * THERMO-HEAD
INSTALLATION
- * 0.1% ACCURACY
- * FIELD RANGEABLE
VIA DIP SWITCH
(NO SOLDERING)
- * LOW 8.5 VDC DROP



DESCRIPTION

Conversion of RTD (Resistance Temperature Detector) signals is accomplished using the Devar Model SM812 signal transmitter. Surface mount technology provides a compact package allowing the SM812 to mount directly within miniature thermal connection heads. The SM812 accommodates Pt 100 Ω RTDs and provides a 4 to 20 mA output current proportional to the detected temperature.

DIP switches combined with multi-turn trimmers allow the user to select an input span from 150° to 500°F for the -1 model or 300° to 1000°F for the -2 model, with an offset of $\pm 40^\circ\text{F}$.

The versatility of this model's calibration technique allows the user to stock a single model and field calibrate for a wide variety of signal conditioning needs.

SPECIFICATIONS

Performance

- 1) Accuracy:
 $\pm 0.1\%$ span, includes effects of linearity, hysteresis, and repeatability referred to as temperature input.
- 2) Nonlinearity:
0.1% relative to a Pt 100 Ω RTD.
 $\alpha = 0.00385$ standard curve.

Power Supply

- 1) Working voltage of:
8.5 to 35 VDC
- 2) Supply Voltage Effect:
 $< \pm 0.001\%$ / Span / Volt

Loop Considerations

- 1) Loop Resistance Load Effect:
 $< \pm 0.002\%$ Span / 300 Ohms
- 2) Maximum Loop resistance:
(V supply - 8.5V) / 20mA

RFI immunity

- 1) Rated Class 3-C: 0.25% of span
per SAMA PMC 33.1-1987-2abc

Frequency Response

- 1) Output: -3dB @ 3Hz Input

Temperature range

- 1) Ambient: -13° to 185°F
- 2) Storage: -85° to 257°F

Thermal Effect

- 1) Zero Shift of: $\pm 0.02\%$ / Span / °F
- 2) Span Shift of: $\pm 0.02\%$ / Span / °F

Humidity

- 1) 0 to 90% noncondensing

Input

- 1) Standard: Pt 100 Ω RTD, $\alpha = 0.00385$
- 2) Other Inputs: Contact Factory

Output

- 1) Standard Signal Range: 4 to 20 mADC
- 2) Absolute Limit: 2 to 25 mA
- 3) Open RTD Indication: Output $> 22\text{mA}$

Standard Ranges:

- 1) SM812 -0001:
 Zero -40° to +40°F
 Span 150° to +500°F
- 2) SM812 -0002:
 Zero -40° to +40°
 Span 300° to + 100°F
 (Other Ranges Contact Factory)

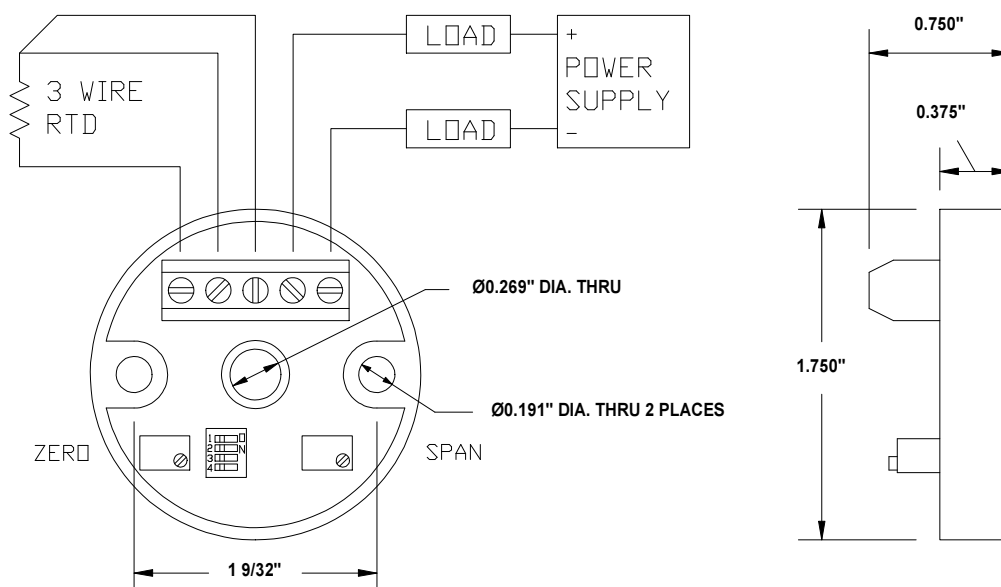
Options:

- M31S SNAPTRACK™ mounting bracket
 -M31D DIN rail mount
 -CHA Aluminum Connection Head
 -CHAS Snap Top Connection Head
 -CHN Nylon Connection Head
 -CHX Explosion Proof Connection Head

Ordering Information:

SM812 - <temperature range> - <option>

ZERO ADJUSTMENT								
POSITION 4	ON				OFF			
ZERO RANGE	-40°TO -0°F				0°F TO 40°F			
SPAN SELECTION								
POSITION 3	ON	ON	ON	ON	OFF	OFF	OFF	OFF
POSITION 2	ON	ON	OFF	OFF	ON	ON	OFF	OFF
POSITION 1	ON	OFF	ON	OFF	ON	OFF	ON	OFF
model -0001	150°F	200°F	250°F	300°F	350°F	400°F	450°F	500°F
model -0002	300°F	400°F	500°F	600°F	700°F	800°F	900°F	1000°F

TYPICAL INSTALLATION**DEVAR Inc.**

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