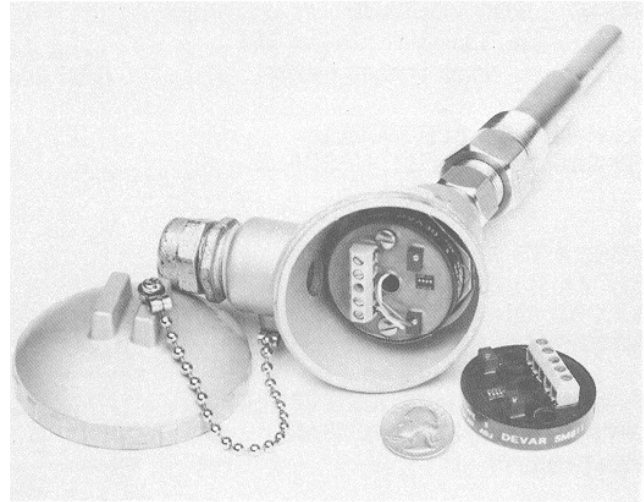


- \* **THERMO-HEAD  
INSTALLATION**
- \* **0.1% ACCURACY**
- \* **FIELD RANGEABLE  
VIA DIP SWITCH  
(NO SOLDERING)**
- \* **LOW 8.5 VDC DROP**



### 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 100Ω 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 shock a single model and field calibrated 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 temperature input.
- 2) Nonlinearity:  
0.1% relative to a 100Ω Pt 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: 100Ω Pt 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 + 1000°F
  - (Other Ranges Contact Factory)

**Options:**

- M31S SNAPTRACK™ mounting bracket
- M31D DIN rail mount
- CHA Aluminum 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:

