

Power

7.5VDC to 12VDC @ 180mA.
6VAC to 10VAC 60Hz @ 180mA.

Environmental

Operating Temperature: 0 to +60°C.
Storage: -40 to +85°C.

Thermocouple Probe

Thermocouple input, types E, J, K, R and T. Cold junction compensated. 2000 Ω maximum sensor resistance. Input resistance > 10 M Ω . CMR > 100dB; NMR > 60dB. Peak overload protection is 400V. Maximum potential from sensor to panel = 300V.

RTD Thermometer Probe (Not Included)

American (ANSI) Standard: Platinum sensor, 100.00 Ω at 0°C. 139.15 at 100°C. Three-wire lead length compensation.

European (DIN) Standard: Platinum sensor, 100.00 Ω at 0°C. 138.50 Ω at 100°C. Three-wire lead length compensation.

Japanese (JIS) Standard: Platinum sensor, 100.00 Ω at 0°C. 139.16 Ω at 100°C. Three-wire lead length compensation. Probe current 2mA, internally generated. CMR > 100dB. NMR > 60dB.

Accuracy

3 1/2 - Digit: At 25°C, within 0.01% full scale, ± 1 count.

4 1/2 - Digit: At 25°C, within 0.01% full scale, ± 1 count.

Stability

0.005% of full scale, 0.005% of reading/°C.

Response Time

0.05 seconds, full scale step.

Sample Rate

2.5 samples/second.

Display

0.56" (14mm) height, 7 segment LED.

3- or 4- digit.

Negative polarity (-) sign included.

Overrange: All digits flash.

Selectable decimal point.

Controls and Adjustments

Under access door. Potentiometers for zero and full scale adjustment.

Accessories

Three or five female terminal tabs (depends on sensor type).

Door labels.

120VAC to 6VAC plug-in transformer.

Options

62: +5VDC power only.

90: NEMA 4X cover.

Support Modules (Include Screw Terminals)

SM90105: 120VAC Power.

SM90107: 12VDC Power.

SM90107-SP0234: SM90107 with 2 – 10VDC Output.

SM90112: 120VAC Power, 2 – 28VDC Output.

Temperature Meters with Set Points

General Specifications Apply

Signal

AC Voltages. Differential input, sine wave from 30Hz to 5kHz. See table for input ranges and impedance. CMR 100dB at 60Hz with 1 k Ω imbalance. NMR 60dB at 60Hz. Maximum potential from signal to panel is 300V (500V with larger clearance around input terminals).

Set Points

Horizontal segment above polarity indicator lights when set point A output (Pin 3) is on; horizontal segment below polarity indicator lights when set point B output (Pin 4) is on.

Set Point Accuracy

Trip point varies considerably less than 1 count from set value. Hysteresis is typically 6 counts.

Control Inputs

Invert set point A output, invert set point B output, set point A latch enable, set point B latch enable. Closure to ground (<0.8 V) enables function. These inputs are internally pulled to +5V through a 10 k Ω resistor. They can hold off up to 50V.

Outputs

Limit: Two open collector transistor switches for each of the two set points. For each set point, one transistor switch turns on and the other turns off when the limit is exceeded. Maximum voltage at any output pin not to exceed 50V. ON is transistor switched to ground. Maximum load capability is 100mA resistive. With a 100mA current, voltage at the output is <1.1 V. Maximum dissipation is 350mW per output. OFF is transistor switch off. Maximum leakage at 50 V is 50 μ A.

Controls and Adjustments

Under access door. DIP switches to select decimal points and dummy zero; multi-turn potentiometer for gain adjustment. Set point A and set point B; socketed scaling resistor for changing ranges; polarity resistor lead can be clipped to eliminate polarity indication.

Support Modules (Include Screw Terminals)

SM90106: 120VAC Power, Open Collector.

SM90108: 12VDC Power, Open Collector.

SM90108-SP0234: SM90108 with 2 – 10VDC Output.

SM90109: 120VAC Power, Relays.

SM90111: 12VDC Power, Relays.

SM90111-SP0234: SM90111 with 2 – 10VDC Output.

SM90113: 120VAC Power, 2 – 28VDC, Open Collector.

SM90114: 120VAC Power, 2 – 28VDC, Relays.

Temperature Meters

Thermocouples 3-1/2 Digit				Thermocouples 4-1/2 Digit		
No Outputs		Setpoints		No Outputs		
P/N	P/Nr	Probe Type	Temperature Range	P/N	Probe Type	Temperature Range
7715	7749	Type E	-20 to +900°C	7741	Type J	-22 to 1,400.0°F
7724	7756		-4 to +1,652°F	7764	Type K	30 to +2,282°F
7716	7750	Type J	-30 to +760°C	7738	Type T	0 to +350.0°C
7725	7757		-22 to +1,400°F	7745		0 to +660.0°F
7717	7751	Type K	-34 to +1,250°C	RTD Thermometer 4-1/2 Digit		
7726	7758		-30 to +1,999°F	7790	N/A	-50.0 to +600.0°C
7718	7752	Type R	+400 to +1,450°C	7791		-58.0 to +1,112.0°F
7727	7759		+752 to +1,999°F			
7720	7754	Type T	0 to +350°C			
7721	7755		-200 to +30°C			
7729	7761		0 to +660°F			
7730	7762		-328 to +86°F			
RTD Thermometer 3-1/2 digit						
7700	7795	N/A	-50.0 to +600°C			
7710	7797		-58.0 to +1,112°F			



TEMPERATURE METERS	CUTOUT	REAR VIEW CONNECTIONS	FRONT VIEW ADJUSTMENTS
T/C 3 1/2	23	21	4
T/C 4 1/2	23	21	4
RTD 3 1/2	23	22	5
RTD 4 1/2	23	22	5

SEE FIGURES ON PAGE 44. SOME CONTROLS SHOWN IN THE DRAWINGS ARE NOT AVAILABLE ON ALL UNITS.