

- USER RE-RANGEABLE
- LOW COST
- RTD INPUTS
- T/C INPUT K.T. OR J.



LOW COST TEMPERATURE TRANSMITTER SEM104 Series

INTRODUCTION

The **SEM104** series are low cost 4-20mA temperature sensor transmitters housed in a head mount DIN standard connector block. Available for RTD or Thermocouple inputs the **SEM104** is field rangeable if necessary by solder links on the printed circuit board and the use of on board SPAN and ZERO potentiometers. The transmitters are low cost devices available in standard, factory calibrated ranges and can be re-ranged to suit most Industrial and Building Management applications.

GENERAL SPECIFICATIONS @ 68°F

Output 4-20mA loop powered, Max. 30mA
Loop Supply 10 to 30V DC reverse connection protected
Loop Resistance 700 ohms @ 24V
Loop volts sensitivity 0.05%/V
Temp. Stability ZERO drift typ. 0.01%/°F
 SPAN typ. 0.002%/°F
Ambient Temp. 32° to 150°F at 24V supply 250Ω load
Ambient RH 0 to 95% RH non condensing

APPROVALS

EMC Emissions BS.EN 50081
 Susceptibility BS.EN 50082

SEM104P PLATINUM RESISTANCE SENSOR

Pt-100 100 ohm DIN 3 wire
Accuracy ±0.4°F plus +0.2% rdg
Offset adjustment range dependent
Span adjustment 76°F to 932°F

SEM104K, T OR J THERMOCOUPLE SENSOR (ISOLATED JUNCTION)

Accuracy ±0.1%FS plus cold junction errors non-linearized
Offset adjustment ±200°F, solder link & potentiometer
Span adjustment 212° to 1832°F
Impedance >1M ohm
Burn Out Up scale standard. Downscale by link
Cold Junction Automatic 32° to 158°F
 Accuracy 0.4°F @ 68°F, tracking +0.02°F/°F

SENSORS

Platinum Resistance	P	Pt100, alpha = 0.00385 ohms
Thermocouple types	K	Chromel Alumel
	T	Chromel Constantan
	J	Iron Constantan

STANDARD RANGES °F

Range °F	SEM104 P	SEM104 K	SEM104 T	SEM104 J
-40 to 140		•	•	•
-100 to 100	•		•	
0 to 200	•	•	•	•
0 to 300	•	•	•	•
0 to 500	•	•	•	•
0 to 750	•	•	•	•
0 to 1000	•	•		•
0 to 1500	•			•

STANDARD RANGES °C

Range °C	SEM104 P	SEM104 K	SEM104 T	SEM104 J
-30 to +35	•			
-25 to +75	•			
0 to 50	•			
0 to 100	•	•	•	•
0 to 150	•	•	•	•
0 to 200	•	•	•	•
0 to 250	•	•	•	•
0 to 400	•	•	•	•
0 to 500	•	•		•
0 to 600		•		
0 to 800		•		
0 to 1000		•		

Other ranges can be supplied factory set or they can be configured by the use of solder links on the SEM pcb. Full details are supplied with each transmitter.



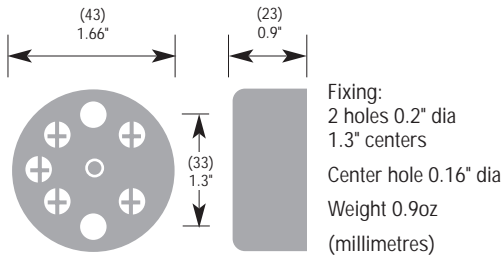
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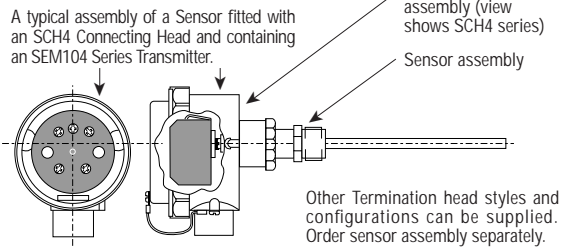


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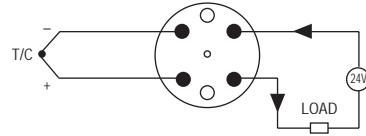
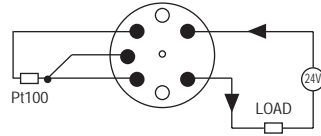
MECHANICAL DETAILS



TYPICAL SENSOR ASSEMBLY



CONNECTIONS



ORDER CODE STANDARD RANGES °F

SEM104	SENSOR	Lo range	Hi range	°F
P	K T J	-40°	140°	F
P	K T J	-100°	100°	F
P	K T J	0°	200°	F
P	K T J	0°	300°	F
P	K T J	0°	500°	F
P	K J	0°	750°	F
P	K J	0°	1000°	F
	K J	0°	1500°	F

SEM104/K/0/200/F would be the code for an SEM104 type K thermocouple range 0 to 200°F

ORDER CODE STANDARD RANGES °C

SEM104	SENSOR	Lo range	Hi range	°C
P		-30°	35°	C
P		-25°	75°	C
P		0°	50°	C
P	K T J	0°	100°	C
P	K T J	0°	150°	C
P	K T J	0°	200°	C
P	K T J	0°	250°	C
P	K T J	0°	400°	C
P	K J	0°	500°	C
	K J	0°	600°	C
	K J	0°	750°	C
	K J	0°	800°	C
	K J	0°	1000°	C

LOCAL REPRESENTATION



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