

- UNIVERSAL THERMOCOUPLE INPUT
- GALVANICALLY ISOLATED
- SMALL SIZE
- 4-20 mA OUTPUT
- HIGH PERFORMANCE
- DIN RAIL MOUNT



ISOLATING THERMOCOUPLE TRANSMITTER SEM1500/TC

DESCRIPTION

The SEM1500/TC is a universal thermocouple input DIN rail mounted transmitter designed to accept most common thermocouple types and to isolate and convert them to the industry standard 4-20 mA transmission signal. Automatic cold junction compensation is provided. The unit can also accept millivolt inputs between -5 and +50 millivolts from, for example, strain gauges.

The small size of the unit enables many more units to be installed in a smaller space than was previously possible. The output signal is galvanically isolated from the thermocouple by 500 volts DC to remove the effects of ground loops or leakage.

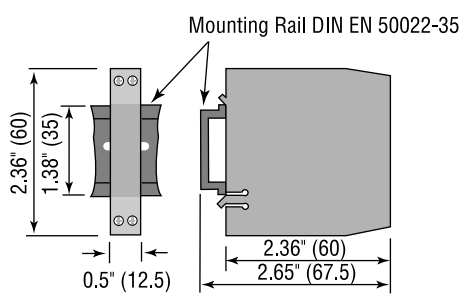
APPROVALS

- Tested to:**
- IEC 801-2 Susceptability to electrostatic discharge
 - IEC 801-3 Radiated Susceptability
 - IEC 801-4 Susceptability to conducted interference
 - EN 55022 Radiated emissions
- Compliant with EN 50081-1 and EN 50082-1

SPECIFICATIONS @ 68°F

INPUT	
T/C type	J.K.N.R.S.T
Millivolt	-5 to 50 mV signals
Isolation	INPUT to OUTPUT 500 VDC (Flash tested to 1Kv)
Burn Out	UP scale standard (DOWN scale to order)
Impedance	> 1M ohm
Cold Junction	Automatic compensation may be selected for use with the T/C types indicated or fixed zero compensation may be selected for mV or differential T/C measurement.
CJ Accuracy	±0.4°F @ 68°F ±0.02°F/°F Typical
OUTPUT	
Type	Passive 2 wire current output
Range	4-20 mA (30 mA MAX.)
Linearity	mV input linearity ±0.005% T/C ranges are cold junction compensated and directly referenced to T/C mV values
Protection	Reverse connection plus over voltage
GENERAL	
Supply	10-30 V DC
Load	700 ohms @24V
Thermal Stability	1µV /°F plus cold junction errors
Ripple Rejection	<40µA/V (measured at 1V ripple 60Hz)
Response time	200 mSecs to reach 70% of final value
Operating	ambient temperature 32 to 158°F RH 10-95% Non-condensing
ENCLOSURE	
Case Material	Polyamide (Grey)
Case Flammability	To UL94-VO VDE 0304 Part 3 Level IIIA
Mounting	Top Hat rail to DIN EN 50022-35
Protection	IP20
Connections	Captive screw connections
Cable Size	12 AWG solid / 14 AWG stranded

MECHANICAL DETAILS



SEM1500/TC Weight 1.6ozs

SEM1500/TC 6.02/PDF



STATUS INSTRUMENTS INC.

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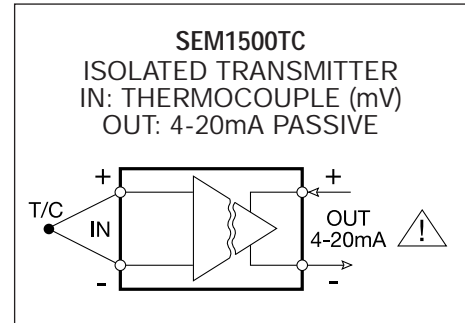
BS EN ISO 9001:1994
Certificate No. Q06257

STANDARD RANGES

The SEM1500/TC may be purchased pre-ranged to any of the following standard ranges.

Range°F from to	Range°C from to	THERMOCOUPLE TYPE						milli volt V
		N	K	T	J	R	S	
32 212	0 100	•	•	•	•			
32 392	0 200	•	•	•	•			
32 752	0 400	•	•	•	•			
32 1112	0 600	•	•		•			
32 1472	0 800	•	•		•			
32 1832	0 1000	•	•			•	•	
32 2192	0 1200	•	•			•	•	
32 2912	0 1600	•	•			•	•	
Range mV 0 50mV	Range mV 0 50mV							•

CONNECTION DIAGRAM



NON STANDARD RANGES - Units can be supplied set up to other non-standard ranges for a small extra charge or alternatively the unit can be re-ranged as follows;

ADJUSTMENTS

Range selection GAIN and OFFSET Coarse settings are made by two 16 position rotary screw adjustment switches on the side of the unit. Fine adjustment is by front access potentiometers. Full re-calibration details are supplied with each transmitter.

INPUT type	OFFSET RANGE °F	GAIN RANGE °F	OFFSET RANGE °C	GAIN RANGE °C
K T/C	at 4mA -328 to 752	4-20mA 212 to 2192	at 4mA -200 to 400	4-20mA 100 to 1200
T T/C	-328 to 572	212 to 752	-200 to 300	100 to 400
J T/C	-328 to 752	158 to 1382	-200 to 400	70 to 750
N T/C	392 to 752	302 to 2192	200 to 400	150 to 1200
R T/C	32 to 1832	932 to 3092	0 to 1000	500 to 1700
S T/C	32 to 1832	932 to 3200	0 to 1000	500 to 1760
V m/V	-5 to +15mV	3 to 50mV	-5 to +15 mV	3 to 50 mV

ORDER CODE

SEM1500 / INPUT TYPE / value @ 4 mA / value @ 20 mA / °F or °C

Example: SEM1500 / K / 32 / 752 / F For "K" type thermocouple range 32°F to 752°F

LOCAL REPRESENTATION



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