



MODEL: SEM203/TC

- SIMPLE CONFIGURATION
- THERMOCOUPLE INPUT
- GALVANIC ISOLATION
- 4-20 mA OUTPUT
- IN-HEAD MOUNTING
- DRIFT-FREE LINEARISATION
- LED OVER-RANGE INDICATION

Configuration with the
PUSH OF A BUTTON



INTRODUCTION

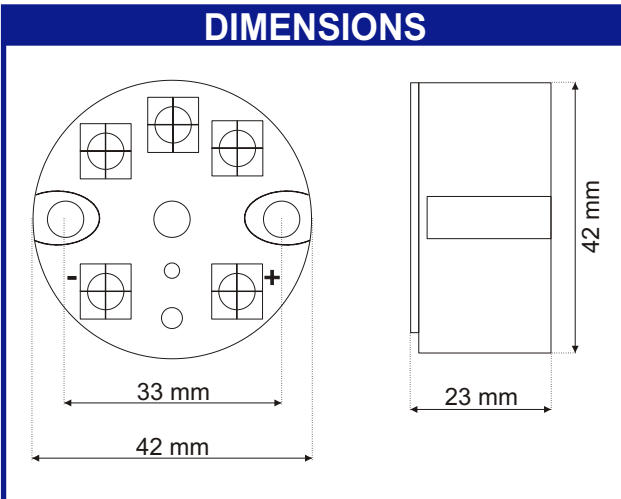
The SEM203/TC Temperature Transmitter has incorporated the latest digital technology to provide accurate and reproducible conversion of thermocouple signals to 4-20 mA output.

This, in-head-mounted transmitter, is unique, because **it does not need a PC, solder linking or a potentiometer for configuration.** By generating the required low and high signals with a calibrator or a millivolt simulator and push of the button on the transmitter, configuration is complete.

High accuracy and drift-free linearisation along with quick push button calibration make the SEM203/TC the ideal choice for converting thermocouple signals to isolated 4-20 mA.

An on-board LED indicates the successful completion of configuration procedure and also provides instant indication of the sensor's fault.

DIMENSIONS



SPECIFICATIONS @ 20°C

INPUT

Sensor	Thermocouple sensor
Sensor Type	K-J-T, R-S-B, J-F-E, K-N-R
Sensor Range	-200 to 1820°C depending on T/C
Accuracy	±0.04%FS ±0.04%rdg or 0.5°C
Minimum Span	10°C
Linearisation	BS4937/ IEC 584-1
Cold Junction Tracking	0.02°C/°C
Cold Junction Range	-20...70°C
Sensor Lead Length	<3m to maintain CE compliance

OUTPUT

Output Range	4-20 mA, 2-wire loop powered (also can be ranged 20-4 mA)
Maximum Output Range	3.8 to 22 mA
Supply Voltage	8...30 VDC
Loop Resistance	Maximum 800 Ω at 24 VDC

GENERAL

Enclosure	Molded case; NORYL™
Burn-out	Upscale 22 mA (Downscale option)
Input/Output Isolation	50 VDC (tested to 200 V)
Sample Rate	500 ms
Operating Environment	-20...+70°C; 0...95% RH
Storage Temperature	-40...+90°C
Protection	Reverse polarity protected
Indication	Programming operations and out of range sensor
EMC Emissions	BS EN50081-1
Susceptibility	BS EN50082-2
Programming	Via the on-board push button

ORDER CODES

SEM203-1/TC	For Types K, J and T	K -200 to 1370°C N 0 to 1300°C R 0 to 1760°C
SEM203-2/TC	For Types R, S and B	R 0 to 1760°C S 0 to 1760°C B 0 to 1820°C
SEM203-3/TC	For Types J, F and E	J -200 to 1200°C F -200 to 1200°C E -200 to 1000°C
SEM203-4/TC	For Types K, N and R	K -200 to 1370°C J -200 to 1200°C T -200 to 400°C

