

# DUAL CHANNEL Pt100 DIN RAIL PUSH BUTTON TRANSMITTER

## SEM523

- TWO INDEPENDENT CHANNELS
- PUSH BUTTON CALIBRATION
- RTD SENSOR INPUT
- DIGITAL DRIFT FREE LINEARISATION
- RE-RANGEABLE WITHOUT A PC
- 5 YEARS WARRANTY



## INTRODUCTION

The SEM523P is a dual channel DIN rail temperature transmitter which accepts any commonly available RTD sensor and converts it to (4 to 20) mA. The SEM523P utilises the latest push button calibration technique which ensures quick and easy set-up and calibration without the need for soldering links, potentiometers or the use of a PC.

The SEM523P is the latest in our family of digital transmitters which provide enhanced performance at a low cost and, being a two channel unit, offers high packing density.

## SPECIFICATIONS @ 20 °C

### INPUT

Input Type	3 wire Pt100 sensor to BS EN 60751 optional: 3 wire Pt500 and Pt1000
Range	(-200°C to 850) °C
Min. Span	20 °C
Max Lead Resistance	10 R per leg Lead Resistance Effect 0.04 °C/Ω (excluding mismatch)
Sample Rate	500 ms
Accuracy	(-100 to 500) °C, ± 0.1 °C ± 0.1 % of rdg (-200 to 850) °C, ± 0.2 °C ± 0.2 % of rdg
Zero	± 0.01 °C / °C
Span	0.05 % Thermal Drift

### OUTPUT

Output	(4 to 20) mA , 2 wire loop powered (Can be ranged (20 to 4) mA)
Operating Voltage	(8 to 30) VDC
Accuracy	± 5 µA
Burnout	Up-scale 22 mA (Downscale to order)
Thermal Drift	Zero 0.2 µA / °C Span 0.5 µA / °C
Response Time	500 ms to reach 70 % of final value
Loop Resistance	700 R @ 24 VDC
Ripple Rejection	± 0.002 µA/V measure at 50 Hz, 1 V peak to peak

### GENERAL

Channels	2 independent Channel 1 to 2 Breakdown Isolation 500 VDC
Terminals	Two part screw terminal with rising clamp.
Max. cable size	1.5 mm <sup>2</sup>
Warm-up Time	120 s to full accuracy

### EMC

	BS EN61326
Ambient Temp Range	(0 to 70) °C
Ambient Storage	(-40 to 70) °C
Ambient Humidity	(0 to 95) % (Non condensing) Calibration
Period	12 months to maintain published specification. Display Red LED indicates prog. mode/out of range sensor

### PHYSICAL

ENCLOSURE	DIN Rail enclosure conforming to DIN 43 880
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### TOP

Colour	Grey
Material	Lexan™
Approval	UL94- VO (self extinguishing)

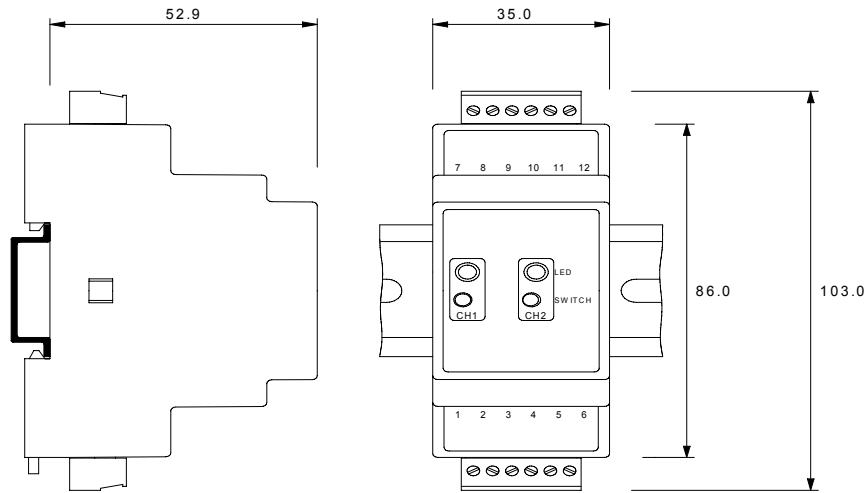
### BASE

Colour	Black
Material	Noryl
Approval	UL94- VO (self extinguishing)

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## MECHANICAL DETAILS

(All dimensions in mm)



### ASSOCIATED PRODUCTS:

- SEM104** The SEM104 is a low cost (4 to 20) mA transmitter for use with standard Pt100 platinum resistance sensors in the size of a standard DIN terminal block.
- SEM205P** SEM205P is a second generation "Smart" Head Mount temperature transmitter which accepts Pt100 temperature sensors and generates an industry standard (4 to 20) mA transmission signal.
- SEM210** SEM210 is a second generation "Smart" Head Mount temperature transmitter which accepts most commonly used temperature sensors (also slide-wire sensors or mV inputs) and generates an industry standard (4 to 20) mA transmission signal.
- SEM1000** Analogue signal Isolator  
**SEM1020** Loop Booster  
**SEM1100** Line powered process isolator  
**SEM1200** Signal Splitter  
**SEM1300** Power supply unit  
**SEM1400** Loop powered trip amplifiers  
**SEM1503/1504** Pt100 transmitters  
**SEM1500TC** Isolating TC transmitter
- SENSORS** A complete range of sensors and accessories are available:
- Platinum resistance temperature detectors
  - Thermocouples
  - Thermistors

### ORDER CODE

SEM523

SENSOR

Dual Pt100 (any standard)	-/P*
Dual Pt500	-/P*-500*
Dual Pt1000	-/P*-1000*

\*All units supplied with Upscale Burnout, please contact the Sales Office for Downscale versions