SEM206P IN HEAD TEMPERATURE TRANSMITTER

> **SUITABLE FOR PT100 TEMPERATURE SENSORS**

> **(4 to 20) mA OUTPUT**

> **PC PROGRAMMABLE TEMPERATURE RANGE**

> **HIGH STABILITY**

> **FREE CONFIGURATION SOFTWARE**

> ## INTRODUCTION

The SEM206P is a cost effective "smart" in head transmitter that accepts PT100 temperature sensors and converts sensor output over a configured range to a standard industrial (4 to 20) mA transmission signal.

PC configuration allows the user to select Range, units and Burnout direction, without requiring calibration equipment. Configuration is performed quickly using our USB port driven configurator by simply connecting two clips to the SEM206P loop terminals and following the software instructions. Calibration set up may be saved as a file on the PC for later use.

If required the desired range can be specified at the time of order, removing the need for user configuration.
If the range is not specified, then the transmitter will be shipped with the default range of (0 to 100) °C and upscale burnout

> ## FEATURE HIGHLIGHTS

SENSOR REFERENCING

The SEM206P sensor referencing via the Windows based USBSpeedlink software allows for close matching to a known reference sensor eliminating possible sensor errors.

SENSOR BURN OUT DETECTION

If a sensor wire is broken or becomes disconnected the SEM206P output will automatically go to its user defined level upscale or downscale and the LED illuminates.

STABILITY

The SEM206P in head transmitter incorporates the latest digital technology to ensure accurate, low drift performance.
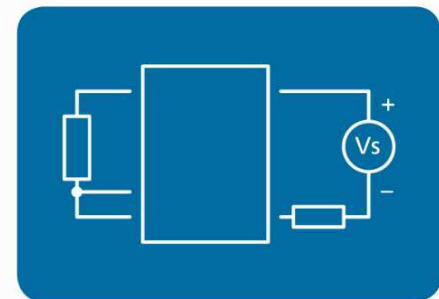
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INPUT		SPECIFICATIONS @20˚C
Type/ Function	**Range/ Description**	**Accuracy/ Stability**
PT100 2 or 3 wire	(-200 to 850) ˚C	± 0.2˚C ± 0.05 % of reading *2
Thermal drift	Zero at 20˚C	±0.02˚C/˚C
Minimum span	25˚C *1	
Linearization	BS EN 60751(IEC 751) standard / JISC 1604	
Excitation current	Approximately	1 mA
Lead resistance effect	0.002˚C / Ohms	
Maximum lead resistance	20 Ohms per leg	
*1 Any span may be selected; full accuracy is only guaranteed for spans greater than the minimum recommended		
*2 Basic measurement accuracy includes the effects of calibration, linearization and repeatability		

OUTPUT		SPECIFICATIONS @20˚C
Type/ Function	**Range/ Description**	**Accuracy/ Stability/ Notes**
Two wire current	(4 to 20) mA	(mA output /2000) or 5 uA (Whichever is the greater)
Thermal drift	Zero at 20˚C	2 uA / ˚C
Maximum output current	21.5 mA	In high burnout condition
Minimum output current	< 3.9 mA	In low burnout condition
Loop voltage effect	0.2 uA / V	
Maximum output load	[(V supply – 10)/20] KΩ	700 Ω @ 24 V DC
Loop supply	(10 to 30) V DC	SELV

USB USER INTERFACE		
Type/ Function	**Range/ Description**	**Notes**
Configuration hardware	USB configuration module	USB-CONFIG-MKII
Configuration software	USBSpeedLink	Download www.status.co.uk
Sensor configuration	Temperature range for (4 to 20) mA retransmission Sensor offset Burnout current	˚C or ˚F ˚C or ˚F Upscale or downscale
Read live data	Temperature Output	˚C or ˚F mA
Save/Open configuration	From file	

GENERAL	
Function	**Description**
Update time	500 ms
Response time	1 second
Start-up time	4 seconds (mA out < 4 mA during start up)
Warm up time	60 s to full accuracy
Default configuration	PT100 (0 to 100) ˚C , upscale burnout

<STATUS INSTRUMENTS

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| ENVIRONMENTAL	
Function	**Description**
Ambient temperature	Operating/Storage (-40 to 85) °C Full accuracy only between (-30 to 75)°C
Ambient Humidity	Operating/Storage (10 to 90) %RH non-condensing
Protection requirement	>= IP65 recommended
USB configuration ambient	(10 to 30) °C

MECHANICAL	
Function	**Description**
Dimensions	43 mm diameter; 21 mm height
Fixing centres	2 x 5 mm holes on 33 mm centres
Centre hole	4.5 mm hole for wiring aid
Weight	31 g (encapsulated)

APPROVALS	
EMC	BS EN 61326: Note - Sensor input wires to be less than 3 m to comply
Ingress protection	BS EN 60529
R0HS	Directive 2011/65/EU
EAC	Please refer to www.status.co.uk
DNV	Please refer to www.status.co.uk

ORDER CODE	SEM206P

MECHANICAL

SIDE VIEW BASE VIEW

Ø 43.0 mm

21.0 mm

33.0 mm
CENTRES
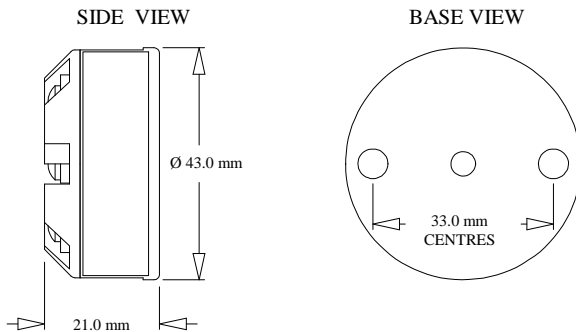
Fixing holes 2 x Ø5.5 mm, Centre hole Ø4.5 mm

ACCESSORIES	
Configuration software	USBSpeedLink (free of charge from www.status.co.uk)
Configuration device	USB-CONFIG-MKII
Head options	Please refer to www.status.co.uk
Probe options	Please refer to www.status.co.uk

To maintain full accuracy annual calibration is required contact support@status.co.uk for details
The data in this document is subject to change. Status Instruments assumes no responsibility for errors