# SEM206TH IN HEAD THERMISTOR TEMPERATURE TRANSMITTER

> **ACCEPTS MULTIPLE THERMISTOR TYPES**

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

> **PC / PUSH BUTTON PROGRAMMABLE**

> **FAST RESPONSE TIME**

> **CUSTOM THERMISTORS AVAILABLE**

> **INTRODUCTION**

The SEM206TH is an in head transmitter that accepts thermistor temperature sensors and converts the sensor output over a configured range to a standard industrial (4 to 20) mA transmission signal. The output signal is linear to temperature. A variety of thermistor types are available when using USBSpeedLink configuration software. Please consult your supplier for custom thermistors.

In addition to the PC configuration feature, simple push button operation allows the user to select the desired temperature range manually, by either simulating the thermistor temperature with a resistance box or setting the thermistor sensor to the required calibration point and pressing button to store at both 4 mA and 20 mA points.
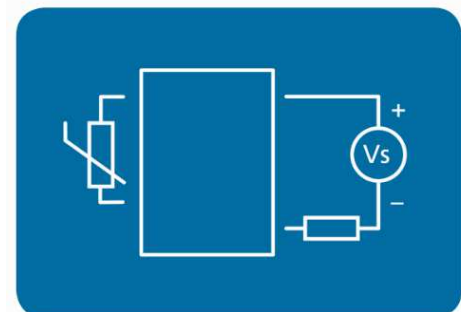
> **FEATURE HIGHLIGHTS**

SENSOR CORRECTION
The SEM206TH sensor correction function 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 SEM206TH output will automatically go to its user defined level upscale or downscale and the LED illuminates.

STABILITY
The SEM206TH in head transmitter incorporates the latest digital technology to ensure accurate, low drift performance.

PC / PUSH BUTTON CONFIGURATION
PC configuration requires USBSpeedLink software together with a USB configuration kit. The software allows the operator to select from a variety of thermistor types, then set the required temperature range for a (4 to 20) mA output.
A single push button and LED indicator allows the user to configure transmitter range against a manually set input condition.

STATUS INSTRUMENTS

SEM206TH IN HEAD THERMISTOR TEMPERATURE TRANSMITTER

INPUT		SPECIFICATIONS @20˚C
Type/ Function	**Range/ Description**	**Accuracy/ Stability**
Thermistor	See below *1, *2	Typically ± 0.2 ˚C ±0.2 % of reading *3
Thermal drift	Zero at 20 ˚C	± 0.02 % of range / ˚C
Minimum span	5 ˚C	
*1 Please refer to USBSpeedLink software for complete up to data list 3KB (44005, 44030), 5KB (44007, 44034), 10KB (44016,44036), 10KH (44006, 44031), 30KH (44008), 2252KB (44004, 44033), YSI_2_25B, YSI_10KB, P222KJ2, PS102J2, PS103G2, PS103J2, PS203J2, PS302J2, PS303J2, PS502J2, PS602J2, NTC10k b3435 Carel		
*2 Custom thermistors available please contact sales@status.co.uk		
*3 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)/21] KΩ	666 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	Thermistor type Temperature range for (4 to 20) mA retransmission Sensor offset Burnout current	From list ˚C or ˚F ˚C or ˚F Upscale or downscale
Read live data	Temperature Output	˚C or ˚F mA
Save/Open configuration	From file	

PUSH BUTTON USER INTERFACE		
Type/ Function	**Range/ Description**	**Notes**
Sensor configuration	Input range for retransmission	At 4.0 mA and 20.0 mA
Any part of the full input range (greater than minimum span) can be used for retransmission		

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	YSI 10 K B (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 approximately	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
RoHS	Directive 2011/65/EU
EAC	Please refer to www.status.co.uk
DNV	Please refer to www.status.co.uk

ORDER CODE	SEM206TH

MECHANICAL

SIDE VIEW   BASE VIEW

Ø 43.0 mm

33.0 mm
CENTRES

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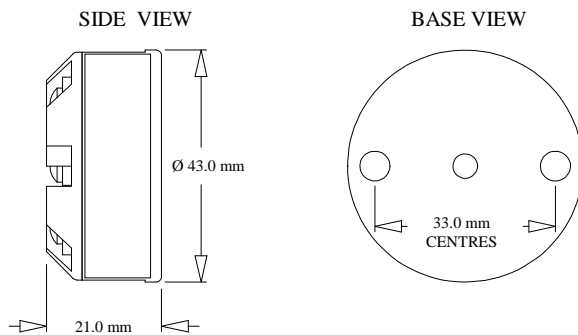
Fixing holes 2 x Ø5.5 mm, Centre hole Ø4.5 mm

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

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