

SEM1605TH DIN RAIL THERMISTOR I/P AND (4 to 20) mA O/P

- **ACCEPTS MULTIPLE THERMISTOR TYPES AND Pt1000, Pt500 SENSORS**

- **(4 to 20) mA TWO WIRE OUTPUT**

- **USER OUTPUT TRIM (ZERO and SPAN)**

- **PC CONFIGURATION USING USB PORT**

- **LIVE DATA CAN BE VIEWED ON AN ANDROID PHONE OR TABLET**

➤ INTRODUCTION

The SEM1605TH is a DIN rail mounted temperature transmitter from Status Instruments. It has been designed to accept most common thermistor temperature sensor inputs together with Pt1000 and Pt500 RTD inputs and provide the user with a standard two wire (4 to 20) mA output signal. The output signal is linear to temperature.

Designed for ease of use, our latest USB interface is fitted for quick and easy configuration. Just connect a standard USB cable between the SEM1605TH and your PC. Our free configuration software will guide you through any changes you wish to make. To further help save time, the SEM1605TH does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from your PC.

➤ FEATURE HIGHLIGHTS

ACTIVE RANGE The SEM1605TH is provided with a user push-button ranging option, allowing adjustments at both 4 mA and 20 mA against a live input value.

The 'user adjust' function can be locked during configuration if not required. The state LED indicates out-of-range input during normal operation; during 'user adjust' it is also used to indicate the stage of adjustment.

(4 and 20) mA TRIM The buttons can also be used for 4 mA and 20 mA current trim adjustment to add small offsets to (4 or 20) mA output.

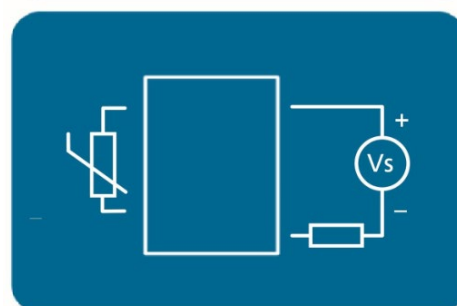
SENSOR REFERENCING The SEM1605TH sensor referencing, via the Windows based USB-Speedlink software, allows for close matching to a known reference sensor, eliminating possible sensor errors.

THERMISTOR SENSOR LIBRARY The Thermistor type required is loaded onto the SEM1605TH from a software library using the USB-Speedlink software. The sensor library can be added to as new sensors become available or are requested. Thermistor sensors with a resistance value up to 100 K Ohms can normally be accommodated.

STABILITY The SEM1605TH DIN rail transmitter incorporates digital technology to ensure accurate low-drift performance.

USB PC CONFIGURATION The SEM1605TH is quick and easy to configure using a standard-type USB lead and the free-of-charge USBSpeedLink Windows software.

USB VIEW The SEM1605TH can be connected to an android phone or tablet using an OTG USB adaptor. Running a free App, the Android device can then be used to view live data from the SEM1605TH.



SEM1605TH DIN RAIL THERMISTOR I/P AND (4 to 20) mA O/P

INPUT		SPECIFICATIONS @20°C
Type/ Function	Range/ Description	Accuracy/ Stability
Thermistor	See below *1, *2	Typically, $\pm 0.2\text{ }^{\circ}\text{C} \pm 0.2\%$ of reading *3
Thermal drift	Zero at 20 °C	$\pm 0.02\%$ of range / °C
Minimum span	5 °C	
*1 Please refer to USB-SpeedLink software and www.status.co.uk 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, Pt1000, Silicone sensors KYT series		
*2 Custom thermistors available. Please contact sales@status.co.uk		
*3 Basic measurement accuracy includes the effects of calibration, linearisation 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	$[(V \text{ supply} - 10)/20]$ K Ω	700 Ω @ 24 V DC
Loop supply	(10 to 30) V DC	SELV
Power		< 1 W full power

USB USER INTERFACE		
Type/ Function	Range/ Description	Notes
Configuration hardware		USB A to mini B lead
Configuration software	USBSpeedLink	Download www.status.co.uk
Sensor configuration	Sensor type	Thermistor list
	Temperature range for (4 to 20) mA retransmission	°C or °F Active or manual range
	Sensor offset	$\pm 10\text{ }^{\circ}\text{C}$ or $\pm 18\text{ }^{\circ}\text{F}$
	Burnout current	Upscale, downscale or user-set
Pre-set temperature (diagnostics)	Any within sensor range	°C or °F
Pre-set output current (diagnostics)	Any within output range	mA
Tag		20 characters
Button function		Trim, active range, off
Read live data	Temperature Output	°C or °F mA
Save/ open configuration		To/ from PC file

ANDROID USER INTERFACE		
Type/ Function	Range/ Description	Accuracy/ Stability/ Notes
Hardware	USB Leads	OTG plus A to Mini B
Software	USBView	Download www.status.co.uk
Read live data	Input signal Output value	°C, °F mA

SEM1605TH DIN RAIL THERMISTOR TRANSMITTER

USER PUSH BUTTON INTERFACE		
Function	Description	
Active range	Range 4 mA and 20 mA points against live input	
User trim	Adjust at maximum and minimum input range value	Offset (4 mA) and span (20 mA) adjustment

GENERAL	
Function	Description
Response time	500 ms to 70% of final value
Start-up time	8 s
Warm-up time	120 s to full accuracy
Default configuration	YSI 10KB (-55 to 205) °C, upscale burnout
LED (red)	If mA output < -0.1% or > 100.1 % LED ON
Protection	Reverse connection

ENVIRONMENTAL	
Function	Description
Ambient temperature	Operating (-30 to 70) °C Storage (-40 to 85) °C
Ambient humidity	Operating/Storage (10 to 90) %RH non-condensing
Protection requirement	Device must be installed in an enclosure offering >IP65 Protection
USB configuration ambient	(10 to 30) °C

MECHANICAL	
Function	Description
Dimensions	12.5 mm width, 56.4 mm depth from rail, 90 mm height
Enclosure	DIN rail mount
Material	Polyamide 6.6 self-extinguishing UL94-HB: Grey
Connections	Screw terminals 2.5 mm wire maximum
Weight	60 g approximate

APPROVALS	
EMC	BS EN 61326: Note – Compliance tested with 30 m input wires
Ingress protection	BS EN 60529
RoHS Directives 2 & 3	2011/65/EU & EU 2015/863, and the UK designated standards

ORDER CODE	SEM1605TH
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ACCESSORIES	
USB configuration software	USBSpeedLink free of charge from www.status.co.uk
Android live data view	USBView free of charge from www.status.co.uk
Probe options	Refer to www.status.co.uk
USB Leads	Contact sales@status.co.uk

SEM1605TH DIN RAIL THERMISTOR TRANSMITTER

Mechanical
Dimensions in mm

