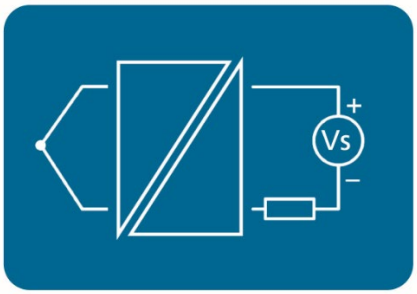
SEM1605TC THERMOCOUPLE DIN RAIL TRANSMITTER

- **THERMOCOUPLE K,J,E,N,T,R,S,L,U,B,C,D,G**
- **(4 to 20) mA TWO WIRE OUTPUT**
- **USER OUTPUT ZERO and SPAN**
- **PC CONFIGURATION USING USB PORT**
- **LIVE DATA CAN BE VIEWED ON AN ANDROID PHONE OR TABLET**





INTRODUCTION

The SEM1605TC is a DIN rail mounted temperature transmitter from Status Instruments. It has been designed to accept most common thermocouple sensor inputs and provide the user with a standard two wire (4 to 20) mA output signal. Galvanic isolation is provided between input and output and all temperature ranges are 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 SEM1605TC and your PC. Our free configuration software will guide you through any changes you wish to make. To further help save time, the SEM1605TC 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 SEM1605TC is provided with a user push-button ranging option, allowing adjustments at both 4 mA and 20 mA for a live 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.

SENSOR REFERENCING The SEM1605TC 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 SEM1605TC output will automatically go to its user-defined level (upscale or downscale) or a pre-set value.

STABILITY The SEM1605TC DIN rail transmitter incorporates the latest digital technology to ensure accurate low drift performance.

USB PC CONFIGURATION The SEM1605TC is quick and easy to configure using a standard-type USB lead and the free-of-charge USBSpeedLink Windows software.

USB ANDROID VIEW The SEM1605TC 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 SEM1605TC.

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TC SENSOR INPUT		**SPECIFICATIONS @20°C**
Type/ Function	**Range/ Description**	**Accuracy/ Stability/ Notes**
K	(-150 to 1370) °C	± 0.1% of full input range ± CJ error *1
J	(-100 to 1200) °C	
E	(-200 to 1000) °C	
N	(-200 to 1300) °C	
T	(-200 to 400) °C	± 0.2% of full input range ± CJ error *1
R	(-10 to 1760) °C	± 0.1% of full input range ± CJ error *1 over the range (800 to 1600) °C
S	(-10 to 1760) °C	± 0.1% of full input range ± CJ error *1 over the range (800 to 1600) °C
mV	(-10 to 70) mV	± 0.02 % of full input range
Thermal drift	(-20 to 50) °C	(± 0.15 °C/ °C at zero) + (± 0.1 °C/ °C at span)
	(50 to 70) °C	Typically as above
Any span may be selected; full accuracy is only guaranteed for spans greater 25°C		
Basic measurement accuracy includes the effects of calibration, linearization and repeatability		
*1 plus any sensor error		

COLD JUNCTION (CJ)		**SPECIFICATIONS @20°C**
Type	**Range °C**	**Accuracy/ Stability**
Thermistor bead	(-40 to 85) °C	± 0.5 °C
Thermal drift	Zero at 20 °C	± 0.05 °C/ °C

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
Power		< 1 W full power
Thermal stability		± 2 uA/ °C

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	Thermocouple list
	Temperature range for (4 to 20) mA retransmission	°C or °F Active or manual range
	Sensor offset	±10 °C or ±18°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

USB USER INTERFACE (Continued)		
Type/ Function	**Range/ Description**	**Notes**
Tag		20 characters
Button function	Active range	On, 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 Lead	OTG plus A to Mini B
Software	USBView	Download from www.status.co.uk
Read live data	Input signal Output value	°C, °F mA

USER PUSH BUTTON INTERFACE	
Function	**Description**
Active range	Range 4 mA and 20 mA points against live input

GENERAL	
Function	**Description**
Responce time	500 ms to 70& of final value
Start-up time	8 s
Warm-up time	120 s to full accuracy
Default configuration	Type K (0 to 1000) °C, upscale burnout, 0 °C offset, active range buttons
LED (red)	If mA output < -0.1% or > 100.1 % LED ON
Protection	Reverse connection

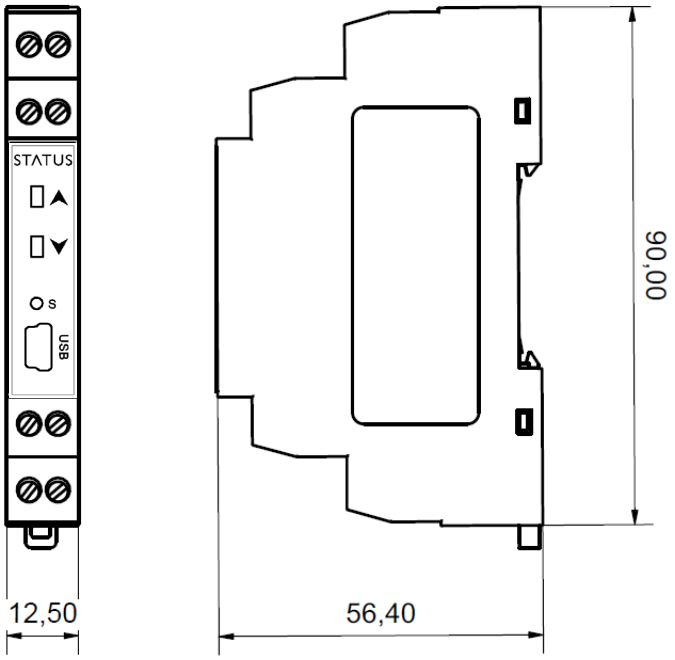
ENVIRONMENTAL	
Function	**Description**
Ambient temperature	Operating (-30 to 70) °C Storage (-40 to 85) °C
Ambient humidity	Operating/Storage (10 to 90) %RH non-condensing
Protection requirement	Device must be installed in an enclosure offering >IP65 Protection
USB configuration ambient	(10 to 30) °C

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

APPROVALS	
EMC	BS EN 61326: Note - Sensor input wires to be less than 30 m to comply
Ingress protection	BS EN 60529
RoHS Directives 2 + 3	2011/65/EU & EU 2015/863, and the UK designated standards

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Mechanical
Dimensions in mm



ORDER CODE	SEM1605TC

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

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

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