

# UNIVERSAL DIN RAIL TRANSMITTER

## SEM1620

- SIMPLE CONFIGURATION VIA USB PORT
- UNIVERSAL PT100, THERMOCOUPLE, mV, mA Input
- ISOLATED INPUT
- PUSH BUTTON USER TRIM
- THREE WIRE ISOLATED VOLTAGE OUTPUT



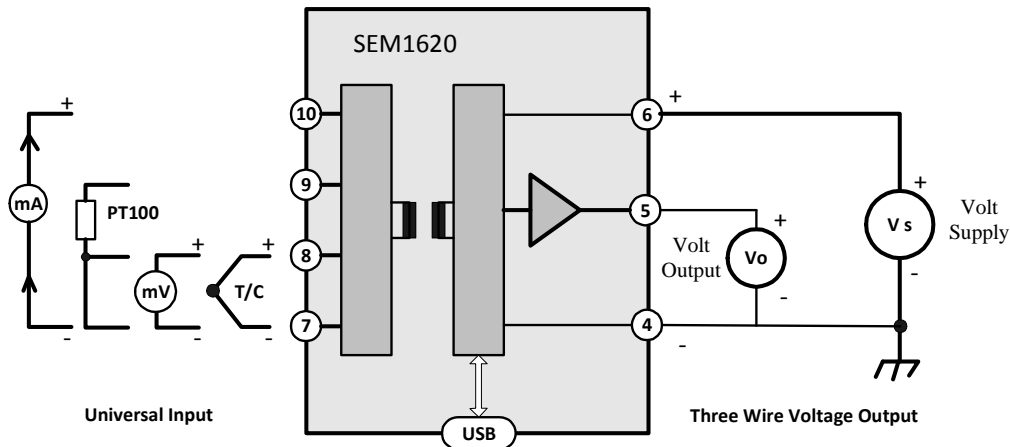
### INTRODUCTION

The SEM1620 is the next generation DIN rail mounted temperature amplifier from Status Instruments. It has been designed to accept most common process and temperature sensor inputs and provide the user with a three wire voltage output signal. 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 SEM1620 and your PC. Using our free configuration software, your PC will automatically upload the existing configuration data and guide you through any changes you wish to make. To further help save time, the SEM1620 does not need to be wired to a power supply during the configuration process, it is powered via the USB interface from your PC. The following parameters are configurable :-

INPUT TYPE	LOW RANGE	HIGH RANGE	UNITS	OUTPUT	TEMPERATURE PROBE BURNOUT	USER TRIM
PT100	Low input value for low output value	High input value for high output value	°F, °C	(0 to 10) V (2 to 10) V (0 to 5) V (1 to 5) V (0 to 1) V	Up/Scale Down/Scale	On , Off
T/C K, J, E, N, T, R, S			°F, °C			
mV			mV			
mA			mA			

The SEM1620 is also provided with user push button adjust, allowing adjustments at both offset and span. 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 used to also indicate the stage of adjustment.



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## SPECIFICATION @ 20 °C

### INPUTS

INPUT	RANGE	ACCURACY (Note 1)	STABILITY (Note 7)	O/C	CJ (Note 3)	Sensor excitation (Note 4)	IMPEDANCE
<b>K</b>	(-200 to 1370) °C	0.1 % of FSR ±0.5 °C (type T 0.2 % FSR. ± 0.5 °C)	± 0.01 % of FSR / °C	Yes	Yes	-	1 MΩ (Note 5)
<b>J</b>	(-100 to 1200) °C						
<b>E</b>	(-100 to 1000) °C						
<b>N</b>	(-180 to 1300) °C						
<b>T</b>	(-100 to 400) °C						
<b>R</b>	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR (Note 2)					
<b>S</b>	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR (Note 2)					
<b>mV</b>	(-20 to 75) mV	± 0.04 mV			-		
<b>P</b>	(-200 to 850) °C	± 0.1 °C / ±0.05 % of rdg	± 0.005 % of FSR / °C		-	<450 uA	-
<b>mA</b>	(-10 to 25) mA (4 to 20) mA Capability	± 0.008 mA	± 0.01 % of FSR / °C	-	-	-	2.7 R (Note 6)

**Key** Rdg = Reading ; FSR = Full Scale Range ; O/C = programmable open circuit sensor detect; CJ = Cold junction error

### Notes

1. Accuracy for PT100 and T/C do not include sensor and cold junction errors.
2. Only over the range (800 to 1600) °C
3. Cold junction range (-20 to 70) °C, Accuracy ± 0.5 °C, Tracking ± 0.05 °C
4. PT100 input Maximum lead resistance 20 R, Lead effect 0.015 °C / Ω.
5. Impedance – not including 0.2 uA open circuit detect bias current effect.
6. Maximum current over load ± 100 mA.
7. Ambient (-10 to 50) °C

### OUTPUT

#### Type

Three Wire voltage output with programmable ranges. (0 to 10), (0 to 5), (2 to 10), (1 to 5), and (0 to 1) V (15 to 28) V dc . Current 10 mA MAX.

#### Supply

#### Response time

< 500 ms to reach 95 % of final value ; Start up time < 3 s

#### Calibration Accuracy

± 5 mV

#### Output Drive

2 mA driving 5 KΩ @ 10 V

#### Protection

Reverse connection and over-voltage protection. Max over voltage current 100 mA.

#### User Adjust

Raise and lower buttons, active for offset when output is at offset and span. Trim lock option.

#### Stability

± 1 mV / °C

### GENERAL

#### Galvanic Isolation

Input to output tested at 500 V dc. Working Isolation = 48 VDC

#### Ambient

operating (-20 to 70) °C (10 to 95) % RH non condensing. Storage (-40 to 85) °C

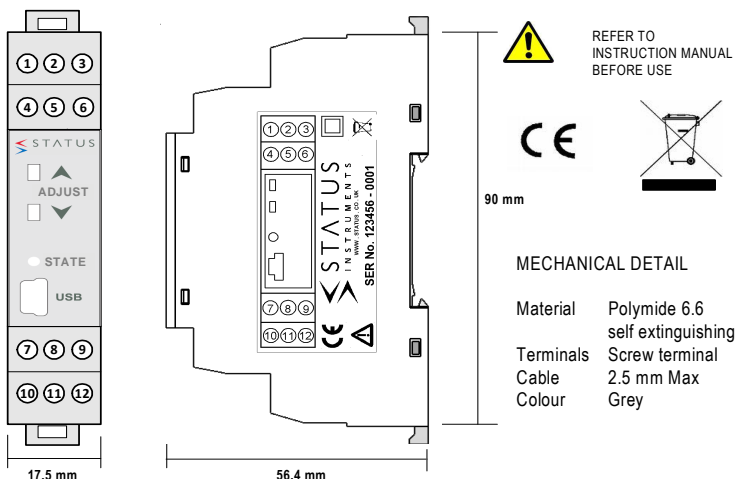
#### Approvals

CE tested to BS EN 61326

#### LED Indication ( State )

OFF = OK ,

ON(RED) = Input/Output error plus trim function : refer to manual.



**ORDER CODE :SEM1620**