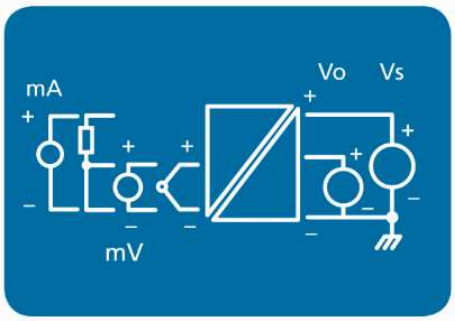
SEM1620 UNIVERSAL I/P, VOLTAGE O/P, DIN RAIL TRANSMITTER

- **ISOLATED Pt100, THERMOCOUPLE, mV, mA INPUT**
- **PROGRAMMABLE VOLTAGE OUTPUT**
- **PUSH BUTTON TRIM**
- **HIGH STABILITY**
- **PC CONFIGURATION USING USB PORT**
- **LIVE DATA CAN BE VIEWED ON AN ANDROID PHONE OR TABLET**



INTRODUCTION

The SEM1620 is a DIN rail mounted temperature amplifier. 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. 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.

FEATURE HIGHLIGHTS

USER-TRIM The SEM1620 sensor has user-trim buttons on the front of the device. This allows for fine output adjustment at “zero” and “span” input points.

SENSOR BURN-OUT DETECTION If a sensor wire is broken or becomes disconnected, the SEM1620 output will automatically go to its user-defined level upscale or downscale and the LED illuminates.

STABILITY The SEM1620 DIN rail voltage transmitter incorporates the latest digital technology to ensure accurate, low-drift performance.

MULTIPLE OUTPUT RANGES With (0 to 1), (0 to 5), (0 to 10), (2 to 5) and (2 to 10) Voltage output ranges to choose from.

USB CONFIGURATION The SEM1620 is quick and easy to configure using a standard type USB lead and the free-of-charge software.

USB PC CONFIGURATION The SEM1620 is quick and easy to configure using a standard-type USB lead and the free-of-charge USBSpeedLink Windows software.

USB ANDROID VIEW The SEM16020 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 SEM1620

INPUT **Pt100**		**SPECIFICATIONS @20°C**
Type/Function	**Range/Description**	**Accuracy/Stability**
Pt100 3 wire	(-200 to 850) °C	±0.2 °C ±0.05% of reading *1
Thermal drift	Zero at 20 °C	±0.01% of full-scale range/°C
Minimum span		25 °C *2
Linearisation		BS EN 60751(IEC 751)
Excitation current		Less than 450 uA
Lead resistance effect		0.015 °C/Ω
Maximum lead resistance		20 Ohms per leg
*1 Basic measurement accuracy includes the effects of calibration, linearisation and repeatability		
*2 Any span may be selected; full accuracy is only guaranteed for spans greater than the minimum recommended		

INPUT **THERMOCOUPLE**			**SPECIFICATIONS@20°C**
Type	**Range**	**Stability**	**Accuracy/Notes**
K	(-200 to 1370) °C	Zero at 20 °C ±0.01% of FSR/°C	±0.1% of FSR ±0.5 °C
J	(-100 to 1200) °C		
E	(-100 to 1000) °C		
N	(-180 to 1300) °C		
T	(-100 to 400) °C		±0.2% FSR ±0.5 °C
R	(-10 to 1760) °C		±0.1% of FSR ±0.5 °C *1
S	(-10 to 1760) °C		±0.1% of FSR ±0.5 °C *1
Cold Junction error	(-20 to 70) °C	Zero at 20°C ±0.05 °C/°C	±0.5 °C
Impedance			1 MΩ *2
*1 Only over the range (800 to 1600) °C			
*2 Not including 0.2 uA open circuit detect bias current effect			

INPUT **mA and mV**		**SPECIFICATIONS @20°C**
Type/Function	**Range/Description**	**Accuracy/Stability**
mV	(-20 to 75) mV	± 0.04 mV
mV Thermal drift	Zero at 20 °C	± 0.01 % of FSR/°C
mV Impedance		1 MΩ *1
mA	(-10 to 25) mA, (4 to 20) mA capability	± 0.008 mA
mA Thermal drift		± 0.01% of FSR /°C
mA Impedance	Maximum current over load ± 100 mA	2.7 Ω
FSR = Full scale range		
*1 Not including 0.2 uA open circuit detect bias current effect		

OUTPUT **@20°C**		**SPECIFICATIONS**
Type/Function	**Range/Description**	**Accuracy/Stability/Notes**
Three Wire voltage output	(0 to 10), (0 to 5), (2 to 10), (1 to 5), and (0 to 1) V	± 5 mV
Thermal drift		±1 mV /°C
Output drive	2 mA	Driving 5 KΩ @ 10 V

USB USER INTERFACE		
Type/Function	**Range/Description**	**Notes**
Configuration hardware	USB Lead	A to mini B
Configuration software	USBSpeedLink	Download www.status.co.uk
Sensor configuration	Input type, from list Temperature unit	RTD, T/C, mA, mV °C or °F
Output configuration	Voltage output range, from list Burnout voltage	(0 to 10), (0 to 5), (2 to 10), (1 to 5), (0 to 1) Upscale or downscale
Read live data	Temperature Output	°C or °F V
Save/Open configuration		From file
Default configuration	Pt100, (0 to 100) °C, (0 to 10) VDC, Upscale burnout, User trim on	

ANDROID USER INTERFACE		
Type/Function	**Range/Description**	**Accuracy/Stability/Notes**
Hardware	USB Lead	OTG plus A to Mini B
Software	USBVeiwLink	Download from Google play store
Read live data	Input signal Output value	°C, °F, mV, mA V

GENERAL	
Function	**Description**
Galvanic isolation	Input to output tested at 500 VDC. Working Isolation = 48 VDC
Supply voltage	(15 to 28) VDC**,** SELV
Supply current	10 mA maximum
Response time	< 500 ms to reach 95 % of final value
Start-up time	Start-up time < 3 s
Protection	Reverse connection and over-voltage protection. Max over-voltage current 100 mA
LED (State)	Off = OK On (Red) = Input/output error plus trim function: refer to manual.

ENVIRONMENTAL	
Function	**Description**
Ambient temperature	Operating/Storage (-20 to 70) °C
Ambient Humidity	Operating/Storage (10 to 95) %RH non-condensing
Protection requirement	>= IP65 recommended
USB configuration ambient	(10 to 30) °C

MECHANICAL	
Function	**Description**
Dimensions	17.5 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

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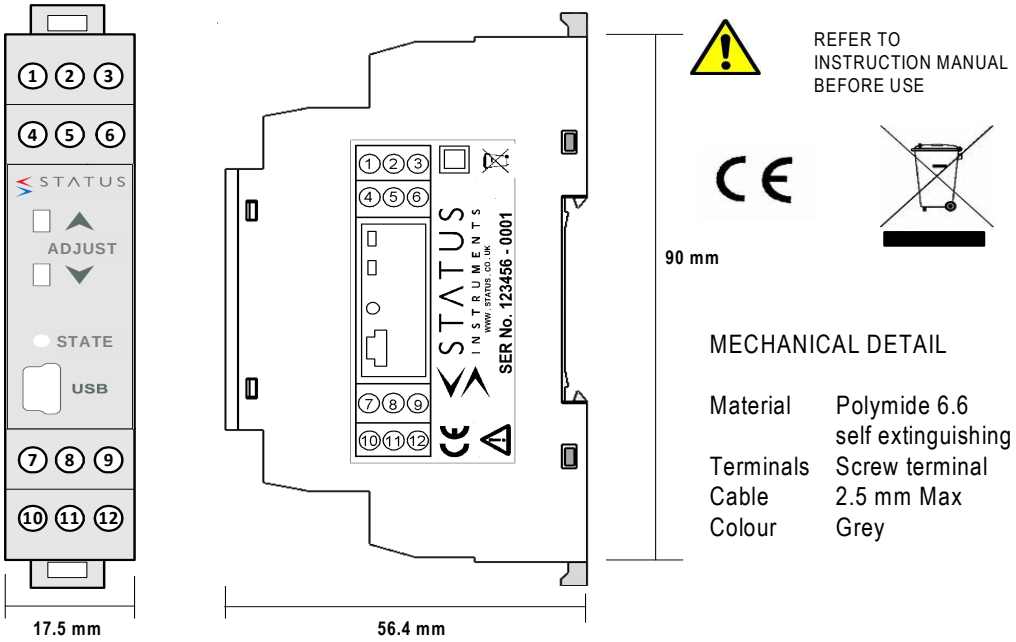
APPROVALS	
EMC	BS EN 61326: Note: Sensor input wires to be less than 30 m to comply
Ingress protection	BS EN 60529
R0HS	Directive 2011/65/EU

MECHANICAL



ORDER CODE	**SEM1620**

ACCESSORIES	
Configuration software	USBSpeedLink (free of charge from www.status.co.uk)
Android live data view	USBViewLink (free of charge from Google play store)
USB Leads	Contact sales@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.
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