UNIVERSAL DIN RAIL TRANSMITTER

SEM1610

- SIMPLE CONFIGURATION VIA USB PORT
- UNIVERSAL PT100, THERMOCOUPLE, mV, mA Input
- ISOLATED INPUT
- PUSH BUTTON USER TRIM
- (4 to 20) mA TWO WIRE OUTPUT
- 10 YEAR WARRANTY

INTRODUCTION

The SEM1610 is the new generation DIN rail mounted temperature transmitter from Status Instruments. It has been designed to accept most common process and temperature sensor inputs and provide the user with a standard two wire (4 to 20) mA 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 SEM1610 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 SEM1610 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	BURNOUT	USER TRIM
PT100			°F, °C		
T/C K, J, E, N, T, R, S	Input @ 4 mA	Input @ 20 mA	°F, °C	Up/Scale Down/Scale	On , Off
mV			mV		
mA			mA		

The SEM1610 is also provided with user push button trim, allowing trim adjustments at both 4 mA and 20 mA. The user trim function can be locked during configuration if not required. The range led indicates out of range input during normal operation, during user trim it is used to indicate the stage of trim.

Universal Input — SEM1610 — 2 Wire (4-20) mA Output
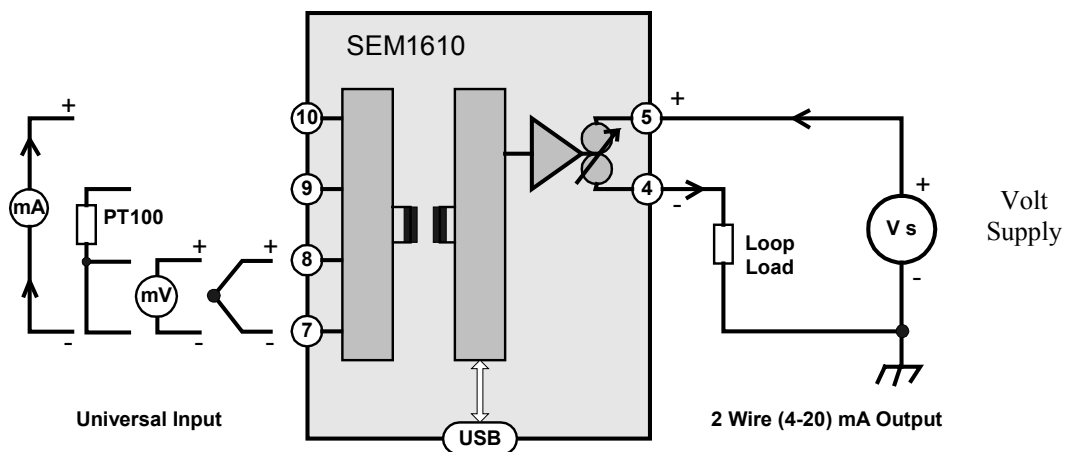
UNIVERSAL DIN RAIL TRANSMITTER

SPECIFICATION

INPUTS

INPUT	RANGE	ACCURACY (Note 1)	STABILITY	O/C	CJ (Note 3)	Sensor excitation (Note 4)	IMPEDANCE
K	(-200 to 1370) °C	0.1 % of FSR ±0.5 °C (type T 0.2 % FSR. ± 0.5 °C)	± 0.01 % of FSR	Yes	Yes	-	1 MΩ (Note 5)
J	(-100 to 1200) °C						
E	(-100 to 1000) °C						
N	(-180 to 1300) °C						
T	(-100 to 400) °C						
R	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR (Note 2)					
S	(-10 to 1760) °C	± 0.5 °C ±0.1 % of FSR (Note 2)					
mV	(-40 to 75) mV	± 0.04 mV			-		
P	(-200 to 850) °C	± 0.1 °C / ±0.05 % of rdg	± 0.005 % of FSR		-	<450 uA	-
mA	(-10 to 25) mA	± 0.008 mA	± 0.01 % of FSR	-	-	-	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.

OUTPUT
Type   Two wire current sink; signal range (4 to 20) mA; full range (3.8 to 24) mA
Supply   (11 to 30) V dc , 24 V nominal giving Max loop load of 600 R @ 24 V
Response time   < 500 ms to reach 95 % of final value ; Start up time < 3 s
Calibration Accuracy   ± 5 uA
Loop Effects   Loop ripple 0.03 % of FSR; Supply sensitivity 0.05 uA / °C ; supply ripple rejection < ± 5 uA error @ 1 V rms 50 Hz ripple
Protection   Reverse connection and over-voltage protection. Max over voltage current 100 mA.
User Trim   Raise and lower buttons, active for offset when output is between (3.8 to 6) mA, Span between (18 to 22) mA. Trim lock option.
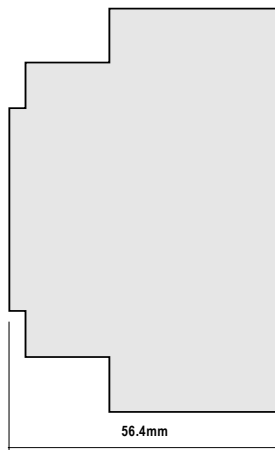
GENERAL
Isolation   Input to output tested at 500 V dc.
Ambient   operating (-20 to 70) °C (10 to 95) % RH non condensing. Storage (-40 to 85) °C
Approvals   CE tested to BS EN 61326

REFER TO INSTRUCTION MANUAL BEFORE USE

90 mm

17.5mm   56.4mm

MECHANICAL DETAIL

Material   Polymide 6.6 self extinguishing
Terminals   Screw terminal
Cable   2.5 mm Max
Colour   Grey

ORDER CODE : SEM1610

ASSOCIATED PRODUCTS

	ORDER CODES	
USB CABLE A/M TO MINI B/M	48-200-0001-01	
M-CONFIG 2.3 S/W	48-605-1150-07	FREE
SEM1603P / TC / I	LOW COST SINGLE I/P DIN RAIL TRANSMITTER	
SEM1620	UNIVERSAL DIN RAIL TRANSMITTER VOLTAGE OUTPUT	
SEM1630	UNIVERSAL DIN RAIL TRIP AMPLIFIER	

STATUS INSTRUMENTS