SEM1610 USER GUIDE

DIN RAIL MOUNTED TRANSMITTER
UNIVERSAL INPUT
TWO WIRE (4 to 20) mA OUTPUT

Important - Please read this document before any installing.
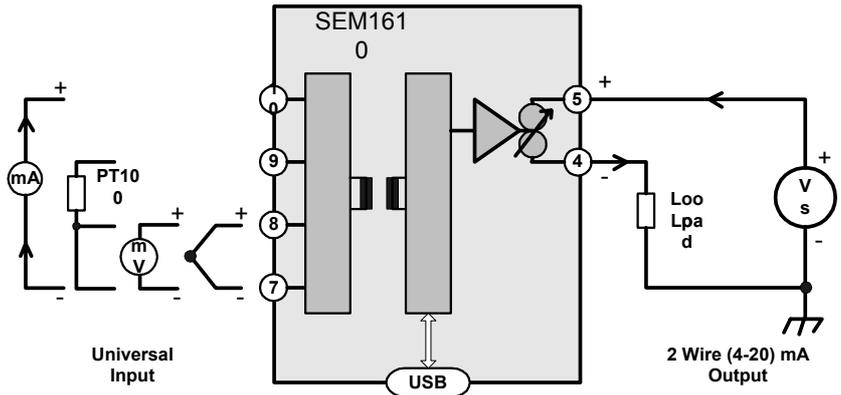
IMPORTANT - CE & SAFETY REQUIREMENTS

Product must be DIN rail mounted, inside a suitable enclosure providing environmental protection to IP65 or greater.

To maintain CE EMC requirements , input wires must be less than 30 metres.

The product contains no serviceable parts , or internal adjustments. no attempt must be made to repair this product. Faulty units must be returned to supplier for repair.

This product must be installed by a qualified person. All electrical wiring must be carried out in accordance with the appropriate regulations for the place of installation.

Before attempting any electrical connection work, please ensure all supplies are switched off.

ABSOLUTE MAXIMUM OPERATING CONDITIONS:-

Supply Voltage	± 30 V dc (Protected for over voltage and reverse connection)
Current with over voltage	± 200 mA
Input Voltage	± 5 V between any terminals
Input Current	± 100 mA between terminals 7 & 10
Ambient	Temperature (-30 to 75) °C Humidity (10 to 95) % RH (Non condensing)

PRODUCT SPECIFICATION

Please refer to the product data sheet for full specification, available to down load at www.status.co.uk.

RECEIVE AND UNPACKING

Please inspect the packaging and instrument thoroughly for any signs of transit damage. If the instrument has been damaged, please notify your supplier immediately.

CONFIGURATION

IMPORTANT The SEM1610 can be configured whilst connected and powered, but a portable battery powered computer must be used to avoid the effects of ground loops.
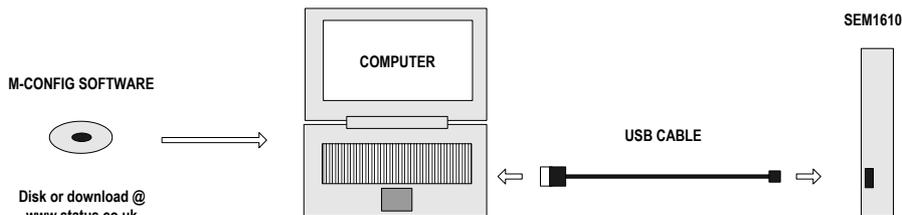

The following parameter can be configured by simply entering as prompted by the software package.

· **Input type (K,J,E,N,T,R,S,mV,PT100,mA)**
· **Low range**
· **High range**
· **Units   (°C, °F, mV, mA)**
· **Burnout (direction of output current on sensor burnout)**
· **User Trim (option to lock out front panel trim function)**

Factory default:
Input type	= P
Units	= °C
High Range	= 100
Low Range	= 0
Burnout	= UPSCALE
User Trim	= ON

MECHANICAL INSTALLATION
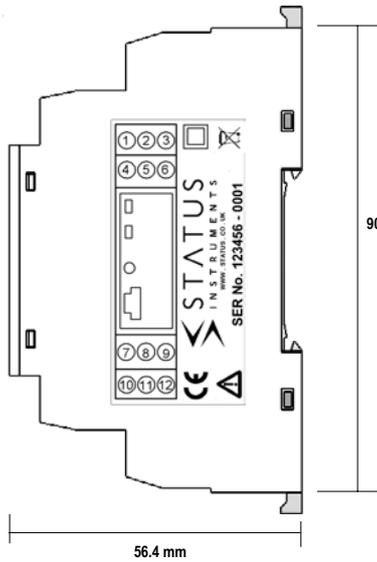
MOUNTING

① Screw driver
Ø 3 mm

② EN50022 DIN RAIL

90 mm

+ 70 °C Max
- 20 °C Min

SEM1620 Enclosure

Style	DIN 43880 (1 module width)
Material	Polyamide 6.6 self extinguishing
Terminals	Screw terminal
Cable	2.5 mm Max
Colour	Grey

17.5 mm

56.4 mm

Ø 3 mm
①
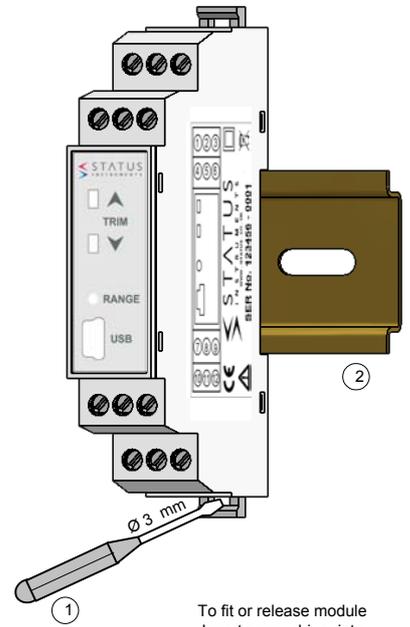
To fit or release module
Insert screw driver into
slot and lever latch
away from body
②

ELECTRICAL INSTALLATION

Screened Cable   **Twisted Pair Cable**   **TC Compensation Cable Screened**   **Screw Driver**
Ø 3mm
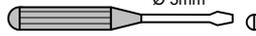
⚠ **TURN OFF SUPPLY BEFORE WORKING ON ANY ELECTRICAL CONNECTION**

UNIVERSAL INPUT CONNECTION
For cable length < 3 Metres no screen or twist pair required.
Thermocouple inputs must use correct compensation cable.
PT100 inputs all three wire must be equal length (resistance).
Use recommended types for cable length (3 to 30) metres.

mA — 10, 7
PT100 — 9, 8, 7
mV — 8, 7
T/C — 8, 7

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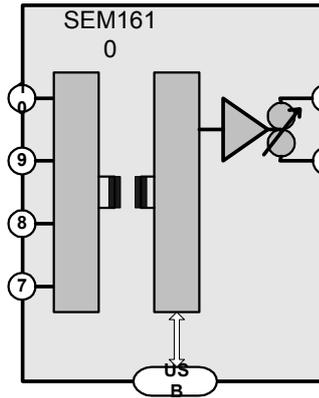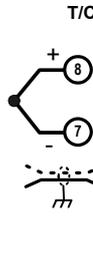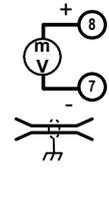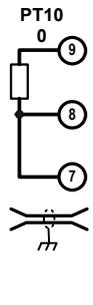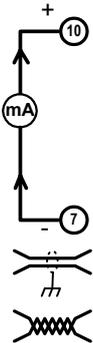
SUPPLY (Vs) = (11 to 30) V dc

MAX LOAD Ohms = (Vs - 11) / 0.021

5 +
4 -
LOAD
Vs + -

USB
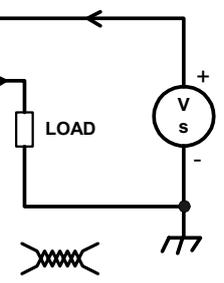
OUTPUT
2 Wire (4-20) mA
Max cable length 1000 metres
Use twisted pair cable > 30 metres

USER TRIM

Screw Driver
Ø 3mm
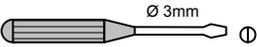
Digital mA meter
20.000

Power supply (24V dc)
+ -
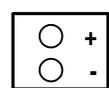
Input Simulator
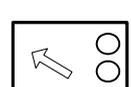
or sensor

User trim function allows manual adjustment of the output current, this is useful for minor calibration adjustment or trimming out any sensor error, ± 5% of range adjustment is available at both offset and span. Raise and lower buttons are provided on the front panel, of the transmitter, accessed using a 3 mm flat blade screw driver. Insert the screw driver into the appropriate slot to operate the button. The button has a click action.

The transmitter will automatically detect the correct trim point (offset or span) based on the output current drive. Offset will be trimmed when the current is between (3.8 to 6) mA, span when the current is between (18 to 22) mA. No trim action occurs at any other current.

span
offset
3.8 6   18   22 mA
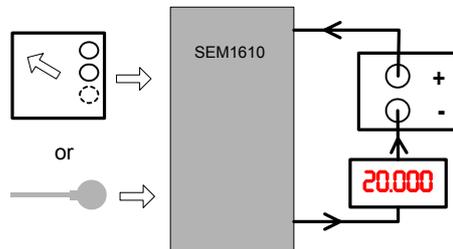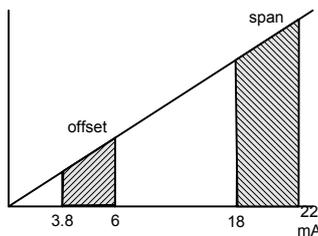
METHOD
1.0 Connect transmitter to a suitable input simulator or sensor. Connect output to a 24V dc supply, connecting a digital mA current meter in series with the output. Turn supply on, set input to either offset or span calibration point.

2.0 Enter trim menu by pressing "raise" button for > two seconds. When the trim menu is open the range LED will flash :-

Enter
> 3 s

Range LED will indicate Trim action

Offset slow toggle ● ● ● ○ ○ ○
Span fast toggle ● ○ ● ○ ● ○
Out of trim range ○
Input out of range ●
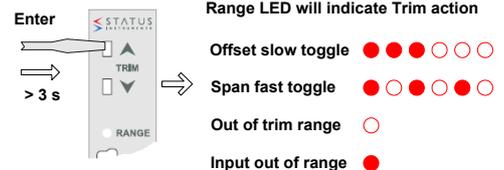
3.0 Trim output current by pressing either the raise or lower button, single click to step advance , or press continuously to auto advance.

Raise   **Lower**
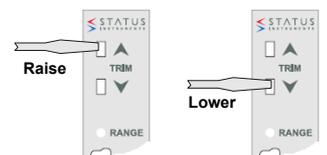
4.0 Once trim is complete allow 30 seconds with no button press, the transmitter will time out and return to normal operation.

> 30 s   **Escape**

SEM1610

20.000

or