DIN RAIL TEMPERATURE TRANSMITTER

SEM213 P DIN RAIL RTD TRANSMITTER

- **PT100 (3 types), Ni100, Ni120, Cu100, ohms (10 to 400Ω)**
- **SIMPLE PUSH BUTTON CONFIGURATION**
- **ADVANCED USER CONFIG FOR ACCESS TO 56 PRE SET TEMPERATURE RANGES**
- **USER PUSH BUTTON TRIM**
- **4/20mA OUTPUT**

The SEM213/P is a cost effective "smart" DIN rail mount transmitter that accepts resistance temperature sensors and converts sensor output over a configured range to a standard industrial (4 to 20) mA transmission signal.

A simple push button operation allows the user to select RTD type, Burnout direction, Select fixed ranges and trim 4 and 20 mA points.

The SEM213P transmitter incorporates the latest digital technology to ensure accurate drift free performance.

If required the desired range can be specified at the time of order, removing the need for user configuration.
If the range is not specified then the transmitter will be supplied at the default range of (0 to 100) °C type Pt100 IEC.

PUSH BUTTON CONFIGURATION

User Range

Two levels of configuration are available to the user, the first level user range, allows the user to re-range the transmitter.

This level is available under normal use and operates in a similar manner to the SEM203P Product. The user can identify the input type set by counting the number of program led flashes on power up. The input type cannot be changed at this level of configuration.

Advanced User Configuration

In this level the single push button and two LED indicators are used and allow the user to navigate through a series of five menus, allowing full configuration of the transmitter. The menus are as follow:-

Menu 1	Select Input type
Menu 2	Select either user configured range or select one of seven (per input) fixed ranges
Menu 3	Select burnout direction
Menu 4	Trim output current @ either 4 mA or 20 mA.
Menu 5	Reset to factory default and clear user trim

SPECIFICATIONS @ 20 ° C

INPUT

Sensor	Range (°C)	Accuracy
Pt100 IEC 0.003851	-200 to 850	± 0.2°C + (±0.05% of rdg)
Pt100 IPTS-68 0.00391	-200 to 630	
Pt100 IPTS-68 0.00392		
Ni 100 DIN 0.00618	-60 to 180	
Ni 120 0.00672	-80 to 260	
Cu 100 0.00427		
Cu 53	-50 to 180	
	Range (Ohms)	
Ω	10 to 400	±0.01% FSR

Sensor Burnout Either up or down scale output

Stability RTD ± 0.005% FSR/°C
Ohms ± 0.025 % FSR / °C

STATUS INSTRUMENTS

DIN RAIL TEMPERATURE TRANSMITTER

OUTPUT

Output Type	2 wire (4 to 20) mA current loop
Output range	(4.0 to 20.0) mA
Output Connection	Screw Terminal
Maximum output	21.5 mA(in high burnout condition)
Minimum output	<3.9 mA (in low burnout condition)
Accuracy	(mA output / 2000) or 5 uA (Which ever is the greater)
Loop Voltage effect	± 0.2 uA / V
Thermal drift	± 1 uA / ˚C Typically ± 1.5 uA
Maximum output load	[(Vsupply-10)/21] K Ohms (Example 700 Ohms @ 24 V)

Fixed Ranges

Range	Inputs Pt100 (˚C)	Input Ni100 Cu53 (˚C)	Inputs Ni120 Cu100 (˚C)	Input Ω Ω
1	User	User	User	User
2	0 to 50	0 to 50	0 to 50	0 to 50
3	0 to 100	0 to 100	0 to 100	0 to 100
4	0 to 150	0 to 150	0 to 150	0 to 150
5	0 to 200	0 to 180	0 to 260	0 to 200
6	-20 to 30	-20 to 30	-20 to 30	0 to 250
7	-30 to 70	-30 to 70	-30 to 70	0 to 300
8	-100 to 100	-100 to 100	-100 to 100	0 to 400

GENERAL SPECIFICATION

Update time	500 mS
Response Time	1 second
Start up time	4 seconds (Output < 4 mA during start up)
Warm-up time	1 minute to full accuracy
Power Supply	10 to 30 Volts dc

ENVIRONMENTAL

Ambient operating range	(-20 to +70) ˚C
Ambient storage temperature	(-50 to +90) ˚C
Ambient humidity range	(10 to 90) % RH non condensing

PHYSICAL

Dimensions	60 mm x 75 mm x 12.5 mm
Weight	45 g

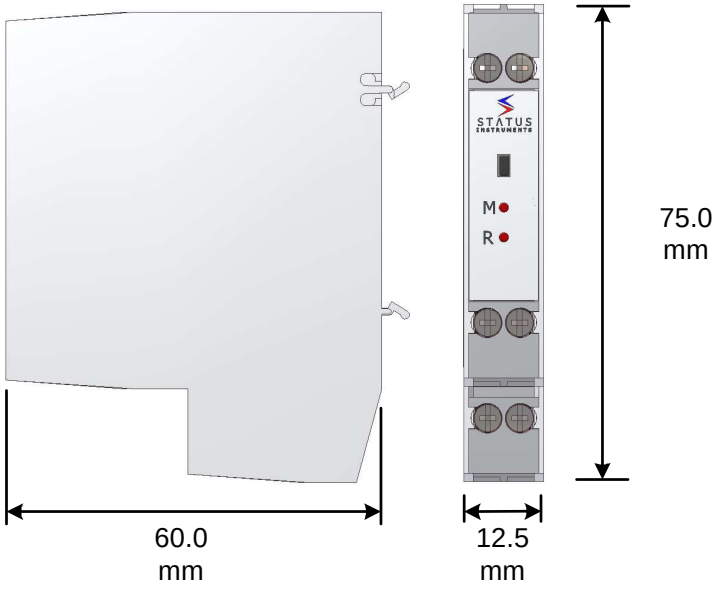
APPROVALS

EMC - BS EN 61326

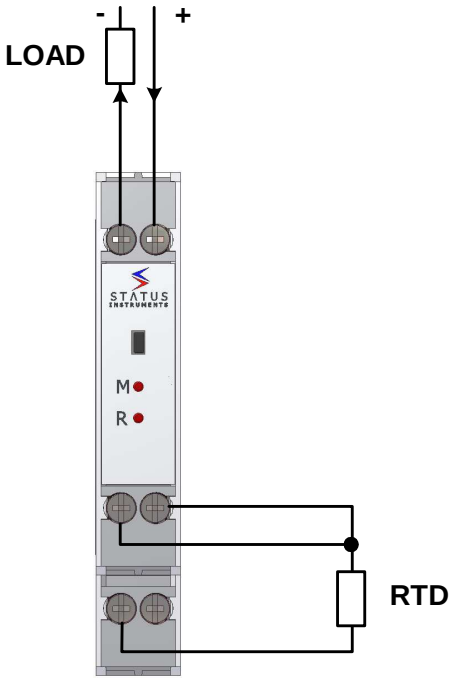
	Electrical equipment for measurement control and laboratory use.
ANNEX A	Immunity test requirements for equipment intended for use in industrial locations
ANNEX F	Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal conditioning.
IEC 61000-4-2	Electrostatic discharge
IEC 61000-4-3	EM Field
IEC 61000-4-4	Transient Burst (output)
IEC 61000-4-5	Surge (output)

Note - Sensor input wires to be less than 30 metres to comply.

MECHANICAL



WIRING CONNECTIONS



ORDER CODE: SEM 213P

Distribution via
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STATUS INSTRUMENTS