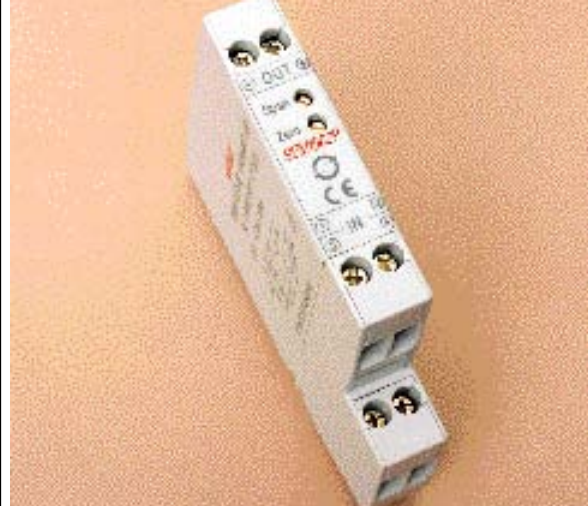Pt100 INPUT BS EN 60751 [X]

2, 3, OR 4 WIRE INPUT [X]

HIGH PERFORMANCE [X]

FULLY LINEARISED [X]

SMALL SIZE [X]

4-20 mA OUTPUT [X]

Pt100 TRANSMITTERS, 2, 3 AND 4 WIRE
SEM1500/P Series

INTRODUCTION

The **SEM1500/P** series are DIN rail mounted transmitter designed to accept Pt-100 temperature sensors and to convert them to the industry standard 4-20 mA transmission signal. Units are supplied factory set to any one of six standard ranges or can be easily user calibrated to provide virtually any range from -100°C to +600°C, minimum range is 25°C. Non standard ranges can be supplied, factory set, at a nominal extra cost.
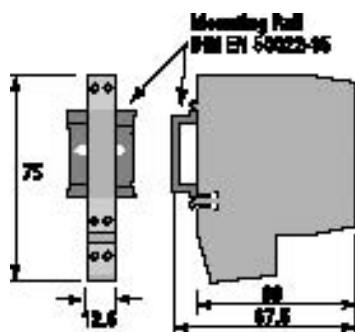
High accuracy is achieved by using active two, three or four wire bridge arrangments which effectively removes any errors associated with the sensor connecting cables.

The small size of the unit (only 12.5mm wide) enables many more units to be fitted in a smaller space than was previously possible.

APPROVALS

EMC   Emissions BS EN 50081
           Susceptibility BS EN 50082

MECHANICAL DETAILS

Mounting Rail
DIN EN 50022-35

75

12.5   67.5

SEM1500/P Weight 45 g

SPECIFICATIONS @ 20°C

INPUT	Pt-100 Platinum Resistor* BS EN 60751, DIN 43760 others available on request
SEM1503/P	2 or 3 wire
SEM1504/P	2 or 4 wire

Accuracy   **±0.15°C ± % reading as follows**

Accuracy % rdg	0.4	0.2	0.1	0.2	0.4
Temperature °C	-180 -100	0	200	500	600

Burn Out	UP scale standard
Excitation Current	SEM1503/P 2mA nominal SEM1504/P 1mA nominal

OUTPUT

Type	Passive 2 wire current output
Range	4-20 mA (30 mA MAX.)
Protection	Reverse connection plus over voltage

GENERAL

Supply	10-30 V DC
Load	700 ohms @24V
Thermal Stability	100ppm / °C
Ripple	<40µA/V (measured at 1V ripple 50Hz)
Response time	100 mSecs to reach 70% of final value
Temperature	Ambient 0 -50°C
Relative Humidity	Ambient 10-95% Non-condensing

ENCLOSURE

Case Material	Polyamide (Grey)
Case Flammability	To UL94-VO VDE 0304 Part 3 Level IIIA
Mounting	Top Hat rail to DIN EN 50022-35
Protection	IP20
Connections	Captive screw connections
Cable Size	4mm sq solid/2.5mm sq stranded

* Consult Sales Office for Pt1000 version

STANDARD RANGES

The SEM1500/P Series may be purchased pre-ranged to any of the following standard ranges.

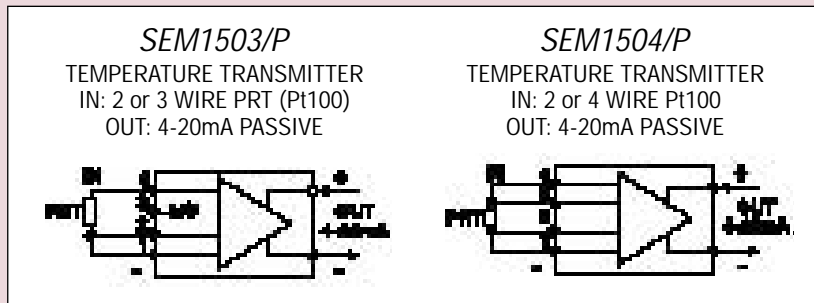| RANGE °C	
from	to
-30	+35
-25	+75
0	50
0	100
0	200
0	400

NON STANDARD RANGES

Units can be supplied set up to other non-standard ranges for a small extra charge or alternatively the unit can easily be re-ranged as follows;

ADJUSTMENTS   Range selection GAIN and OFFSET Coarse settings are made by two 16 position rotary screw adjustment switches on the side of the unit.
Fine adjustment is by front access potentiometers.
Full re-calibration details are supplied with each transmitter.

INPUT type	OFFSET RANGE °C 4mA	GAIN RANGE °C 4-20mA
Pt-100	-100 to +220	25 to 600 full accuracy

CONNECTION DIAGRAM

SEM1503/P
TEMPERATURE TRANSMITTER
IN: 2 or 3 WIRE PRT (Pt100)
OUT: 4-20mA PASSIVE

SEM1504/P
TEMPERATURE TRANSMITTER
IN: 2 or 4 WIRE Pt100
OUT: 4-20mA PASSIVE

ORDER CODE

SEM1503 / P	/	value @ 4 mA	/	value @ 20 mA
SEM1504 / P	/	value @ 4 mA	/	value @ 20 mA

Example: **SEM1503 / P / 0 / 100** For Pt-100 Temperature sensor range 0-100°C 3 wire sensor
Also available in packs of 10 pre-calibrated to the default range of 0-100°C
ORDER CODE 10 PACK = **SEM1503 / P / 0 / 100-PK10** (SEM1504 not available in 10 pack)

Also available:-

SEM1500/TC	**ISOLATING THERMOCOUPLE TRANSMITTER**
SEM1400 series	**TRIP AMPLIFIERS/ALARMS**
SEM1300	**POWER SUPPLY**
SEM1100	**POWERED ISOLATING CONVERTER**
SEM1000 series	**ISOLATORS**