Pt100 TRANSMITTERS 2, 3 & 4 WIRE

SEM1500/P SERIES

> **10 YEAR WARRANTY**

> **Pt100 INPUT BS EN 60751**

> **2, 3 OR 4 WIRE INPUT**

> **HIGH PERFORMANCE**

> **FULLY LINEARISED**

> **SMALL SIZE/HIGH PACKING DENSITY**

> **(4 TO 20) mA OUTPUT**

INTRODUCTION

The SEM1500/P series are DIN rail mounted transmitters designed to accept Pt100 temperature sensors and to convert them to the industry standard (4 to 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 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 bridges arrangements which effectively removes any errors associated with the sensor connecting cables.

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

SPECIFICATIONS @ 20 °C

INPUT
Pt100 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 ± %
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 to 20) mA (30 mA maximum)
Protection Reverse connection plus over voltage

GENERAL
Supply   (10 to 30) VDC
Load   700 Ω @ 24 V
Thermal Stability 0.01 %/°C
Ripple   < 40 mA/V (measurement at 1 V ripple 50 Hz)
Response Time   100 ms to reach 70 % of final value
Temperature   Ambient (0 to 50) °C
Relative Humidity Ambient (10 to 95) % Non-condensing

APPROVALS
EMC   BS EN61326

* Consult sales office for Pt1000 version.

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   4 mm² solid/2.5 mm² stranded

STATUS INSTRUMENTS

Pt100 TRANSMITTERS 2, 3 & 4 WIRE

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

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.
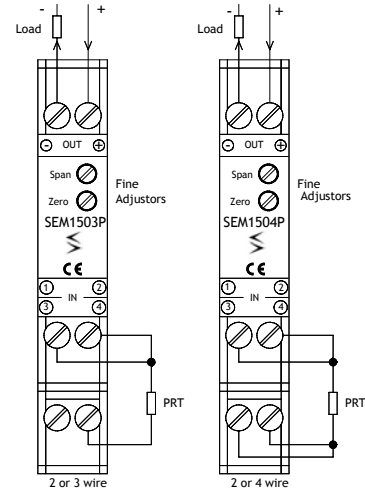
INPUT TYPE	OFFSET RANGE °C 4 mA	GAIN RANGE °C (4 to 20) mA
Pt100	(-100 to 220)	(25 to 600) full accuracy

MECHANICAL DETAILS

(All dimensions in mm)
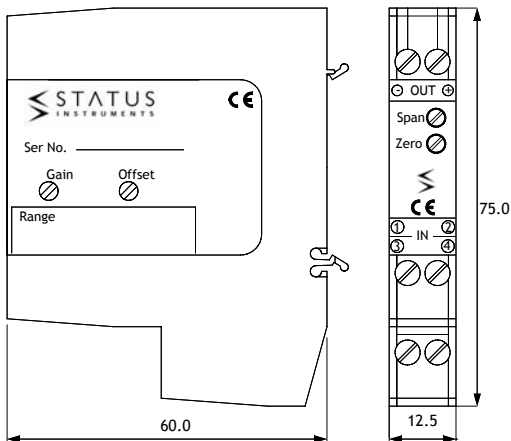
ELECTRICAL DETAILS

BLOCK DIAGRAM
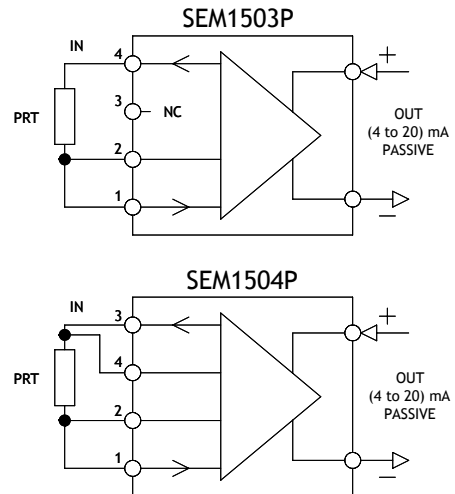
ORDER CODE

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

Example: **SEM1503/P/0/100** For Pt100 temperature sensor range (0 to 100) ˚C wire sensor.

ALSO AVAILABLE:

SEM1500/TC	Isolating Thermocouple Transmitter
SEM1400 SERIES	Trip Amplifiers/Alarms
SEM1300	Power Supply
SEM1000 SERIES	Isolators

CHECK WITH SALES OFFICE FOR FULL DETAILS

STATUS INSTRUMENTS