

PUSH BUTTON CALIBRATION

RTD SENSOR INPUT

IN-HEAD MOUNTING

DRIFT FREE DIGITAL LINEARIZATION

RE-RANGEABLE WITHOUT A PC

LED OVER-RANGE INDICATION



SEM203 TEMPERATURE TRANSMITTER with PUSH BUTTON CALIBRATION

INTRODUCTION

The **SEM203 series** in-head transmitter incorporates the latest digital technology ensuring accurate drift free operation. The transmitter connects to any standard RTD temperature sensor and provides a linear 4-20mA DC output. Since the Zero and Span are set to conform to a particular sensor type, the sensor temperature co-efficient (0.00385, 0.00392 etc) has little to no effect on the accuracy of the **SEM203P**. The **SEM203N** accepts a 120 ohm Ni temperature sensor.

The **SEM203** provides a level of performance superior to analog units at a comparable price.

The simple push of a button *ranges and calibrates* the **SEM203** transmitter. There is no need for jumpers or pot adjustments.

Ease of re-ranging assures that you will have the range you need in stock without requiring excessive inventory. High accuracy, stability and flexibility make the **SEM203** the ideal choice for many RTD transmitter applications.

24V DC power

RTD Simulation

Optional Indicator

CALIBRATION PROCEDURE

1. Connect an RTD simulator/calibrator to the input and between 8 & 30 volts DC to the output of the SEM203.
2. Set the simulator to the desired temperature at 4mA. Press and HOLD the calibration button until the LED starts to blink.
3. Set the simulator to the desired temperature at 20mA. Press the calibration button and release. The LED continues blinking and then shuts off confirming that the unit is calibrated.

It's that simple and that fast



STATUS INSTRUMENTS INC.

PO Box 548, 456 Park Ave., Scotch Plains, NJ 07076
 Phone:(800) 700-3272 Fax: (800) 700-5468 (US & CA only)
 Phone: (908) 490-0232
 Email: rc@statinst.com Internet Address: www.statinst.com



SEM203 6-02/PDF

SPECIFICATION @ 68°F

INPUT	
Sensor	3 Wire Pt-100 (Pt-500 or Pt-1000 to order)
Linearization	BS EN 60751 BS 1904 (DIN 43760) (0.00385) JISC 1604 (0.003916)
Excitation current	1 mA maximum
Sensor range	-328°F to +1562°F
Minimum span	40°F
Lead resistance	
Maximum Effect	10 ohms per leg 0.02% Full Range Output/ohm (plus lead resistance mismatch)
Burnout	Red LED indicates when temperature range is exceeded
Sample rate	500 mS per sample
Accuracy	±0.2°F ±0.1% rdg -150°F to +950°F ±0.4°F ±0.2% rdg -320°F to +1550°F
Thermal drift	
Zero Span	±0.01°F/°F
Span	50ppm
Warm up time	2 minutes to full accuracy
Protection	Reverse Polarity Protected
Indication	Red LED indicates programming operations and out of range sensor
Programming switch	Momentary Push Button

APPROVALS

EMC	Emissions	BS EN 50081-1
	Susceptibility	BS EN 50082-2

ORDER CODE

SEM203P	For Pt-100 (Upscale Burnout) *1
SEM203P-500	For Pt-500
SEM203P-1000	For Pt-1000
SEM203N	120 Ω Ni
CONFIG203	*2 (default range 32-212°F)
RMK-1	Din Rail Adapter

Notes: *1 Downscale Burnout. Contact Sales Office
*2 Special configuration. Contact Sales Office

OUTPUT	
Output range	4-20 mA 2 wire loop powered (Can be ranged 20-4mA) Maximum 3.8 to 22mA
Supply voltage	8 to 30 VDC
Voltage effect	0.4µA/Volt
Accuracy	±5µA
Burnout	Up-Scale 22mA (Downscale to order)
Thermal drift	
Zero Span	±0.12µA/°F ±0.28µA/°F
Response time	500mS to reach 70% of Value
Loop resistance	Max. 800R at 24VDC
Loop noise	±0.1µA p-p
Ripple rejection	±0.002µA/Volt (measured @ 50 Hz 1 volt p-p)

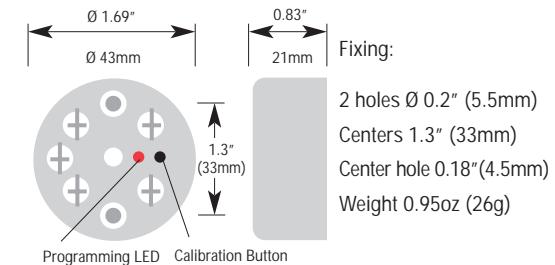
ENVIRONMENTAL

Ambient operating range	30°F to 160°F
Ambient storage temperature	-40°F to 160°F
Ambient humidity range	0 to 95% (non condensing)

ENCLOSURE

Material	ABS
Flammability	UL 94V040

MECHANICAL DETAILS



LOCAL REPRESENTATION

Every effort has been taken to ensure the accuracy of this specification, however we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.