

HUMIDITY / TEMPERATURE TRANSMITTER

SEM161, SEM162

- CONFIGURATION USING USB PORT POWERED CONFIGURATOR
- HUMIDITY, TEMPERATURE, DEW POINT MEASUREMENT
- INTERCHANGEABLE DIGITAL SENSOR
- HIGH ACCURACY AND STABILITY
- DISPLAY OPTION
- USER CALIBRATION FACILITY



➤ INTRODUCTION

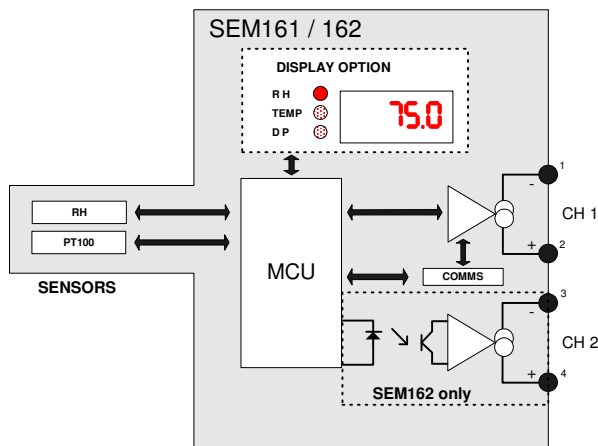
The SEM161 /162 series are a cost effective “smart” humidity and temperature transmitter with a single two wire (4 to 20) mA output (SEM161) or dual two wire (4 to 20) mA output (SEM162). The design uses a digital sensor which plugs into the sensor stem. A 4 digit display option is also available.

The product will measure humidity, temperature, dew point and delta T (the difference between dewpoint and ambient temperature) values. Using our free software, available on our website, PC configuration allows you to measure any one of these 4 parameters on the SEM161, or any two on the SEM162. You can even programme the SEM162 to measure the same parameter on both loops.

Configuration is performed quickly using our new USB port driven configurator by connecting the transmitter to the configurator and following the software instructions. The software allows you to tag the device, set installation date and set output range. Either fixed ranges or your own custom ranges can be configured for all temperature output types in °C or °F and RH in %.

The 4 digit LED display option provides you with a visual indication of the process parameters, the display may be set to indicate either humidity, temperature, dew point or toggle between all three parameters.

Using our popular SCH4 connection head, the SEM161/162 series can be ordered for duct, wall or remote sensor mounting.

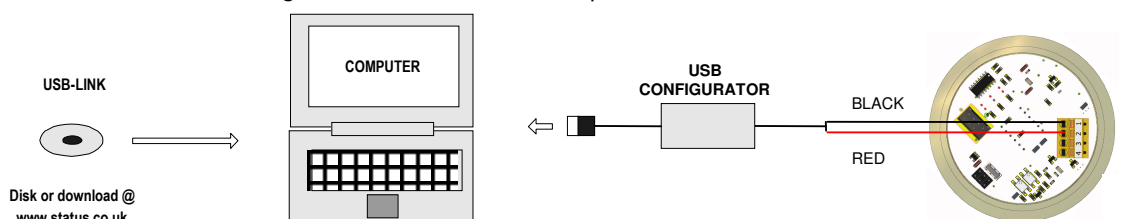


FACTORY DEFAULT:

SEM161		
CH1	RH	(0 to 100) %
Alignment	off	
Display option	RH	
SEM162		
CH1	RH	(0 to 100) %
CH2	Tamb	(0 to 50) °C
Alignment	off	
Display option	RH	

➤ PC CONFIGURATION

Running Windows XP or later with USB port



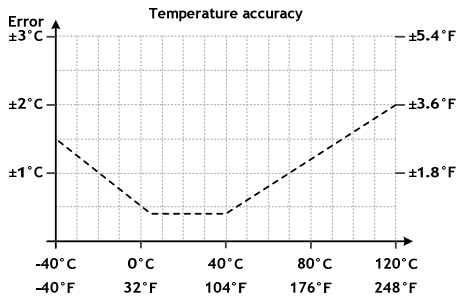
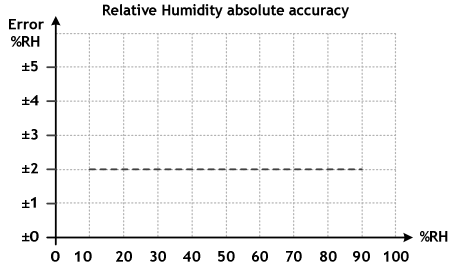
HUMIDITY / TEMPERATURE TRANSMITTER

SPECIFICATIONS @ 20 °C

INPUT

Sensor Type Humidity/Temperature
 Humidity Range (0 to 100) % RH
 Temperature Range (-30 to 100) °C (See Defaults)

PROCESS ACCURACY (without Alignment)



CH1 OUTPUT (CH2 when fitted)

Humidity Range (0 to 100) % RH
 Humidity Accuracy (10 to 90) % see graph above
 Temperature Range (-30 to 100) °C (-22 to 212) °F
 Dew Point Range (-30 to 100) °C (-22 to 212) °F
 (T amb - T dew point)
 Output Type (0 to 50) °C (32 to 122) °F
 Output Type 2 wire (4 to 20) mA current loop
 Output range (4.0 to 20.0) mA
 Output Connection Two Part Screw Terminal
 Maximum output 20.5 mA (in high burnout condition)
 Minimum output 3.9 mA (in low burnout condition)
 Accuracy (mA Out x 0.0005) or 5 uA (Whichever is the greater)
 Loop Voltage effect 0.2 uA / V
 Thermal drift 1 uA / °C
 Maximum output load [(Vsupply-10)/20] K Ohms
 (Example: 700 Ohms @ 24 V)

DISPLAY OPTION

Type 4 digit (9 mm) Red LED
 Ranges Humidity, Temperature, Dewpoint
 Resolution 0.1 % - 0.1 °C / °F
 Update rate 800 mS

GENERAL SPECIFICATION

Update time 3 Seconds
 Start up time 10 seconds (I out < 4 mA during start up)
 Power Supply (10 to 30) Volts dc
 (15 to 30) Volts dc with display

ENVIRONMENTAL

Probe

Ambient operating range (-30 to +100) °C
 Ambient humidity range (0 to 100) % RH

Transmitter

Ambient operating range (-30 to +85) °C
 Ambient storage temperature (-50 to +90) °C
 Ambient humidity range (10 to 90) % RH non condensing

APPROVALS

EMC - BS EN 61326

ANNEX A

ANNEX F

IEC 61000-4-2
 IEC 61000-4-3
 IEC 61000-4-4
 IEC 61000-4-5

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

MECHANICAL

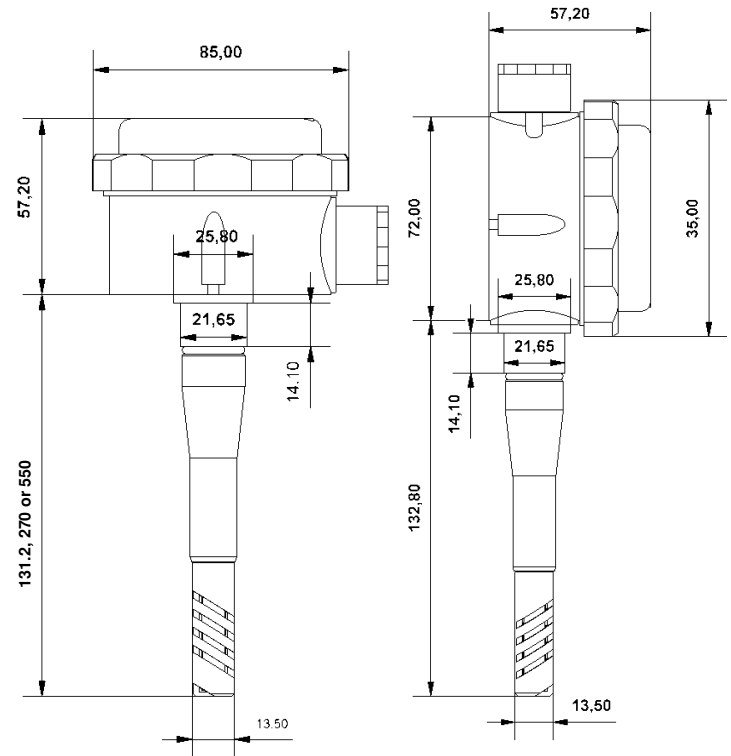
Output Connection M20
 Wire Range: Solid / Stranded Wire
 Wire Strip Length

(20 to 28) AWG
 (6 to 7) mm

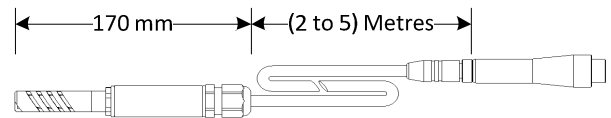
DUCT

WALL

(All Dimensions in mm)



REMOTE SENSOR



Order Code:

SEM	No of Channels	M / S / D	Stem	161	162	Length	Display Option
Hum 1	161	Wall	W	H	HP	110 mm	Fitted
Hum + Temp 2	162	Duct	D	H01	HP01	120 mm	
		Remote	R	H02	HP02	250 mm	
				H03	HP03	530 mm	
				H01	HP01	2 m	
				H02	HP02	5 m	

Accessories: USB Configurator