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.
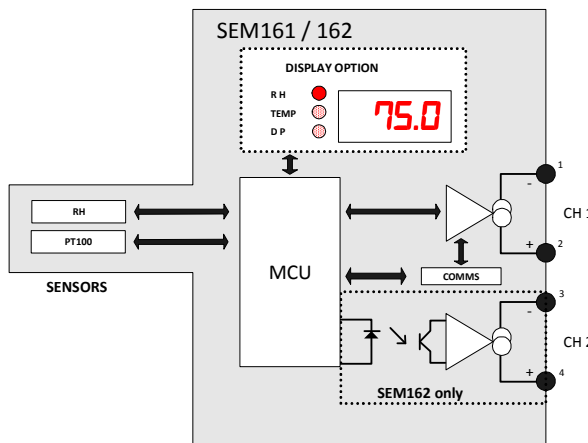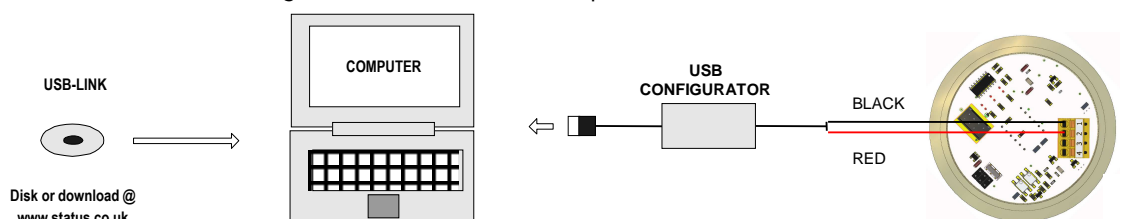

FACTORY DEFAULT:

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

USB-LINK

Disk or download @
www.status.co.uk

COMPUTER

USB CONFIGURATOR

BLACK

RED

STATUS
INSTRUMENTS

HUMIDITY / TEMPERATURE TRANSMITTER

> ## SPECIFICATIONS @ 20 ºC

INPUT

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

PROCESS ACCURACY (without Alignment)

Relative Humidity absolute accuracy

Temperature accuracy
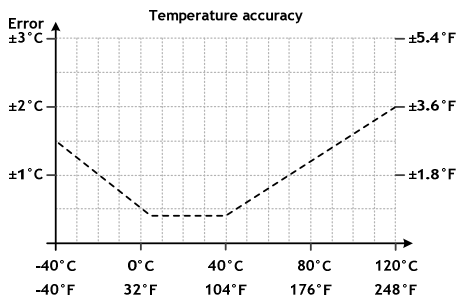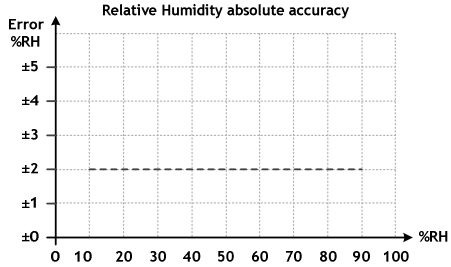
CH1 OUTPUT (CH2 when fitted)

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)	(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	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)

> ## MECHANICAL

Output Connection	M20
Wire Range:	
Solid / Stranded Wire	(20 to 28) AWG
Wire Strip Length	(6 to 7) mm

DUCT   WALL

(All Dimensions in mm)

REMOTE SENSOR

170 mm   (2 to 5) Metres
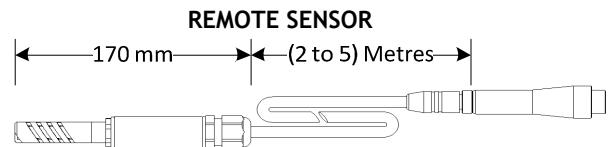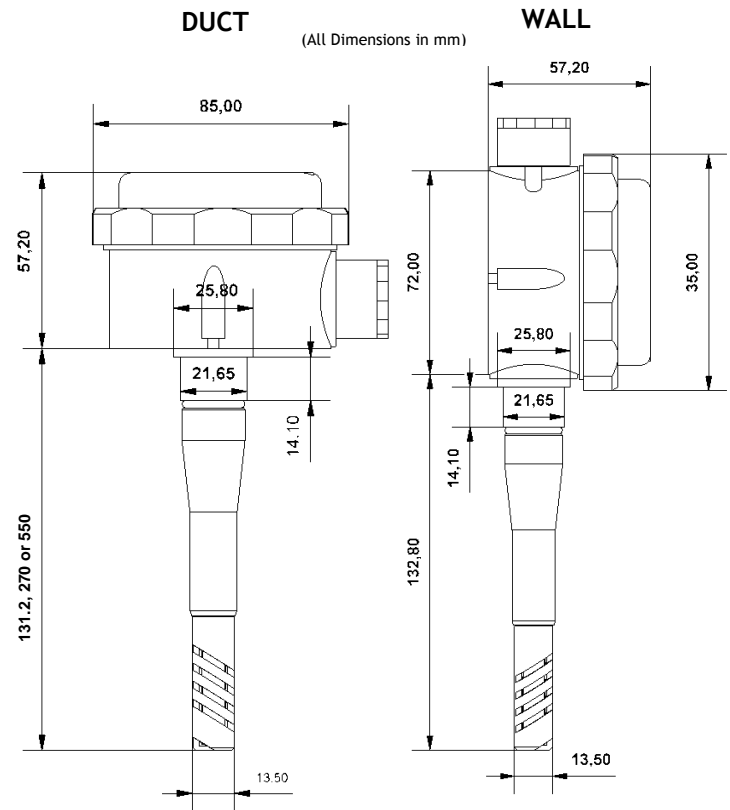
Order Code:

SEM	No of Channels	M	/	S	/	D

Channels			Mounting		Stem	161	162	Length	Display Option	
Hum 1	161		Wall	W	Wall	H	HP	110 mm	Fitted	DP
Hum + Temp 2	162		Duct	D	Duct	H01	HP01	120 mm		
			Remote	R	Duct	H02	HP02	250 mm		
					Duct	H03	HP03	530 mm		
					Remote	H01	HP01	2 m		
					Remote	H02	HP02	5 m		

Accessories: USB Configurator

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