

## 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

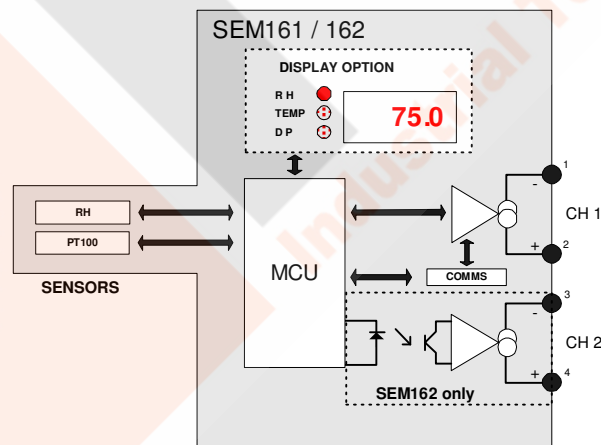
The SEM161 /162 are a cost effective “smart” humidity transmitter with a single two wire (4 to 20) mA output ( SEM161) or dual two wire (4 to 20) mA output (SEM162). The design uses a digital sensor which plugs into the sensor stem. A 4 digit display option is also available.

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.

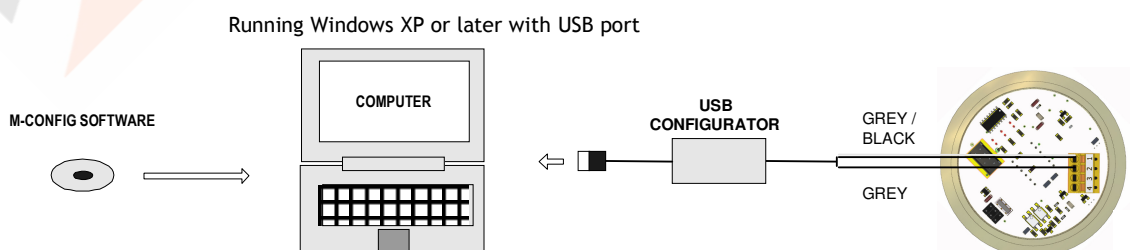
Configuration is performed quickly using our new USB port driven configurator by connecting the transmitter to the configurator and following the software instructions. The software allows you to tag the device, set installation date and set output range. Either fixed ranges or your own custom ranges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

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.



### PC CONFIGURATION



# HUMIDITY / TEMPERATURE TRANSMITTER

## SPECIFICATIONS @ 20 °C

### INPUT

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

### PROCESS ACCURACY (without Alignment)

Humidity	± 2 %
Temperature	± 0.4 °C

### CH1 OUTPUT (No Channel 2 fitted)

Humidity Range	(0 to 100) % RH
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 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 @ 24V)

### DISPLAY OPTION

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

### 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
*1	Approximation Assuming constant air pressure

### 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

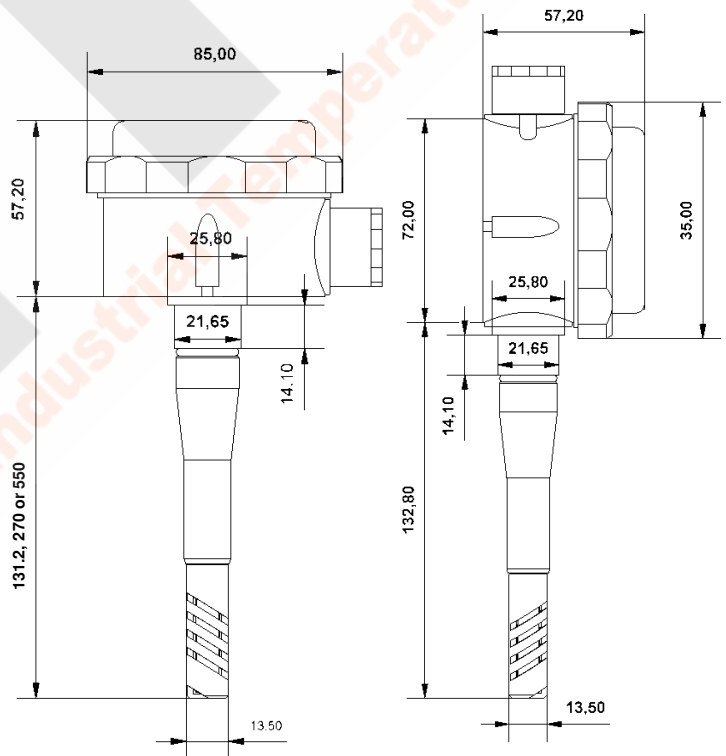
EMC - BS EN 61326 :1998 -	Electrical equipment for measurement control and laboratory use.
ANNEX A	Immunity test requirements for equipment intended for use in industrial locations
ANNEX F	Test configurations, operational conditions and performance criteria for transducers with integrated or remote signal 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

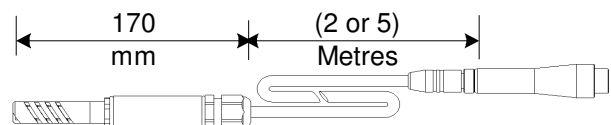
Output Connection	M20
Wire Range:	
Solid Wire (AWG)	20 - 28
Stranded Wire	20 - 28
Wire Strip Length	(6 to 7) mm

### DUCT

### WALL



### REMOTE SENSOR



**ACCESSORIES:**  
USB CONFIGURATOR SUITE    USB-KIT