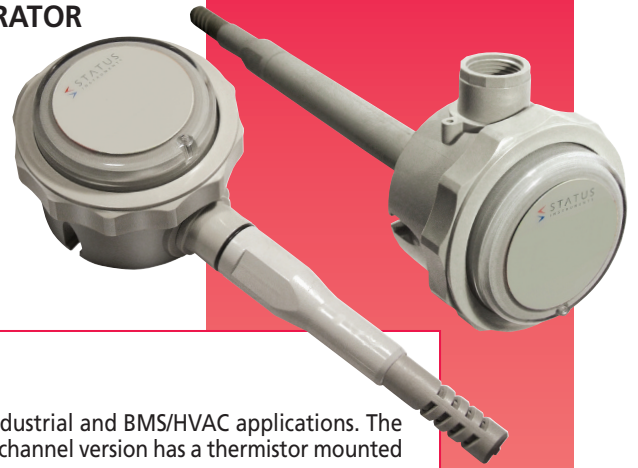


# SINGLE AND DUAL CHANNEL RELATIVE RH/TEMPERATURE TRANSMITTERS

## SEM160i

- SIMPLE CONFIGURATION VIA USB PORT POWERED CONFIGURATOR
- SINGLE AND DUAL CHANNEL VERSIONS
- 4 to 20mA LOOP POWERED OUTPUT
- DUCT AND WALL MOUNT VERSIONS
- ISOLATED OUTPUTS
- SWITCH SELECTABLE RANGES FOR DUAL CHANNEL VERSION
- RH, TEMPERATURE, DEW POINT or DELTA TEMPERATURE (Tamb–Tdew point) SELECTABLE OUTPUTS



## INTRODUCTION

The SEM160i is a low cost single/dual channel RH and temperature transmitter for industrial and BMS/HVAC applications. The unit can be supplied in single or dual channel (two wire 4 to 20mA) versions, the single channel version has a thermistor mounted in the sensor tip for direct temperature sensing by the users.

A USB HID interface is provide for user configuration using USBSpeedLink configuration software, downloadable free from our website ([www.statinst.com](http://www.statinst.com)), allowing the user to select signal source and range for each channel.

The dual channel version has four switch set ranges for easy onsite configuration. The four ranges can be programmed individually to the customer's requirement off site via the configuration software. Single point alignment is provided for both temperature and humidity ranges. The configuration software also provides data readings together with a basic logger function for diagnostics.

Wall and duct mount versions are available.

## SPECIFICATIONS @ 68°F

### GENERAL SPECIFICATIONS

Update Time	3 Seconds
Start-Up Time	< 10 Seconds (I out < 4 mA during Start-up)
Power Supply	10 to 30VDC
<b>INPUT</b>	
RH Range	0 to 100%RH
RH Accuracy Typically	± 3% (± 5% Max) between 10- 90%RH
Temperature Range	-22 to 212°F
Temperature Accuracy	± 0.9°F between -4 to 176°F
Dew Point Range	32 to 122°F
Delta Temperature (Delta T)	= Ambient Temp. - Dew Point Temp.
Delta T Range	32 to 122°F
Thermistor	On the single channel unit a discrete thermistor is supplied to replace the second 4 to 20mA channel. The 10K NTC thermistor can be read directly to determine ambient temp.

### CH1 (CH2) OUTPUTS

Output Type	2 - wire 4 to 20mA Current Loop
Output Range	4.0 to 20.0mA
Output Connection	Two part screw terminal
Maximum Output	> 20.5mA in High Burnout Condition
Minimum Output	< 3.9mA in Low Burnout Condition
Accuracy	(mA output/2000) or 5µA whichever is greater
Loop Voltage Effect	0.2µA/V
Thermal Drift	1µA/°C
Maximum Output Load	[(Vsupply-10)/20] K Ohms (example: 700 ohms @ 24V)
Channel Isolation	500VDC
Switch Settings CH2 Only	Four switch selected ranges provided

NOTE: On two channel transmitter both channels must be powered.

### USER PROGRAMMING Via USB Speed Link Software (all temperatures in °C)

#### SENSOR

Humidity	Single point offset correction %RH
Temperature	Single point offset correction
CH1	Source (RH, Temperature, Dew Point, Delta T), Range and error Signal
CH2	
Positions A	Source (RH, Temperature, Dew Point, Delta T), Range and error Signal
Positions B	Source (RH, Temperature, Dew Point, Delta T), Range and error Signal
Positions C	Source (RH, Temperature, Dew Point, Delta T), Range and error Signal
Positions D	Source (RH, Temperature, Dew Point, Delta T), Range and error Signal
Read Live Data	RH, Temperature, Dew Point, Delta T, CH1 mA, CH2 mA, Date/Time
Basic Data Log	Text file saved to PC while connected via USB
Tag Number	User Entered

*The required configuration can be specified when you order, removing the need for user configuration. If the range is not specified on your order the transmitter will be supplied with CH1 set at the default of 0 to 100%RH with error signal of 21.5 mA and CH2 set at the default of 0 to 50°C with error signal of 21.5mA.*

**PC CONFIGURATION**

Type USB 2.0  
 Baud Rate 19,200 baud  
 Equipment PC running Windows XP or later, USB Cable  
 USB Speed Link Software Download from www.statinst.com

**ENVIRONMENTAL**

**NORMAL OPERATING TEMPERATURE**

Electronics -4 to 158°F  
 Probe -22 to 212°F

**OPERATING TEMPERATURE LIMITS**

Electronics -31 to 185°F  
 Probe -31 to 221°F

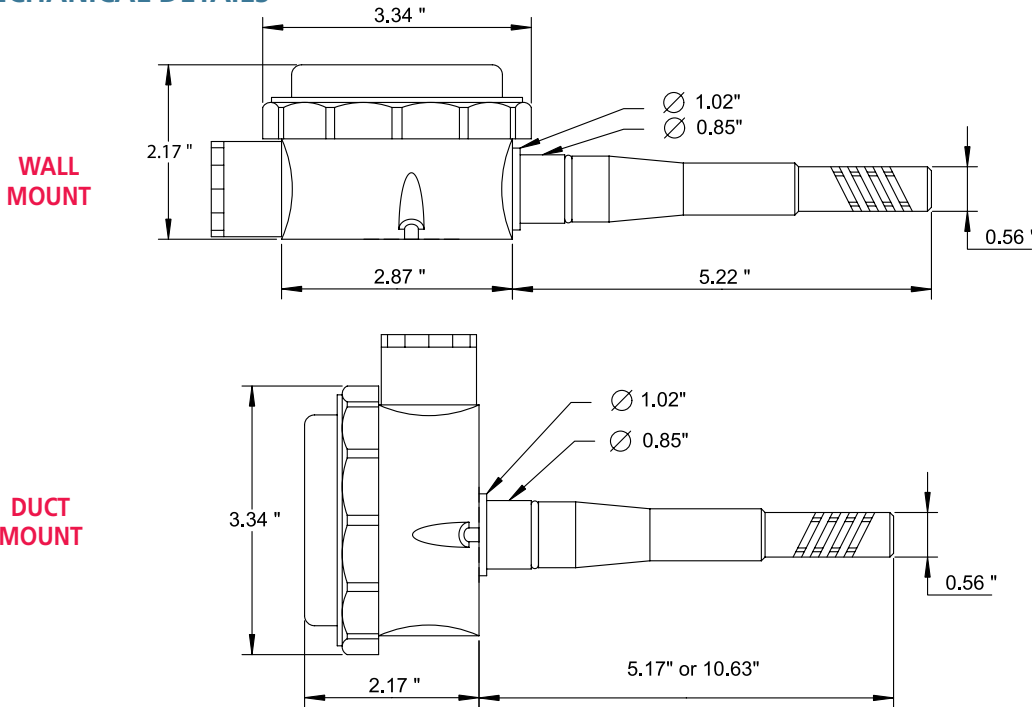
**MECHANICAL**

Output Connection 1/2" NPT

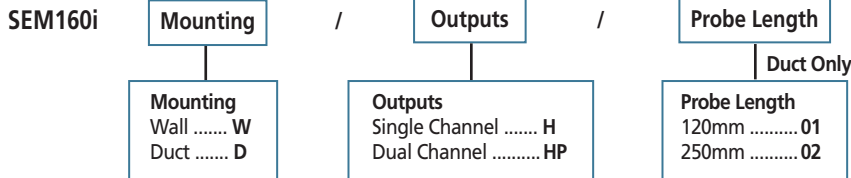
**APPROVALS**

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 DETAILS**



**ORDER CODES:**



**Local Representation**



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 Phone: (800) 700-3272 Fax: (800) 700-5468 (US & CA only)  
 Email: sales@statinst.com Web: www.statinst.com