SEM160I HUMIDITY/TEMPERATURE TRANSMITTER

> **HUMIDITY, TEMPERATURE, DEW-POINT, DELTA-TEMPERATURE MEASUREMENT**

> **SINGLE OR DUAL (4 to20) mA OUTPUT**

> **DUCT AND WALL MOUNT VERSIONS**

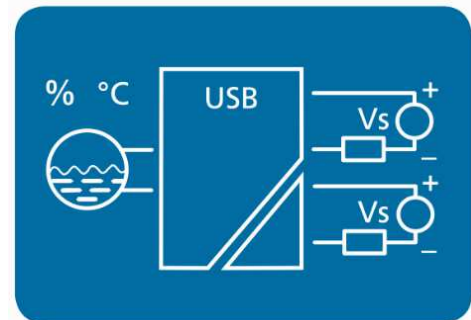> **USER-CALIBRATION FACILITY**

> **DIRECT USB CONFIGURATION**

> **INTRODUCTION**

The SEM160I is a low-cost single or dual channel RH and temperature transmitter for industrial and BMS/HVAC applications.

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 when connected to the USBSpeedLink software.

> **FEATURE HIGHLIGHTS**

WALL/DUCT MOUNT
The SEM160I has wall and duct mount options, with different stem lengths available for duct mount.

INPUT VARIANTS
The SEM160I can be programmed to retransmit a single or dual scaled (4 to 20) mA loop signal based on any of four input variants: relative humidity, temperature, dew-point and delta temperature can all be selected for retransmission.

USER-CALIBRATION/ALIGNMENT
The SEM160i can be user aligned to a reference source or meter for %RH and temperature input readings.

USB CONFIGURATION
The SEM160I is quick and easy to set up using the USBSpeedLink software with direct USB connection to a PC.
The SEM160I can be set to %RH and temperature output options.

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INPUT

Type/Function	Range/Description
Sensor type	Humidity/Temperature
Humidity range	(0 to 100) % RH
%RH accuracy	Typically, +/- 3% (+/- 5% Max) between (10 to 90) %RH
Temperature range	(-30 to 100) °C (See Defaults)
Temperature accuracy	+/- 0.5 °C between (-20 to 80) °C
Dew-point range	(0 to 50) °C
Delta temperature (Delta T)	Ambient temperature – dew-point temperature
Delta temperature range	(0 to 50) °C
Thermistor (single channel version only)	Optional discrete thermistor to replace second (4 to 20) mA channel. Thermistor to be read directly by user. 10 K NTC, data on request.

OUTPUT
Dual channel version x 2 (4 to 20) mA. Single channel 1 x (4 to 20) mA plus thermistor

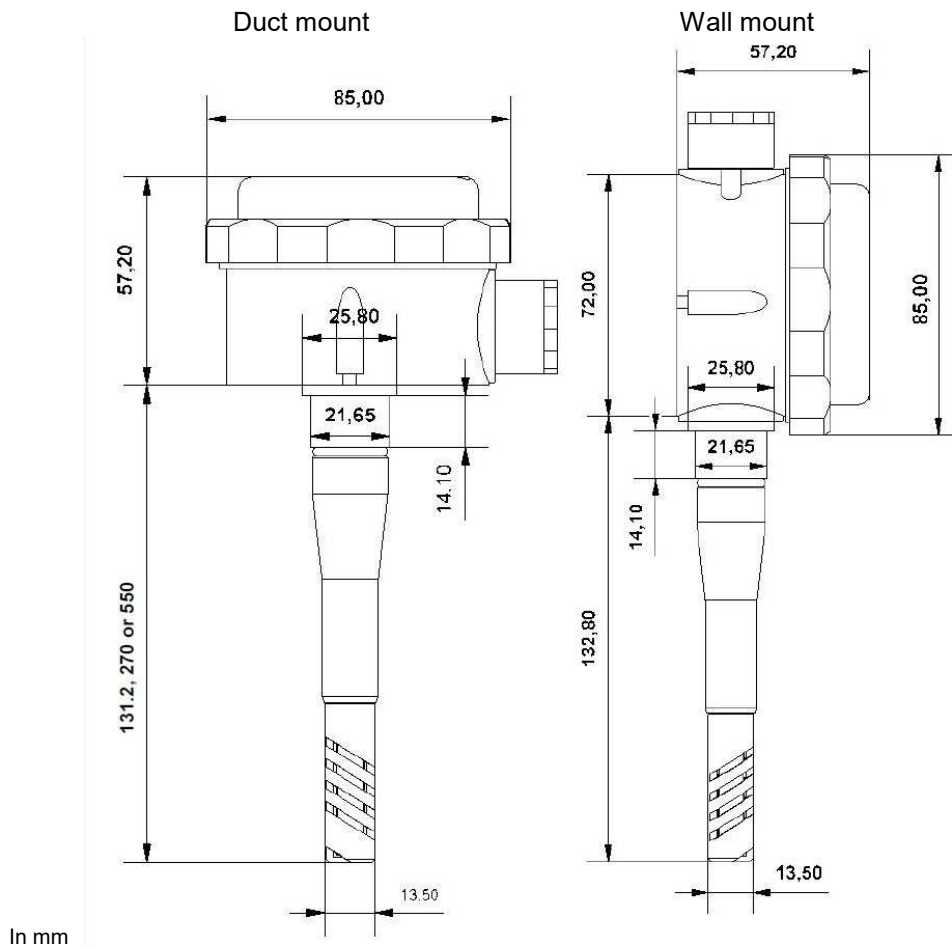| Type/Function	Range/Description
Output type	(4 to 20) mA control loop
Accuracy	(mA output /2000) or 5 uA, whichever is the greater
Loop Voltage effect	0.2 uA / V
Thermal drift	1 uA / °C
Maximum output	20.5 mA
Minimum output	3.9 mA
Maximum output load	[(Vsupply-10)/20] K Ohms (Example: 700 Ohms @ 24V)
Channel isolation	500 Vdc, 48 Vdc working
Switch setting dual channel only	Four switch selected ranges provided, user-configurable

USB USER-INTERFACE

Type/Function	Range/Description	Notes
Configuration hardware	USB Lead	A to mini B
Configuration software	USBSpeedLink	Download www.status.co.uk
Channel 1 Single and Dual Channel 2 Dual only 4 x pre-set dip switch	Source	RH, Temperature, Dew-point, Delta T
	Range:	(0 to 100) %RH, (0 to 100) °C Temperature (0 to 50) ° Dew-point, Delta T
	Sensor offset/alignment	(-10 to 10) %RH, (-10 to 10) °C
	Sensor pre-set	Any within type range
	Error signal	(3.8 to 21.5) mA
Tag number	User-defined	20 character
Read live-data	%RH Temperatures Dew-point Delta T Output channel value	% °C °C °C mA
Save/load configuration		To file on PC
Defaults	Ch1 (0 to 100) %RH, CH2 (0 to 50)°C, 21.5 mA signal error, no offsets	

GENERAL

Function	Description
mA output response time	3 s
Supply voltage	(10 to 30) Vdc SELV
Start-up time	<10 s, mA out <4 mA during start-up
Note: for channel 2 to give a (4 to 20) mA output, channel 1 must also be powered	

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ENVIRONMENTAL	
Function	**Description**
Ambient temperature	Operating/Storage (-30 to 70) °C
Probe temperature	(-30 to 100) °C
Ambient humidity	Operating/Storage (0 to 100) %RH non-condensing
Protection	IP65 main housing, IP40 probe sensing tip
USB configuration ambient	(10 to 30) °C

MECHANICAL	
Function	**Description**
Dimensions	See below
Enclosure	Wall, duct mount
Material	ABS plastic with UV, UL rating HB: Grey
Connections	Screw terminals 2.5 mm wire maximum
Weight	130 g approximate

Duct mount

Wall mount

In mm

SEM160I HUMIDITY/TEMPERATURE TRANSMITTER

APPROVALS	
EMC	BS EN 61326
Ingress protection	BS EN 60529
RoHS	Directive 2011/65/EU

SEM160I SERIES ORDER CODE

	Mounting	Channels	Duct only stem option	
SEM160I				
	D = Duct W = Wall	H = Single HP = Dual	01 = 120 mm 02 = 250 mm	
Example 2 channel wall mount				
SEM160I	W	HP	-	

ACCESSORIES	
Configuration software	USBSpeedLink (free of charge)
Calibration	Contact

To maintain full accuracy annual calibration is required.
The data in this document is subject to change. Status Instruments assumes no responsibility for errors.

STATUS INSTRUMENTS