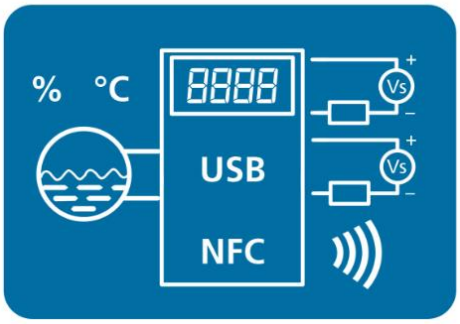
SEM710HM DUAL (4 to 20) mA LOOP POWERED HUMIDITY/TEMPERATURE TRANSMITTER WITH DISPLAY OPTION

- **%RH, TEMPERATURE, DEW POINT, DELTA T**
- **DISPLAY OPTION**
- **USB AND NFC INTERFACE**
- **DUAL CHANNEL (4 to 20) mA LOOP POWERED**
- **DATA LOGGER (USB or COMPATIBLE ANDROID DEVICE)**



INTRODUCTION

The SEM710HM and SEM710HM/DP are dual channel loop powered transmitters with relative humidity and temperature ranges.
The outputs are fully programmable with the option of %RH, temperature, dew point or delta T as input source.
A datalogging feature is provided via either USB or NFC (compatible Android device) connectivity.
Wall and duct-mounted versions are available.

The SEM710HM/DP has an optional LCD display and can show any of the process values (%RH, temperature, dew point or delta temperature) on a 6-digit LCD screen.

FEATURE HIGHLIGHTS

OUTPUTS

Dual channel two wire (4 to 20) mA outputs: channel 1 powers the instrument; channel 2 (use optional) is isolated from channel 1 and may be used as a repeater or to transmit another process variable. Both channels are fully programmable with user-selected source, range and temperature units.

DATA LOGGING FUNCTION

The SEM710HM/DP also provides a powerful data logging function. The log points can be set up to 5000 points (SEM710HM 3000 points). Each point is time and date stamped together with %RH, temperature, dew point, delta T and loop power condition for channel 1. The SEM710HM/DP can continue to record time stamp data for over 4 hours on the loss of the loop supply and resumes logging when repowered.
The log rate is selectable in steps. The start of log can be delayed if required. Either fixed or rolling logs may be performed.
Two methods of reading the log are available. The USB configuration reads the log and allows the user to save to a text file. The NFC Android interface allows data transfer to compatible Android phones or tablets; by using the downloadable App, the data can be graphed and forwarded by email, Bluetooth etc. The NFC interface is also capable of starting a new log with different log periods and modes.

FLEXIBLE DISPLAY OPTIONS

The SEM710HM/DP can display any combination of the following process variables: % relative humidity, temperature, dew point and delta temperature.

NFC CONFIG and DISPLAY

Using a suitable Android device running Status Instruments' free NFC Configuration App "NFCLink", the process values of the non-display SEM710HM can be shown.
The NFC Config app. can also be used to fully programme both the SEM710HM and SEM710HM/DP versions.

SPECIFICATIONS

INPUT SENSOR		**SPECIFICATIONS @20°C**
Range + Options	**Accuracy**	**Stability/notes**
% Relative humidity (%RH) nominal (0 to 100) %RH	Typically, ±2 %RH (max ±5 %RH) between (10 to 90) %RH	Thermal stability 0.01 % / °C
Temperature (-30 to 70) °C	Typically, ±0.2 °C between (-30 to 70) °C	Thermal stability 0.1°C/ °C
Dew point		Mathematically derived from %RH and temperature
Delta temperature		
To maintain full accuracy annual calibration is required: contact support@status.co.uk for details		

DISPLAY (SEM710HM/DP ONLY)	
Type/options/function	**Description**
Display height	7.9 mm non-backlit
Display information options	%RH, (temperature, dew point, delta T) °C or °F plus “Loss of power”, “NFC”, “USB”, icons, 8 segment log volume/signal indicators.
Display range	Full range for %RH and temperature, (0 to 50) °C for dew point and delta temperature
Decimal place	To 1 place for %RH, temperature, dew point and delta temperature
High intensity LED	Warning on loss of input signal

OUTPUTS (Channel one and Channel two)	
Type/options/function	**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 @ 24 V)
Channel isolation	500 Vdc, 48 Vdc working
Note: Ch1 can be used as a single output, but for Ch2 to operate correctly Ch1 must also be powered	

USB INTERFACE REQUIREMENTS	
Configuration hardware	PC with Windows 7 or later with USB port A to mini B cable (not included)
Configuration software Logging software	USBSpeedLink USBLogLink Download www.status.co.uk

NFC INTERFACE REQUIREMENTS (ENABLED ANDROID DEVICE)	
Android device	Compatibility to read NFC Tag type 4 to full capacity 65536 bytes *1
RF Interface	ISO/IEC 14443 Type B Compliant (13.56 MHz)
Configuration software Logging software	NFCLink NFCLogLink Download from the Google play store
*1 If the android device cannot read full bytes, the maximum number of log points will be reduced.	

CONNECTIONS	
Function	**Description**
Output Ch1/Ch2	Two-part screw connector(s)
USB connection	USB mini B socket

USB/NFC USER CONFIGURATION OPTIONS (software USBSpeedLink, NFCLink)		
Display configuration SEM710HMD only		%RH, Temperature, Dew point, Delta T, (°C or °F)
Pre-set sensor to setpoints	Locks display values and mA outputs	For diagnostics
Logger With USB only	Set device passkey number Clear, start new log	Device passkey is used to protect the NFC interface.
Pre-set sensor to setpoint		Locks input value to setpoint For diagnostics
Other device options	Synchronise clock Write Tag, Contact Location settings	To PC time setting 24 characters each Latitude and longitude
Logger With USB only	Set device passkey number Clear, start new log	Device passkey is used to protect the NFC interface.
Channel 1 and 2	mA output options: %RH, °C/°F Temperature, °C/°F Dewpoint, °C/°F Delta T	
	Range	Low (4mA) High (20mA)
	Error signal	(3.8 or 21.5) mA
Live data	Read values Auto read (USB only)	%RH, temperature, dew point, delta temperature (Ch1, Ch2) mA output values Time, date (USB only)

USB/NFC LOGGER USER INTERFACE (software USBLogLink, NFCLogLink)		
Type/options/function	**Description**	**Notes**
Logger	Start, set log parameters	Rate, (delay) start, number of points, rolling or fixed log, synchronise clock
	Read log parameters	
	SEM710HM SEM710HM/DP	Maximum 3000 points Maximum 5000 points
	Read live data	Input values, output values
	View log data/graph log data	Save data/Recall data

GENERAL	
Function	**Description**
Power supply Ch1, Ch2	(10 to 30) Vdc SELV
Response time	1 s
Power loss back-up	Will retain time stamp only logging for > 4 hr.
Warning LED	Out of range inputs
Clock accuracy	±2 seconds per month typically

ENVIRONMENTAL	
Function	**Description**
Ambient temperature	Operating/storage (-30 to 70) °C
Stem temperature	(-30 to 70) °C
Protection Housing Stem	 IP65, cable entries must be sealed to IP65 to maintain Measurement tip not sealed, protect from dust/chemicals/splashes
USB/NFC configuration ambient	(10 to 30) °C

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

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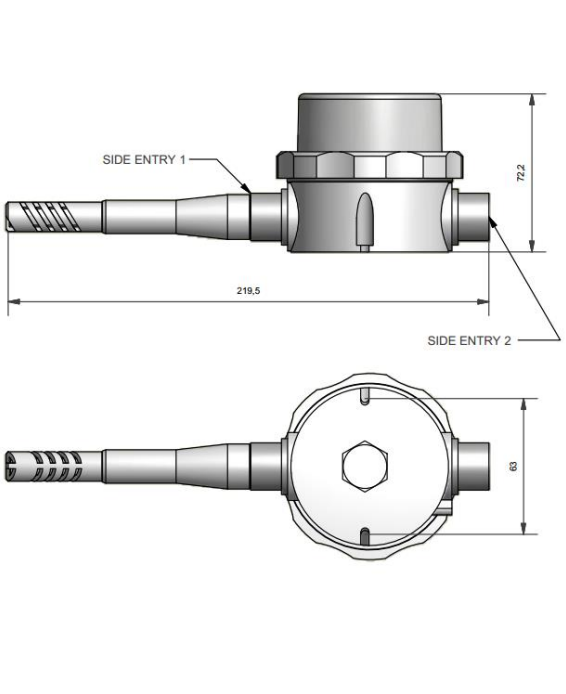
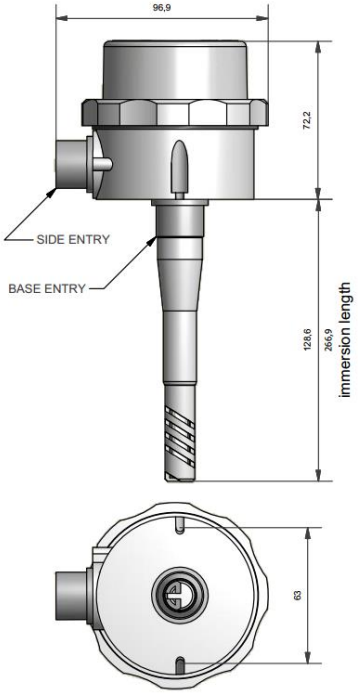
MECHANICAL	
Function	**Description**
Enclosure	ABS: grey base, grey clamp ring.
Display cover SEM710HMD	Polycarbonate, clear
Case entries	1 x M20 female thread entry, see ORDER CODES below
Front of display diameter	65 mm
Weight (approximate)	200 g



B Body Wall mount



C Body Duct mount

ORDER CODE		
SEM710HM/ */ */ **SEM710HM/ */ */ DP**	= No display fitted = Display fitted	
M20 cable gland entry	Body/Stem	Stem length
SEM710HM	W / HP01	Wall mount with 128 mm stem
SEM710HM	D / HP01	Duct mount with 128 mm stem
SEM710HM	D / HP02	Duct mount with 266 mm stem
SEM710HM (display)	W / HP01 /DP	Display. Wall mount with 128 mm stem
SEM710HM (display)	D / HP01 /DP	Display. Duct mount with 128 mm stem
SEM710HM (display)	D / HP02/ DP	Display. Duct mount with 266 mm stem
Example no display, duct mount with 128 mm stem no display		
SEM710HM	**/ D / HP01**	
For further options please contact		

ACCESSORIES	
Mounting gland	For duct mounting, part number 41-800-0039-01
USB programming lead	USB A to mini B programming lead, part number 42-200-0001-01
Calibration certificates	

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