

# 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**

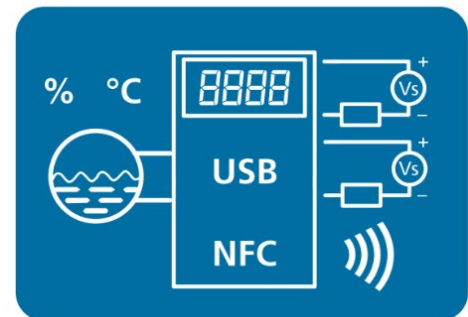
The SEM710HM and SEM710HM/DP are dual channel loop powered transmitters with relative humidity and temperature ranges.

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** (See Logger\* entries, check website for latest Android version compatibility)

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.

### REPLACEABLE SENSOR

The SEM710HM and SEM710HM/DP have a replaceable sensing tip, allowing damaged or contaminated sensors to be swapped in the field with no need for factory refit or recalibration required.

### 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.

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## SPECIFICATIONS

| INPUT SENSOR   |  | SPECIFICATIONS @20°C                            |
|--|--|---|
| Range + Options  | Accuracy   | Stability/notes                                 |
| % Relative humidity (%RH)<br>nominal (0 to 100) %RH  | Typically, ±2 %RH (max ±5 %RH)<br>between (10 to 90) %RH | Thermal stability<br>0.01 % / °C                |
| Temperature (-30 to 70) °C   | Typically, ±0.2 °C between (-30 to 70) °C                | Thermal stability<br>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   | $[(V_{supply}-10)/20]$ 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<br>A to mini B cable (not included)  |
| Configuration software     | USBSpeedLink  |
| Logging software           | USBLogLink<br>Download <a href="http://www.status.co.uk">www.status.co.uk</a> |

| NFC INTERFACE REQUIREMENTS (ENABLED ANDROID DEVICE)  |   |
|--|---|
| Android version 5 onwards, check website for latest Android version compatibility                  |   |
| 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   | NFCLink   |
| Logging software   | NFCLogLink<br>Download <a href="http://www.status.co.uk">www.status.co.uk</a> |
| *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           |

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

| USB/NFC USER CONFIGURATION OPTIONS (software USBSpeedLink, NFCLink) |  |   |
|---|--|---|
| Display configuration<br>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*<br>With USB only  | Set device passkey number<br>Clear, start new log<br>Android compatibility | Device passkey is used to protect the NFC interface.<br>V (5-11), V (5-latest, see website) |
| Pre-set sensor to setpoint  |  | Locks input value to setpoint<br>For diagnostics  |
| Other device options  | Synchronise clock<br>Write Tag, Contact<br>Location settings               | To PC time setting<br>24 characters each<br>Latitude and longitude                          |
| 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  | %RH, temperature, dew point, delta temperature<br>(Ch1, Ch2) mA output values               |
|   | Auto read (USB only)   | Time, date (USB only)   |

| USB/NFC LOGGER USER INTERFACE (software USBLogLink, NFCLogLink)<br>For latest Android compatibility refer to <a href="http://www.ststus.co.uk">www.ststus.co.uk</a> |                              |  |
|---|------------------------------|--|
| 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          |  |
| USB   | SEM710HM/DP up to 5000 logs  | SEM710HM up to 3000 logs   |
| Android version 5 to 11   | SEM710HM/DP up to 5000 logs  | SEM710HM up to 3000 logs   |
| Android version 5 to latest   | SEM710HM/DP up to 2500 logs  | SEM710HM up to 1500 logs   |
|   | Read live data               | Input values, output values  |
|   | View log data/graph log data | Save data/Recall data  |

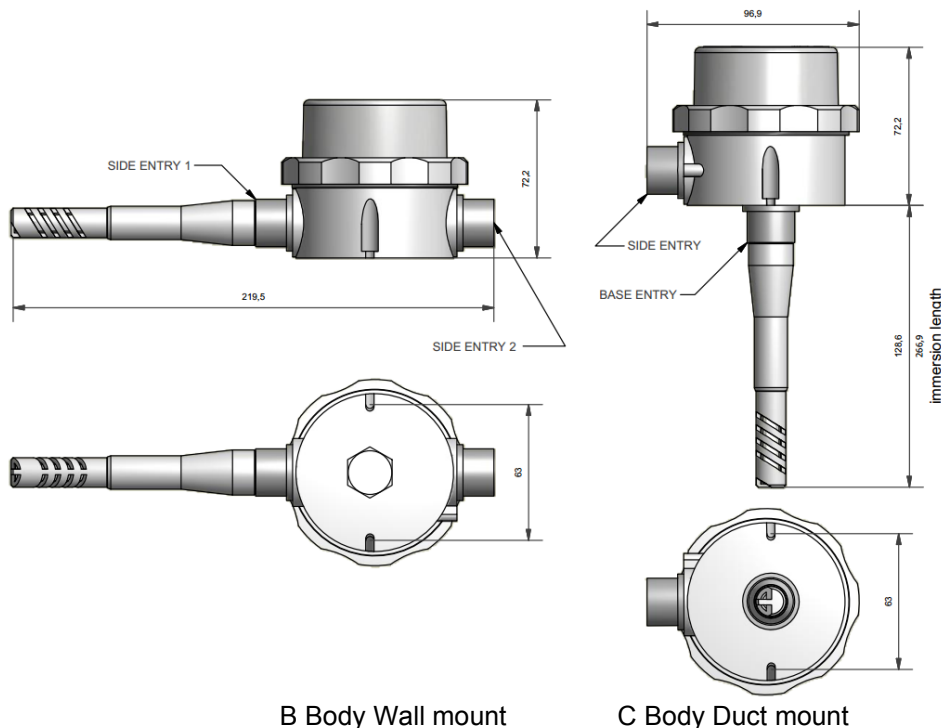
| GENERAL               |   |
|-----------------------|---|
| Function              | Description                                     |
| Power supply Ch1, Ch2 | (10 to 30) Vdc SELV                             |
| Response time         | 1 s   |
| Power loss back-up    | Will retain time stamp only logging 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<br>Housing<br>Stem | IP65, cable entries must be sealed to IP65 to maintain<br>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 Directives 2 & 3 | 2011/65/EU & EU 2015/863, and the UK designated standards |

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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  |



| ORDER CODE  |                     |                                      |
|---|---------------------|--------------------------------------|
| <b>SEM710HM/ */ */</b>  | = No display fitted |                                      |
| <b>SEM710HM/ */ */ DP</b>   | = 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                                    |                     |                                      |
| <b>SEM710HM</b>   | <b>/ D / HP01</b>   |                                      |
| For further options please contact <a href="mailto:sales@status.co.uk">sales@status.co.uk</a> |                     |                                      |

| ACCESSORIES              |   |
|--------------------------|---|
| Replaceable sensor       | Field replaceable measuring sensor tip, part number HUMICHIP/85     |
| 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 | Refer to <a href="mailto:sales@status.co.uk">sales@status.co.uk</a> |

To maintain full accuracy annual calibration is required contact [support@status.co.uk](mailto:support@status.co.uk) for details  
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