

SEM710HM SERIES USER GUIDE

DUAL (4 to 20) mA OUTPUT %RH, °C/°F TRANSMITTER WITH DATA LOGGING FUNCTION + DISPLAY OPTION (DP)

Important - Please read this document before installing.

Every effort has been taken to ensure the accuracy of this document; however, we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.

IMPORTANT – CE, UKCA & SAFETY REQUIREMENTS

The instrument is designed to be directly attached to the sensor probe assembly. The user must ensure all cable entries maintain environmental protection to at least IP65 rating.

The product contains no serviceable parts, or internal adjustments. No attempt must be made to repair this product. Faulty units must be returned to supplier for repair. This product must be installed by a qualified person. All electrical wiring must be carried out in accordance with the appropriate regulations for the place of installation. Before attempting any electrical connection work, please ensure the battery is removed.

ABSOLUTE MAXIMUM CONDITIONS (To exceed may cause damage to the unit).	
Supply Voltage	± 30.0 VDC (Protected for over-voltage and reverse connection)
Supply Current	± 100.0 mADC (Protected for over-voltage and reverse connection)
Ambient	Temperature (-30 to 70) °C, Humidity (10 to 95) % RH (Non-condensing)



1~DESCRIPTION.

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.

2~RECEIVING AND UNPACKING.

Please inspect the packaging and instrument thoroughly for any signs of transit damage. If the instrument has been damaged, please notify your supplier immediately.

3~SPECIFICATION.

Refer to data sheet for full specification.

Factory default	(4 to 20) mA Outputs: CH1 (0 to 100) %RH, CH2 (0 to 50) °C Display option: % RH
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4~INSTALLATION AND ELECTRICAL WIRING

4.1~MECHANICAL.

In order to ensure correct operation, the following must be observed:
The product must be stored in a dry clean environment and remain in original packaging prior to installation.
The instrument must not be installed adjacent to electro-mechanical starters, controllers, thyristor power units or electrical switch gear.
Any cleaning of the instrument must be done using a mild detergent and soft cloth. No solvents or abrasive cleaners should be used.
Stated ambient operating conditions must not be exceeded.

The sensing element assembly (Part Number HUMICHIP/85) fitted to the end of the stem can be changed by unscrewing the protecting cover and removing the mesh filter.

This allows for field swapping of damaged or contaminated sensors, refer to supplier for details.

The serial number of the HUMICHIP sensor assembly is displayed in the USBSpeedLink programming software, See 5.1 USB Configuration.

4.2~ELECTRICAL.

For a wiring diagram please refer to the rear panel of the SEM710HM inside the case housing.

Connections: CH1 + / - and CH2 +/-

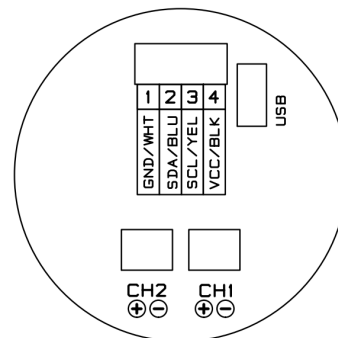
Two-part connectors are used allowing the unit to be easily removed from the housing for reprogramming or data download if this is not possible in situ.

IMPORTANT: Always turn off the power supply before any wiring takes place. Gain access to the connectors by unscrewing the cap ring to release front panel assembly from case.

OUTPUT CONNECTION: Two two-part connectors are used for the (4 to 20) mA output channels.

If only single channel is to be connected for use it must be channel one. 

INPUT CONNECTION: The input sensor is pre-wired using a two-part connector.

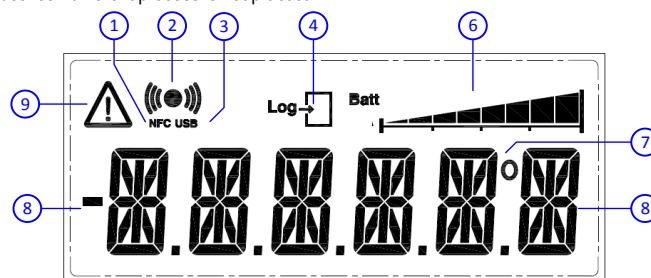


5~USER CONFIGURATION.

READ COMPLETE SECTION BEFORE ATTEMPTING CONFIGURATION.

The instrument is provided with a USB interface for direct connection to a PC. Free software USBSpeedLink is available. Please refer to the USBSpeedLink software for further information on configuration. The software can be downloaded from www.status.co.uk.

DISPLAY: The display provides six 14-segment characters for display of %RH, temperature, dew point and delta T, together with an 8-segment bar graph and six icons. The display can operate in an ambient temperature range of (-30 to 70) °C, but at temperatures lower than -5 °C (due to the slow LCD speed) scrolled/toggling between different process is not practical.



1. NFC - The Symbol is on when a NFC field is detected. When a detected field is lost the symbol will turn off after a few seconds.
2. TRANSMIT/RECEIVE: Symbol on when either NFC or USB communication is active.
3. USB: Symbol on when USB port is connected to a PC.
4. LOG: Not used
5. Not used
6. BAR GRAPH: Indicates the state of the logger. The condition is dependent on the selected logger mode, either Single or Rolling mode.

Single Mode (Log to the maximum number of logs then stop)
Start of Log Mid Log End of Log (alternating)



Rolling Mode (Log to the maximum number of logs then as each new log is taken the oldest log is discarded)
Start of Log Mid Log Rolled over Log (max bar toggles)



7. DEG: Degree symbol "°" used to indicate either °C or °F on the last digit.
8. DIGITS: Six-digit 14 segment display with - sign, range 9999.9 to -9999.9.
9. WARNING ICON: This symbol will toggle on and off to indicate a warning. The warning symbol will be active either when the sensor signal is out of range or not connected.

Batt Symbol: Not Used

5.1~USB CONFIGURATION

Using the USBSpeedLink software to program a new configuration into the device work from left to right through the option tabs.

The USB port is located inside the housing on the rear panel.

Configuration steps
Install and run the USBSpeedLink software
Select the correct programming page in the software (follow any on screen safety precaution warnings)
Connect the USB lead to the PC, connect the USB lead to the device
Read the unit configuration into the software
Re-configure or adjust configuration options as required
Send the new configuration to the unit

5.1.1~Sensor/Outputs option tab

Use this tab to pre-set RH and temperature values; this can be used for system testing and diagnostics.

Use this tab for selecting output source and (4 to 20) mA ranges. (display version shown below).

5.1.2~Other device options tab

Use this tab to set the "Tag" and "Contact" free type fields stored to the device. A passcode to protect the device log from being overwritten by an Android device can be added.

Longitude and latitude data can be entered, this will show in the log files and can help identifying data logs recorded from multiple devices.

5.1.3~Live data reading: Process Data

The section on the right-hand side of the software can be used to view live readings of process values and the output mA signal(s).

5.2~NFC CONFIGURATION

Using the NFCLink software to program a new configuration into the device work from the top to the bottom of the programming.

Screenshot of the NFCLink Android software.

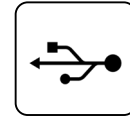
6~DATA LOGGING

USB and Android NFC software allows the user to read existing logs, change the log manifest, start a new log, synchronise the instrument clock and reset the maximum/minimum readings.

Logs can run to a fixed number and stop or continually roll over, up to 5000 log points can be recorded. The start of the log can be delayed up to one month.

Data from can be viewed on screen as a graph or table and can also be saved to a csv file.

6~1 USB LOGGING



USB LOGGER INTERFACE (connector inside housing)

The USB interface allows the instrument to communicate with a PC running the USBLogLink software

The prime function of the interface is to read logged data from the device using free software available to download.

The software allows the user to read existing logs, change the log manifest, start a new log, synchronise the instrument clock and reset the maximum/minimum readings.

USBLogLink is available from the manufacturer or supplier.

USBLogLink software, screen shown below

6~2 NFC LOGGING



NFC LOGGER INTERFACE

The NFC interface allows the instrument to communicate with an Android device using NFC connectivity.

The prime function of the interface is to read logged data from the device using a free app, which is available for downloading to Android devices.

The app allows the user to read existing logs, change the log manifest, start a new log, synchronise the instrument clock and reset the maximum/minimum/average readings. Logs can run to a fixed number and stop or continually roll over. The start of the log can be delayed up to one month.

Note: For larger logs the data may take over a minute to fully download via the NFC interface.

Note: Not all Android devices fully implement the near field communication (NFC) standard and may not hold the full number of log points. Software is available from the manufacturer or supplier.

Screenshot of the NFCLink software



ALERT LED

The Alert LED will flash if the input signal is lost.

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