

Quantadat with 1-4 nSens

Commissioning manual



Important:

Transmitter Quantadat can handle up to 4 nSens and provide 4 analog signals (mA or V, free configurable) for an external control system / PLC.

For initial commissioning or troubleshooting follow the 4 steps as described in this manual:

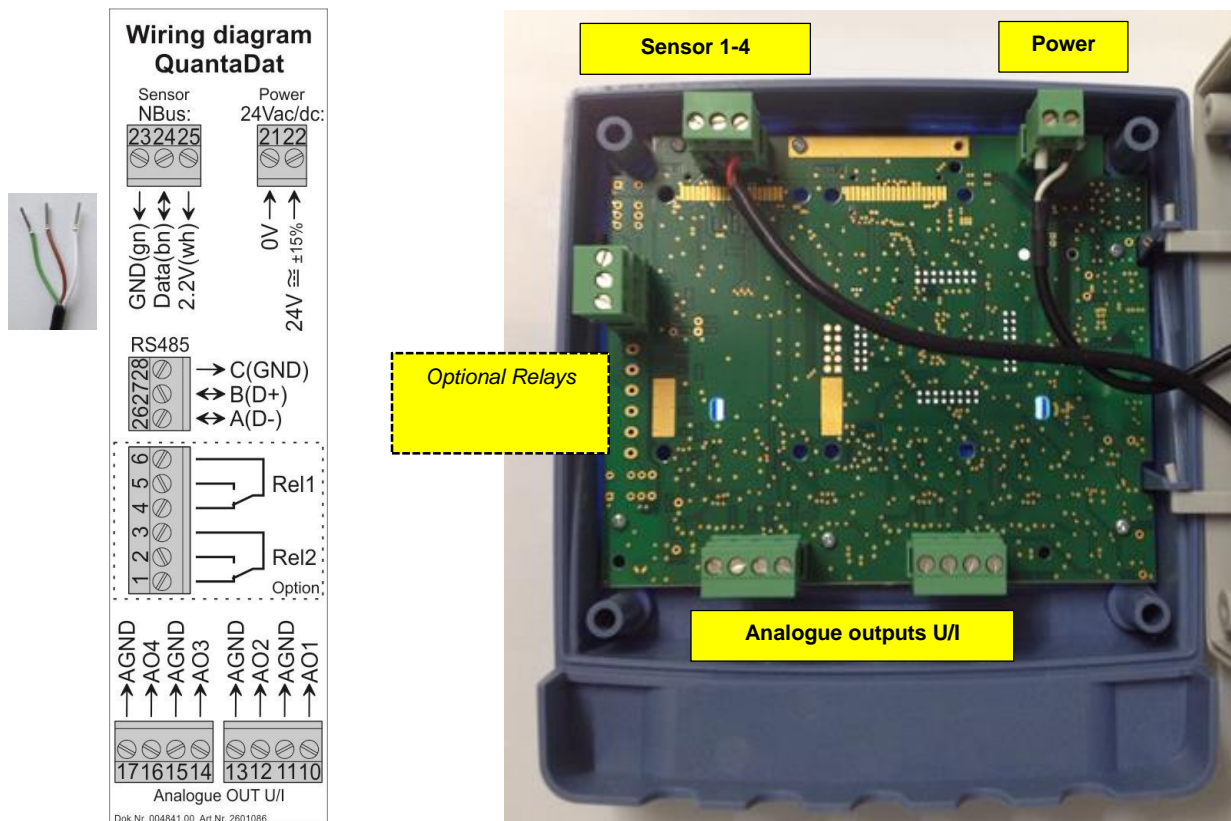
- 1) *Search Sensors*
- 2) *Assign to measuring points A to D*
- 3) *Assign measuring points to Channels 1 to 4*
- 4) *Configure Channels*

Scope of use:

This user guide applies to the Quantadat transmitter from firmware release V1.0

The Quantadat user guide (004964.x) must be consulted for more details.

1. Connection Diagram



If more than 1 probe is connected fix the single wires in parallel at the same screw terminal, e.g. all green wires are connected in pin 23.

2. Configuration

Quantadat can handle 4 nSens as Input and provides 4 analog signals as Output.

With the next 4 steps you assign the input sensors to output channels

Step 1: Connect nSens to Quantadat and start detection (Search Sensor)

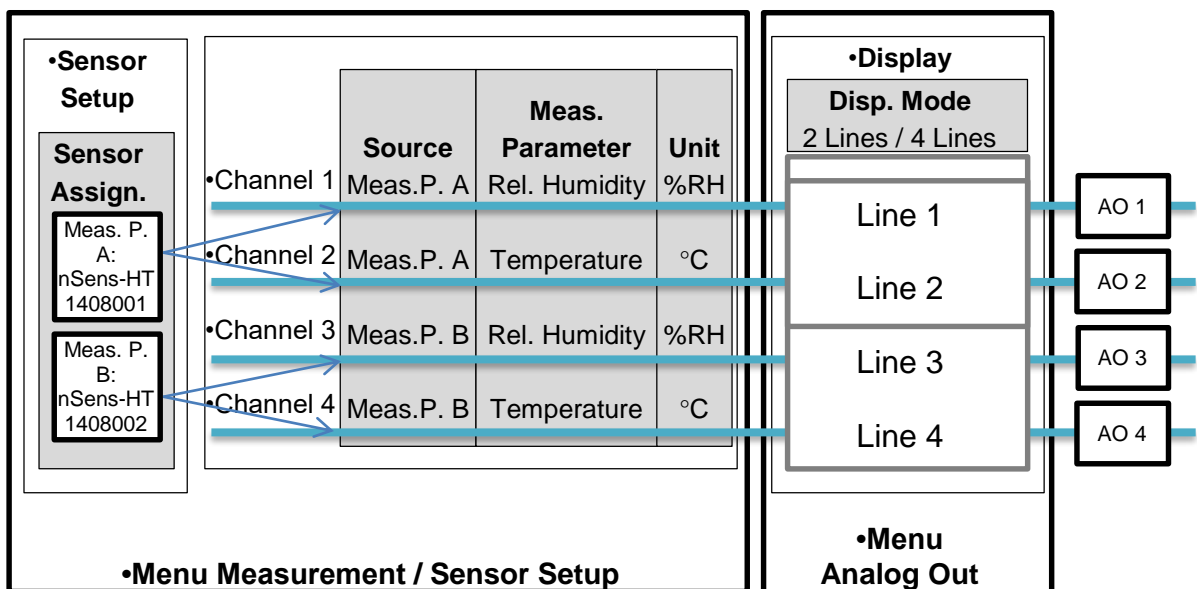
Step 2: Assign nSens to measuring points A to D (Sensor Assign.)

Step 3: Assign measuring points and parameters to channels 1 to 4
Channel 1 equals analog output 1 and display line 1

Step 4: Configure analog signals according your specification
e.g. analog output 1, 4-20mA, 20-80% rH
analog output 2, 4-20mA, 0-40°C

Example:

2 nSens humidity / temp probes on one Quantadat



Navigation

From the main display (display with measured values) press ENTER key to access Menu. With arrow keys scroll through the menu, with Enter select the entry or access a submenu.



Press and hold Enter key approx 3 seconds to return to the main display.

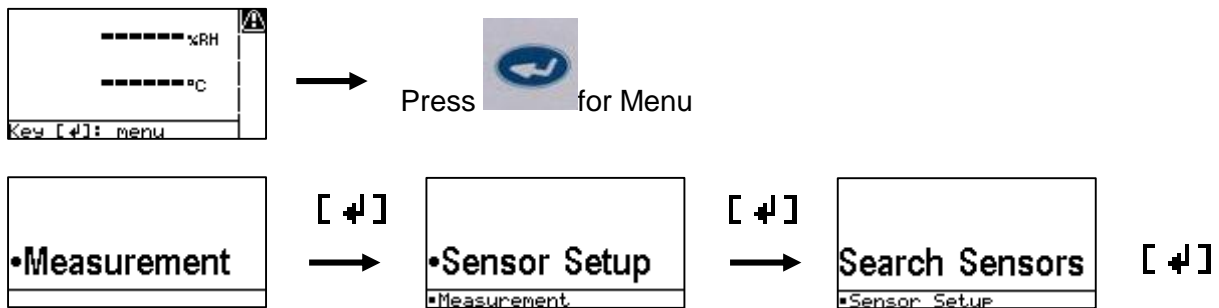
Step 1: Connect nSens to Quantadat and start detection

At first startup this message might appear:

<pre>NEW SENSOR CONFIG.! Go directly to menu "•Sensor Setup" to configure the measuring points? YES [↑+↓]</pre>	<p>Choose YES to reach Sensor Setup directly</p>
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Otherwise follow these instructions to detect sensors manually:

Main Display:

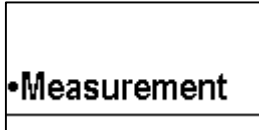


<pre>Discard % SENSORS? This will discard assigned but not found(%) Sensors! YES</pre>	<p>If sensors have been recognized already this message appear. You can choose Yes to continue and discard previous sensors..</p>
<pre>NEW SENSORS ?:HT--aa1405024 OK</pre>	<p>Quantadat is now searching for connected sensors and lists the serial numbers</p>

Step 2: Assign nSens to measuring points A to D (Sensor Assign.)




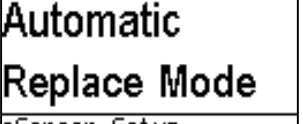


Press  for Menu



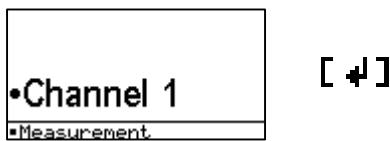
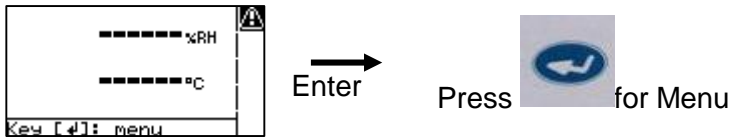
Scroll down



	 	<p>Press «Enter» and «arrow keys» to assign a serial number to letter A to D. Each serial number can only be assigned once. If just 1 sensor is connected only one letter is assigned.</p>
		<p>Automatic: (recommended) In case of probe replacement the systems assigns automatically the new sensor in place of the old sensor..</p> <p>Manual: In case of probe replacement the new probe/sensor must be searched and assigned manually to the measuring point as described in Step 1</p> <p>Confirmation: (default) In case of probe replacement the system asks for a confirmation before assigning the new sensor in place of the old sensor</p>
<p>Enter drücken und Pfeiltasten zum auswählen der folgenden Optionen:</p> <p>Automatic Manual Confirmation</p> <p>Dies bestimmt das Verhalten, wenn ein bereits zugeordneter Fühler ersetzt wird.</p>		

Step 3: Assign measuring points and parameters to channels 1 to 4

Analog Output 1 equals display line 1 etc.



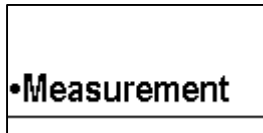
<p>Meas. Point A Source Channel 1</p>	<p>Choose Source : Measuring point A to D Choose measuring point as assigned in step 2 If a channel is not used, the data source it set to "None".</p>
<p>Rel. Humidity Meas. Parameter Channel 1</p>	<p>Choose measuring parameter from measuring point</p> <ul style="list-style-type: none"> • Rel. Humidity (rel. Feuchte) • Temperature (Temperatur) • Mixing Ratio (Mischungsverhältnis) • Vap. Part. Press. (Wasserdampfpartialdruck) • Dewpoint (Taupunkttemperatur) • Spec. Enth. (spezifische Enthalpie) • Abs. Humidity (Absolutfeuchte) <p>Available parameters depend on assigned sensor. Not all parameters might be available. Note: the analogue outputs are set-up according to the selected measuring parameter..</p>
<p>Unit</p>	<p>Measuring unit selection according to the previously selected parameter</p>

Repeat for channel 2 to 4.

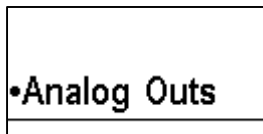
Step 4: Configure analog signals according your specification




Press  for Menu



Scroll down



<p>4..20mA Signal Type Analog Outs</p> <p>Scroll down </p>	<p>Output signal setting</p> <ul style="list-style-type: none"> • 4...20mA • 0...20mA • 2...10V • 0...10V <p>This setting is selected for all 4 analogue outputs.</p>
<p>•Analog Out 1 Analog Outs</p>	<p>[↵]</p>
<p>Range L</p>	<p>Set low analogue output range</p>
<p>Range H</p>	<p>Set hig analogue output range</p>
<p>On Fail</p>	<p>Output value setting in mA or V in case of a sensor failure (e.g. interrupted communication with probe)</p>
<p>Adj. Clear</p>	<p>Deletion of adjustment This menu command is only shown if the analogue output was previously adjusted..</p>
<p>Adjust...</p>	<p>Output signal adjustment by setting 20% and 80% of the defined measuring range Adjustment is only for signal output! Sensor value calibration must be done separately, see next chapter</p>


2. Calibration / verification of measuring values

For humidity calibration and verification Novasina humidity standards are recommended. These humidity generators are easy to use and reusable multiple times.

For the verification of the whole measurement range Novasina offers a set with 5 SAL-SC including carrying case and probe adapter rings. For an optimal calibration and/or verification the room temperature should be between 15...30°C and should not vary more than +/-0,2°C. In order to allow the standards to generate an accurate and stable air humidity the SAL-SC must be well sealed around the probe.

If handled properly the SAL-SC generate very stable and accurate relative humidity and can be used as an alternative to humidity generators.



Article-No: 260 1154 260 1636	Name: ClimMate Set (Sal-SC 33+75%) ClimMate Set II (Sal-SC 75+97%)	
	Complete Set in case incl.: <ul style="list-style-type: none"> • Multifunction handheld instrument <i>ClimMate</i> • nSens-HT-ENS probe (accuracy 0.5%) with factory certificate • 2 humidity reference SAL-SC 	Dimension Case: 450x360x105mm ClimMate 170 x 62 x 34mm Weight: 2'100 gr • Absolute pressure sensor integrated Measurement range 800....1'100 mbar



260 1094 nSoft-CAL Software

nSoft-CAL calibration kit

Windows software for verification and calibration of nSens probes. Incl. nLink-USB connection cable for all nSens probes.

Contains: - nSoft-CAL Software on CD
- PDF Operating Manual on CD
- nLink-USB connection cable for nSens probes with cable length of 1,8m



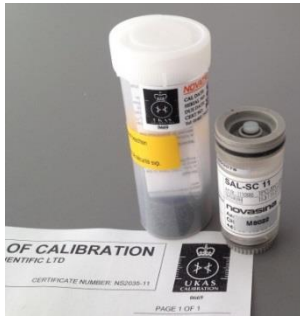
Sensor-Checks SAL-SC

(humidity standards)

Reusable humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. Sensor Checks SC are obtainable for the following values (at 25°C) :

Art. No. 1110885 - SAL-SC 11	11.3 % rh	75.3 % rh
Art. No. 1110855 - SAL-SC 33	32.8 % rh	84.3 % rh
Art. No. 1110857 - SAL-SC 53	52.9 % rh	90.1 % rh
Art. No. 2600219 - SAL-SC 58	57.6 % rh	97.3 % rh
Art. No. 1110859 - SAL-SC 75		
Art. No. 2518965 - SAL-SC 84		
Art. No. 1110896 - SAL-SC 90		
Art. No. 2518966 - SAL-SC 97		

Important: please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-SC can be used for verification.



Art. No.1111044 - SAL-SC 11C
 Art. No.1111037 - SAL-SC 33C
 Art. No.1111040 - SAL-SC 53C
 Art. No.1111035 - SAL-SC 75C
 Art. No.1111032 - SAL-SC 90C

Sensor-Checks SAL-SC with European certificate

Reusable humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. Sensor Checks SAL-SC are obtainable for the following values (at 25°C) :

- 11.3 % rh
- 32.8 % rh
- 52.9 % rh
- 75.3 % rh
- 84.3 % rh
- 90.1 % rh

Internationally accredited laboratory



All Novasina humidity standards can also be supplied with an internationally recognised certificate from an accredited European laboratory (UKAS England).

Weight : 90 g



Art.No. 111 7847
 Check set (standard)

Set with 5 Humidity Generators SAL-SC

Reusable humidity standards SAL-SC in a case delivered incl. the needed adapters for Novasina probes and factory calibration certificates.

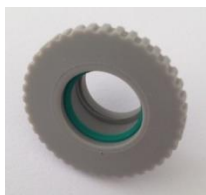
- Case set contains:
- SAL-SC 11
 - SAL-SC 33
 - SAL-SC 53
 - SAL-SC 75
 - SAL-SC 90
 - Factory calibration certificates of SAL-SC
 - 1 adapters for Novasina probes

Humidity values in the temperature range 15°... 30°C :

- 11.3 11.3% rh / 15.....30°C
- 33.3 32.4% rh / 15.....30°C
- 55.9 51.4% rh / 15.....30°C
- 75.6 75.1% rh / 15.....30°C
- 90.9 89.9% rh / 15.....30°C

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh

Weight : 900 g



Adapter SAL-SC for nSens probes

Plastic adapter for humidity standards. Used for diameter reduction and radial sealing around the nSens probe with diameter 13mm.

Dimension : Out.diameter 30 mm
 Inner diam.13 mm

Weight : 5 g

Material : Thermoplastic resin



Art. No. 1117847

Thermal insulation styrofoam box

A styrofoam box providing optimal insulation and temperature stabilisation of a SAL-SC check during the calibration procedure. Consisting of two half-covers for simple temporary mounting.

Dimension : 100 x 65 x 50 mm

Weight : 10 g

Material : thermal insulating styrofoam PPE

Technical information and other information subject to change without notice