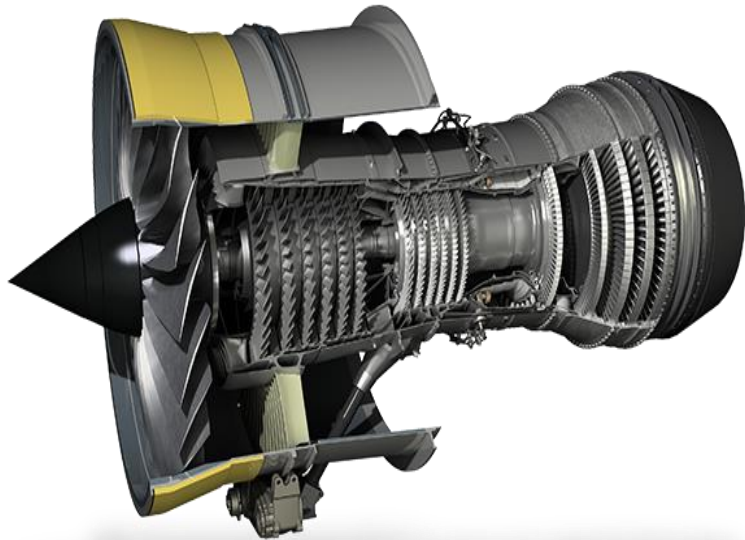


Novasina Quantadat TRIPLEX humidity system with nSens probes.

Set – up & commissioning manual



Accessories supplied :-

3 x Nsens probe for humidity temperature.



3 x Probe mountings (either surface or duct).



3 x Probe extension cables
(supplied as 5M unless otherwise requested).



Humidity salt calibration capsules (SC) for checking performance of humidity sensor tolerance (+/- 1% rH).

3 x humidity calibration salt capsules supplied :
SC 33, 58 & 84 %



Important:

Each Quantadat should be configured with a corresponding Nsens probe and these should be kept as a matched pair during service , to maintain calibration integrity. Cables and sensor mountings can be interchanged without any issue.

Configuration may be required, depending on the application (eg . the range of measurement , the output parameter or the mA analogue output.

However , the standard configuration will come as follows:-

Analogue output 4-20mA

Parameters set and scaled : 0-100 % relative humidity & -20 to + 80 Celsius

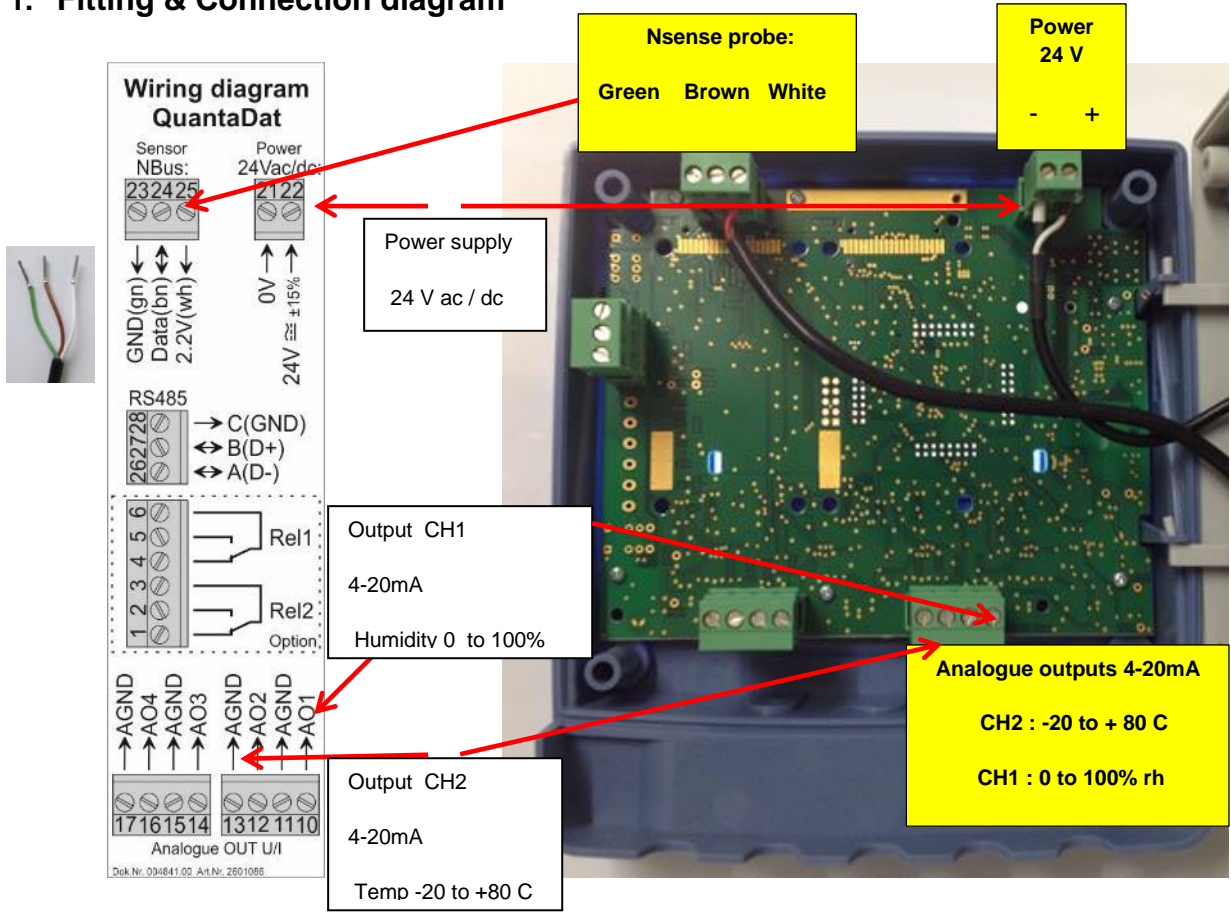
(Other scales, analogue outputs and parameters may be selected if required).

Scope of use:

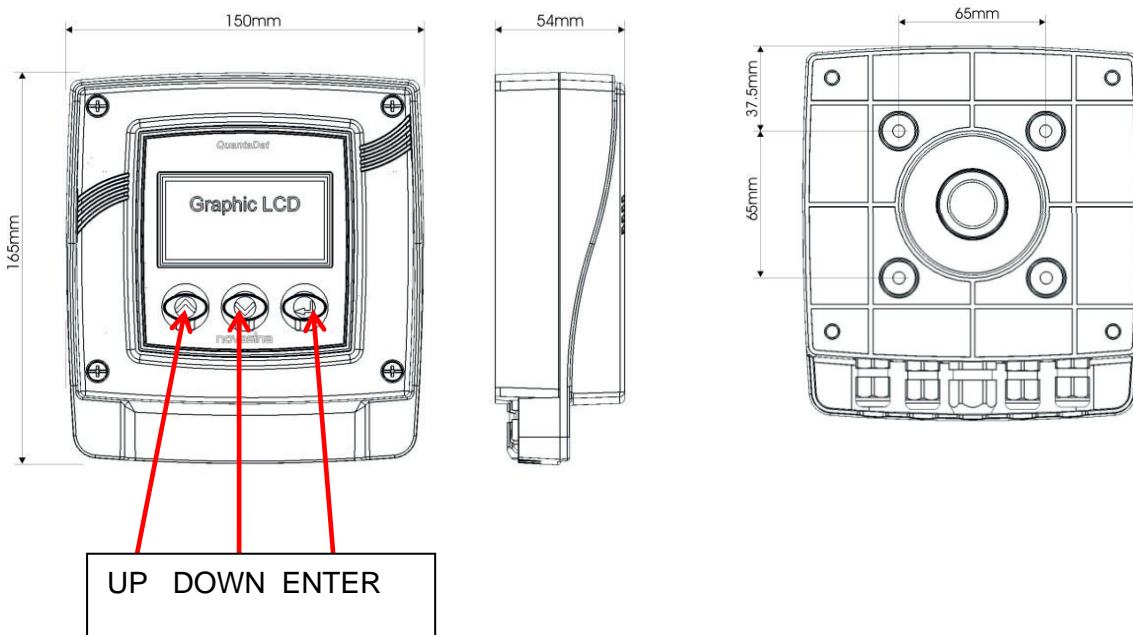
This user guide applies to the Quantadat transmitter from firmware release V1.0

The Quantadat user guide (004964.x) must be consulted for more details. The Quantadat has the option for connecting 4 inputs but for this application only 2 apply for each Quantadat device : 1 x humidity and 1 x temperature, from each Nsens probe.

1. Fitting & Connection diagram



Quantadat Transmitter dimensions



Nsense probe dimensions



2.Configuration

Already completed by Novatron prior to delivery

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

Step 1: Connect nSens to Quantadat and start detection



Step 2: Assign nSens to measuring points A to D



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
analog output CH1 linear scale 4-20mA, -20 to +80 °C
analog output CH 2 linear scale 4-20mA, 0 to 100% rh (supplied already completed)



Step 5: If the parameters need to be changed from standard configuration in Step 4 above then please follow these instructions from the three front menu keys **UP, DOWN, ENTER**:-



Set up of g/ Kg (mixing ratio)

ENTER
'Measurement'
ENTER
DOWN
'Channel 1'
ENTER
'Measurement Point A'
DOWN
'Mixing Ratio'
DOWN
EXIT

Scaling range of output in g/Kg (mixing ratio)

ENTER
DOWN
'Analogue Outs'
ENTER
DOWN
'Analogue Out 1'
ENTER
DOWN
'Range L 0.00 g/ Kg'
DOWN
'Range H 100.00 g/Kg (change as required)
EXIT

Note: If you get stuck in the menu just down-power momentarily to return to standby mode. On first power up always press ENTER.

The following steps 1 – 4 are only needed if you need to configure the Quantadat differently from the original specified settings shown in the previous section 2 (direct replacement for old TR200 Triplex system) or if the configuration, carried out by Novatron prior to delivery, has been altered in error . Otherwise, please ignore the following steps, you are now ready to skip to section 3 Calibration.



Step 1: Connect nSens to Quantadat and start detection

At first startup this message might appear:

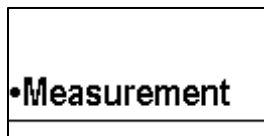
<pre>NEW SENSOR CONFIG. ! Go directly to menu "Sensor Setup" to configure the measuring points? YES [↑+↓]</pre>	<p>Choose YES to reach Sensor Setup directly</p>
---	--

Otherwise follow these instructions to detect sensors manually:

Main Display:



Press  for Menu



[↑]

→



[↑]

→



[↑]

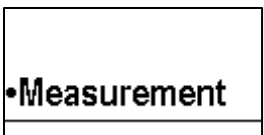
<pre>Discard % SENSORS? This will discard assigned but not found(%) Sensors! YES</pre>	<p>IF sensors have been recognized already this message appear. You can choose Yes to continue and discard previous sensors.</p>
<pre>NEW SENSORS ?:HT--aa1405024 YES</pre>	<p>Quantadat is now searching for connected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

Step 2: Assign nSens to A to D

measuring points (Sensor Assign.)



Press  for Menu



[↑]

→



[↑]

→



Scroll down



<pre>A:HT--aa1408101 B:HT--aa1408102 C:none D:none Sensor Assign. •Sensor Setup</pre>	<p>Press «Enter» and «arrow keys» to assign a serial number to a letter A to D. Each serial number can only be assigned once. If just one sensor is connected only one letter is assigned.</p>
---	--

<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Automatic Replace Mode <small>•Sensor Setup</small> </div> <p>Press Enter and arrow keys to select one of these options:</p> <p>Automatic Manual Confirmation</p> <p>This sets the behavior if an assigned sensor is replaced.</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 assignment of new sensor in place of the old sensor</p>
---	--

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

Analog line 1 Output equals display etc.

-----%RH

-----°C

Key [↵]: menu

Enter



Press  for Menu

•Measurement

[↵]

→

•Sensor Setup

•Measurement

Scroll down



•Channel 1

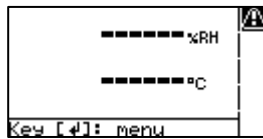
•Measurement

[↵]

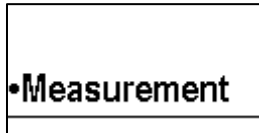
<div style="border: 1px solid black; padding: 5px;"> Meas. Point A Source <small>•Channel 1</small> </div>	<p>Choose Source : Measuring point A to D</p> <p>Choose measuring point as assigned in step 2 des Messpunktes (A to D gemäss Schritt 2)</p> <p>If a channel is not used, the data source it set to "None".</p>
<div style="border: 1px solid black; padding: 5px;"> Rel. Humidity Meas. Parameter <small>•Channel 1</small> </div>	<p>Choose measuring parameter from measuring point</p> <ul style="list-style-type: none"> • Rel.humidity (calibration !!) (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.</p> <p>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>

Step 4: Configure analog

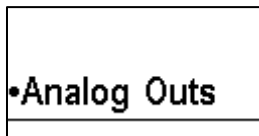
signals according
specification




your



Scroll down



[↵]

<p>4..20mA Signal Type</p> <p>•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>Note: this setting is adopted for all 4 analogue outputs.</p>
<p>•Analog Out 1</p> <p>•Analog Outs</p>	<p>[↵]</p>
<p>Range L</p>	<p>Setting of lower analogue output range</p>
<p>Range H</p>	<p>Setting of higher 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</p> <p>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</p> <p>Note: the defined measuring parameter incl. unit as well as the output signal scaling are adopted.</p>

3. Calibration

The three Quantadats ,with matched Nsens probes ,are supplied calibrated with a traceable certificate and no calibration checks should be necessary under normal circumstances, only if readings are suspect for some reason. A calibration kit (SC humidity pots) is supplied only if this is the case.



If calibration is needed:

Calibration may only be carried out as a check , no adjustment is possible with this kit. Calibration may only be checked in RELATIVE HUMIDITY MODE so you need to set each Quantadat to read Rh% (see Step 3). Enter menu, select Measuring Point A and select Relative Humidity. Rememebr to revert back to g/Kg (mixing ratio) after any calibration checks.

The Nsens priobes are supplied pre-calibrated and rady for use. All of the calibration adjustment settings are stored inside the memory of each Nsens probe. However, it is essential to have the means to check calibration with the SC calibration salts set at any teime to ensure performance of teh system. The calibration tolerance to expect is + / - 2% relative humdity and therfore the maximum difference you should see between all three probes should be 4% relative humidity.

Using the **SC** (Sensor Check) calibration salts

Storage and temperature stability:

Ensure that the calibration salts **SC** have been kept inside the sealed containers and they have evidence of salt crystal and moisture inside. Shake them up ready for use. Ensure that the **SC** calibration salts are at the same room temperature as the humidity probes you are about to calibrate. *Use only between 15 – 30° Celcius.*

Application to probe:

Remove the grey plastic cap from the **SC** calibration salt and shake it once more. Fit it to the probe you are calibrating and ensure there is a reasonably air tight seal around it (you may need to use the grey adaptor ring supplied with the instrument if the probe is smaller than the 18mm diameter of the inside of the **SC**).

Readings:

Leave the **SC** calibration salt to equilibrate with the humidity probe for a **minimum of 30 minutes** at stable temperature .

Check the calibration (1% rh tolerance – see the humidity at different temperatures on the label on the side of the **SC**).

Examples of SC humidities @ 25° Celcius.

SC33 **32.8%**

SC58 **57.6%**

SC84 **84..3%**



Factory certificate Novasina		Art-Nr 111 2874 5* humidity points 1* Temp (ca 25°C)
DaKKS or SCS Zertifikat		Art-Nr 260 0871 3* humidity points 1* Temp (ca 25°C)

4. Completion of installation

Installation and commissioning is now complete and you are ready to put the Triplex Quantadats into operation.

For any further assistance please contact Novatron Scientific Ltd:

t. (00 44) 1403 754416 - hours 8:30 – 17:00 GMT

e. Sales@novatron.co.uk or Simon.Long@novatron.co.uk

N:\Marketing & technical \ Novasina data \ Quantadat\ CRR Triplex Manual