Transmitter

Hygrodat 10 Agro

Operating instructions

1111738 / 200067.035

novasina
The Art of Precision Measurement

Contents

1 Introduction

1.1 To the very beginning

We thank you for having purchased the Τρανσμιττερ Νοϖασινα Ηψγρο–δατ. You have opted for a highly accurate and reliable instrument representing today's state-of-the-art in measuring technology.

Please read these operating Instructions carefully to ensure that you fully benefit from all the features of your Novasina Hygrodat.

1.2 Important notes!

Delivery

On delivery:

– Please check the instrument for transport damage. Immediately report any damage to the transport company and to your Novasina supplier.

– Check the delivery for completeness. Incomplete deliveries will be immediately supplemented by your Novasina supplier.

Safety

– In terms of safety, the instrument left the factory in perfect condition. To maintain this condition **please observe all the information and warnings given** in this manual and in the operating instructions supplied with your instrument.

– The Transmitter Novasina Hygrodat was designed to **determine the relative humidity and the temperature using the appropriate Novasina sensors**. Do not use the sensor for any other purpose. We strongly discourage any use beyond the specified scope and the manufacturer/supplier does not accept liability for any damage resulting therefrom. Inappropriate application is at the user's own risk.

– All mounting and installation work must be performed only by **adequately qualified personnel** (electrician or workman with equivalent training).

– The Novasina Hygrodat may be used only under the specified operating conditions (see chapter 8 "Specifications").

– The Novasina Hygrodat must **not be used in hazardous locations**.

– Observe and strictly adhere the local regulations regarding the handling of mains-powered devices.

– The Novasina Hygrodat contains parts that are sensitive to electrostatic discharge (ESD). Take appropriate measures to prevent damage.

– **Use only genuine accessories and spare parts** available from your Novasina supplier.

– The Novasina hygrodat **must not be modified in any way** without the written consent of Axair Ltd.

Operating instructions

Keep this instruction manual in a safe place where it is available at all times.

If you lose the instruction manual, please contact your Novasina supplier and you will receive an immediate replacement.

Customer support

Axair Ltd. has a well-established worldwide network of distributors whose skilled technicians provide after-sales service at any time. Report any malfunctions to your Novasina distributor.

1.3 Notes on humidity measurement/calibration

For accurate humidity measurement and correct calibration the **measuring cell** and the **medium to be measured/humidity standard** must reach the **thermal equilibrium**. Even a minor difference in temperature between the medium to be measured and the measuring cell will cause erroneous results. The higher the ambient humidity the more the difference in temperature will affect the measuring result.

Example: At 20 °C (68 °F) and a relative humidity of 50 % a difference in temperature of 1% between the medium and the measuring cell will cause an error of ±3 %rh. At a relative humidity of 90 % the error rises to approximately ±6 %rh.

2. Product description

The Hygrodat transmitters by Novasina are high-tech instruments providing outstanding accuracy and reliability. A state-of-the-art micro-controller ensures ease of operation and highly accurate measuring results over the entire measuring range.

Two series of the Novasina Hygrodat are available:

- **Hygrodat 10** Basic model
- **Hygrodat 20** Model with built-in LC display

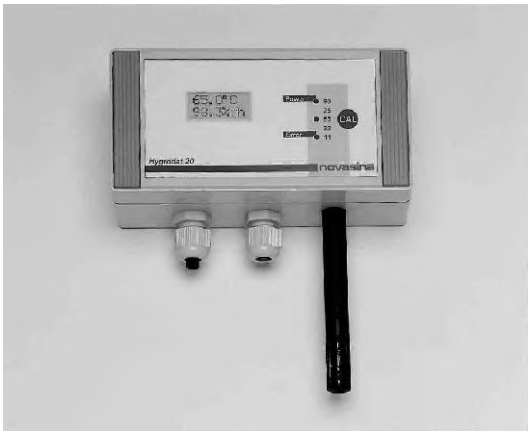
The instruments of both series may be operated at **direct current** (9…35 VDC) or **alternate current** (90…260 VAC) and they are available in **three versions**:

- **M-Type**

  The M-Type employs a cable (max. cable length is 60 m) to connect the sensor to the transmitter thus allowing the installation of both components in different locations (e.g. for **remote monitoring** of rooms and ventilation ducts).
  Two sensors of different tube length (110 mm and 210 mm) are available. The customer may freely determine the length of the connection cable.
  Each sensor is supplied with a plug-in holder for wall-mounting. A special mounting flange for duct installation is available on request (option).

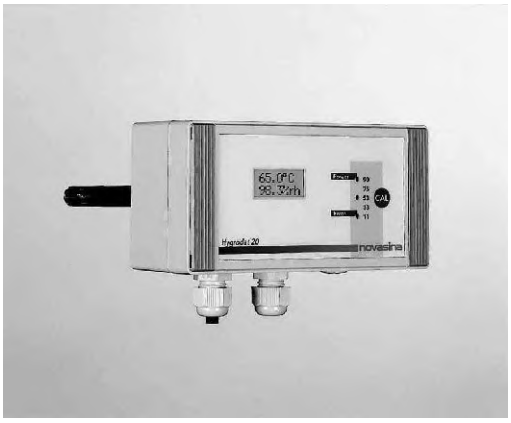
- **S-Type**

  The sensor and the transmitter of the S-Type form an integrated whole. The S-Type was designed for **direct room supervision**.



– **R-Type**

The sensor and the transmitter of the R-Type form an integrated whole. The R-Type was designed for **duct-mounting**.



The Novasina Hygrodat is equipped with an electrolytic measuring cell CC-1 ensuring **virtually hysteresis-free** humidity measurement at an **extremely high accuracy** (±2 %rh, without calibration).
The Hygrodat provides an automatic calibration function to be launched via the **<CAL>** key. This additional multi-point calibration of the measuring cell (up to 5 reference points) increases the measuring accuracy up to ±0.5 %rh (for more information refer to chapter 5).
A highly precise NTC resistor built into the measuring cell is used for temperature measurement.

All Hygrodat instruments capture the **relative humidity** from **6 %rh to 100 %rh** and the **ambient temperature** from **-10 °C to 50 °C** (M-Type: -20 °C to 80 °C). Humidity measurement is temperature-compensated.
So-called DIP switches are used to set the **output signals (4…20 mA, 0…20 mA, 0…1 VDC and 0…10 VDC)** related to the relative humidity and temperature, the temperature range and a variety of supplementary functions.

The Novasina Hygrodat transmitters meet the IP65 degree of protection (with optional laced fabric filter) and are suitable for most indoor and outdoor applications.
In addition, the transmitters meet the electromagnetic compatibility (EMC) standards according to EN50082-1 and EN50081-1. The included “EMC kit” upgrades the transmitters to the EN50082-2 standard. The upgrade is recommended for transmitters used in locations subject to heavy elctromagnetic noise.

3. Installation

3.1 Selecting the appropriate location

Caution! The Novasina Hygrodat **must not be used in aggressive environments** (caused by gases, vapours, liquids. etc.).

To provide accurate results choose an appropriate location making sure:

– the sensor is not heated up by nearby lamps, radiators, direct sunlight or other sources of heat.
– the sensor is not exposed to direct draught (open windows or doors) when used for room supervision.
– the environmental conditions/fitting positions meet the requirements and specifications of the Hygrodat and the sensor.
– sufficient ventilation is available in the area of installation (do not place the transmitter/sensor in recessed locations).

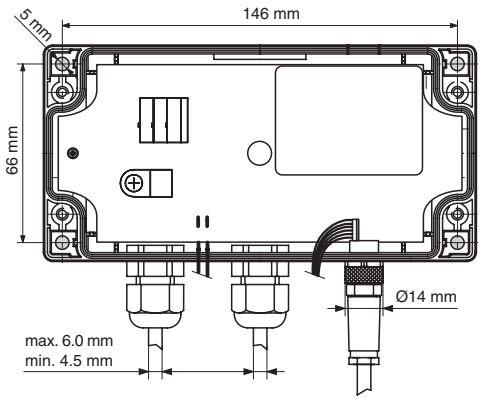
Do not install the instrument in locations with uneven distribution of temperature as the resulting air flow may affect the measuring result or cause condensation at the measuring element or the electronics.

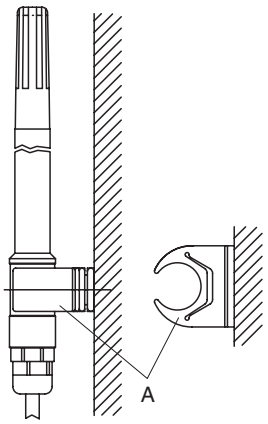
3.2 Mounting procedure

Caution! Before installation the housing of the transmitter must be opened. The electronic components located inside the housing are sensitive to electrostatic discharge. For this reason, take appropriate measures to prevent these parts from damage (ESD protection).

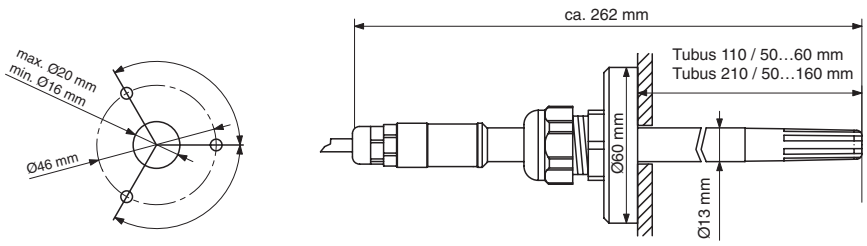
Installation of M-Type instruments

- Remove the plastic caps on both sides of the instrument cover.
- Remove the 4 screws of the cover, carefully lift off the cover and unplug the cables from the control PCB (plugs are coded).
- Attach the bottom of the housing to the wall using 4 screws ø4x30 mm.
- Fix the sensor holder “A” to the wall, then plug in the sensor (maximum cable length between sensor and transmitter: 60 m).





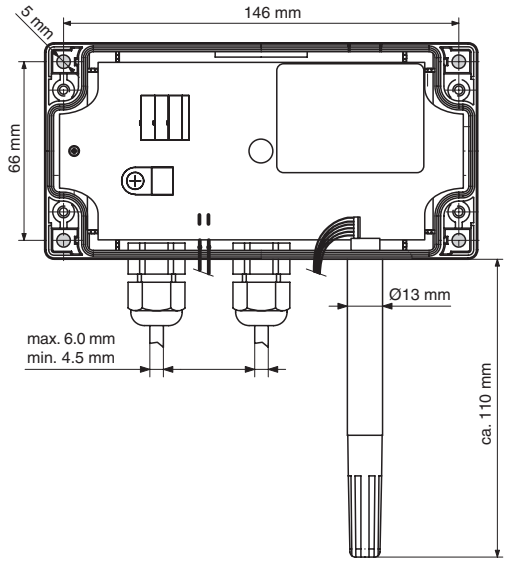
Installation of the sensor inside a ventilation duct: Drill a hole (min. ø16 mm/max. ø20 mm) into the wall of the duct, then install the optional mounting flange. Insert the sensor into the flange until it is at the required depth, then fasten the union nut of the cable gland (see following illustration).



- Connect the sensor cable to the appropriate jack of the transmitter, then fasten the plug.
  Caution! Fasten the plug thoroughly, otherwise erroneous measurements may result.
- Use the DIP switches to configure the instrument according to chapter 3.3.
- Connect the power supply and signal cables according to chapter 3.4.
  Caution, lethal voltage! Do not connect the power supply cord to the mains before having relocated the instrument cover.
- Carefully plug in both cables of the control PCB, then put on the cover and fasten the 4 screws.

Installation of S-Type instruments

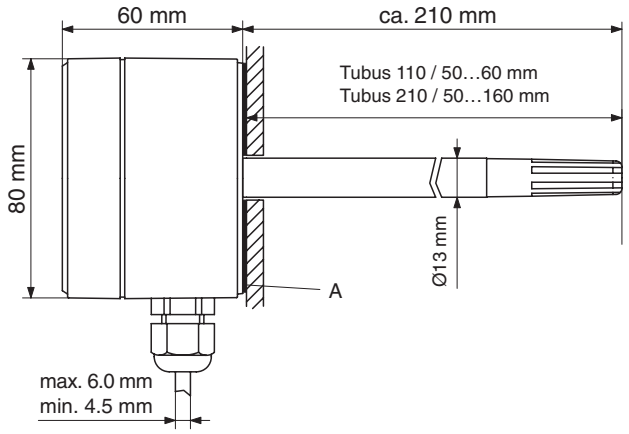
- Remove the plastic caps on both sides of the instrument cover.
- Remove the 4 screws of the cover, carefully lift off the cover and unplug the cables from the control PCB (plugs are coded).
- Attach the bottom of the housing to the wall using 4 screws ø4x30 mm.
  Make sure the sensor faces the floor.



- Use the DIP switches to configure the instrument according to chapter 3.3.
- Connect the power supply and signal cables according to chapter 3.4.
  Caution, lethal voltage! Do not connect the power supply cord to the mains before having relocated the instrument cover.
- Carefully plug in both cables of the control PCB, then put on the cover and fasten the 4 screws.

Installation of R-Type instruments

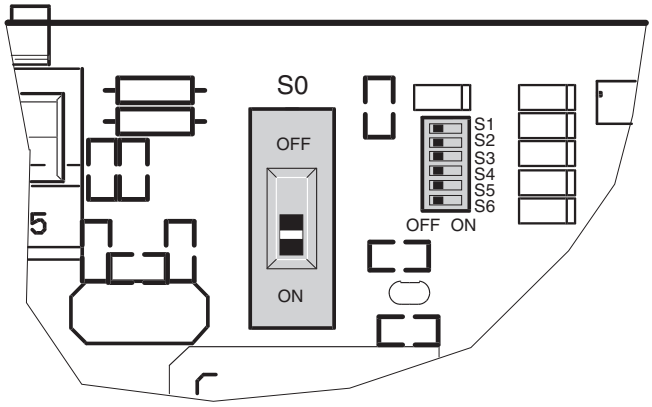
- Drill one hole for the sensor (min. ø16 mm/max. ø20 mm) and 4 holes for the attachment of the housing (diameter depending on type of fastening) into the wall of the duct.
- Remove the plastic caps on both sides of the instrument cover.
- Remove the 4 screws of the cover, carefully lift off the cover and unplug the cables from the control PCB (plugs are coded).
- Use 4 screws to fasten the bottom of the housing (with the flat packing “A” properly in place) to the wall of the duct (see illustration).



- Use the DIP switches to configure the instrument according to chapter 3.3.
- Connect the power supply and signal cables according to chapter 3.4. **Caution, lethal voltage!** Do not connect the power supply cord to the mains before having relocated the instrument cover.
- Carefully plug in both cables of the control PCB, then put on the cover and fasten the 4 screws.

3.3 Configuring the Hygrodat

The DIP switches S0…S6 located on the control PCB are used to configure the Novasina Hygrodat.
Caution, lethal voltage! Disconnect the transmitter from the mains before opening the cover.



Function of the DIP switches S0....S6

S1	S2	Function
OFF	OFF	Temperature output signal range -20 °C…80 °C
ON	OFF	Temperature output signal range 0 °C…50 °C
OFF	ON	Temperature output signal range 0 °C…100 °C
ON	ON	no function / reserved

	OFF	ON
S0	Voltage signal at output	Current signal at output
S3	4…20 mA or 0…10 V (type of signal depends on S0)	0…20 mA or 0…1 V (type of signal depends on S0)
S4	Display of temperature in °C	Display of temperature in °F
S5	<CAL> key operational	<CAL> key locked
S6	Measuring mode	Service mode (for diagnostics only, orange LED flashes in service mode)

☐ default setting

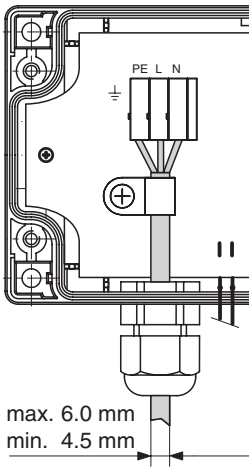
Note: The output signal range (4…20 mA, 0…10V, etc.) corresponds to 0…100 %rh and -20 °C…80 °C (resp. 0…50 °C, 0…100 °C).

3.4 Electrical wiring

Once the bottom of the housing has been installed, the power supply cord and the signal cables may be connected according to the following wiring diagrams.

Power supply

Version operating at alternate current

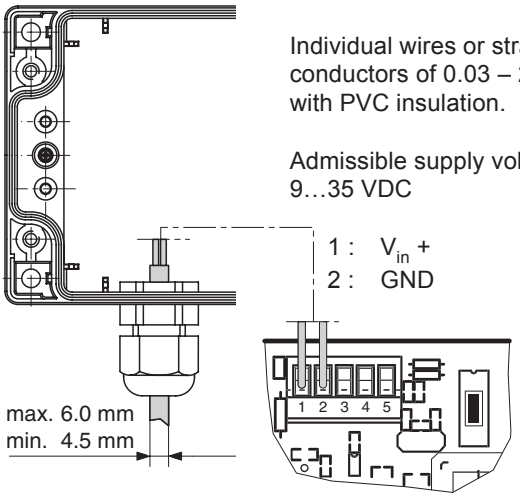


PE : ground
L : phase
N: neutral

Individual wire (one wire) of 0.2 – 2.5mm^2
Flex wire (flexibel) of 0.2 – 2.5mm^2

Admissible supply voltage:
90…260V/50…60 Hz

Version operating at direct current



Individual wires or stranded conductors of 0.03 – 2.5mm^2 with PVC insulation.

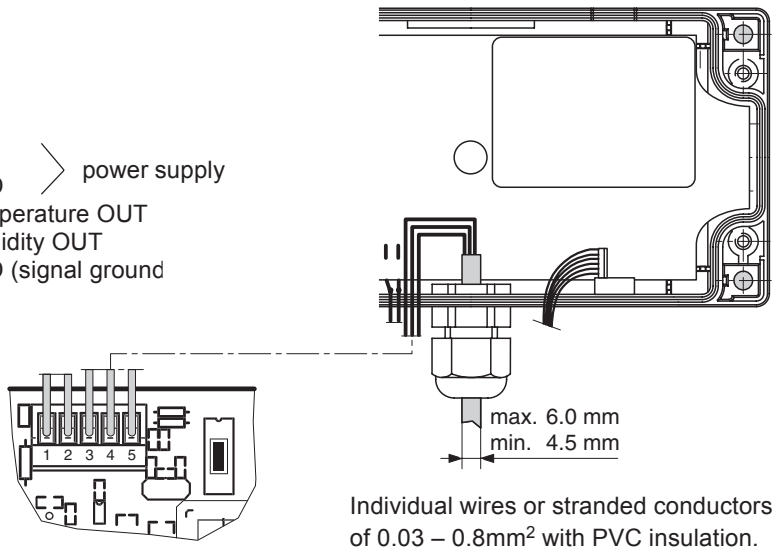
Admissible supply voltage:
9…35 VDC

1 : V_{in} +
2 : GND

Important! Install a **mains switch or a plug** in the power supply cord so that the power supply may be interrupted rapidly at any time.

Signal cables

1: V_{in} +
2: GND
power supply
3: Temperature OUT
4: Humidity OUT
5: GND (signal ground

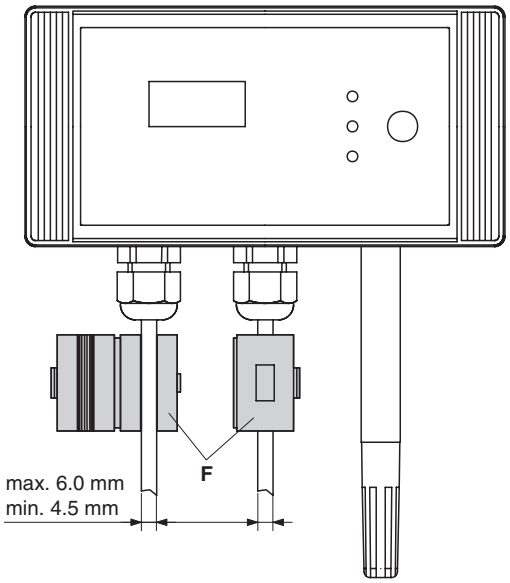


Individual wires or stranded conductors of 0.03 – 0.8mm^2 with PVC insulation.

3.5 Upgrading the instrument to EMC industry standard

The standard Novasina Hygrodat transmitters meet the electromagnetic compatibility (EMC) standards according to EN50082-1 and EN50081-1. Transmitters used in locations subject to heavy noise may be upgraded to the EMC industry standard according to EN50082-2.

The upgrade (noise suppression) requires installation of the supplied screening filters “F” (EMC kit). The snap lock of the screening filters must be attached to the power supply cord and the signal cable, next to the cable glands.



Important: The accuracy of the transmitter may vary up to ± 5 %rh on occurrence of heavy high-frequency noise according to EN50082-2.

4 Setting the instrument into operation/standard operation

Following installation, configuration and relocation of the housing cover, the power supply may be switched on (actuate mains switch or connect mains plug).

After power-up all LEDs light up shortly and the display shows “NOVASINA Hygrodat”). Then, the Novasina Hygrodat automatically switches to the **measuring mode** and the green LED (“Power”) lights up. The display (20 series only) shows the current humidity (in %rh) and the current temperature. The flickering green LED indicates the measuring intervals.
Note: **In measuring mode only the green LED must be on**. An error is present if other LEDs light up (see chapter 7).

Caution! The humidity measuring cell of the Novasina Hygrodat is equipped with an internal heating (dew protection) that prevents the cell from saturation and subsequential damage at high ambient humidity. To preserve this protection it is highly recommended to l**eave the power supply on all the time when using the instrument in locations with high relative humidity (>95 %rh)**.

Caution! Do not use aggressive cleaning agents or detergents for cleaning the Novasina Hygrodat. Make sure the humidity measuring cell and the electronics **do not get in touch with liquids**.

5 Inspection and calibration

The correctness of the measurement can be guaranteed only when a measuring instrument is occasionally checked and recalibrated, if necessary.

Humidity sensors may deviate from their original humidity value after a certain period of time and therefore require periodic inspection or calibration, respectively. Calibration re-establishes the initial accuracy of the measuring system.
Note: Calibration of the Novasina Hygrodat is possible only if the **<CAL>** key is unlocked (DIP switch S5 to OFF, see chapter 3.3).

5.1 Checking/erasing humidity reference points

Calibration of the Novasina Hygrodat is done with the internationally acknowledged humidity standards (Sensor Checks SC by Novasina, supplied with a certificate on request).

The following table presents a survey of the 2 reference points, the humidity standards (Sensor Checks, SC) to be used and the calibration range:

Reference point in % rh at 25 °C	Display LED flashes	Humidity standard (Sensor Check)	Calibration range from reference point in %rh
11.3	red	SC-11	from –7.0 to +7.0
97.0	green	SC-97	from –6.0 to +3.0

The calibration range starting from the reference point limits the admissible area for calibration. If the measured value is outside this range, calibration can no longer be performed (sensor or transmitter defective).

General advice on the frequency of inspection/calibration cannot be given since these are dependent on several factors (ambient conditions, required accuracy, measurement media, etc.).
We recommend periodic inspection every couple of months following initial setup of the instrument. Careful evaluation of the results will give you an idea of the calibration intervals required in your particular case.

Please contact the Novasina agent in your country, or the factory in Switzerland directly, in case of calibration problems with your Novasina Hygrodat.

Displaying the reference points

- Press the **<CAL>** key shortly.

  The LEDs of all calibrated reference points light up shortly, one after the other (display: “Disp cal val”). If no calibrated reference points are available the LEDs will not light up and the instrument returns to the measuring mode after 5 seconds (green LED lights up).

Erasing all reference points

All calibrated and stored reference points may be erased simultaneously. Note: The reference points **must** be erased after installation of a new measuring cell CC-1.

Proceed as follows to erase the calibrated reference points:

- Press the **<CAL>** key for 20 seconds.
  After 10 seconds all LEDs start flashing slowly (display: “*Cal* *entry*”). After another 10 seconds until all LEDs start flashing fast (display: “*Clear* *entry*”).
- Release the **<CAL>** key. As soon as the **orange LED** stops flashing (display: “Clear all?”) press the **<CAL>** key again until **all LEDs** light up (display: “Clear done”). Now all reference points are erased.
  Note: If the **<CAL>** key is not repressed within 10 seconds the instrument returns to the measuring mode.

Note: The calibration of a new measuring cell (for increased accuracy) is described in chapter 5.2.

Erasing particular reference points

If a particular reference point cannot be calibrated correctly (e.g. due to a defective humidity standard), the respective, miscalibrated reference point should be erased. This recalculates the measuring curve based on the remaining points.

Proceed as follows to erase a particular reference point:

- Press the **<CAL>** key shortly.
  The LEDs of all calibrated reference points light up shortly, one after the other (display: “Disp cal val”).
  Note: If no calibrated reference points are available the LEDs will not light up and the instrument returns to the measuring mode after 5 seconds (green LED lights up).
- As soon as the reference point to be erased is displayed, press and hold the **<CAL>** key for approximately 10 seconds until the respective LEDs start flashing slowly (display: “*S clr* *entry*”).
- Release the **<CAL>** key and wait until the respective LEDs light up permanently (display: “Single cal clr?”).
- To erase the reference point press and hold the **<CAL>** key until all LEDs light up (display: “S clr done”). Upon completion, the instrument switches back to the measuring mode.
  Note: If the **<CAL>** key is not repressed within 10 seconds the instrument returns to the measuring mode without erasing the selected reference point.

Verification: Press the **<CAL>** key shortly. The erased reference point must not be displayed.

5.2 Calibration procedure

Instructions for correct calibration

Please observe the following instructions to ensure correct calibration:

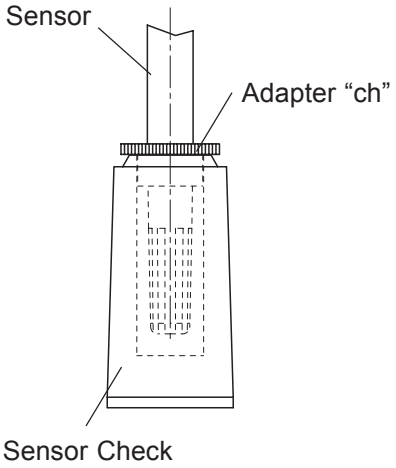
– Sensor Check and measurement cell must be in temperature and humidity equilibrium at the time of calibration.

– The temperature must be between 15 °C and 30 °C at the time of the calibration.
Note: The relative humidity of the Sensor Check is dependent on the ambient temperature (see imprint on humidity standard). Upon calibration, the Novasina Hygrodat automatically balances this dependency.

– Thermal effects due to draughts, direct solar radiation, ventilation, heating, etc. must be avoided during calibration.

Performing the calibration

Proceed as follow to calibrate 1 of the 2 reference points:



- Use the “**ch**” adapter to attach the appropriate Sensor Check to the sensor, then fit the polystyrene protection around the Sensor Check.
- Wait until the temperature and humidity values of the sensor and the humidity standard have equalized (recommended delay: min. 1/2 hour). **Caution!** The transmitter **must not be switched off** during the waiting time.
- Press and hold the **<CAL>** key (approx. 10 seconds) until all LEDs start flashing slowly (display: “*Cal* *entry*”), then release the **<CAL>** key.
- As soon as the instrument detects the attached Sensor Check and the corresponding LED(s) light(s) up (display: “Cal ?”), press and hold the **<CAL>** key until all LEDs light up (display: “Cal okay”). This concludes calibration of the reference point.
  Note: If the **<CAL>** key is not repressed within 10 seconds the instrument returns to the measuring mode without calibrating the reference point.

  Once the **<CAL>**- is released, the instrument returns to the measuring mode (green LED lights up).

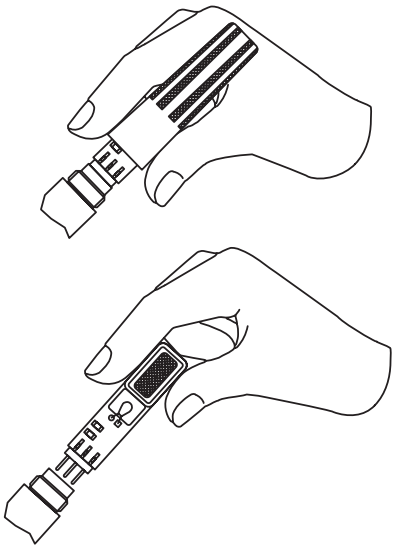
If the current humidity value lies outside the calibration range the automatic calibration will not take place (display: “Cal ref. invalid”) and the instrument returns to the measuring mode instead. There are several reasons for this:

– The ambient temperature is not in the admissible range (15…30 °C).

– The humidity standard is defective; its humidity value is out of tolerance.
Remedy: Regenerate the humidity standard (see instructions that came with the humidity standard) or replace the standard and repeat the calibration procedure.

– The measuring cell is defective or out of the admissible calibration range.
Remedy: Replace the measuring cell CC-1 (see chapter 6).

6 Replacing the measuring cell CC-1



Caution! Except for the replacement of the measuring cell CC-1 the customer must not carry out any other repair to the Novasina Hygrodat.

Proceed as follows to replace the defective measuring cell CC-1:

- Erase the reference points according to chapter 5.1.
- Disconnect the instrument from the mains.
- Unscrew the filter cap.
  Caution: danger of damage! Grasp the filter cap by the thread only.
- Unplug the defective measuring cell CC-1.
- Plug in the new measuring cell CC-1 according to the opposite illustration. The measuring cell is protected against reverse polarity and its pins may be installed in any position.
  Caution: danger of damage! Do not touch the filter of the cell PCB.

A new measuring cell CC-1 provides an accuracy of ±2 %rh. If your particular application requires higher accuracy (up to ±0.5 %rh with 5-point calibration) the transmitter may be calibrated at up to 5 reference points (see chapter 5.2).

7 Error messages

Malfunction of the instrument is indicated by LEDs (Hygrodat 20 only: LEDs and display).

LED green	LED orange	LED red	Display Hygrodat 20	Error	Remedy
---	---	---	---	Instrument switched off or electronics defective.	Check power supply or contact your Novasina supplier, respectively.
lights up	---	lights up	Sensor fail	Temperature out of admissible range (-20…80°C) or temperature sensor defective.	Check temperature or replace measuring cell, respectively.
lights up	---	flashes quickly	Sensor fail	Humidity sensor defective.	Replace measuring cell.
lights up	---	flashes slowly	Sensor fail	Temperature and humidity sensor defective or disconnected.	Check sensor plug or replace sensor, as required.
all LEDs light up			Diagnos. fail	Sensor short-circuited or electronics defective.	Replace the sensor or contact your Novasina supplier, as required.
lights up	flashes	---	---	Service mode active (DIP switch S6 to ON).	Activate measuring mode, if required (DIP switch S6 to OFF, see chapter 3.3).

8 Specifications

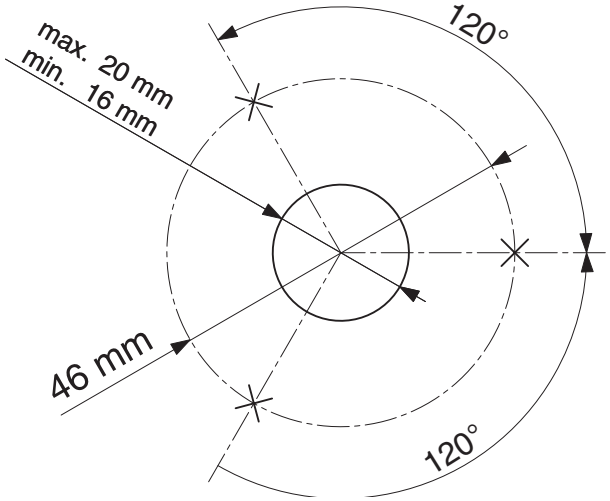
Novasina Hygrodat				Measuring cell CC-1
Admissible operating conditions				
Ambient humidity	S-Type	transmitter and sensor		6 ... 95 %rh *
	M- and R-Types	transmitter		6 ... 95 %rh *
		sensor		6 ... 100 %rh
Operating temperature	S-Type	transmitter and sensor		-10…50 °C
	M- and R-Types	transmitter		-10…50 °C
		sensor		-20…80 °C
Storage temperature		transmitter and sensor		-20…60 °C
Range of application				
Relative humidity	Measuring range	temperature-compensated	6 ... 100 %rh	
	Accuracy	without calibration		±2 %rh
		with 5-point calibration	at 25 °C	±0.5 %rh
			0…50 °C	±1 %rh
	Repeatability			<0.3 %rh
	Long-term stability	under typical conditions		<1 %rh/year
	Time constant		at 25 °C	approx. 1 minute
Temperature	Measuring range			-20…80 °C
	Accuracy			±0.5 K
	Repeatability			<0.1 K
Electromagnetic compatibility	Emissions			EN 50081-2
	Mains interference			EN 61000-3-2/-3
	Immunity	household standard		EN 50082-1
	industry standard		EN 50082-2	
Electrical data				
Power supply	Alternate current AC	power consumption max. 3.5 W		90…260 V
	Direct current DC	power consumption max. 2 W		9…35 V
Output signals	Voltage			0…10 V
				0…1 V
		load (to ground)		>8000 ohms
	Current			0…20 mA
				4…20 mA
		load		<500 ohms
Mechanical data				
Housing	Dimensions	L x W x H	[mm]	160 x 80 x 60
	Material			ABS
	Degree of protection	S-Type and R-Type		EN 60529/IP 65
		M-Type		EN 60529/IP 65
Display	Hygrodat 20 only	2 x 8 characters	character height	5.5 mm
Sensors	All types			ø13 mm
	M-Type / separate installation	plug	(max. ø14 mm)	5-pin (shielded)
	S-Type / wall mounting		length	110 mm
	R-Type / duct mounting		length	210 mm
		sensor		ø13 mm
		tube length		110 or 210 mm
Filter	Membrane filter	CF-1	pore size	200 nm
Weight	M-Type / separate installation			max. 600 g
	S-Type / wall mounting			max. 750 g
	R-Type / duct mounting			max. 750 g

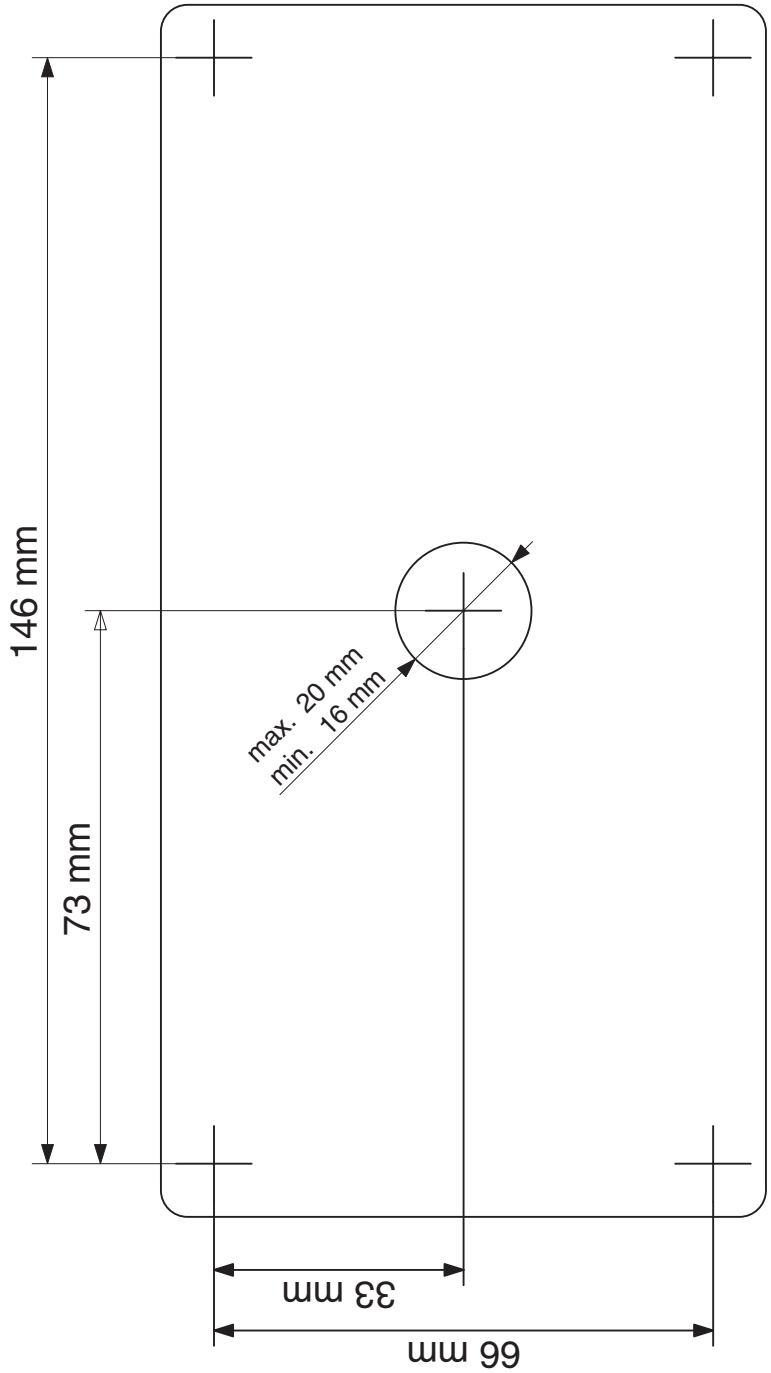
* not condensing

9 Accessories and spare parts list

Type	Designation/description	Part no.
Protective accessories (pre-filters)	Laced fabric filter with membrane filter (for medium dust load) Sintered filter / SF1 (for high dust load) Laced fabric filter with activated charcoal / AF-1 (chemical load) Protective cap without filter / CP-1 Standard filter / CF-1 (for low dust load)	1111018 1107330 1113675 1114745 1107355
Sensors	Sensor (110 mm tube length) with sensor holder for wall mounting – with 1 m connection cable / HS-11 – with 3 m connection cable / HS-13 Sensor (210 mm tube length) with sensor holder for wall mounting – with 1 m connection cable / HS-21 – with 3 m connection cable / HS-23	 1113739 1113740 1113741 1113742
Sensor cables	Sensor cable, shielded, with coupler plug and socket connection – length 5 m / EC-5 – length 10 m / EC-10 – special length up to 60 m max. / EC-XX	 1110572 1110438
Measuring cell	Electrolytic measuring cell CC-1, 5…100 %rh, not calibrated	1113828
Miscellaneous	Mounting flange for duct mounting Sensor holder for wall mounting (2 pcs.) Mounting kit for DIN rail	1110892 1107360 1107350
Accessories for calibration	Sensor Check, SC 11 %rh, in box Sensor Check, SC 33 %rh, in box Sensor Check, SC 53 %rh, in box Sensor Check, SC 75 %rh, in box Sensor Check, SC 90 %rh, in box Sensor Check adapter / ch Polystyrene cap required for calibration	1110885 1110855 1110857 1110859 1110896 1107345 1111302

10 Bohrschablonen / Drilling templates / Plan de perçage





Notizen/Notes/Notes

Technische Änderungen vorbehalten
Technical data subject to modification
Sous réserve de modifications techniques

Nun möchten wir uns für Ihr entgegen gebrachtes Vertrauen bedanken und wünschen Ihnen viel Spass und erfolgreiche Messungen mit den qualitätsprodukt HygroDat 10 oder 20 und seinen Vielfältigen Möglichkeiten.

Bei allfälligen Fragen steht die Novasina rsp. dessen Vertretungen jederzeit gerne zur Verfügung.

Now we would like to thank you for your confidence in us and hope you will enjoy and obtain successful measurements with the HygroDat 100 quality product and its manifold options.

In case of any further questions, Novasina and its agencies will be happy to advise you at any time.

Your Novasina Team

CE

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