

EN

OPERATING MANUAL
HYGROSTAT



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Notes regarding the operating manual

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Symbols

The current version of the operating manual can be found at:



HG 125 electronic



<https://hub.trotec.com/?id=40528>

01. ESD protection instructions

The devices contain components which can be damaged by the effects of electrical fields or by charge equalisation when touched.

The following safety measures must be observed when opening the device for maintenance or for modifying the connection:

- Before opening the housing, establish potential equalisation between you and your environment.
- Make sure that this potential equalisation is maintained when working while the housing is open.

02. Device description

- Easy to install
- 5 m cable length for remote probe
- 2 potential-free switching outputs, configurable as NC or NO contacts
- 2 nominal values and switching hystereses, independently configurable
- Display of current relay switching states
- 2 continuous signal outputs (0...10 V), for relative humidity and temperature
- Pluggable and exchangeable calibrated measuring probe
- Alternating display of relative humidity and temperature

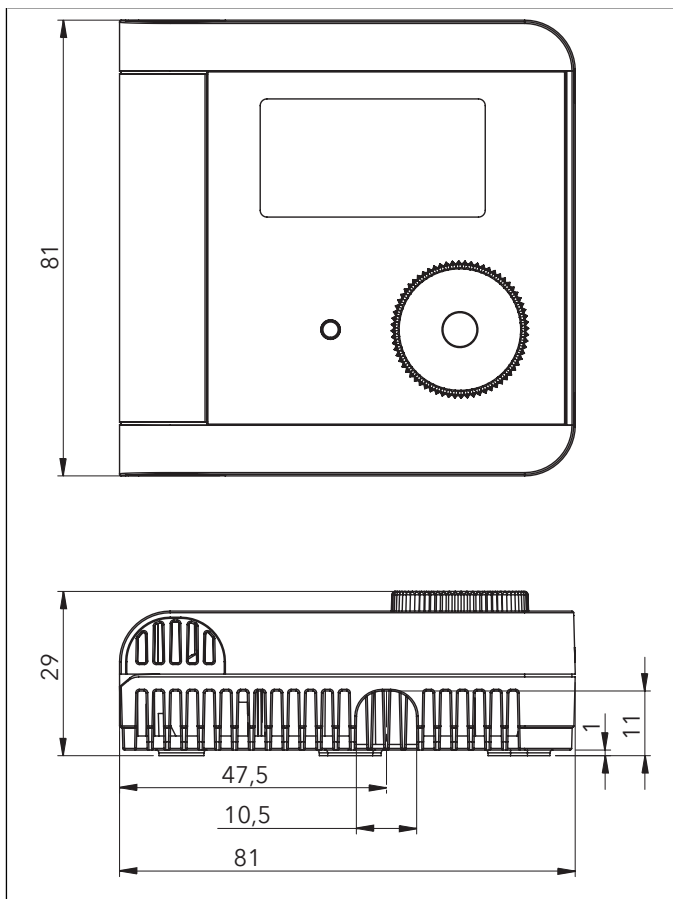
03. Application

- Detrimental influences
Aggressive media containing solvents can cause measuring errors and failure, depending on the type and concentration. For instance, deposits forming a water-repellent film on the sensor element (resin aerosols, paint aerosols, smoke substances etc.) are damaging.

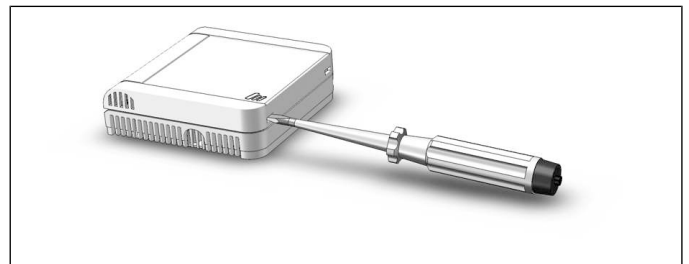
04. Assembly

- Position**
 The place of assembly of the external sensor must be chosen so as to ensure a representative humidity and temperature measurement. Do not install near heat sources such as radiators, doors, window and outer walls. Avoid direct sunlight.
- Connection**
 The device is preconfigured and preassembled upon delivery. Any modifications of the hygostat must be carried out by expert staff. The housing contains sensitive components. When opening the housing, observe the ESD protection instructions (see 01. ESD protection instructions). Supply lines to the device as well as the sensor cable must not be installed parallel to strong electromagnetic fields. In case of potential overvoltage, install appropriate overvoltage protection devices.

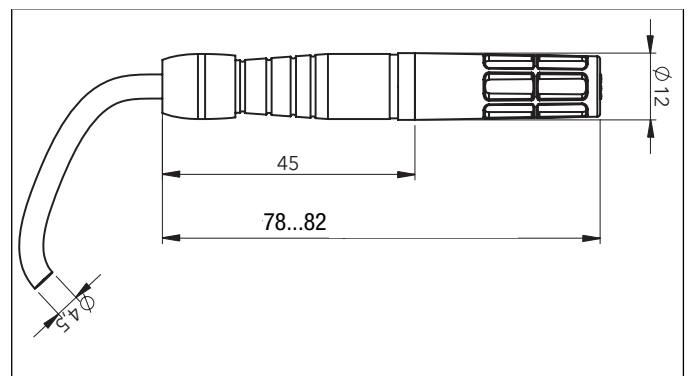
Dimension drawings



Opening the housing (schematic diagram)

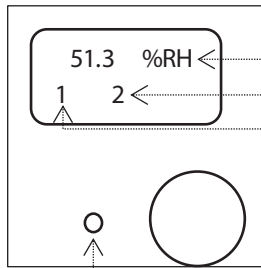


Dimension drawing of the cable sensor



05. Configuration instructions

Operating mode



Actual value relative humidity / temperature, alternating

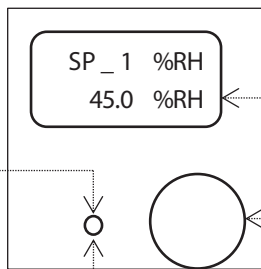
"2" is displayed if relay 2 (T) = contacts 7-8 closed

"1" is displayed if relay 1 (RHZ) = contacts 5-6 closed

Briefly (!) press black button: Go to first adjustable parameter.

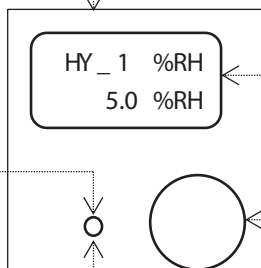
Pressing the black button briefly again takes you to the next adjustable value.

Configuration mode



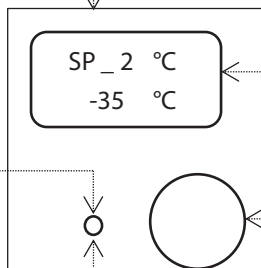
Nominal value for relay 1 (RH); adjustable via rotating wheel
Nominal value RH pre-programmed*: 45 % RH

②



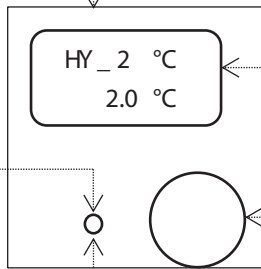
Switching hysteresis to nominal value 1 (RH); adjustable via rotating wheel
Switching hysteresis to nominal value 1 (RH) pre-programmed*: 5% RH

②



Nominal value for relay 2 (T); adjustable via rotating wheel
Nominal value T pre-programmed*: T = -35°C

②



Switching hysteresis to nominal value 2 (T); adjustable via rotating wheel
Switching hysteresis to nominal value 2 (T) pre-programmed*: 2.0 °C

②

* the pre-programmed values may vary depending on the project

CONFIGURATION:

1: Press black button for a long time (>3s): adopt modified value (display "Store")

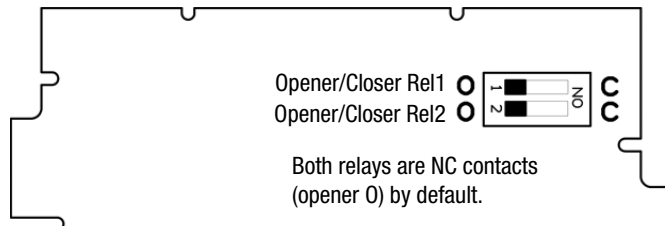
2: Briefly (!) press black button: do not adopt the modified value (display "_ESC" = leave, return to operating mode)

If no setting or change is made over a longer period (approx. 30s), the menu will automatically return to operating mode via "_ESC". All settings and changes previously made are not adopted in this case.

06. Setting of relays

Setting of relay 1 and 2 as NC contact (opener) or NO contact (closer).

DIP switch set to	current measured value	
	< nominal value - switching hystereses / 2	> nominal value + switching hystereses / 2
C (closer)	relay = open	relay = closed
O (opener)	relay = closed	relay = open



07. Connection diagrams

	1	GND
	2	+ UB 15...30 V DC or 13...26 V AC
	3	Humidity output: 0 – 10V = 0 – 100% RH
	4	Temperature output: 0 – 10V = -30°C to +70°C

	5	Relay 1 (RH) adjustable: 5 – 95% RH default: 45% RH
	6	
	7	Relay 2 (T) adjustable: -35°C to +80°C default: -35°C
	8	

08. Technical data

HG125 **TROTEC**
610.000.2042 **CE**

2 x Relay output (R-RH) (R-T)
Analog output1 Rel. Humidity (RH): 0...100%RH
Analog output2 Temperature (T): -30...+70°C

up to max. 2A

2x0...10V 24VDC

8 7 6 5 4 3 2 1

(R-T) (R-RH) (T) (RH) +UB GND

plug pin allocation: 6 1 4 5 2 3

Humidity (RH)

Measuring range humidity output	0...100 % RH
Setting range relay 1 (RH) default	5...95 % RH 45 % RH
Setting range of switching hysteresis RH default	0.5...9 % RH 5 % RH (+/- 2.5 % RH)
Measurement uncertainty 10...90 % RH at 25°C max. 0...10 % RH and 90...100 % RH (at 25 °C) Long term stability Hysteresis Typ. temperature influence at 25 °C	≤ ±2 % RH additionally ≤ ±0.2 % RH / % RH ≤ 0.5 % RH/a ≤ ±1 % RH ±0.05 % RH/K

Temperature (T)

Analog temperature output	-30...+70 °C 0...10 V
Measurement uncertainty at 23 °C	typ. ±0.2 K
Setting range relay 2 (T) default	-35 °C to +80 °C -35 °C
Setting range of switching hysteresis T default	0.1 °C to +10 °C 2 K (+/- 1 °C)

Electrical data

Switching outputs:	2 relay contacts, potential-free
Setting NC / NO contact default	via DIP switch NC contact (opener 0)
Switching voltage relay contact	≤ 48V DC / AC
Switching capacity	≤ 60 W / 62.5 VA
Power factor	≥ 0.9
Switching cycles (at Pmax)	> 10 ⁵
Switching current	≤ 2A
Continuous output rel. humidity	0...10 V DC
Continuous output temperature	0...10 V DC
Supply voltage	15...30 V DC 13...26 V AC
Self-consumption	≤ 30 mA
Applied standards	EN 61326-1

General data

Measuring medium	pressureless, non-condensing, non-aggressive air
Operating temperature housing	-30...+80 °C
Operating temperature cable sensor	-40...+85 °C
Storage temperature	-40...+85 °C
Electrical contact of terminals Wire cross-section of each terminal Cable diameter Surface-mounted cable Flush-mounted cable	max. 1.5 mm ² max. 1 x Ø 6.5 mm or 2 x Ø 4.5 mm see: User information on page 5
Type of protection of cable sensor with membrane filter ZE08 (standard equipment) with PTFE sinter filter ZE05 (optional)	IP30 IP65
Type of protection of housing	IP 30D
Protection class	III
Housing material	ABS
Housing colour	signal white similar to RAL 9003
Digital display	2-line

09. Note

The information contained herein reflects our current state of knowledge and is meant to provide information on our products and their possible applications. Thus, it is not intended to warrant specific properties of the products or their suitability for a particular application. Experience shows that the use of the devices covers a broad range including the most diverse conditions and loads. We cannot assess every individual case. The customer or user must examine the suitability of the devices. Any existing industrial property rights must be taken into consideration. We guarantee perfect quality within the framework of our General Terms of Delivery. Subject to changes.

10. Optional accessories

Adapter transformer HG 24 V

When using the hygostat in combination with Trotec dehumidifiers with 4-pin DIN socket, the optionally available adapter transformer is required in addition.

Article no. 6.100.002.043

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