CE

### Electronic room humidistat

2 relay contacts humidity　　　　　　　**eStat10**

### Electronic room hygro-thermostat

2 relay contacts humidity + temperature　**eStat10 DUO**

- 2 potential-free switching outputs configurable as openers or closers
- 2 independently configurable setpoints and switching hysteresis
- 2 continuous 0...10 V signal outputs for relative humidity and temperature
- Easy to install
- Display of current relay switching states
- Alternating display of relative humidity and temperature
- Temperature compensation

## Technical Data

### Humidity

| | |
|---|---|
| Measuring range | 0 ... 100 %RH |
| Control range | 5 ... 95 %RH |
| Setting range of switching hysteresis | 0.5 ... 9 %RH |
| Measuring uncertainty　10 ... 90 %RH at 25 °C max. | ≤ ±　3 %RH |
| 　0 ... 10 %RH and 90 ... 100 %RH　ref. to 25 °C additional | ≤ ± 0,2 %RH / %RH |
| Long term stability | ≤ 0.5 %RH/a |
| Hysteresis | ≤　1 %RH |
| Typ. temperature influence at 25 °C | ± 0.05 %RH/K |

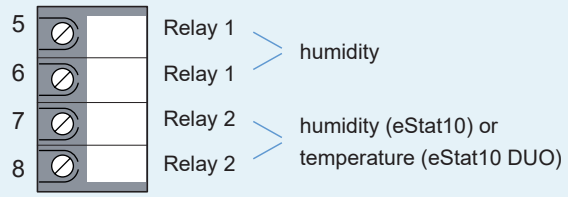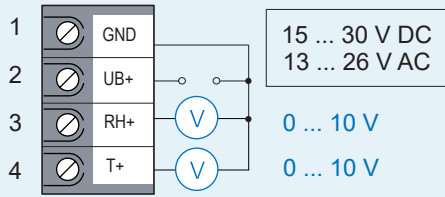### Electrical data

| | |
|---|---|
| Switching outputs | 2 relay contacts potential-free, normally open |
| Setting as opener / closer | Via DIP switch |
| Switching voltage | ≤ 48 V DC/AC ≥ 100 µV |
| Breaking capacity | ≤ 60 W　/　62.5 VA |
| Power factor | ≥ 0.9 |
| Switching cycles (at Pmax) | > 100.000 |
| Switching current | ≤ 2 A |
| 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 |
| Consumption | ≤ 30 mA |

### Temperature

| | |
|---|---|
| Output ranges | 0 ... + 50 °C |
| further ranges on request | - 30 ... + 70 °C |
| | 0 ... + 100 °C |
| Measuring uncertainty at 23 °C and ≤ 250 mA switching current | typ. ± 0.3 K |
| DUO: Control range | - 25 ... + 55 °C |
| DUO: Setting range switching hysteresis | 0.1 ... 10 K |

### General data

| | |
|---|---|
| Measuring medium | Air, non-pressurised, non-condensing, non-aggressive |
| Operating temperature | - 30 ... + 60 °C |
| Storage temperature | - 40 ... + 85 °C |
| Electrical connections at mains terminals　Wire cross-section at each connection | max. 1.5 mm² |
| Cable diameter　► Surface-mounted cable | max. 1 x ø 6.5 mm or　2 x ø 4.5 mm |
| ► Concealed cable See: User instructions on page 5 | |
| Housing IP rating | IP 30D |
| Safety category | III |
| Housing materials | ABS |
| Housing colour | Similar to RAL 9003 Signal white |
| Display | 2 lines |
| Applied directives / Standard | EMC directive 2014/30/EU DIN EN 61326-2-3 DIN EN 61326-1 |

| 1 | GND | | 15 ... 30 V DC |
|---|-----|---|----------------|
| 2 | UB+ | | 13 ... 26 V AC |
| 3 | RH+ | V | 0 ... 10 V |
| 4 | T+  | V | 0 ... 10 V |

| 5 | | Relay 1 | } humidity |
|---|---|---------|-----------|
| 6 | | Relay 1 | |
| 7 | | Relay 2 | } humidity (eStat10) or |
| 8 | | Relay 2 | temperature (eStat10 DUO) |

Relay outputs: potential free, normally open

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**ESD protection advice**

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

⚠

**The following protective measures must be taken when the housing of the device is to be opened for connection:**

- Before opening the housing, ensure electrical potential equalisation between you and your environment.
- Pay particular attention to ensure that this potential equalisation is maintained while you are working with the housing open.
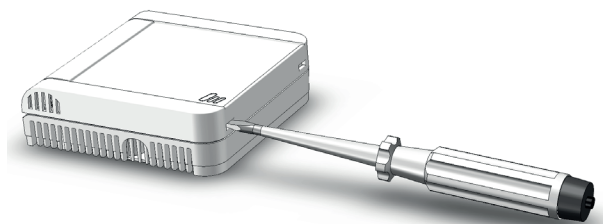
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**Dimensions**

81

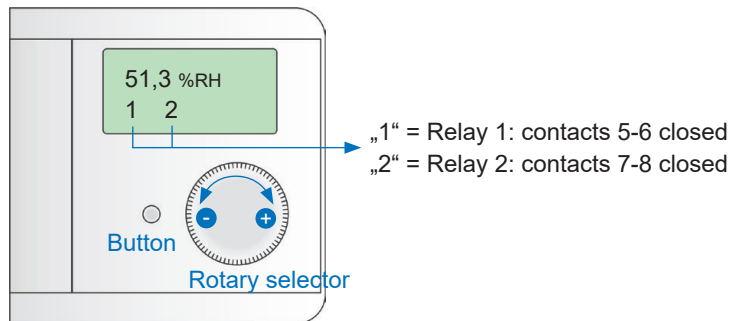29

47,5

10,5

81

11

**Drilling pattern**

81

41

3

4,3

⌀ 60

12

37
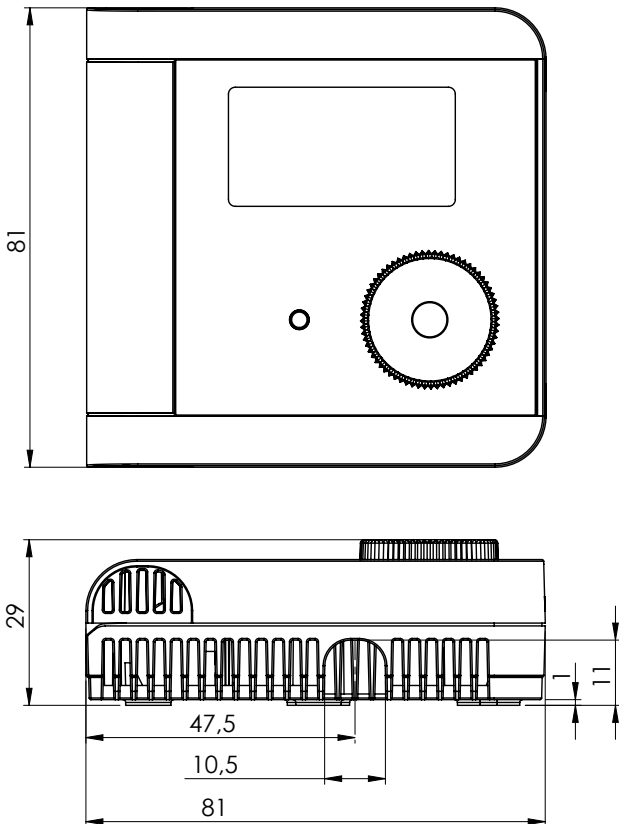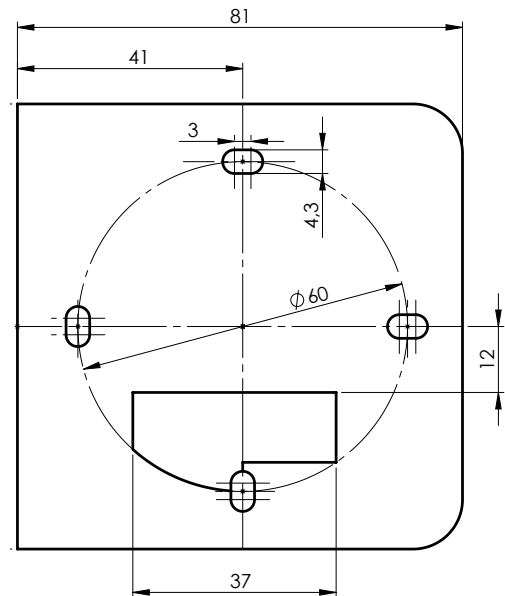
**Opening the housing**

# Configuration guide

**Operation mode**

In standard operation, the display alternates between %RH and °C.

51,3 %RH
1  2

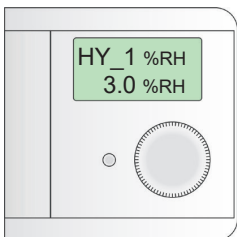„1" = Relay 1: contacts 5-6 closed
„2" = Relay 2: contacts 7-8 closed

Button

Rotary selector

**1** Switch to configuration mode:
Press button briefly

## Configuration **Relay 1**

## Configuration **Relay 2**

- eStat10 relay 2: relative humidity (%RH)
- eStat10 DUO relay 2: temperature (°C)
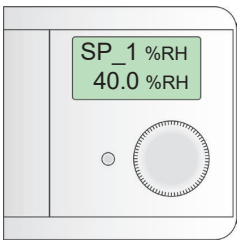
**2** **Setpoint 1** for Relay 1
adjustable with rotary selector

SP_1 %RH
40.0 %RH

Press the button
> 3 seconds = Stor ✔
Store (setting has been applied)

< 3 seconds =_ESC ✖
Cancel without saving

**6** **Setpoint 2** for Relay 2
adjustable with rotary selector

SP_2 %RH
60.0 %RH

Press the button
> 3 seconds = Stor ✔
Store (setting has been applied)

< 3 seconds =_ESC ✖
Cancel without saving

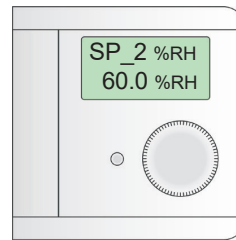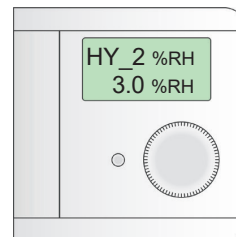**3** Switch to next parameter:
Press button briefly

**7** Switch to next parameter:
Press button briefly

**4** **Switching hysteresis 1**
for setpoint 1 adjustable with
rotary selector

HY_1 %RH
3.0 %RH

Press the button
> 3 seconds = Stor ✔
Store (setting has been applied)

< 3 seconds =_ESC ✖
Cancel without saving

**8** **Switching hysteresis 2**
for setpoint 2 adjustable with
rotary selector

HY_2 %RH
3.0 %RH

Press the button
> 3 seconds = Stor ✔
Store (setting has been applied)

< 3 seconds =_ESC ✖
Cancel without saving

**5** Switch to next parameter:
Press button briefly

**9** Switch to operation mode:
Press button briefly

## Operation mode

In standard operation, the display alternates between %RH and °C.

```
42,6 %RH
+21.9 °C
```

Button
Rotary selector
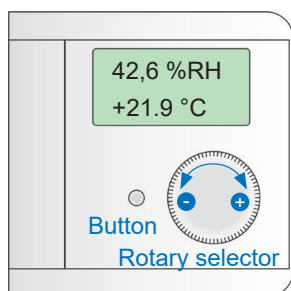
The facory setting for keylock is inactive (**Coff**). The keylock can be switched on and off with the access code 1385.

## Enter access code 1385

The access code is preset and cannot be changed!

**1** Press button

longer than > 3 seconds
Code 0.000 appears.

The first digit is now "active". With the rotary controller, each individual digit can be changed in the range 0 ... 9.
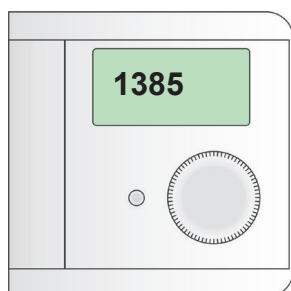
```
0.000
```
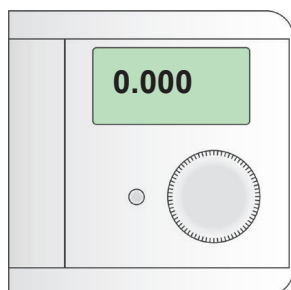
**2** Press and release the button to move to the next digit.

| | |
|---|---|
| 1st digit "active" | 0.000 |
| 2nd digit "active" | 10.00 |
| 3rd digit "active" | 130.0 |
| 4th digit "active" | 1380 |

Exception: No decimal point to the bottom right of the 4th digit.

## Verify access code

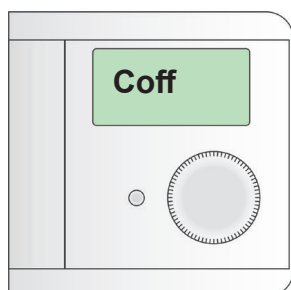**3** After entering the complete access code, press button for longer than 3 seconds.

```
1385
```

The access code is verified:

✔ the currently stored status appears. (Coff oder C_on).

✖ _ESC = Stop/Exit appears if the access code wasn`t entered correctly.

## Keylock settings

**4** Choose the required setting by turning the rotary selector.

```
Coff
```

a.) **Coff** = Code off/ keylock inactive (factory setting).

b.) **C_on** = Code on/ keylock active.

## Store or Stop

**5** Press button...

✔ > 3 seconds
**Stor =** Store
setting has been applied

✖ < 3 seconds
**_ESC** = Cancel without saving

```
Stor
```

**6**
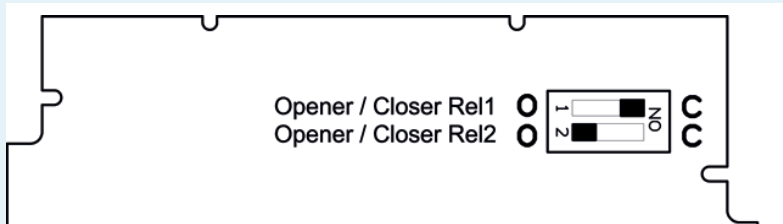
The hygro-thermostat switches to operation mode.Depending on keylock settings, the setting points are...

- Coff = configurable (see P. 3)
- C_on = non configurable

### Setting relay 1 and 2 as opener or closer

| DIP-Switch set to | Current reading | |
|---|---|---|
| | $< \text{setpoint} - \dfrac{\text{switching hysteresis}}{2}$ | $> \text{setpoint} + \dfrac{\text{switching hysteresis}}{2}$ |
| **C (Closer)** | Relay = open | Relay = closed |
| **O (Opener)** | Relay = closed | Relay = open |

Opener / Closer Rel1   O   C
Opener / Closer Rel2   O   C

## Installation instructions

**Position**

The installation site should be chosen such that a representative measurement of air humidity can be guaranteed, i.e. the humidity readings at the installation site should correspond to those in the room. Avoid areas in the vicinity of radiators, doors and exterior walls, as well as direct sunlight.

**Flush mounting**

When flush-mounting the device, appropriate seals should be used to prevent external air from reaching the sensor element of the device through the concealed housing.

**Connection to surface-mounted and concealed cables**

When connecting to a concealed cable, the knock-out part of the housing floor should be broken out to allow the cable to pass through.
When connecting to a surface-mounted cable, the separators at the hollowed-out points in the side of the housing can be broken out.

**Connection**

The device must be connected by qualified personnel.

The housing contains sensitive components. When opening the housing, electrostatic discharge (ESD) precautions must be observed.

Leads connected to the sensor must not run parallel to strong electromagnetic fields.

Where there is a possibility of voltage surges, install surge protection devices.

## User instructions

**Damaging influences**

Depending on their type and concentration, aggressive media containing solvents can cause incorrect reasings or cause the sensor to fail.
Substances deposited on the sensor element (e. g. resin aerosols, paint aerosols, smoke deposits etc.) are harmful as they eventually form a water-repellent film.