

Dew point control switches
including strap / with detached sensor head,
with active / switching outputs

Patented quality product
(pro-dynamic cross convection patent no. DE 10 2012 015 726.6)

The dew point control switch **HYGRASREG® TW** is installed on cooling / cold-water piping or on cooled surfaces. It reliably detects formation of dew by means of its humidity and temperature sensor (no conductivity measurement) and, thanks to its patented measuring method, **pro-dynamic cross convection**, yields an exact measurement result (with LED status display), **with / without display**.

Dew point temperature is that temperature at which air reaches the state of saturation and water vapour starts to condensate. Facilitated by the continuous measuring range from 0...100% RH of the **TW-U** and the adjustable switchpoint for the **TW-W** of 75...100% RH, it is possible to operate cooling ceilings, for example, so that the switching output of the dew point control switch, the DDC, is activated and then triggers a heater or other control elements, thereby preventing the formation of dew on pipes or cooling ceilings or on the property to be monitored.

TW
with quick-locking screws



TW-extern
with quick-locking screws



TECHNICAL DATA

Power supply:	24 V AC (± 20%) and 15...36 V DC
Power consumption:	< 1.1 VA / 24 V DC; < 2.2 VA / 24 V AC
Measuring Range:	formation of dew is detected at 0...100% RH on the TW-U , continuous 75...100% RH on the TW-W , switching (switchpoint adjustable by potentiometer, factory setting 75% RH)
Output:	0-10 V or potential-free changeover contact (24 V), 1 A ohmic load
Sensors:	digital humidity sensor with integrated temperature sensor , small hysteresis, high long-term stability
Sensor protection:	membrane filter
Medium:	clean air and non-aggressive, non-combustible gases
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover is transparent!
Housing dimensions:	72 x 64 x 43.3 mm (Tyr 1)
Cable connection:	cable gland , plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or M12 connector according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Process connection:	TW endless strap with metal tightener, 300 mm, for pipes up to 3" diameter (included in the scope of delivery) TW - external cable tie, 200 mm (included in the scope of delivery)
Mounting:	TW with strap for direct mounting on pipes or for direct mounting on flat surfaces (e.g. walls, ceilings) TW - external with detached sensor head (cable length KL = 2 m) for mounting on pipes
Protection class:	III (according to EN 60 730)
Protection type:	IP65 (according to EN 60 529) Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU
Optional:	two-line display with illumination , cutout approx. 36 x 15 mm (W x H), for displaying actual humidity and the switching status of the relay

FUNCTION

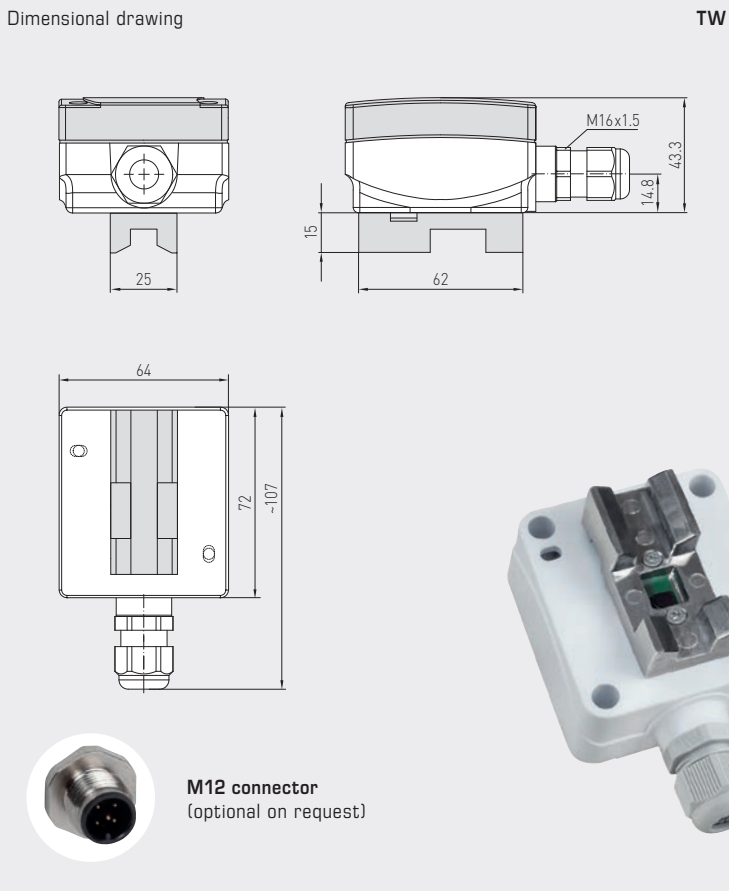
The relay output is triggered (contact 13-11 closed) if the **pre-set switchpoint** (factory setting 75% RH) is not reached and opens (contact 12-11 closed) in the event of an error (power failure, condensation).



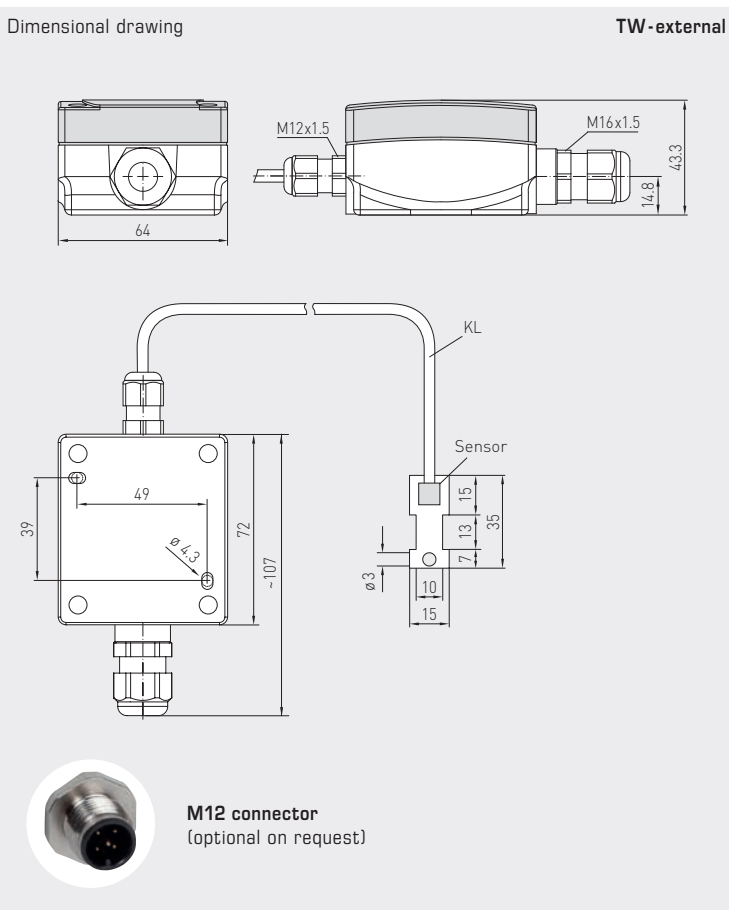
LED short pulses =
relay active → switchpoint not reached
ACTUAL humidity < **pre-set switchpoint** (no condensation)



LED long pulses =
relay inactive → switchpoint exceeded
ACTUAL humidity > **pre-set switchpoint** (condensation)



TW
with display
and quick-locking screws

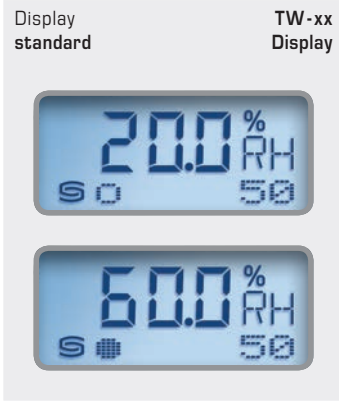


TW-extern
with display
and quick-locking screws



Dew point control switches including strap / with detached sensor head, with active / switching outputs

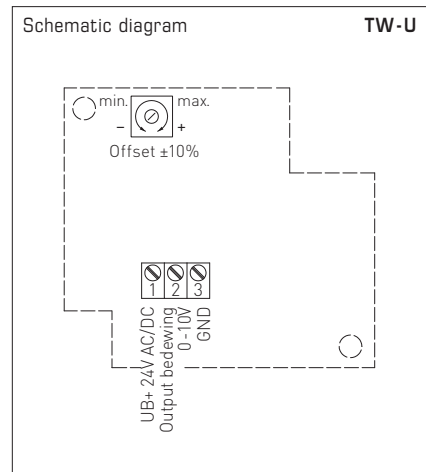
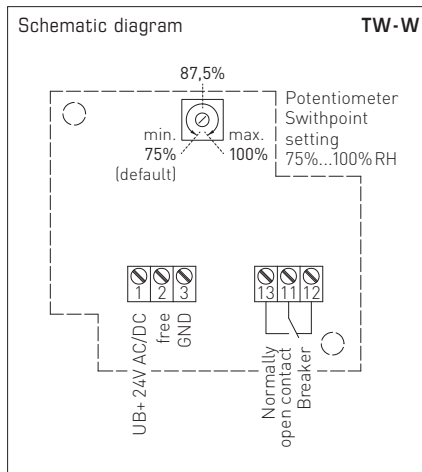
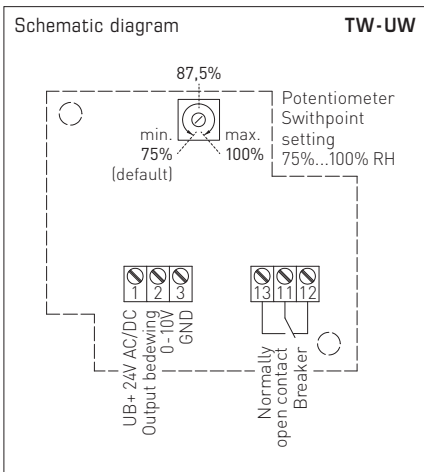
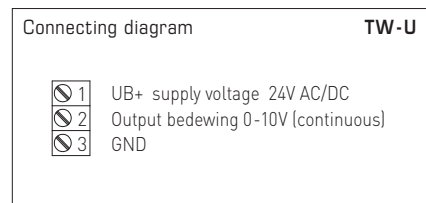
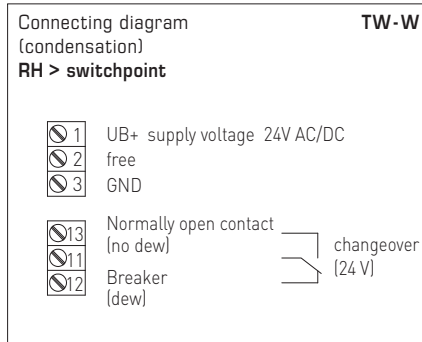
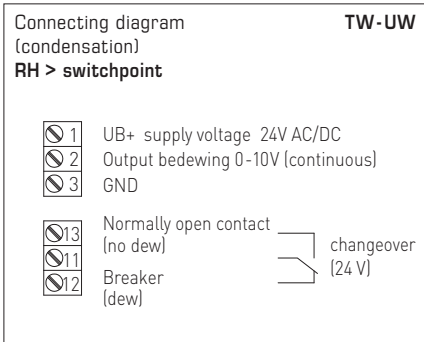
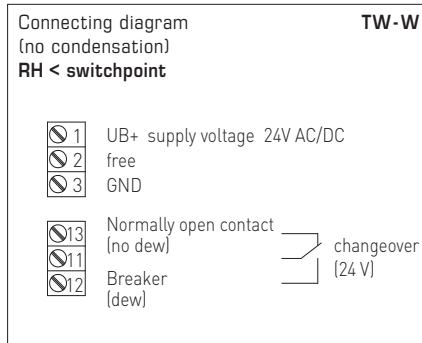
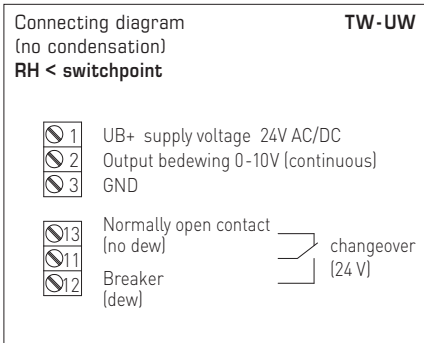
TW pro-dynamic cross convection



By default, the first line of the display shows the **relative humidity**.

The second line shows the information about the **switching status of the relay** (as a circuit) on the left, and the respective **switching value** in % RH on the right (switchpoint adjustable by potentiometer, factory setting 75 % RH).

- **Circuit, empty** = relay in idle state
- **Circuit, full** = relay energised





Dew point control switches including strap / with detached sensor head, with active / switching outputs

TW
with display



TW-external
with display



HYGRASREG® TW

Dew point control switches including strap (± 3%), *Deluxe*

HYGRASREG® TW-external

Dew point control switches with detached sensor head (± 3%), *Deluxe*

Type/ WG01	Measuring Range Humidity	Output Humidity	Mounting	Display	Item No.	Price
			Sensor internal	IP 65		
TW						
TW-W	75...100% RH	Changeover contact	for mounting directly on pipes		1202-1015-0001-000	126,99 €
TW-W LCD	75...100% RH	Changeover contact	for mounting directly on pipes	■	1202-1015-1201-020	176,81 €
TW-U	0...100% RH	0-10 V	for mounting directly on pipes		1201-1011-1001-020	131,82 €
TW-U/W	0...100% RH	0-10 V + Changeover contact	for mounting directly on pipes		1202-1012-1001-020	151,16 €
TW-U/W LCD	0...100% RH	0-10 V + Changeover contact	for mounting directly on pipes	■	1202-1012-1201-020	201,00 €
			Sensor external	IP 65		
TW-external						
TW-W-extern	75...100% RH	Changeover contact	for mounting on pipes		1202-1015-0021-030	163,25 €
TW-W-extern LCD	75...100% RH	Changeover contact	for mounting on pipes	■	1202-1015-0221-030	213,07 €
Optional:	Cable connection with M12 connector according to DIN EN 61076-2-101				on request	