

# EE046

## Condensation Monitor

EE046 condensation monitor helps prevent condensation on chilled beams and other critical cold spots and is appropriate for mounting onto plane surfaces and on pipes with max. 50 mm (2") diameter. It features the well-proven E+E HC105 SMD humidity sensor.

Condensation on a surface occurs when the relative humidity (RH) of the air close to the surface reaches 100 % RH. Because of very good thermal coupling with the surface, EE046 measures directly the RH of the air at surface temperature.



The relay output gives an early warning when approaching condensing conditions, before condensation actually happens. It indicates also a power supply failure or a broken cable.

A status LED indicates normal operation, alarm or power supply failure.

The E+E proprietary coating protects the humidity sensor against dust and dirt.

### Typical Applications

- early detection of condensation danger
- chilled beams
- switching cabinets
- climate control

### Features

- fast response time
- dust protection
- compact design and easy mounting
- LED status indication

### Technical Data

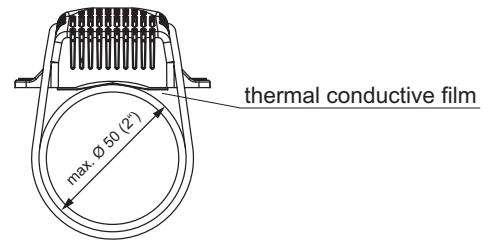
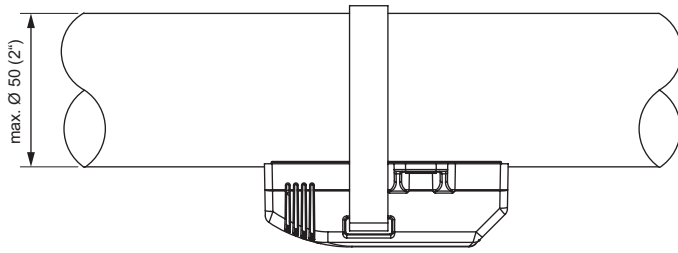
Humidity sensor	E+E HC105
Working range	10...100 % RH
Threshold at 20 °C (68°F), 24 V AC/DC	90±3 % RH
Hysteresis	
Response time at change of the surface temperature	$t_{90} < 3 \text{ min.}$
Response time at change of the relative humidity	$t_{90} < 25 \text{ sec.}$
Electrical output	potential free relay with changeover contact
Switching capability	max. 24 V AC/DC, 1A
Supply voltage (Class III)	24 V AC/DC ±20 %
Current consumption	< 6 mA for 24 V DC supply < 10 mA for 24 V AC supply
Relay status indication	LED, red
Electrical connection	5-pole push-in terminal, max. 1.5 mm <sup>2</sup> (AWG 16)
Protection sensor / electronics	E+E proprietary coating / varnish
Housing protection class	IP40
Housing material	Polycarbonate, UL94-V2 approved
Electromagnetic compatibility	EN 61326-1 industrial environment
Temperature range	operation 0...50 °C (32...122 °F) storage -20...70 °C (-4...158 °F)
Weight	approx. 60 g

EN 61326-2-3

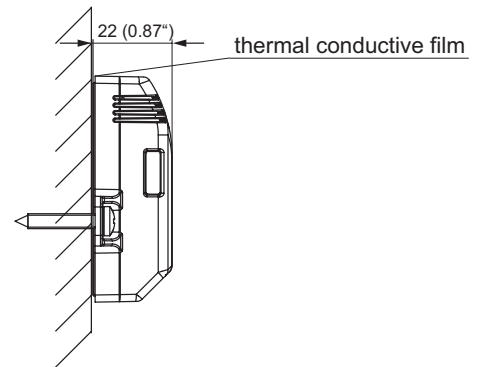
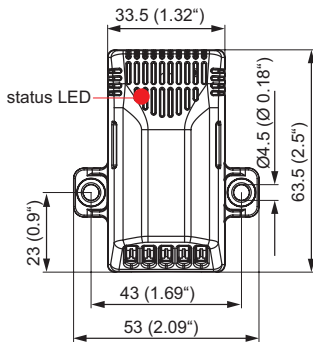
## Dimensions (mm/inch)

## Installation

### Pipe mount

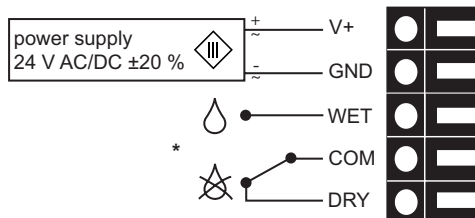


### Wall mount



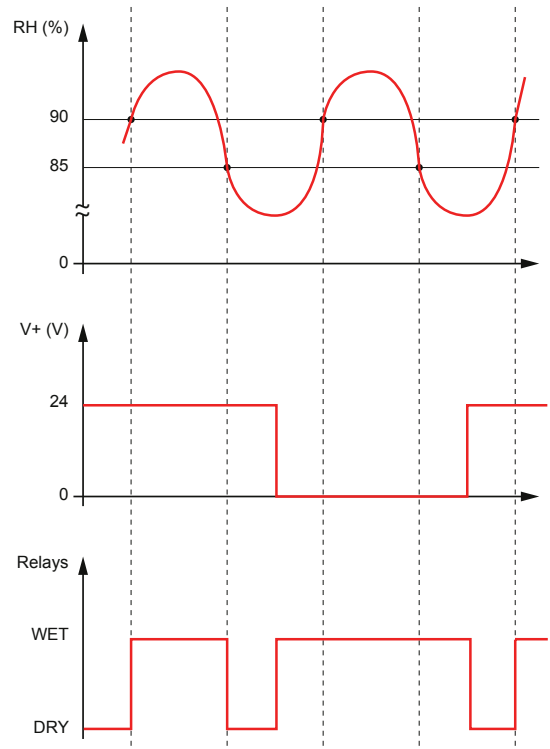
## Connection Diagram / Status Indication

## Relay Function



\* Relay status for power on and RH < 90%.  
The relay falls to "WET" for RH > 90% or power off.

LED ON: no condensation danger  
LED flashes: condensation danger  
LED OFF: power supply off / failure



## Ordering Guide

Condensation Monitor EE046

**EE046**