

# Installation instructions

## TBLZ-4-31-1/2/4/5 Humidity sensor

### GOLD/COMPACT

---

#### 1. General

The humidity sensor is used in ventilation systems in which the aim is to measure and/or regulate the air humidity.

#### Description

The humidity sensor contains a humidity sensing element, which also measures the temperature.

The humidity sensor is supplied with a 7 m long cable for bus communication and is connected with a modular connector.

The communication cable is used for supplying power and signal transfer.

The sensor is mounted on a ventilation duct by means of the duct connection flange supplied.

#### Function

Humidity and temperature values are transmitted via Modbus communication to the control circuit card of the air handling unit.

The humidity sensors are coded for supply air, extract air, exhaust air and outdoor air respectively.

The TBLZ-4-31-1 is designed for installation in the supply air and is used for the dehumidification function or the humidification function.

TBLZ-4-31-2 is designed for installation in the extract air and is used for the dew point compensation function with chilled beams or non-insulated supply air ducts, dehumidification function, humidification function or measuring the efficiency of the heat exchanger (GOLD only).

The TBLZ-4-31-4 is designed for installation in the exhaust air and is used for measuring the efficiency of the heat exchanger (GOLD only).

The TBLZ-4-31-5 is designed for installation in outdoor air and is used for the dehumidification or humidification function.



#### 2. Installation

The humidity sensor is installed in the supply air duct, extract air duct, exhaust air duct or outdoor air duct (only GOLD).

The humidity sensor should have a straight run of ducts, corresponding to double the duct diameter (circular ducts) or double the diagonal dimension of the duct (rectangular ducts) both upstream and downstream of the sensor.

The position in which the humidity sensor is mounted will not affect its performance but it is inappropriate to mount it standing with its connection pointing downwards because this may lead to moisture collecting inside the sensor.

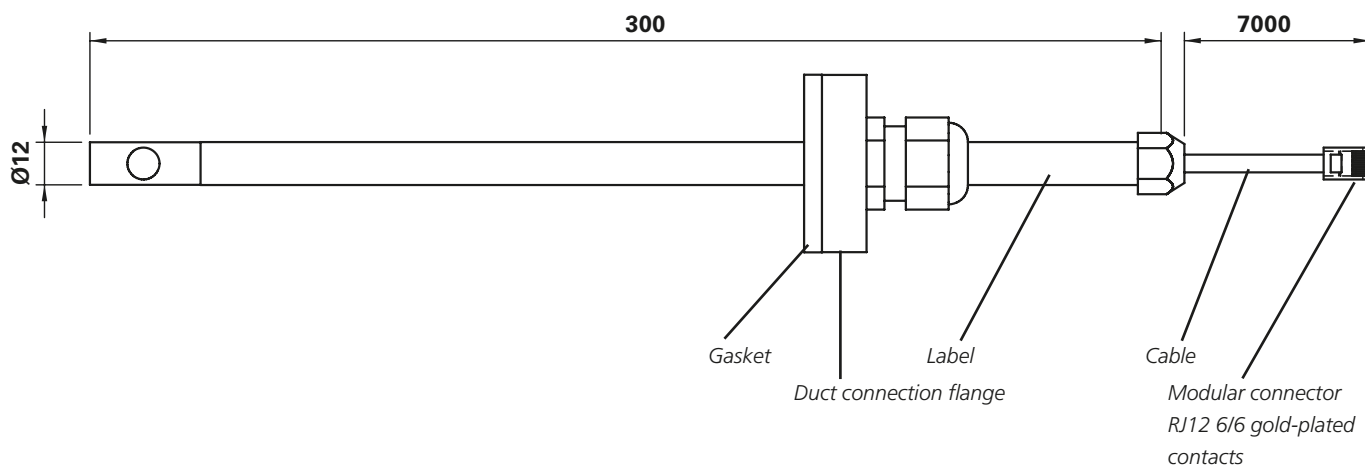
It is important that the sensor be mounted with its sensing element (in the tip of the sensor) positioned in the centre of the duct.

The sensor must be placed so that the hole in the tip of the sensor is in the direction of the air flow.

## 3. Technical Data

Connection contact	RJ 12 6/6
Supply voltage	24 V DC
(Via modular connector)	
Measurement range, humidity	0-100 % RH
Measurement range, temp.	-40 – 125°C
Measurement accuracy, humidity	< 2 % RH, 0 - 90 % RH
	< 4 % RH, 90 - 100 % RH
Measurement accuracy, temp	± 0.3°C, < 0°C
	± 0.2°C, 0 – 90°C
	± 0.75°C, > 90°C
Resolution, humidity	0.01 %
Resolution, temp.	0.01 °C
Non-linearity, humidity	< 1%
Hysteresis, humidity	± 0,8 %, 25°C
Long term stability, humidity	< 0.25% / year
Degree of protection:	
in duct	IP67
outside duct	IP54

## Dimensions



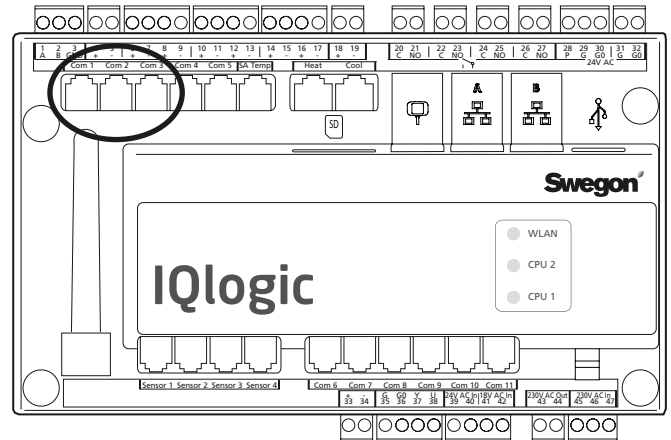
### 4. Electrical Connections

Run the electrical cable of the humidity sensor through the junction hood of the air handling unit to the control circuit card.

The humidity sensor should be connected to the internal communication bus.

The optional connections are circled in the figures to the right.

#### GOLD



#### COMPACT

