Installation instructions
Efficiency measurement TBLZ-1-83
GOLD

1. General

The efficiency measurement set is used to measure the efficiency across the heat exchanger in a GOLD air handling unit.

All sensors are supplied with a 7 metre long cable for bus communication and are connected by means of a modular connector.

The communication cable is used for the supply voltage and signal transfer.

NOTE! Any preheating coil must be placed as a stand-alone unit with sufficient spacing from the air handling unit to satisfy straight duct section requirements. See section 2.

The set consists of:

Moisture/temp. sensor, extract air	TBLZ-4-31-2	1 x
Moisture/temp. sensor, exhaust air	TBLZ-4-31-4	1 x
Temp. sensor, outdoor air	804924-01	1 x

Moisture/temperature sensor, extract air, TBLZ-4-31-2
Moisture/temperature sensor, exhaust air, TBLZ-4-31-4

Temperature sensor, outdoor air, 804924-01

2. Installation

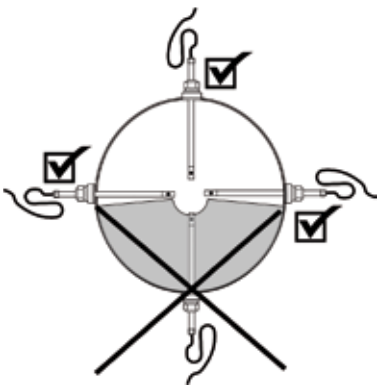
Sensors are mounted in the extract air duct (TBLZ-4-31-2), exhaust air duct (TBLZ-4-31-4) and outdoor air duct (804924-01, not for COOL DX, see the diagram below).

Secure the sensor to the ventilation duct using the duct mounting bracket supplied.

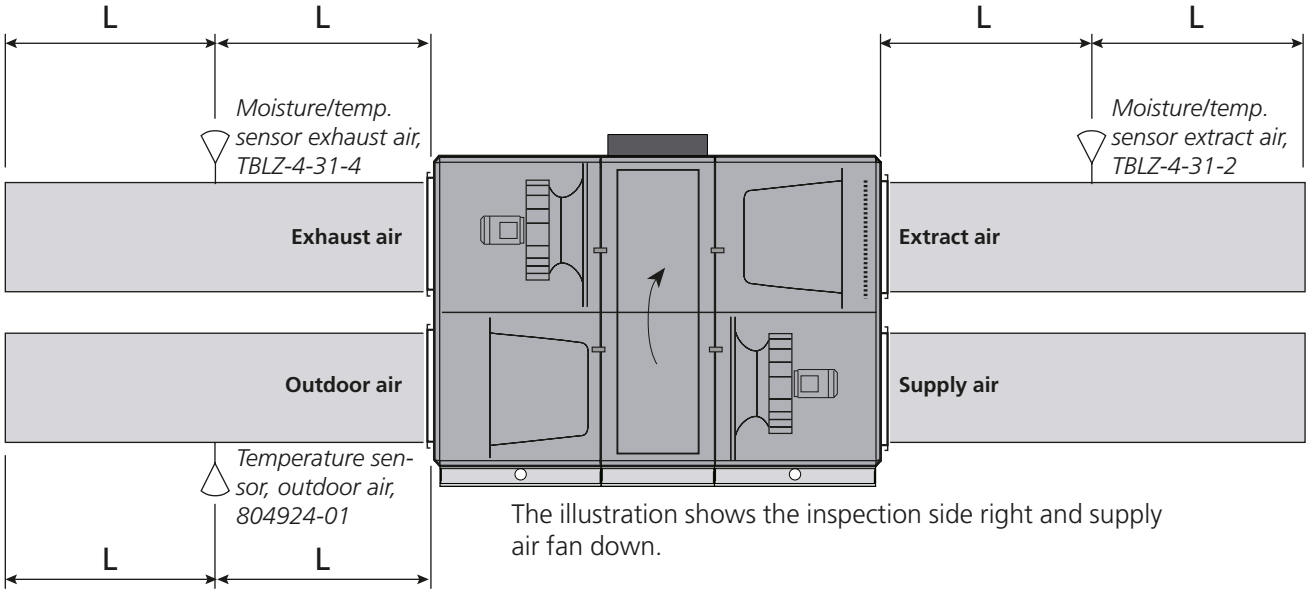
Sensors should have a straight duct run, corresponding to double the duct diameter (circular ducts) or double the diagonal dimension of the duct (rectangular ducts) both upstream and downstream of the sensors. See diagram below. If these conditions are not met, Swegon cannot guarantee the function.

The moisture/temperature sensors (TBLZ-4-31-2, TBLZ-4-31-4) should not be mounted vertically with the connection pointing downwards since this could cause moisture to accumulate inside the sensor. It is important to install the sensors so that the sensor housing (in the tip of the sensor) is positioned as far as possible in the centre of the duct. See the sketch to the right.

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

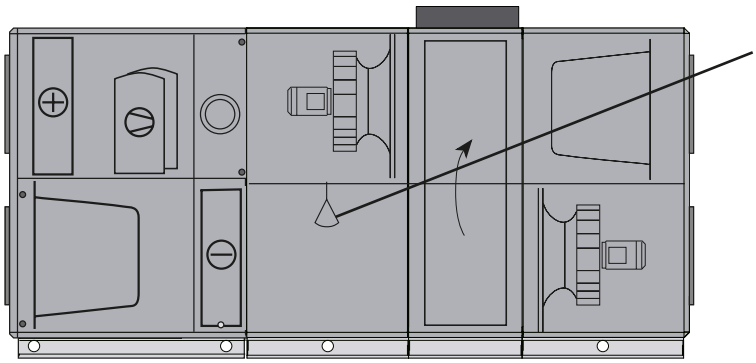


The moisture/temperature sensors, extract air (TBLZ-4-31-2) and exhaust air (TBLZ-4-31-4), should not be mounted vertically with the connection pointing downwards. The tip of the sensor should, as far as possible, be positioned in the centre of the duct and the hole in the direction of the air flow.



The illustration shows the inspection side right and supply air fan down.

L = Double duct diameter (circular ducts) or diagonal dimension of the duct (rectangular ducts)



Temperature sensor, outdoor air, 804924-01

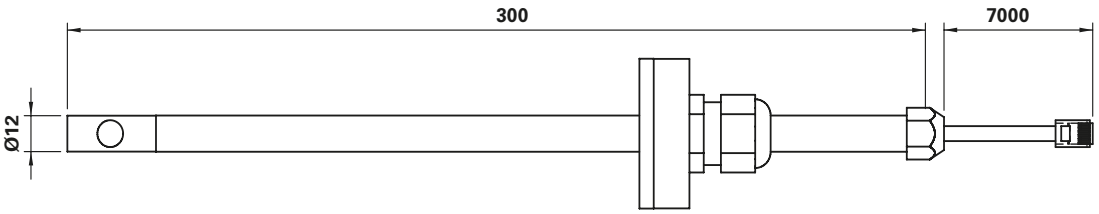
For COOL DX the outdoor air temperature sensor is placed in the space between COOL DX and the heat exchanger.

3. Technical data

3.1 Moisture/temperature sensors, TBLZ-4-31-2 and TBLZ-4-31-4

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,	< 2 % RH, 0 - 90 % RH
humidity	< 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

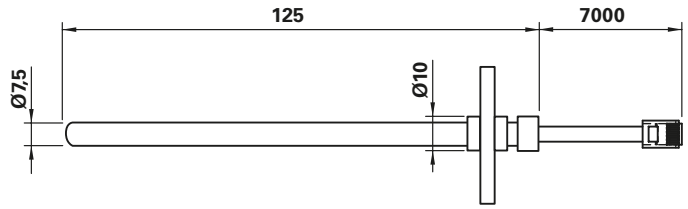
Dimensions



3.2 Temperature sensor, 804924-01

Connection port	RJ 12 6/6
Range of measurement, temp.	-55 – +125°C
Measurement accuracy, temp.	<0.5°C (-10 – +85°C)
Enclosure class:	IP32

Dimensions



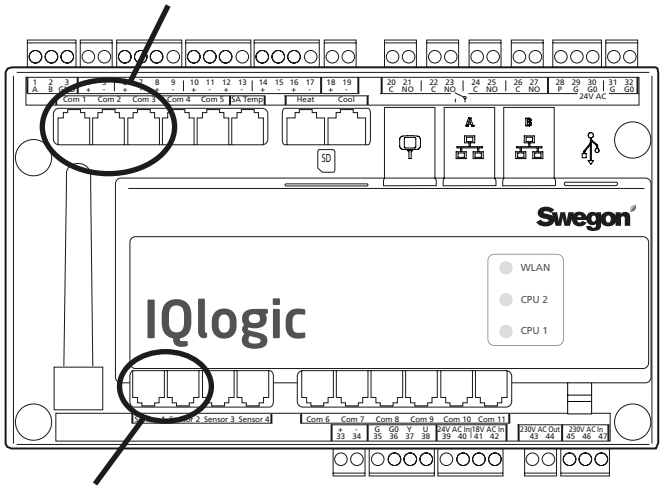
4. Electrical connections

The sensors are connected electrically to the air handling unit's control card.

Moisture/temperature sensor (TBLZ-4-31-2, TBLZ-4-31-4) is connected to an optional contact COM 1-3. See illustration.

Temperature sensor outdoor air (804924-01) is connected to contact Sensor 1 on the inspection side right, or Sensor 2 on the inspection side left.
Temperature sensor outdoor air (804924-01) replaces the air handling unit's internal temperature sensor for outdoor air, which is why this must first be disconnected. See illustration.

Moisture/temperature sensors (TBLZ-4-31-2, TBLZ-4-31-4) are connected to an optional contact COM 1-3.



Temperature sensor outdoor air (804924-01) is connected to contact Sensor 1 on the inspection side right, or Sensor 2 on the inspection side left.
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