

Installation instruction pressure sensor AQC, TBLZ-2-86-aa GOLD RX

1. General

The pressure sensor is used to control the function Air Quality Control (AQC). This requires program version 2.41 or later.

The same type of pressure sensor is also used for the defrosting function on GOLD RX/HC.

Description

The encapsulated pressure sensor contains a temperature-compensated differential pressure sensor, a DIP switch and two identical modular connectors for bus communication.

The pressure sensor has extra high accuracy.

The pressure sensor comes with a hose (length = 4 metres), connection nipples with passage (70 mm) and cable for communication with the air handling unit. Cable length is 0.5–15 metres, depending on the ordered length. The cable can be extended using the accessory TBLZ- 2-13 if necessary.

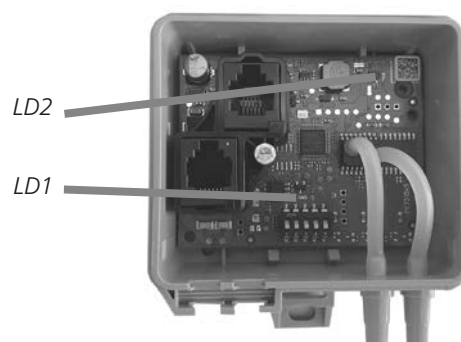
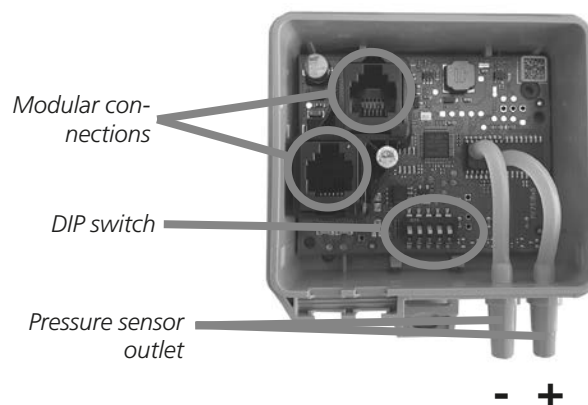
The communication cable carries the supply voltage and signal transfer.

The pressure sensor receives its identity and its bus address depending on the position of the DIP switch.

Indications, LEDs

LD1 Indicates 24 V DC to the PCB with a solid green light.

LD2 Indicates that communications are working with a flashing yellow light



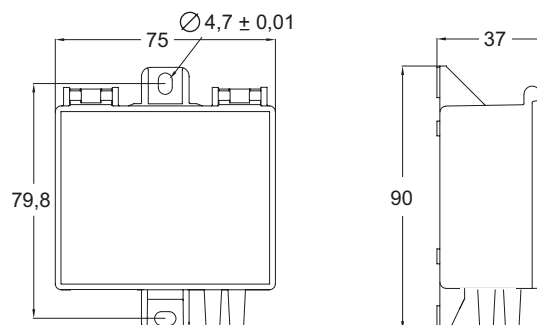
Variant 2, pressure sensor with DIP switch

2. Data

Connection port	2 x RJ 12 6/6
Supply voltage (Via modular connector)	24V DC
Ambient temp. storage	-50 °C — +70 °C, 10 — 95% RH
Ambient temp. normal	-40 °C — +60 °C, 10 — 95% RH
Range of measurement	-500 — +500 Pa
Measurement accuracy at 25°C	Pressure > 0 Pa = 0.5% x measured value +/- 1 Pa Pressure < 0 Pa = 1% x measured value +/- 1 Pa
Enclosure class	IP 54 according to EN60529

The product is CE approved

Dimensions



3. Air Quality Control (AQC)

3.1. Description of functions AQC

The Air Quality Control (AQC) function is used to ensure that the heat exchanger's leakage direction and purging sector work correctly.

The negative pressure in the extract air section must be slightly greater than in the supply air section to achieve the correction function. This ensures that extract air will not be transferred to the supply air.

In systems where variable flow and pressure variations occur, the function cannot be completely ensured with the ordinary supplied commissioning plates.

A pre-adjustment is made with the ordinary commissioning plates, and a separate damper with modulating damper actuator mounted in the extract air.

The pressure sensor TBLZ-2-86-aa measures the pressure difference across the heat exchanger and controls the extract air damper so that the right dynamic pressure balance is obtained across the heat exchanger.

3.2. Installation

3.2.1 Damper

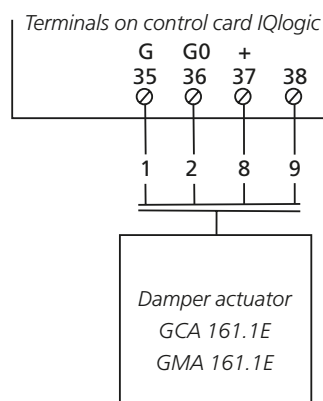
Damper type TBSA, with connections corresponding to the GOLD air handling unit's connection end panel, mounted in the extract air. Alternatively, damper TCSA is used corresponding to the size of the GOLD air handling unit.

The damper actuator shall be of a modulating type for 0-10 V variable control.

Also see the separate instruction for damper TBSX.

Electrical connections are made to GOLD air handling unit's control card, see diagram.

GOLD



3.2.2 Pressure sensor

Pressure sensor of the type TBLZ-2-86-aa is installed and connected as set out below.

GOLD 004-008:

Install the pressure sensor in a suitable location inside the GOLD air handling unit's control box.

The pressure sensor is connected to an optional connector on the control card labelled Com 6 – Com11. This should be done by means of the supplied cable.

GOLD 011-080

Install the pressure sensor in a suitable location in the lower section of the heat exchanger in connection to the heat exchanger's control system.

The pressure sensor is connected to a vacant RJ 12 connector in the heat exchanger's control system. This should be done using the supplied cable.

GOLD 070-080 with sorption rotor

Install the pressure sensor in a suitable location inside the GOLD air handling unit's control box.

The pressure sensor is connected via the connection kit TBLZ-1-64 to an optional connector on the control card labelled Com 6 – Com 11 (one of the other connections must also be moved to TBLZ-1-64). This should be done using the supplied cable.

GOLD 100-120

Install the pressure sensor in a suitable location externally next to the measurement tapings to be used.

The pressure sensor is connected via the connection kit TBLZ-1-64 to an optional connector on the control card labelled Com 6 – Com 11 (one of the other connections must also be moved to TBLZ-1-64). This should be done using the supplied cable.

All sizes

The function of the pressure sensor is not affected by the installation position. The pressure sensor must, with regard to the enclosure class, not be installed with pressure connections upwards.

Open the cover on the pressure sensor by pushing in the locking hooks and lifting upwards. Make sure that the pressure sensor's DIP switch is in position according to the table below.

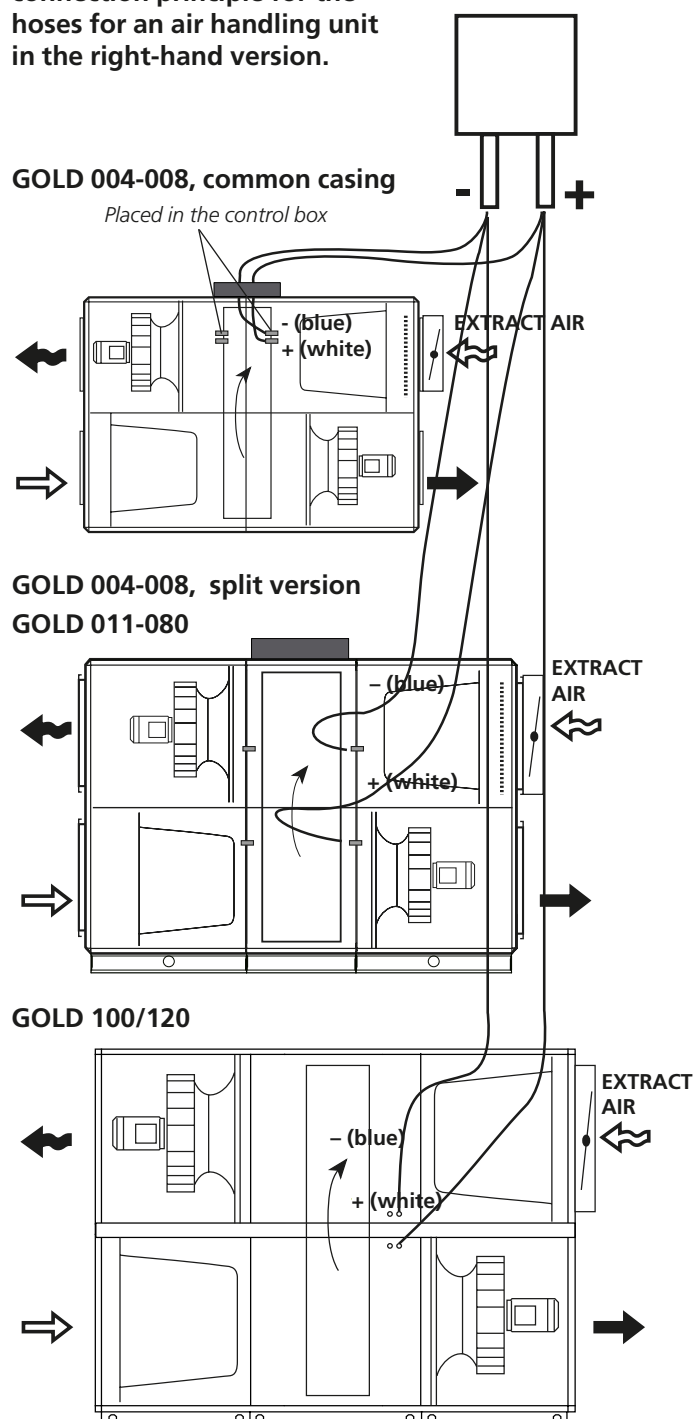
Function	Switch no. (1=ON 0=OFF)				
	1	2	3	4	5
AQC	0	1	1	1	0

The cable is routed in the intended slot in the enclosure and close the cover on the pressure sensor. **Note:** Make sure that the cable is placed correctly in the slot so that it ends up under the dog. Otherwise, the cable may be clamped and damaged by the cover.

The air handling unit has four pressure measurement tapings of which two are used depending on whether the air handling unit is a right- or left-hand version. The blue pressure measurement tapping is used for measuring the negative pressure in the extract air section and the white pressure measurement tapping is used for measuring the negative pressure in the supply air section.

The pressure sensor's outlet is connected to the existing measurement tapings in the GOLD air handling unit. Note the plus and minus symbols on the pressure sensor's outlet. See diagram.

The diagram shows the connection principle for the hoses for an air handling unit in the right-hand version.



4. Commissioning

The Air Quality Control (AQC) function is activated on the GOLD air handling unit's hand-held terminal under the "Heating/Cooling recovery" icon.

Prior to commissioning or when replacing a pressure sensor, the air handling unit must be started for a few seconds and then turned off in order for zero point calibration to take place.

A pre-adjustment with the supplied commissioning plates must be performed.

Commissioning must be performed at the air handling unit's design air flow.

On the hand-held terminal under the "Heating/Cooling recovery" icon, on the "Air Quality Control" menu the function selector switch "Commissioning mode" must be set to On. This causes the extract air damper to move to the fully open position. Wait until the damper is fully open.

Read the pressure on the hand-held terminal on the "Readings" menu.

Adjust with the help of the commissioning plates so that the pressure comes between -20 and 0 Pa.

Set the function selector switch "Commissioning mode" to the Off position again.

The damper will now maintain the dynamic pressure balance to 10 Pa (factory setting) automatically and in doing so ensure that the heat exchanger's leakage direction and purging sector have the correct function.

For information about how the commissioning plates are to be installed and adjusted, see the Operation and Maintenance instructions for GOLD RX, section Adjusting the pressure balance.

NOTE! In the Operation and Maintenance Instructions for GOLD RX, it specifies that the negative pressure in the extract air section must be as high or up to 20 Pa greater than the negative pressure in the supply air section (0 - 20 Pa). When AQC is used, the commissioning plates are adjusted so that the negative pressure in the extract air section is -20 to 0 Pa compared to the negative pressure in the supply air section.



Heating/Cooling
recovery

Air quality control