

VHCa

Installation

VHC with duct temperature sensor is installed in the supply air duct at maximum of 1 m before the first diffuser to be controlled. The room sensor is installed on a wall, suitably between 1.5 to 2 m above the floor.

The temperature sensor must not be exposed to direct sunlight or air flow directly from the supply air diffuser. It is important that the room temperature sensor is installed in a representative position. See Figure 1 and 2.

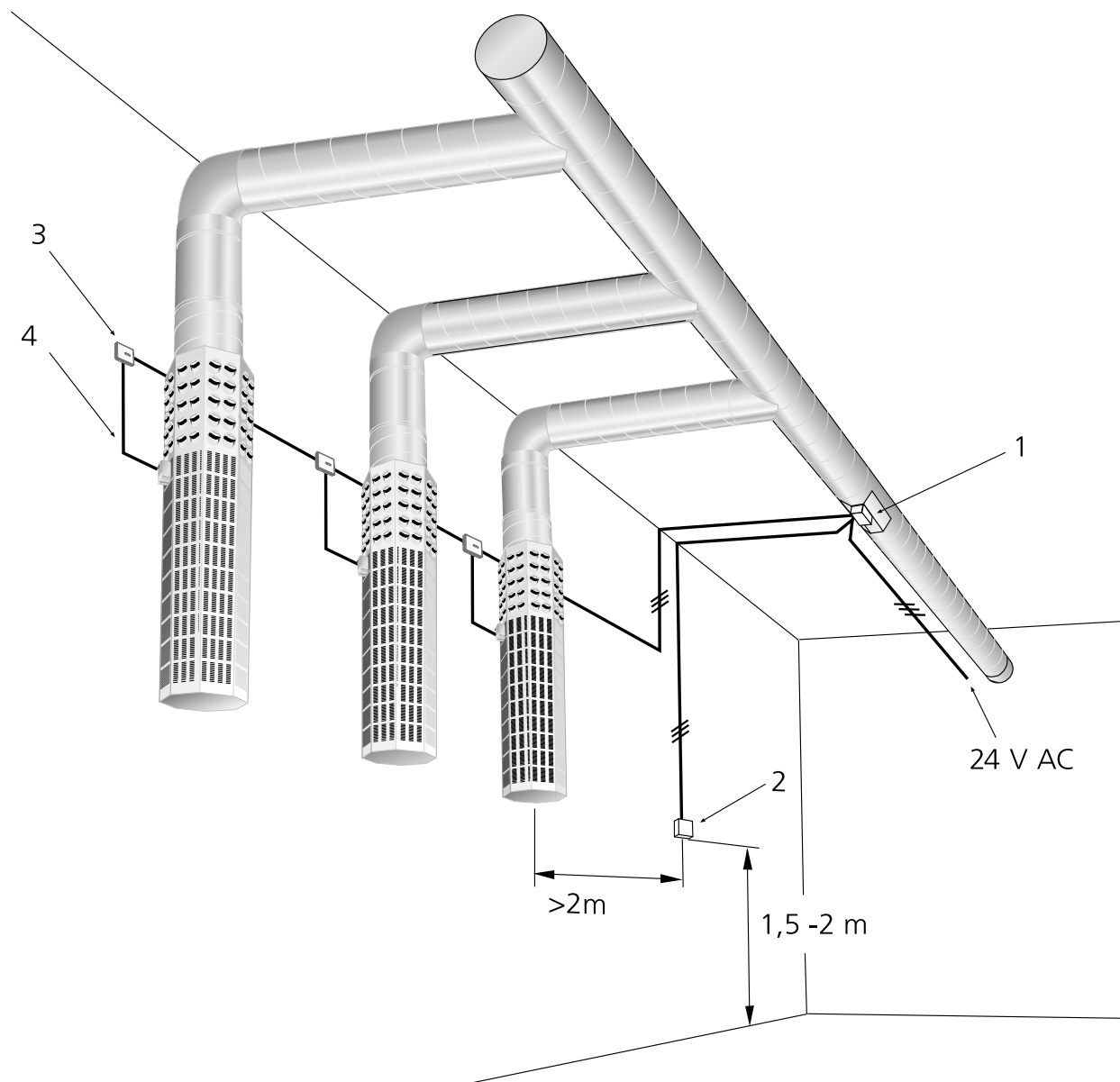


Figure 1. Connecting the VHC to the BOC air diffuser.

Key to figure 1:

- 1 = Controller VHC with duct temperature sensor.
- 2 = Room temperature sensor.
- 3 = Connection box, not included in the delivery.
- 4 = Fixed motor cable 0,4 m

Wiring

- VHC is connected to 24 V AC power supply.
- Up to 10 actuators may be wired to one VHC.
- Unused wire must be isolated!
- Connections are made according to wiring diagram, Figures 4 and 5.

Maintenance

Soiled products can be cleaned by dusting or wiping with a damp cloth.

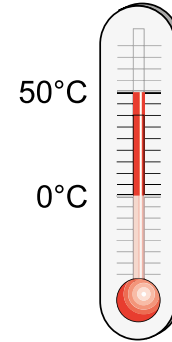


Figure 3. Ambient temperature.

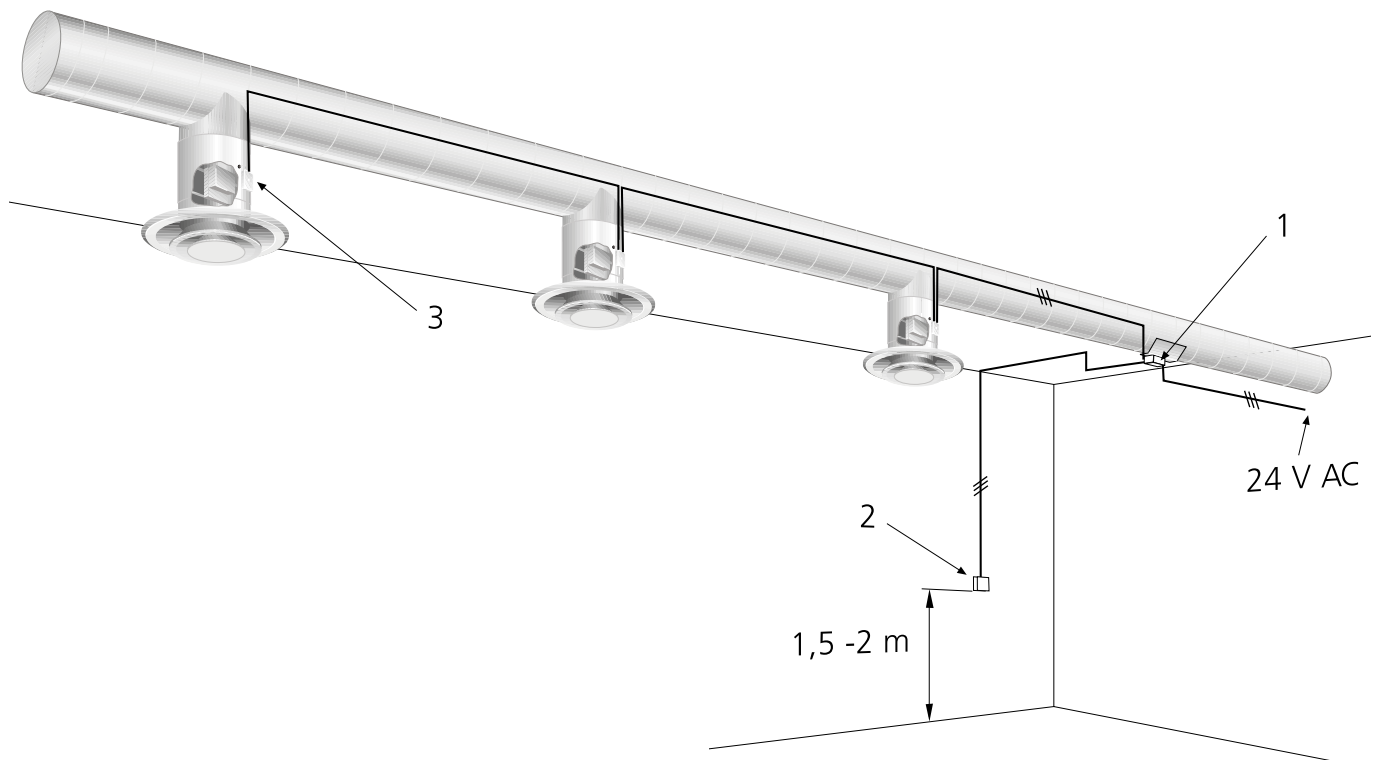


Figure 2. Wiring VHC to air terminal FALCON C.

Key to figure 2:

- 1 = Controller VHC with duct temperature sensor
- 2 = Room temperature sensor
- 3 = Junction box (included in FALCON C)

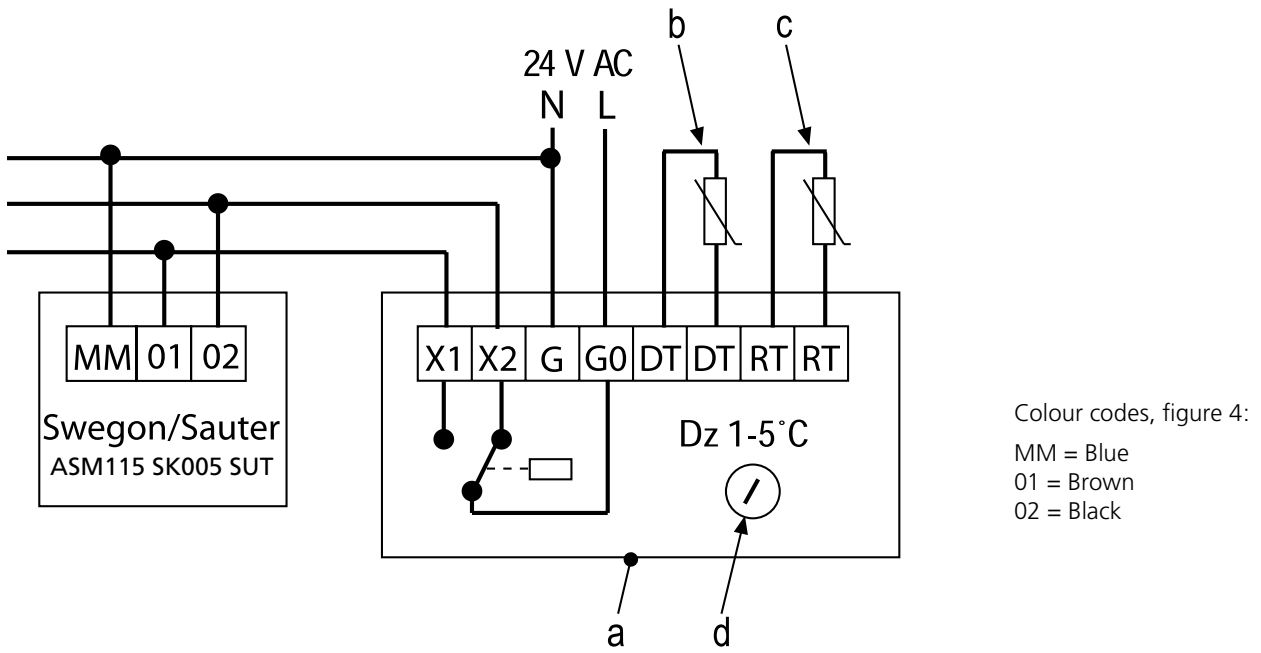


Figure 4. Connecting to supply air diffuser with Swegon actuator, normally mounted on BOC.

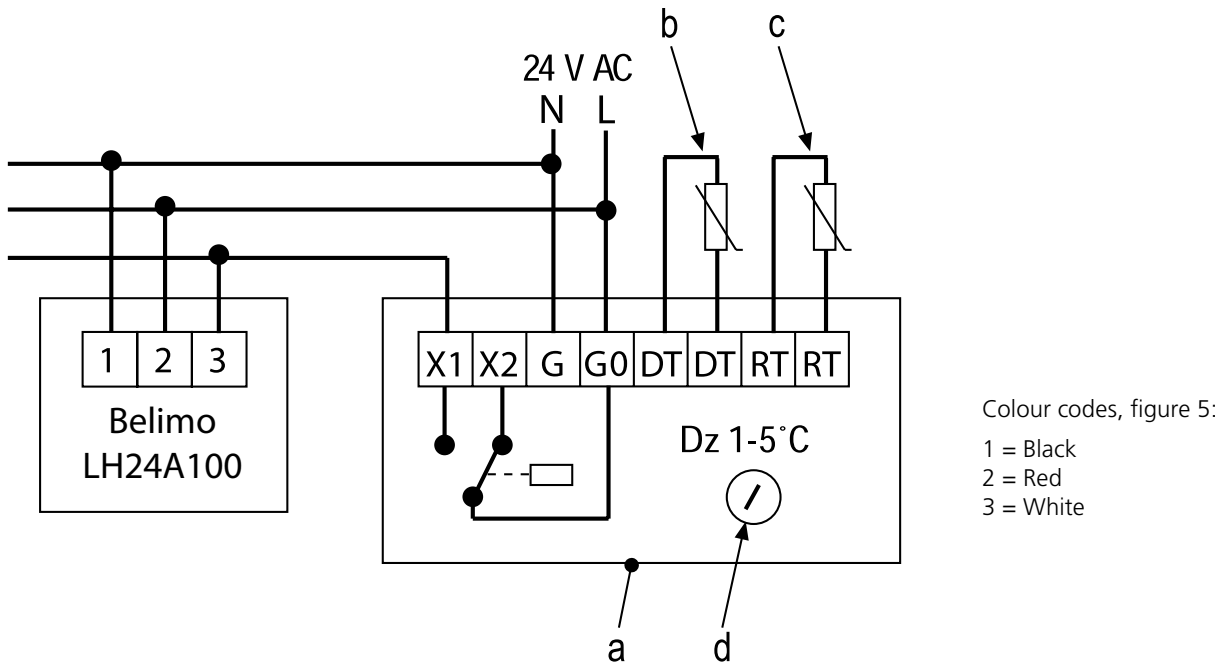


Figure 5. Connecting to supply air diffuser with Belimo actuator, alternative mounting on FALCON C.

Key to the wiring diagrams, Figures 4 and 5:
 X1 = Heating setting $t_{to} > t_{room}$
 X2 = Cooling setting $t_{to} < t_{room}$
 a = VHC controller
 b = Duct temperature sensor (DT)
 c = Room temperature sensor (RT)
 d = Setting of change-over temperature

Function check

BOC:

If the Green LED on the circuit board is emitted the BOC diffuser should be in closed position.

Gives vertical spread - Heating mode.

FALCON C:

If the Green LED on the circuit board is emitted the FALCON C diffuser cone should be in its upper position.

Gives vertical spread - Heating mode.

Dimensions

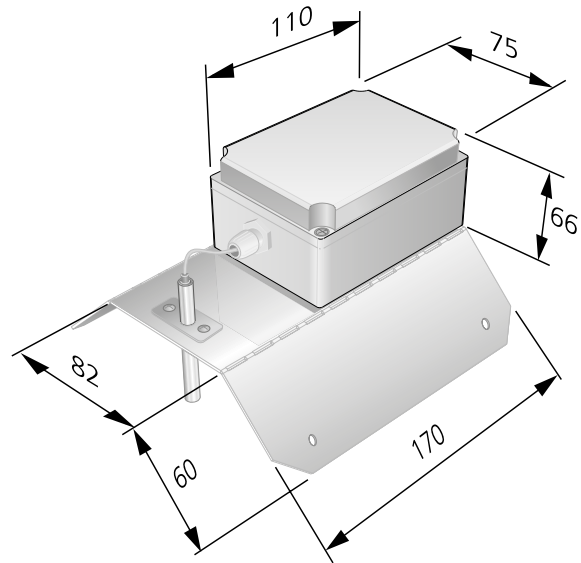


Figure 6. VHC controller with duct temperature sensor.

Sizing

Ambient temperature:

Operation 0 °C – +50 °C

Storage -40 °C – +70 °C

Storage Relative humidity max. 90% RH, non condensing

Enclosure:

Material ABS/PC-plastic grey

Protection class VHC IP 54

Room sensor IP 30

Sensor PT1000

Accuracy, sensor, 0 to + 35°C ±0,3 °C

Time constant approx. 7 min

Voltage supply 24 V AC ±10%

Power consumption 1,5 VA

Power consumption of the diffuser’s damper motor should be added to the overall power consumption.

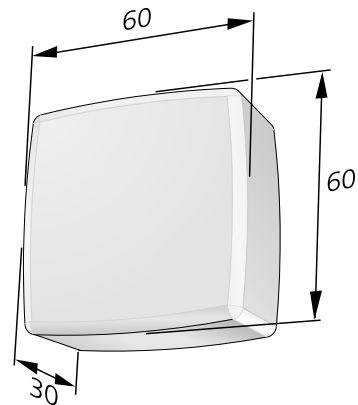


Figure 7. Room temperature sensor.