

# Duct Humidity Detector

for absolute humidity

**QFM61.1**

Scale 1:2,5



## Application

The QFM61.1 is used in ventilating and air conditioning installations as a

- control detector, e.g. in the discharge or extract air duct
- reference detector
- measuring detector, e.g. for measured value indication or transmission to a building automation system.

## Function

The QFM61.1 is an active detector. Its output signal is a voltage in the range 0...10 V d.c. and is proportional to the measured value.

The detector measures the relative humidity and the temperature and determines the absolute humidity according to the values measured.

## Design Features

Plastic housing with removable cover, perforated detector stem with separate mounting flange, clamp-on fixing of the detector head to the mounting flange.

After fitting the mounting flange to the duct wall, the detector can be installed in 7 different positions so that, with layers of insulation up to 70 mm, the detector casing will always be located outside the insulation.

The terminals are situated beneath the housing cover; the cables are led in at the bottom side of the housing through cable glands.

The sensing element used is a hygroscopic plastic tape. It is built into the detector stem and changes its length in accordance with the relative humidity. The change in length is transmitted to a potentiometer. The temperature is measured with a nickel sensing element 1000 Ω at 0°C.

## Technical Data

Operating voltage	24 V a.c. +20... -20 %
Frequency	50...60 Hz
Power consumption	2,5 VA
Full detection range	1...20 g/kg
Control functions	20...90 % r.h./0...40°C
Measuring	20...95 % r.h./-15...+50°C
Output signal	0...10 V d.c.
Time constant	1...3 min (air velocity ~5 m/s)
Dead time	0,1...0,3 min
Permissible air velocity	max. 20 m/s (without screen)

Permissible cable lengths	
Copper cable 0,6 mm dia.	35 m
Copper cable 1 mm <sup>2</sup>	120 m
Copper cable 1,5 mm <sup>2</sup>	180 m
Copper cable 2,5 mm <sup>2</sup>	300 m

Permissible ambient temp.

Operation	-15...+50°C
Transport and storage	-25...+65°C
Permiss. ambient humidity	class D to DIN 40040
Protection standard	IP42 to DIN 40050
Weight	0,43 kg

## Ordering Specification

When ordering, please give full type reference: **QFM61.1**.

## Application Advice

The power consumption of the detector should be taken into consideration when sizing the transformer. For information on shift control, see RZF61.10 (Data Sheet 3472).

Information as to how the detector is to be connected is given in the Data Sheets of the units with which it is to be wired up. By using a separate transformer to supply the operating voltage to the detector, cable lengths of up to 1000 m can be used. Cable size is optional.

## Mounting and Installation Advice

The detector is to be installed in the duct at a height approximately half that of the duct.

If used for dewpoint control, the QFM61.1 is to be fitted in the extract air duct.

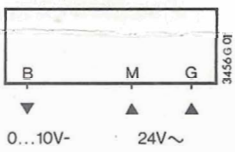
Only the mounting flange needs to be mounted on the duct; the detector stem is inserted into the duct and the detector head snapped into place.

Mounting instructions are supplied with each unit.

## Commissioning Advice

When commissioning, check the wiring to the detector. No adjustments are possible on the detector. The settings for control or shift functions are made at the controller with which the detector is used.

## Connecting Terminals



## Dimensions

