

MWTF

Air duct average temperature sensor



Summary Application

The MWTF temperature sensor is an analogue air duct average temperature sensor.

- HVAC systems – air temperature measuring and logging

Function

The sensor uses a sensing element, the signal of which is available at the screw terminals. Default sensor element is Pt1000, other sensor types see table below. Temperature range is -30 to +80 °C.

The sensors are intended for operating in any environment. They do not need any servicing or maintenance. The mounting flange is included. The capillary tube is laid across of the air duct (see mounting diagram below).

Technical data

Recommended measuring circuit	appr. 1 mA
Measuring range	max. -30 ÷ +80 °C
Ambient temperature	max. -20 ÷ +80 °C
Humidity	< 95 % r.H.
Protection class	IP65 (according to EN 60529)
Sensor accuracy	see table below
Terminals	screw terminals for wires 0,14 – 1,5 mm ²
Cover	polyamide, 30% glass fibre
Rod material	copper, plastic-coated with spring for buckling protection
Installation	minimum bending radius of 35 mm permissible vibration loads < ½ g

Accessories

MF-06-K mounting flange, plastic
optional:
KRD-04 capillary tube gland bracket
MK-05-M mounting clamps (6 pieces)

Dimensions

see below

Sensor types

Type	Ordering	Accuracy
Pt100	on request	DIN EN 60751 class B
Pt1000	default sensor type	DIN EN 60751 class B
Ni1000-6180 (Sauter)	on request	DIN EN 43760 class B

When designing sensor cabling, please note that the cable resistance will cause measuring error. For a 50 m cable and a Pt1000 sensor the error is as follows:

wires 0.50 mm² ... measuring error 0.90 K
wires 0.75 mm² ... measuring error 0.60 K
wires 1.00 mm² ... measuring error 0.44 K.

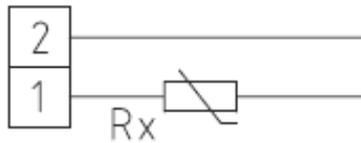
For other cable lengths, the errors are more or less linear.

Stem lengths

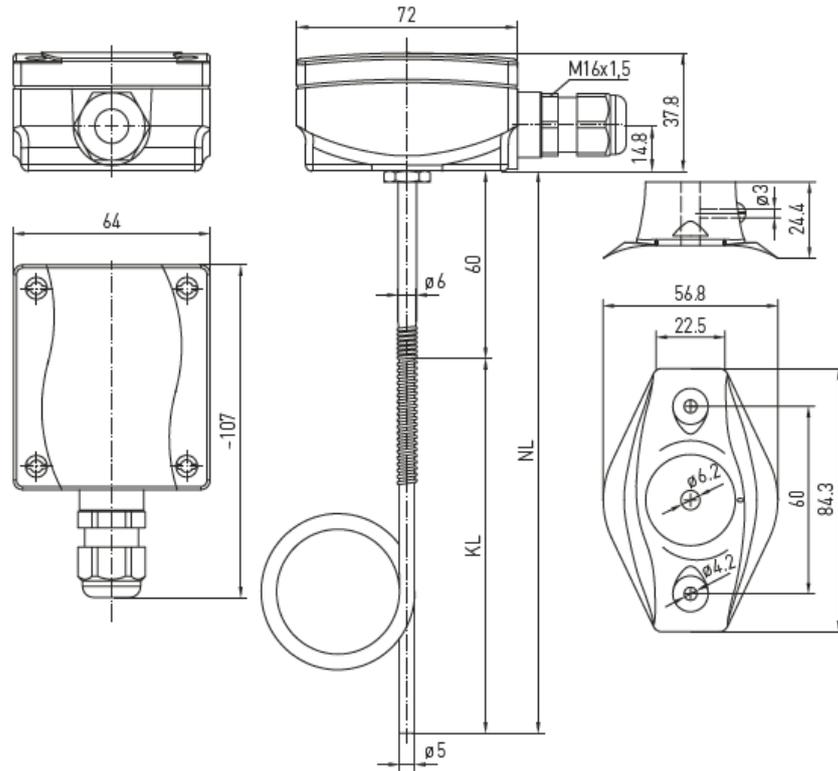
0,4 m	specify in order
3,0 m	specify in order
6,0 m	specify in order

(optional up to 20 m)

Terminals

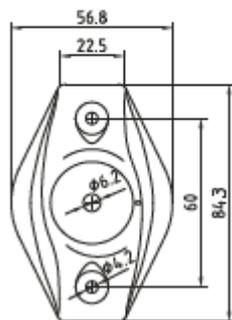
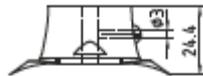


Dimensions

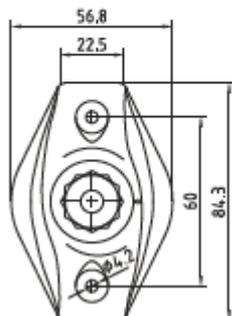
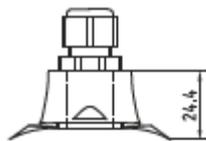


Accessories

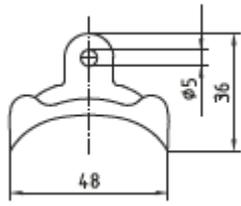
MF-06-K



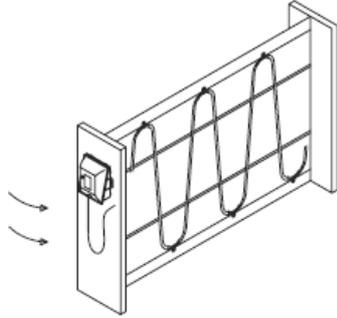
KRD-04



MK-05-M



**Mounting
diagram**



**Changes in
versions**

03/2015 — Modifying of sensor accuracy table, change in accuracy class and measuring error