domat
control system

KFF-…
KFTF-…

Air duct temperature and humidity sensor

Summary

The KFF-… and KFTF-… are an air duct temperature and relative humidity sensors for universal use in the HVAC sector.

Application

- **HVAC systems – air duct temperature and humidity measuring**

Function

The sensor measures temperature and relative humidity of air and other non-aggressive gases. It is used in refrigeration, air conditioning and clean room technology as well as in residential and public buildings. The temperature and humidity sensor signals are converted into active signals 0..10 V or 4…20 mA.

Relative humidity is measured by a capacitive sensor. The sensor is protected by a exchangeable diaphragma filter.

The sensors are intended for operating in a normal and chemically non-aggressive environment. They do not need any servicing or maintenance.

The sensors are fixed to the duct by means of an included flange.

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Technical data

Power	24 V AC (±20%) and 15…36 V DC (±10%) for **–U** (voltage output 0…10 V)
	15…36 V DC (±10%) for **–I** (current output 4…20 mA)
Operating range:	
- temperature	-35 …+80 °C
- humidity	0…95% rH
Measuring range:	
- temperature	-35 …+35 °C; -35 …+75 °C; 0 …+50 °C; 0 …+80 °C
- humidity	0…100% rH

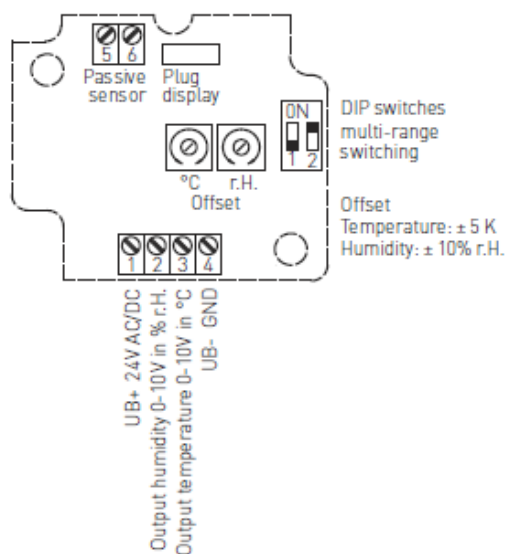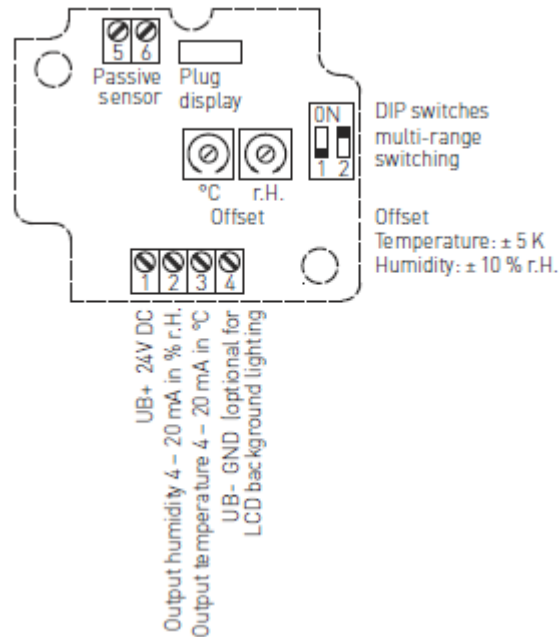| Deviation | ±3 % rH (20...80 % at 20°C), otherwise ±5 % |
	±0.8 K at 20 °C (depending on installation conditions)
Long-term stability	±1% per year
Storage and transport temperature	-35...+85 °C
Operating temperature	-30...+75 °C (non-precipitating air)
Protecting tube	polyamide (PA6), ∅ 20 x 235 mm
Protection class	III (according to EN 60730)
Protection degree	IP 65 (according to EN 60529)
Terminals	screw terminals for wires 0,14 – 1,5 mm²
Cover	polyamid reinforced with 30 % glass fiber, colour similar to RAL9010
Dimensions	see below

Sensor types

Type	Output rH	Output t
KFF-I	4...20 mA	-
KFF-U	0...10 V	-
KFTF-I	4...20 mA	4...20 mA
KFTF-U	0...10 V	0...10 V
KFTF-U, Pt100	0...10 V	0...10 V + Pt100
KFTF-U, Pt1000	0...10 V	0...10 V + Pt1000
KFTF-U, Ni1000-6150	0...10 V	0...10 V + Ni1000-6150
KFTF-U, Ni1000-5000	0...10 V	0...10 V + Ni1000-5000
KFTF-U, NTC 1,8k	0...10 V	0...10 V + NTC 1.8k Ohm

Terminals   **KFTF-U**

KFTF-I

Passive sensor   Plug display

DIP switches multi-range switching

°C   r.H.
Offset

Offset
Temperature: ± 5 K
Humidity: ± 10 % r.H.

UB+ 24V DC
Output humidity 4 – 20 mA in % r.H.
Output temperature 4 – 20 mA in °C
UB- GND (optional for LCD background lighting)

KFF-U

1	+UB 24V AC/DC
2	Output humidity in % r.H. 0…10V
3	Free
4	-UB-GND

KFF-I

1	+UB 24 V DC
2	Output humidity in % r.H. 4…20 mA
3	Free
4	-UB-GND (optional for backlighting)

KFTF-U

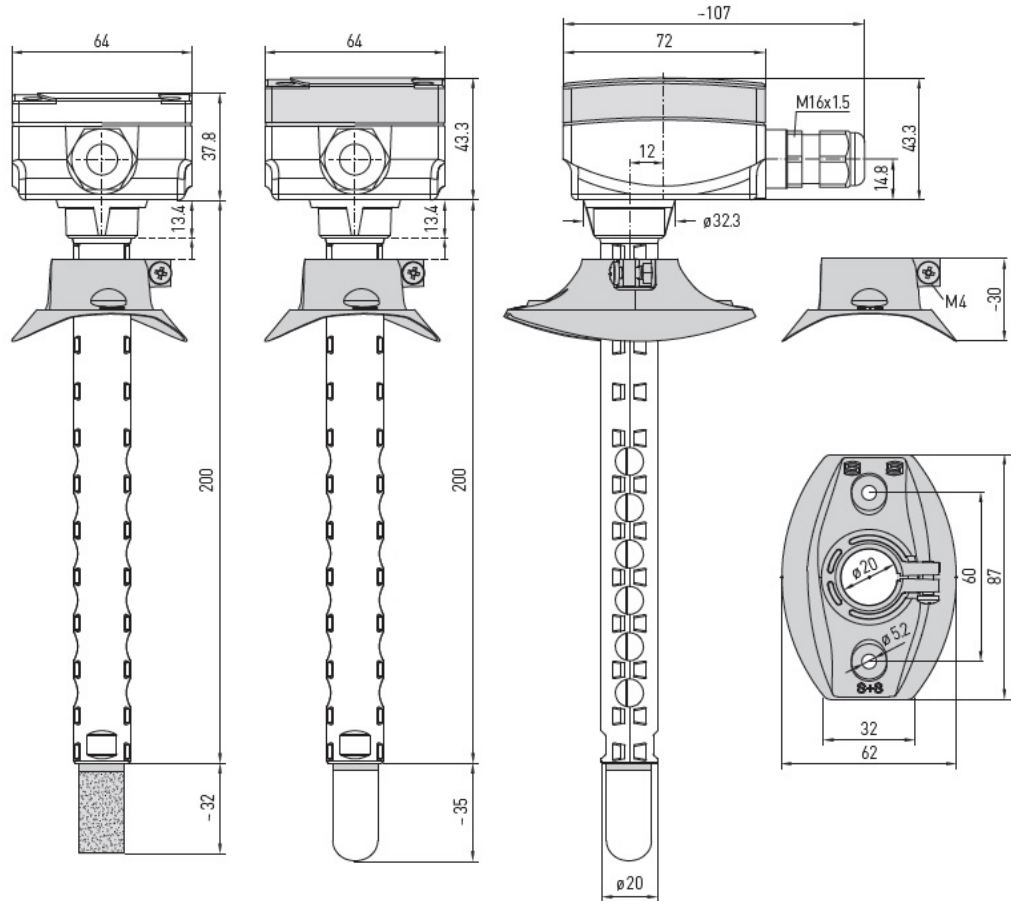|	
1	+UB 24V AC/DC
2	Output humidity in % r.H. 0…10V
3	Output temperature in °C 0…10V
4	-UB-GND

KFTF-I

1	+UB 24 V DC
2	Output humidity in % r.H. 4…20 mA
3	Output temperature in °C 4…20 mA
4	-UB-GND (optional for backlighting)

KFTF-U
(passive temperature sensor)

1	+UB 24V AC/DC
2	Output humidity in % r.H. 0…10V
3	Output temperature in °C 0…10V
4	-UB-GND
5	Passive element
6	e.g. Pt1000, Ni1000 …

KFTF-I
(passive temperature sensor)

1	+UB 24 V DC
2	Output humidity in % r.H. 4…20 mA
3	Output temperature in °C 4…20 mA
4	-UB-GND (optional for backlighting)
5	Passive element
6	e.g. Pt1000, Ni1000 …

Temperature measuring ranges (adjustable)	DIP 1	DIP 2
-35 … +75 °C	**ON**	**ON**
-35 … +35 °C	OFF	OFF
0 … +50 °C (default)	OFF	**ON**
0 … +80 °C	**ON**	OFF

Dimensions

Dimensions are in *mm*.

Accessories   **MFT-20-K** (included in standard delivery)

Changes in versions

05/2016 — New sensor design version and dimensions. Changed storage ambient conditions.
12/2016 — Linguistic corrections