

Duct humidity and temperature sensors ($\pm 3\%$), including mounting flange, calibratable, with multi-range switching and active/passive output

Quality product for HVAC sector, accuracy $\pm 3\%$

Calibratable duct humidity/temperature sensors **HYGRASGARD® KFF-SD/KFTF-SD**, with plastic sinter filter (optional metal sinter filter), terminal box enclosure made of impact-resistant plastic, enclosure with snap-on lid.

It measures the relative humidity and/or the temperature of the air and converts the measurands into a standard signal of 0-10 V or 4...20 mA. It has four switchable temperature ranges and is applied in non-aggressive dust-free atmospheres in refrigeration, air conditioning, ventilation and clean room technology. Relative humidity (in % r.H.) is the quotient of water vapour partial pressure divided by the saturation vapour pressure at the respective gas temperature. These measuring transducers are designed for exact detection of humidity. A digital long-term stable sensor is used as measuring element for humidity measurement. Fine adjustment by the user is possible.

TECHNICAL DATA

Power supply:	24 V AC ($\pm 20\%$); 15...36 V DC for U variant 15...36 V DC for I variant, depending on working resistance, residual ripple stabilised $\pm 0.3V$
Working resistance:	R_a (ohm) = $(U_b - 14 V) / 0.02 A$ for I variant
Load resistance:	$R_L > 5k\Omega$ for U variant
Power consumption:	< 1.1 VA / 24 V DC ; < 2.2 VA / 24 V AC
Sensors:	digital humidity sensor with integrated temperature sensor, low hysteresis, high long-term stability
Sensor protection:	plastic sinter filter, \varnothing 16 mm, L = 35 mm, exchangeable (optional metal sinter filter, \varnothing 16 mm, L = 32 mm)

HUMIDITY

Measuring range, humidity:	0...100% r.H. (output corresponding to 0-10 V or 4...20 mA)
Permissible air humidity:	< 95% r. H., non-precipitating air
Deviation, humidity:	$\pm 3\%$ r.H. (20...80%) at +20 °C, otherwise $\pm 5\%$ r. H.
Output, humidity:	0-10 V for U variant 4...20 mA for I variant, see load resistance diagram

TEMPERATURE

Measuring range, temperature:	multi-range switching with 4 switchable measuring ranges (see table) -35...+35 °C; -35...+75 °C; 0...+50 °C; 0...+80 °C (output corresponding to 0-10 V or 4...20 mA)
Ambient temperature:	storage -35...+85 °C; operation -30...+75 °C, non-precipitating
Deviation, temperature:	$\pm 0.2 K$ at +25 °C
Output, temperature:	0-10 V or 4...20 mA or Ohm value
Electrical connection:	2-, 3-, or 4-wire connection (see connecting diagram), 0.14 - 1.5 mm ² , via terminal screws on circuit board
Enclosure:	plastic, material polyamide, 30% glass-globe-reinforced, with snap-on lid, colour traffic white (similar to RAL 9016)
Enclosure dimensions:	72 x 64 x 37.8 mm (Tyr 01)
Cable gland:	M 16 x 1.5, including strain relief, exchangeable, max. inner diameter 10.4 mm
Protective tube:	PLEUROFORM™ , material polyamide (PA6), with torsion protection \varnothing 20 mm, NL = 235 mm, $v_{max} = 30$ m/s (air) (on request, optional stainless steel , \varnothing 16 mm)
Process connection:	by mounting flange, plastic (included in the scope of delivery)
Long-term stability:	$\pm 1\%$ per year
Protection class:	III (according to EN 60 730)
Protection type:	IP 43 (according to EN 60 529) enclosure only!
Standards:	CE conformity, according to EMC directive 2014 / 30 / EU, according to EN 61326-1, according to EN 61326-2-3

ACCESSORIES: see last chapter

SF-K

Plastic sinter filter (standard)



SF-M

Metal sinter filter (optional)



Protective tube stainless steel

(optional on request)

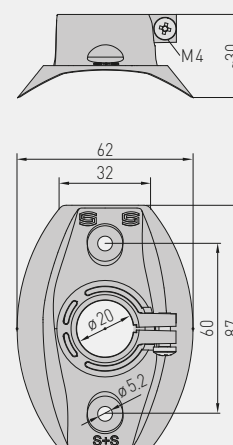
MFT-20-K

Mounting flange, plastic



Dimensional drawing

MFT-20-K



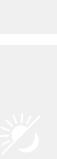


NEW

S+S REGELTECHNIK

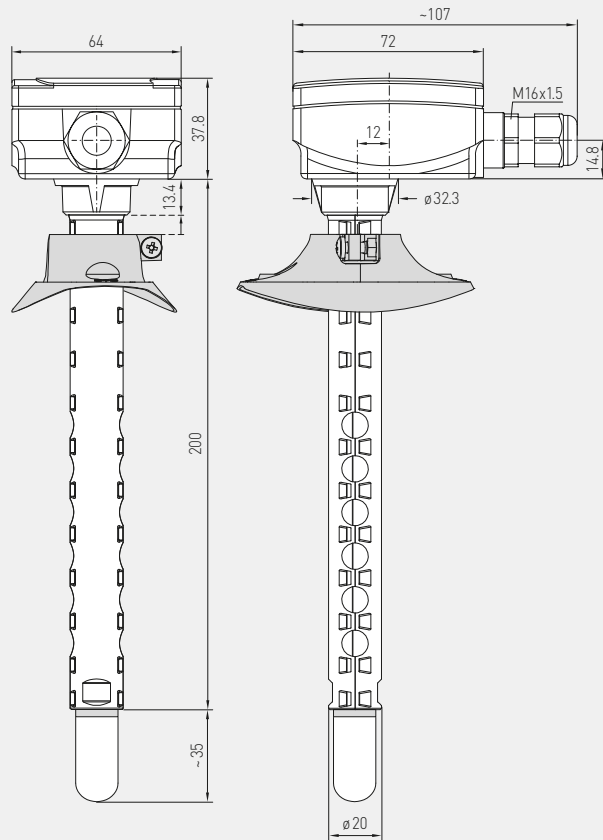
HYGRASGARD® KFF-SD
HYGRASGARD® KFTF-SD

Duct humidity and temperature sensors ($\pm 3\%$),
including mounting flange, calibratable, with multi-range switching
and active/passive output



Dimensional drawing

KFF-SD
KFTF-SD



KFF-SD
KFTF-SD
with plastic sinter filter
(standard)



Temperature table
MR: -35...+75 °C

°C	U _A in V	I _A in mA
-35	0.0	4.0
-30	0.5	4.7
-25	0.9	5.5
-20	1.4	6.2
-15	1.8	6.9
-10	2.3	7.6
-5	2.7	8.4
0	3.2	9.1
5	3.6	9.8
10	4.1	10.5
15	4.5	11.3
20	5.0	12.0
25	5.5	12.7
30	5.9	13.5
35	6.4	14.2
40	6.8	14.9
45	7.3	15.6
50	7.7	16.4
55	8.2	17.1
60	8.6	17.8
65	9.1	18.5
70	9.5	19.2
75	10.0	20.0

Temperature table
MR: -35...+35 °C

°C	U _A in V	I _A in mA
-35	0.0	4.0
-30	0.7	5.1
-25	1.4	6.3
-20	2.1	7.4
-15	2.9	8.6
-10	3.6	9.7
-5	4.3	10.9
0	5.0	12.0
5	5.7	13.1
10	6.4	14.3
15	7.1	15.4
20	7.9	16.6
25	8.6	17.7
30	9.3	18.9
35	10.0	20.0

Temperature table
MR: 0...+50 °C

°C	U _A in V	I _A in mA
0	0.0	4.0
5	1.0	5.6
10	2.0	7.2
15	3.0	8.8
20	4.0	10.4
25	5.0	12.0
30	6.0	13.6
35	7.0	15.2
40	8.0	16.8
45	9.0	18.4
50	10.0	20.0

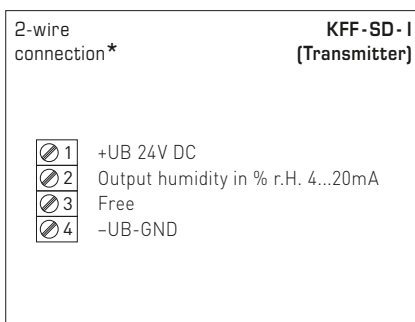
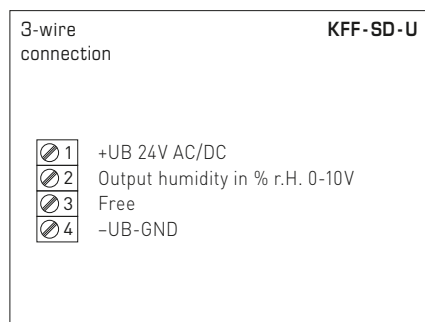
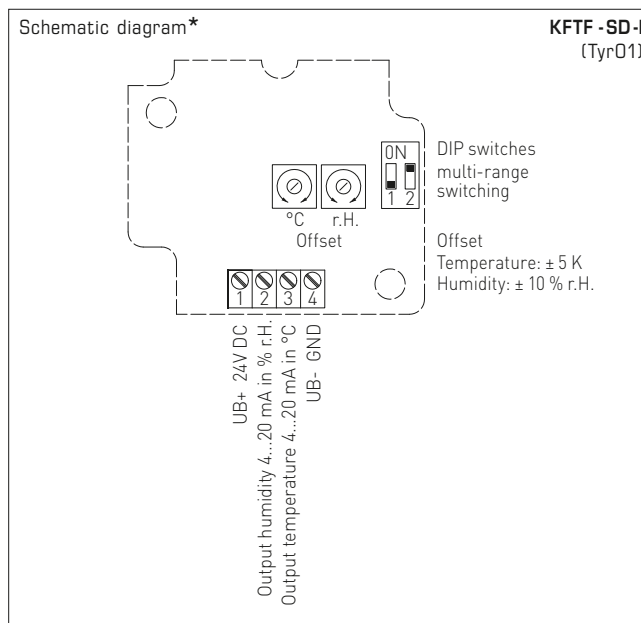
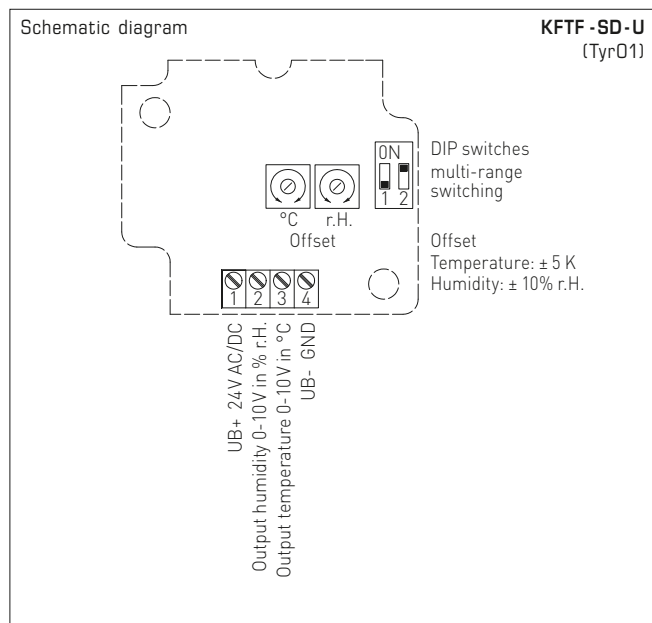
Temperature table
MR: 0...+80 °C

°C	U _A in V	I _A in mA
0	0.0	4.0
5	0.6	5.0
10	1.3	6.0
15	1.9	7.0
20	2.5	8.0
25	3.1	9.0
30	3.8	10.0
35	4.4	11.0
40	5.0	12.0
45	5.6	13.0
50	6.3	14.0
55	6.9	15.0
60	7.5	16.0
65	8.1	17.0
70	8.8	18.0
75	9.4	19.0
80	10.0	20.0

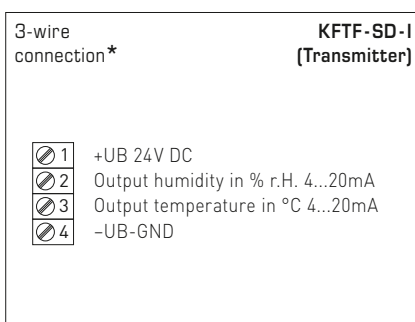
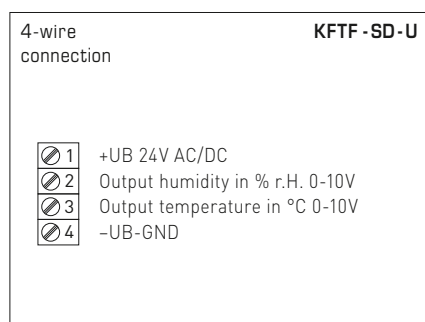
Humidity table
MR: 0...100% r. H.

% r.H.	U _A in V	I _A in mA
0	0.0	4.0
5	0.5	4.8
10	1.0	5.6
15	1.5	6.4
20	2.0	7.2
25	2.5	8.0
30	3.0	8.8
35	3.5	9.6
40	4.0	10.4
45	4.5	11.2
50	5.0	12.0
55	5.5	12.8
60	6.0	13.6
65	6.5	14.4
70	7.0	15.2
75	7.5	16.0
80	8.0	16.8
85	8.5	17.6
90	9.0	18.4
95	9.5	19.2
100	10.0	20.0

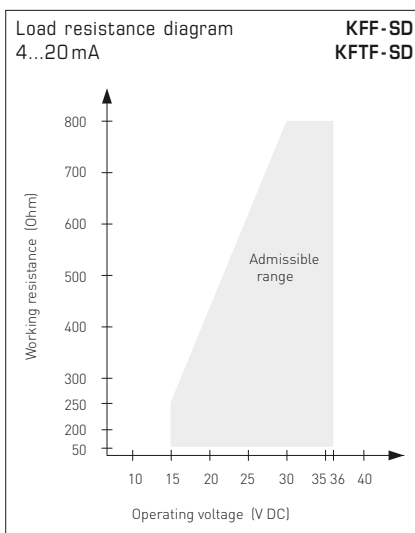
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* For the I variant the humidity path must be connected!



Temperature measuring ranges (adjustable)	DIP 1	DIP 2
-35...+75 $^{\circ}\text{C}$	ON	ON
-35...+35 $^{\circ}\text{C}$	OFF	OFF
0...+50 $^{\circ}\text{C}$	OFF	ON
0...+80 $^{\circ}\text{C}$	ON	OFF





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HYGRASGARD® KFF - SD
HYGRASGARD® KFTF - SD

Duct humidity and temperature sensors ($\pm 3\%$),
including mounting flange, calibratable, with multi-range switching
and active/passive output

KFF-SD
KFTF-SD
with plastic sinter filter
SF-K (standard)

KFF-SD
KFTF-SD
with metal sinter filter
SF-M (optional)

KFF-SD
KFTF-SD
with snap-on lid
(IP43)



HYGRASGARD® KFF - SD – Humidity sensors ($\pm 3\%$), *Standard*
HYGRASGARD® KFTF - SD – Humidity and temperature sensors ($\pm 3\%$), *Standard*

Type /WG01	Measuring Range / Readout		Output		Item No.	Price
	Humidity	Temperature	Humidity	Temperature		
KFF-SD - I					(active)	
KFF-SD-I	0...100 % r. H.	–	4...20 mA	–	1201-3182-0000-029	136,90 €
KFF-SD - U					(active)	
KFF-SD-U	0...100 % r. H.	–	0-10 V	–	1201-3181-0000-029	136,90 €
KFTF-SD - I					(active)	
KFTF-SD-I	0...100 % r. H.	–35...+75 °C –35...+35 °C 0...+50 °C 0...+80 °C	4...20 mA	4...20 mA	1201-3182-1000-029	140,66 €
KFTF-SD - U					(active)	
KFTF-SD-U	0...100 % r. H.	(4x as above)	0-10 V	0-10 V	1201-3181-1000-029	140,66 €

Accessories			
SF-M	Metal sinter filter, \varnothing 16 mm, L = 32 mm, exchangeable stainless steel, V4A (1.4404)	7000-0050-2200-100	35,70 €