

HYGRASGARD® KFF/ KFTF (including mounting flange)
HYGRASGARD® AFF/AFTF
HYGRASGARD® AFF-LC/AFTF-LC



S+S REGELTECHNIK

Duct respectively on-wall humidity and temperatures sensors, calibrateable, with active/passive output

APPLICATION:

For HVAC sector, accuracy 3% r.H.

The calibrateable humidity / temperature sensor measures the relative humidity and temperature of air and other non-aggressive gases. It is used in facility automation, in refrigeration, air conditioning ventilation, and clean room technology, in greenhouses and in halls. It converts the measurands humidity and temperature into standard signals of 0-10V or 4...20mA. 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 temperature and humidity. A capacitive sensor is used as measuring element for measuring humidity. Enclosures are suitable for wall and duct installation.

TECHNICAL DATA:

Power supply:..... 24V AC/DC for U variant
 15...36V DC for I variant, R_L depending on working resistance

Sensors: digital humidity sensor with integrated temperature sensor,
 dew-proof, small hysteresis, high long-term stability

Sensor protection:..... membrane filter, exchangeable

HUMIDITY:

Measuring range, humidity:..... 0...100% r.H.
 (output corresponding to 0-10 V or 4...20mA)

Operating range, humidity:..... 10...90% r.H.

Deviation, humidity:..... $\pm 3\%$ r.H. (40...60%) at +20 °C, otherwise $\pm 5\%$ r.H.

Output, humidity:..... 0-10V at U variant,
 4...20mA at I variant, (transmitter $R_L < 500 \Omega$)

TEMPERATURE:

Measuring range, temperature: KFTF: 0...+50 °C (-20...+80 °C optional)
 AFTF: -20...+80 °C (0...+50 °C optional)
 (output corresponding to 0-10 V or 4...20mA)

Operating range, temperature: KFTF: 0...+50 °C (-20...+80 °C)
 AFTF: -20...+80 °C

Deviation, temperature: $\pm 0.8K$ (KFF/KFTF-U), $\pm 0.8K$ (KFF/KFTF-I)
 at 20 °C, depending on place of installation and position

Output temperature: 0-10 V or 4...20mA, or Ohm value

Ambient temperature:..... storage -25...+50 °C, operation -5...+55 °C

Electrical connection: 2-, 3-, or 4-wire connection (see connecting diagram),
 0.14-1.5 mm² via terminal screws on circuit board

Enclosure:..... plastic, material polyamide, 30% glass-globe-reinforced,
 with quick-locking screws,
 colour pure white (similar RAL9010)

Dimensions:..... KFF/KFTF: 72x64x39.4 mm
 AFF/AFTF: 108x70x73.5 mm
 AFF-LC/AFTF-LC: 72x64x39.4 mm

Cable union:..... M16, including strain relief

Protective tube:..... metal, \varnothing 14 mm,
 KFF/KFTF: nominal length NL = 230 mm
 (400 mm or 500 mm optional)
 AFF/AFTF: nominal length NL = 45 mm

Process connection:..... KFF/KFTF: by mounting flange, plastic
 (included in the scope of delivery)
 (galvanised steel optional)
 AFF/AFTF: by screws

Long-term stability:..... $\pm 1\%$ per year

Protection class:..... III (according to EN 60730)

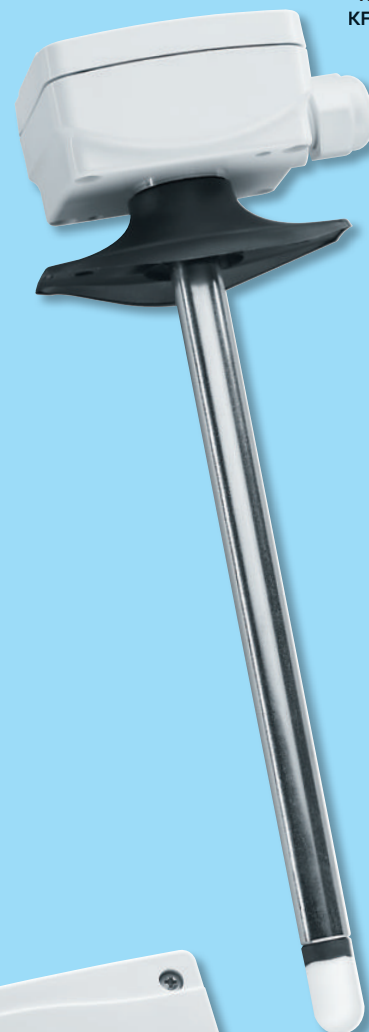
Protection type:..... IP 65 (according to EN 60529)

Standards:..... CE conformity, electromagnetic compatibility
 according to EN 61326+A1+A2,
 EMC directive 89/336/EWG

Optional:..... 8-digit display, cutout 36x14 mm (WxH),
 for displaying actual temperature and actual humidity

ACCESSORIES: see last chapter

KFF
KFTF

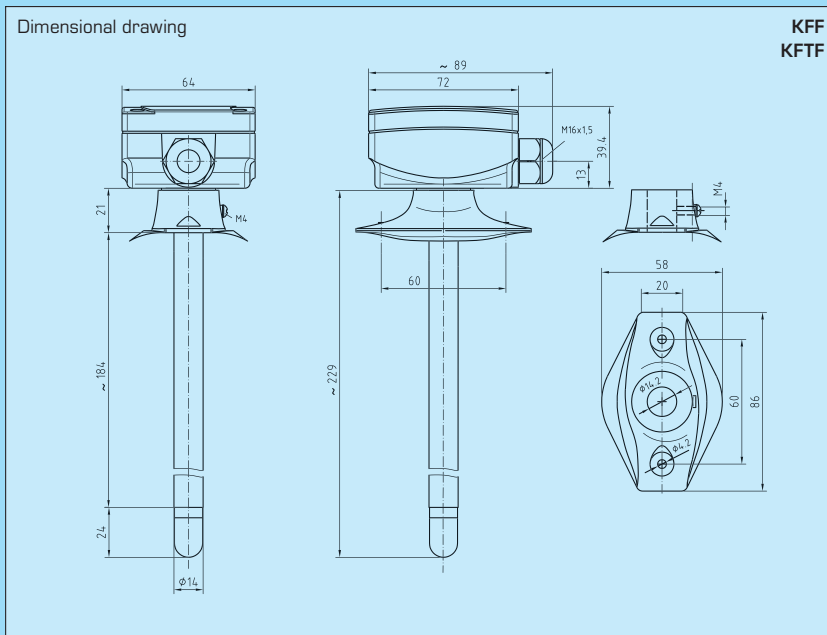


AFF
AFTF

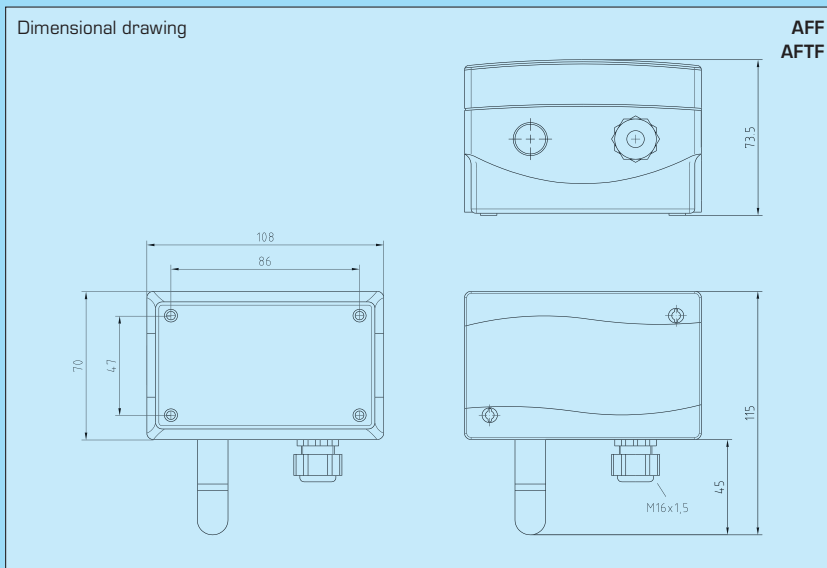


AFF-LC
AFTF-LC

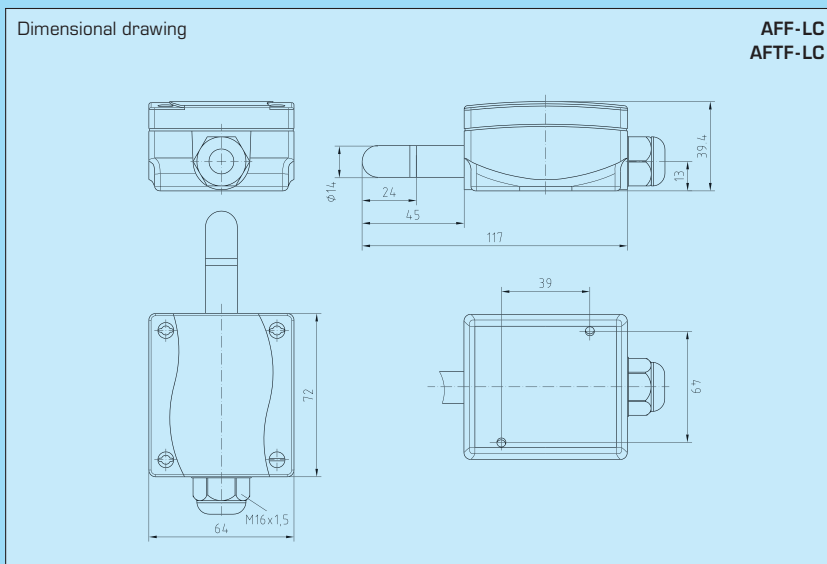




**KFF
KFTF
with display**



**AFF
AFTF
with display**



**AFF-LC
AFTF-LC
with display**

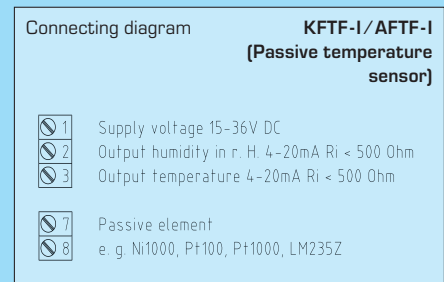
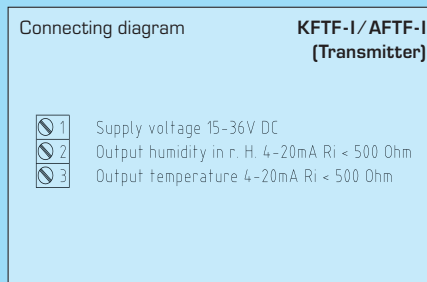
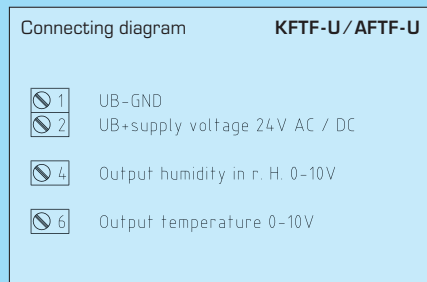
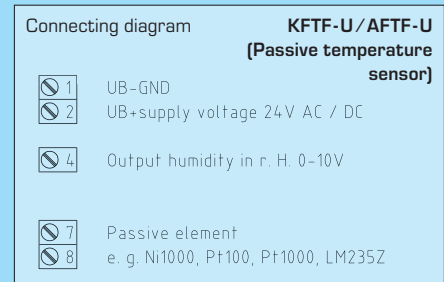
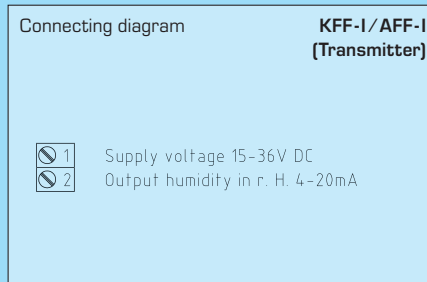
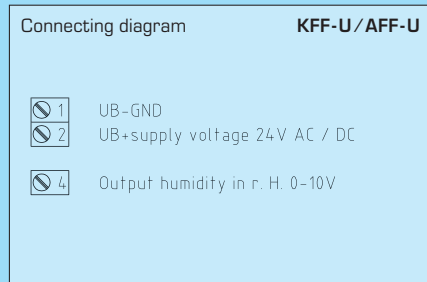
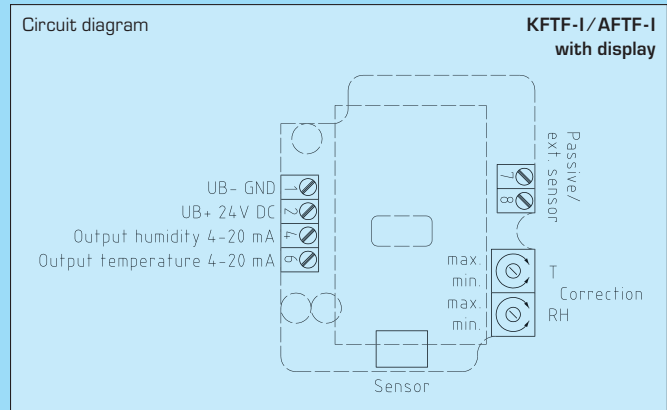
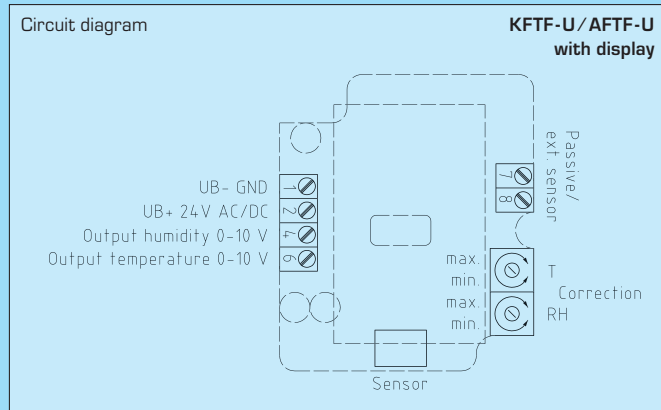


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HYGRASGARD® AFF-LC/AFTF-LC



S+S REGELTECHNIK

Duct respectively on-wall humidity and temperatures sensors, calibrateable, with active/passive output



HYGRASGARD® KFF and KFTF:

Output: Temperature and humidity active, including mounting flange

Type/WG1	Range humidity (relative)	Range temperature	Output humidity (relative)	Output temperature
KFF-I	0...100% r.H.	-	4...20mA	-
KFF-U	0...100% r.H.	-	0-10V	-
KFTF-I	0...100% r.H.	0...50°C	4...20mA	4...20mA
KFTF-U	0...100% r.H.	0...50°C	0-10V	0-10V
KFF-/KFTF-xx-Display				

HYGRASGARD® KFTF-U, x:

Output: Humidity active, temperature passive, including mounting flange

Type/WG1	Range humidity (relative)	Range temperature	Output humidity (relative)	Output temperature
KFTF-U, Pt100	0...100% r.H.	-20...+80°C	0-10 V	Pt100
KFTF-U, Pt1000	0...100% r.H.	-20...+80°C	0-10 V	Pt1000
KFTF-U, Ni1000	0...100% r.H.	-20...+80°C	0-10 V	Ni1000
KFTF-U, Ni1000TK5000	0...100% r.H.	-20...+80°C	0-10 V	Ni1000 TK5000
KFTF-U, NTC 1,8k	0...100% r.H.	-20...+80°C	0-10 V	NTC 1,8k Ohm
KFTF-U, NTC 10k	0...100% r.H.	-20...+80°C	0-10 V	NTC 10k Ohm
KFTF-U, NTC 20k	0...100% r.H.	-20...+80°C	0-10 V	NTC 20k Ohm
KFTF-U, LM235 Z	0...100% r.H.	-20...+80°C	0-10 V	LM235Z, 10mV/K



Temperature table Range: 0...+50°C

°C	Output voltage in V	Output current in mA
0	0	4.0
5	1	5.6
10	2	7.2
15	3	8.8
20	4	10.4
25	5	12.0
30	6	13.6
35	7	15.2
40	8	16.8
45	9	18.4
50	10	20.0

Temperature table Range: -20...+80°C

°C	Output voltage in V	Output current in mA
-20	0	4.0
-15	0.5	4.8
-10	1.0	5.6
-5	1.5	6.4
0	2.0	7.2
5	2.5	8.0
10	3.0	8.8
15	3.5	9.6
20	4.0	10.4
25	4.5	11.2
30	5.0	12.0
35	5.5	12.8
40	6.0	13.6
45	6.5	14.4
50	7.0	15.2
55	7.5	16.0
60	8.0	16.8
65	8.5	17.6
70	9.0	18.4
75	9.5	19.2
80	10.0	20.0

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

% r.H.	Output voltage in V	Output current in mA
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

HYGRASGARD® AFF-LC and AFTF-LC:

Output: Humidity and temperature active

Type/WG1	Range humidity (relative)	Range temperature	Output humidity (relative)	Output temperature
AFF-LC-I	0...100% r.H.	-	4...20 mA	-
AFF-LC-U	0...100% r.H.	-	0-10V	-
AFTF-LC-I	0...100% r.H.	-20...+80°C	4...20 mA	4...20 mA
AFTF-LC-U	0...100% r.H.	-20...+80°C	0-10V	0-10V
AFF-LC / AFTFF-LC - xx-Display				
Accessories:		WS-01 Sunshade and weather protection		

HYGRASGARD® AFF and AFTF:

Output: Humidity and temperature active

Type/WG1	Range humidity (relative)	Range temperature	Output humidity (relative)	Output temperature
AFF-I	0...100% r.H.	-	4...20 mA	-
AFF-U	0...100% r.H.	-	0-10V	-
AFTF-I	0...100% r.H.	-20...+80°C	4...20 mA	4...20 mA
AFTF-U	0...100% r.H.	-20...+80°C	0-10V	0-10V
AFF / AFTFF-xx-Display				
Accessories:		WS-01 Sunshade and weather protection		

HYGRASGARD® AFTF-U,x:

Output: Humidity active, temperature passive

Type/WG1	Range humidity (relative)	Range temperature	Output humidity (relative)	Output temperature
AFTF-U, Pt100	0...100% r.H.	-20...+80°C	0-10 V	Pt100
AFTF-U, Pt1000	0...100% r.H.	-20...+80°C	0-10 V	Pt1000
AFTF-U, Ni1000	0...100% r.H.	-20...+80°C	0-10 V	Ni1000
AFTF-U, Ni1000TK5000	0...100% r.H.	-20...+80°C	0-10 V	Ni1000 TK5000
AFTF-U, NTC 1,8 k	0...100% r.H.	-20...+80°C	0-10 V	NTC 1,8 k Ohm
AFTF-U, NTC 10 k	0...100% r.H.	-20...+80°C	0-10 V	NTC 10 k Ohm
AFTF-U, NTC 20 k	0...100% r.H.	-20...+80°C	0-10 V	NTC 20 k Ohm
AFTF-U, LM235Z	0...100% r.H.	-20...+80°C	0-10 V	LM235Z, 10mV/K
Accessories:		WS-01 Sunshade and weather protection		