

HYGRASGARD® RPFTF - Modbus

HYGRASGARD® RPFTF - 20 - Modbus



S+S REGELTECHNIK

Pendulum room humidity and temperature sensors ($\pm 1.8\%$ / $\pm 2.0\%$),
for mixture ratio, relative/absolute humidity, dew point, enthalpy
and temperature, calibratable, with Modbus connection

Calibratable pendulum room humidity and temperature sensor **HYGRASGARD®**
RPFTF-Modbus ($\pm 2.0\%$) or **RPFTF-20-Modbus** ($\pm 1.8\%$), with plastic sinter filter (optional
metal sinter filter), with Modbus connection, terminal box enclosure made of impact-
resistant plastic, enclosure cover with quick-locking screws, **with/without optional display**.

The universal pendulum room sensor is used to determine various characteristic variables in
humidity measurement. It is used to measure the relative humidity and the temperature of
the surrounding air. These measurands are used to calculate various parameters internally.
The Modbus can be used to retrieve the following parameters: relative humidity [% r.H.],
absolute humidity [g/m³], mixture ratio [g/kg], dew point temperature [°C], enthalpy [kJ/kg]
(ignoring atmospheric air pressure) and ambient temperature [°C].

It is used in non-aggressive dust-free environments in refrigeration, air conditioning,
ventilation and clean room technology, hotels, technical rooms, meeting rooms and
convention centres. The measuring transducers are designed for exact detection of
temperature and humidity. A digital long-term stable sensor is used as measuring element
for humidity and temperature measurement. Fine adjustment by the user is possible. The
sensor is suitable for ceiling and duct installation, or for integration into equipment.

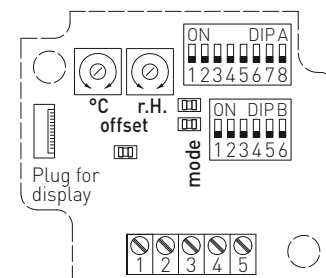
RPFTF-Modbus ($\pm 2.0\%$)
RPFTF-20-Modbus ($\pm 1.8\%$)



TECHNICAL DATA

Voltage supply:	24 V AC ($\pm 20\%$) and 15...36 V DC
Power consumption:	< 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)
Measuring range:	0...100% r.H. (humidity) -35...+80 °C (temperature)
Deviation, humidity:	RPFTF-Modbus: typically $\pm 2.0\%$ (20...80% r.H.) at +25 °C, otherwise $\pm 3.0\%$ RPFTF-20-Modbus: typically $\pm 1.8\%$ (10...90% r.H.) at +25 °C, otherwise $\pm 2.0\%$
Temperature deviation:	± 0.2 K at +25 °C
Zero point offset:	$\pm 10\%$ r.H. (humidity) ± 10 °C (temperature)
Ambient temperature:	-30...+70 °C
Medium:	clean air and non-aggressive, non-combustible gases
Bus protocol:	Modbus (RTU mode), address range 0... 247 selectable
Signal filtering:	4 s / 32 s
Enclosure:	plastic, UV-stabilised, material polyamide, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!
Enclosure dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable gland:	2x M 12 x 1.5 (Y-adapter); with strain relief, exchangeable, max. inner diameter 6 mm
Connection cable:	PVC, LiYY, 6 x 0.14 mm ² , KL = approx. 2 m (other lengths optional)
Protective tube:	stainless steel , \varnothing 16 mm, NL = 142 mm
Permissible air humidity:	<95% r.H., non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	IP 65 (according to EN 60529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU, according to EN 61326
Optional:	two-line display with illumination , programmable, cutout approx. 36 x 15 mm (W x H), for displaying the actual humidity and actual temperature or a selectable parameter or an individually programmable display value (The Modbus interface allows the display to be individually configured in the 7-segment area and in the dot-matrix area.)
ACCESSORIES	see table
MODBUS-Y	Y-adapter for cable gland M16x1.5 (on 2x M12x1.5), plastic (included in the scope of delivery)

Schematic diagram HYGRASGARD® MODBUS



DIP A: Bus address
DIP B: Bus parameters
(Baud rate, parity ...)
 Telegram indicator
Reception (LED green)
Error (LED red)

LED (internal status)

Offset correction
temperature: ± 10 °C

Offset correction
humidity: $\pm 10\%$ r.H.

Plug for display
contact is
on the right side

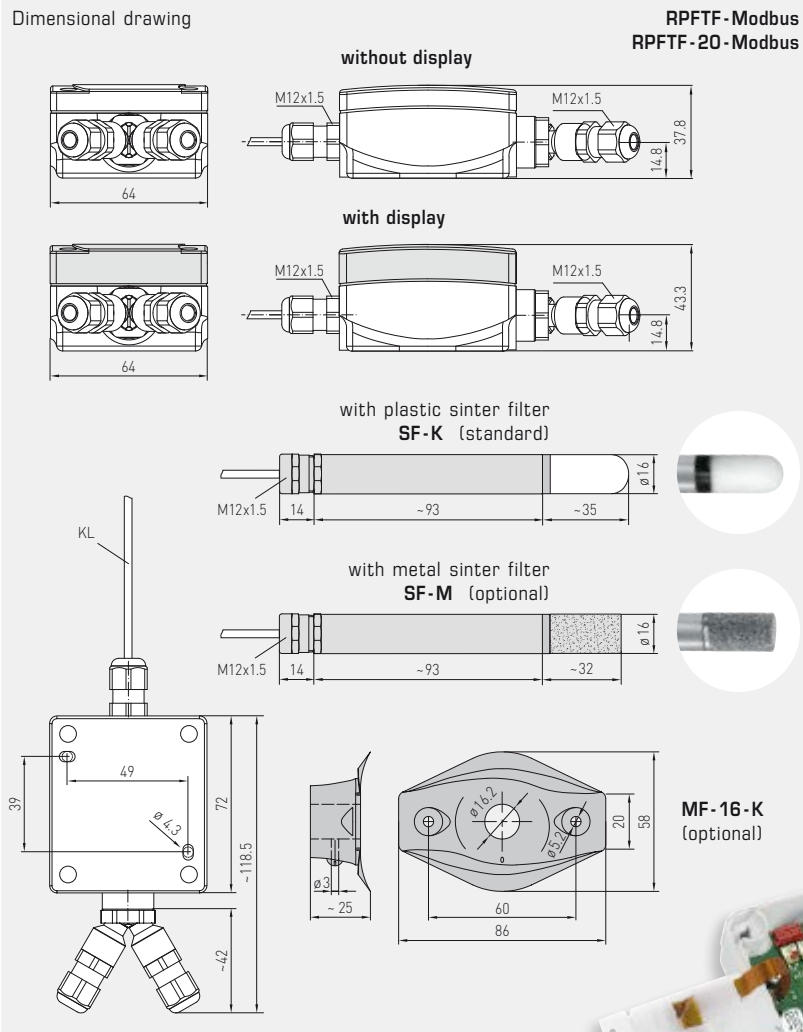


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Dimensional drawing



RPFTF-Modbus ($\pm 2.0\%$)
RPFTF-20-Modbus ($\pm 1.8\%$)
with display



MF-06-K

Mounting flange,
plastic
(optional)



HYGRASGARD® RPFTF - Modbus – Pendulum room humidity and temperature sensors ($\pm 2.0\%$)
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Type / WG01	Measuring Range / Readout Humidity (switchable)	Temperature	Output	Display	Item No.	Price
RPFTF - Modbus						
						($\pm 2.0\%$)
RPFTF-MODBUS	0 ...100% r. H. (standard) 0...80 g / kg (MR) 0...80 g / m ³ (A.H.) 0...85 kJ / kg (ENT.) -20...+80 °C (DP)	-35...+80 °C	Modbus		1201-1276-1000-000	242,66 €
RPFTF-MODBUS DISPLAY	(5 x as above)	(1 x as above)	Modbus	■	1201-1276-1200-000	284,69 €
RPFTF - 20 - Modbus						
						($\pm 1.8\%$)
RPFTF-20-MODBUS	(5 x as above)	(1 x as above)	Modbus		1201-1276-1000-101	291,08 €
RPFTF-20-MODBUS DISPLAY	(5 x as above)	(1 x as above)	Modbus	■	1201-1276-1200-101	333,11 €
Extra charge:	per running metre of connecting lead (PVC)				on request	
Accessories						
KA-2	Modbus communication adapter with USB/RS485 interface				on request	
SF-M	Metal sinter filter , \varnothing 16 mm, L = 32 mm, exchangeable, stainless steel V4A (1.4404)				7000-0050-2200-100	35,70 €
MF-16-K	Mounting flange made of plastic				7100-0030-0000-000	8,06 €