

**On-wall-humidity- and temperature sensors ( $\pm 2.0\%$ ), compact form, for mixture ratio, relative/absolute humidity, dew point, enthalpy and temperature, calibratable, with Modbus connection**

**AFTF-SD-Modbus**  
compact form

Calibratable outdoor humidity- and temperature sensor **HYGRASGARD® AFTF-SD-Modbus** with Modbus connection, terminal box enclosure made of impact-resistant plastic, enclosure cover with quick-locking screws, **with/without optional display**.

The universal on-wall 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/m<sup>3</sup>], mixture ratio [g/kg], dew point temperature [°C], enthalpy [kJ/kg] (ignoring atmospheric air pressure) and ambient temperature [°C].

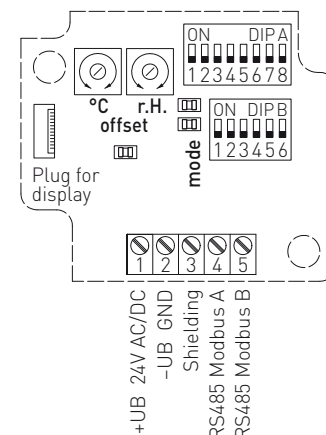
It is used in non-aggressive dust-free environments in refrigeration, air conditioning, ventilation and clean room technology, hotels, technical rooms, meeting rooms and convention centres. The measuring transducers are designed for exact detection of temperature and humidity. A digital long-term stable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



## 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:	<b>digital humidity sensor with integrated temperature sensor</b> , low hysteresis, high long-term stability
Sensor protection:	<b>plastic sinter filter</b> , $\varnothing$ 16 mm, L = 35 mm, exchangeable (optional <b>metal sinter filter</b> , $\varnothing$ 16 mm, L = 32 mm)
Measuring range:	0...100% r.H. (humidity) -35...+80 °C (temperature)
Deviation, humidity:	typically $\pm 2.0\%$ (20...80% r.H.) at +25 °C, otherwise $\pm 3.0\%$
Temperature deviation:	$\pm 0.2$ K at +25 °C
Zero point offset:	$\pm 10\%$ r.H. (humidity) $\pm 10$ °C (temperature)
Ambient temperature:	-30...+70 °C
Medium:	clean air and non-aggressive, non-combustible gases
Bus protocol:	Modbus (RTU mode), address range 0... <b>247</b> selectable
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 M12x1.5 (Y-adapter); with strain relief, exchangeable, max. inner diameter 6 mm
Protective tube:	stainless steel, $\varnothing$ 16 mm, NL = 55 mm
Process connection:	by screws
Long-term stability:	$\pm 1\%$ / year
Permissible air humidity:	< 95% r.H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU, according to EN 61326
Optional:	<b>two-line display with illumination</b> , 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.)
<b>ACCESSORIES</b>	see table
<b>MODBUS-Y</b>	<b>Y-adapter</b> for cable gland M16x1.5 (on 2x M12x1.5), plastic (included in the scope of delivery)

## Schematic diagram HYGRASGARD® MODBUS



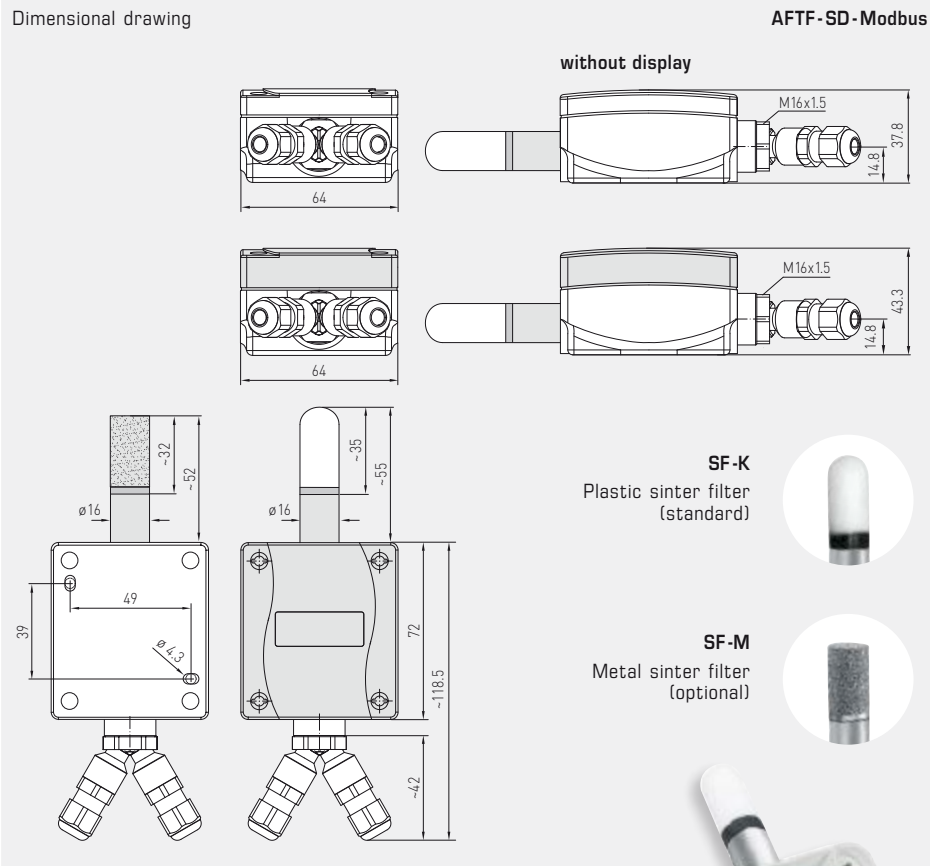
- DIP A: Bus address
- DIP B: Bus parameters (Baud rate, parity ...)
- Telegram indicator Reception (LED green) Error (LED red)
- LED (internal status)
- Offset correction temperature:  $\pm 10$  °C
- Offset correction humidity:  $\pm 10\%$  r.H.
- Plug for display contact is on the right side



S+S REGELTECHNIK

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Dimensional drawing



AFTF-SD-Modbus  
compact form  
with display



**WS-04**  
Weather and sun  
protection hood  
(optional)



HYGRASGARD® AFTF-SD-Modbus – On-wall-humidity- and temperature sensor/s ( $\pm 2.0\%$ ), compact form

Type / WG01	Measuring Range / Readout Humidity (switchable)	Temperature	Output	Display	Item No.	Price
<b>AFTF-SD-Modbus</b>						
AFTF-SD-MODBUS	0...100% r.H. (standard) 0...80 g/kg (MR) 0...80 g/m <sup>3</sup> (A.H.) 0...85 kJ/kg (ENT.) -20...+80 °C (DP)	-35...+80 °C	Modbus		1201-1226-1000-100	172,87 €
AFTF-SD-MODBUS DISPLAY	(5 x as above)	(1 x as above)	Modbus	■	1201-1226-1200-100	215,82 €
<b>Accessories</b>						
KA-2	Modbus communication adapter with USB/RS485 interface for system connection or/and as an active bus termination resistance				on request	
SF-M	Metal sinter filter, Ø 16 mm, L = 32 mm, exchangeable stainless steel V4A (1.4404)				7000-0050-2200-100	35,70 €
WS-01	Sun and ball-impact protection hood, 184 x 180 x 80 mm, stainless steel				7100-0040-2000-000	26,80 €
WS-04	Weather and sun protection hood, 130 x 180 x 135 mm, stainless steel				7100-0040-7000-000	31,62 €

For further information, see last chapter Accessories!

