HYGRASGARD® VFTF-Modbus

**Showcase humidity and temperature sensor (± 2.0 %),
for mixture ratio, relative / absolute humidity, dew point, enthalpy
and temperature, calibratable, with Modbus connection**

NEW

S+S REGELTECHNIK

Calibratable showcase humidity and temperature sensor **HYGRASGARD® VFTF-Modbus** with Modbus connection, enclosure made from impact-resistant plastic with quick-locking screws, **with / without optional display**.
The universal showcase sensor is used to detect various parameters in humidity measurement. The relative humidity and temperature of the ambient air are measured. 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].
The measuring transducers are designed for exact detection of temperature and humidity. A digital, long-term stable sensor is used as a measuring element for humidity and temperature measurement. Fine adjustment by the user is possible.
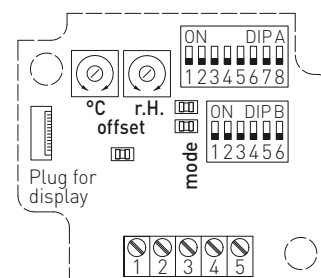The showcase sensor is used in non-aggressive, dust-free environments and is specifically designed for installation in ceilings, walls, inside showcases or display cabinets in museums, galleries, cinemas or lecture halls or laboratories. The measuring element is contained inside a stainless steel probe and its low height (approx. 2.5 mm) makes it barely noticeable.

VFTF-Modbus

TECHNICAL DATA

Voltage supply:	24 V AC (± 20 %) and 15…36 V DC
Power consumption:	< 1 VA / 24 V DC, < 2.2 VA / 24 V AC
Sensor:	**digital humidity sensor with integrated temperature sensor,** low hysteresis, high long-term stability
Measuring Range:	0…100 % r.H. (humidity) −35…+80 °C (temperature)
Deviation in humidity:	typically **± 2.0** % (20…80 % r.H.) at +25 °C, otherwise ± 3.0 %
Deviation in temperature:	± 0.2 K at +25 °C
Zero point offset:	± 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, 4 x 0.14 mm², cable length (KL) = approx. 2 m (other lengths optional)
Sensor protection:	**probe** made of stainless steel, **V4A** (1.4571), **pluggable**; sensor head Ø = 17 mm, H = approx. 2.5 mm; protective sleeve Ø = 10 mm, NL = approx. 25 mm, M10 x 1.0; with plastic plug connector Ø = approx. 11 mm, NL = approx. 25 mm
Mounting (sensor):	cut-out Ø = 11 - 15 mm, inserted length (EL) = approx. 50 mm, lock nut for fixing is included in the scope of delivery.
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:	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**

ON DIP A
1 2 3 4 5 6 7 8

°C r.H. offset

ON DIP B
1 2 3 4 5 6

mode

Plug for display

1	2	3	4	5

+UB 24V AC/DC
−UB GND
Shielding
RS485 Modbus A
RS485 Modbus B

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
°C
Offset correction humidity: ± 10% r.H.
r.H.
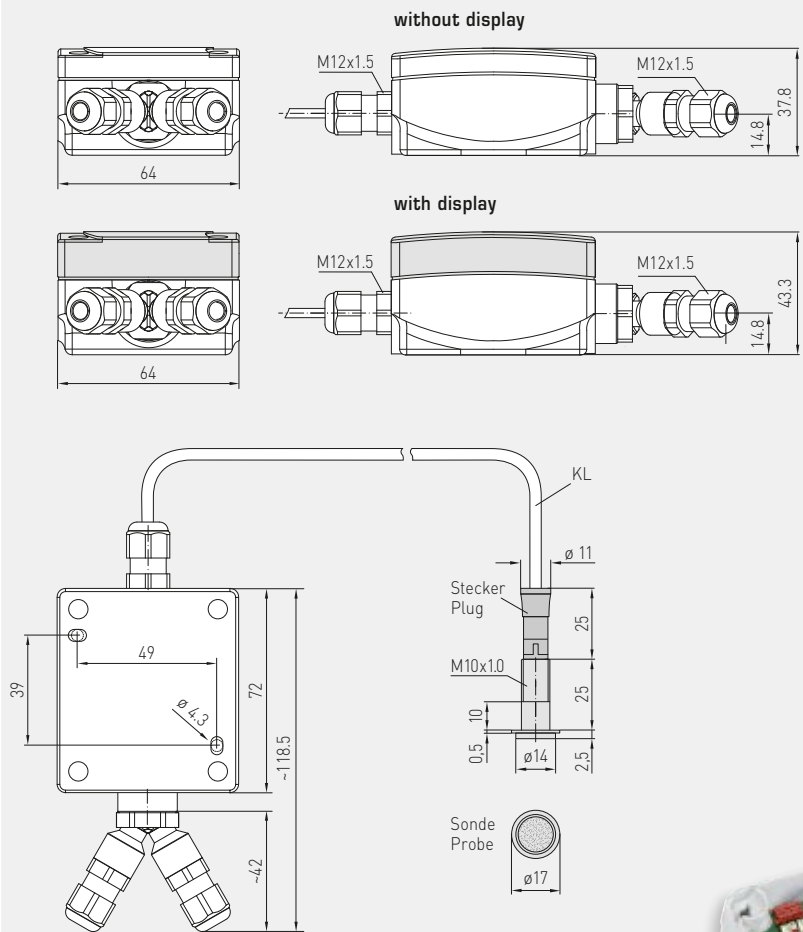Plug for display contact is on the right side

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Dimensional drawing   **VFTF - Modbus**

without display

M12x1.5   M12x1.5
64   37.8
14.8

with display

M12x1.5   M12x1.5
64   43.3
14.8

VFTF - Modbus
with display

KL
ø 11
Stecker
Plug   25
M10x1.0   25
49
39   72
ø 4.3   ~118.5
10
0.5   ø 14   2.5
~42

Sonde
Probe
ø 17

VFTF - Modbus
Probe made of stainless
steel, pluggable

HYGRASGARD® **VFTF - Modbus** – Showcase humidity and temperature sensor (± 2.0 %), *Premium*						
Type / WG02	**Measuring Range / Readout** Humidity (switchable)	Temperature	**Output**	**Display**	**Item no.**	**Price**
VFTF - Modbus						
VFTF-MODBUS	0 …100 % r.H. (Standard) 0 … 80 g / kg (MR) 0 … 80 g / m³ (A.H.) 0 … 85 kJ / kg (ENT.) −20…+80 °C (TP)	−35…+80 °C	Modbus		1201-6126-1000-100	
VFTF-MODBUS DISPLAY	(5 x as above)	−35…+80 °C	Modbus	■	1201-6126-1200-100	
Extra charge:	**cable length** (KL = approx. 2 m), other lengths optional				on request	

Accessories		
KA-2	**Modbus communication adapter** (USB/RS485) for direct system connection or/and as an active bus termination resistance	on request