

Showcase humidity and temperature sensor ( $\pm 2.0\%$ )  
for mixture ratio, relative/absolute humidity, dew point, enthalpy  
and temperature, calibratable, with Modbus connection or W-Modbus (wireless)

Calibratable display cases humidity and temperature sensor **HYGRASGARD® VFTF-Modbus-T3**, with Modbus connection, in an impact-resistant plastic housing with quick-locking screws, optionally with/without display, cable sensor with a flat stainless steel probe (pluggable), to exactly detect the relative humidity (0...100% RH) and the temperature ( $-35...+80\text{ }^{\circ}\text{C}$ ) and to detect various parameters in humidity measurement. International system of units **SI** (default) can be switched to **Imperial** (via Modbus). With **wModbus** device version, the W-Modbus (Wireless) replaces the RTU cable; the BMS connection is radio-based using a W-Modbus gateway.

The display cases sensor is applied in a non-aggressive, dust-free environment and is specially suitable for installation in ceilings, walls, display cases or showcases. It is used in museums, galleries, cinemas, lecture halls or laboratories.

A long-term stable, **digital humidity and temperature sensor** guarantee exact measurement results. These measurands are used to internally calculate the following parameters that can be retrieved via Modbus: relative humidity, absolute humidity, mixture ratio, dew point, enthalpy (ignoring atmospheric air pressure) and ambient temperature.

**Innovative Modbus sensor** with galvanically isolated RS485 Modbus interface, switchable bus terminating resistor, DIP switch for setting in current-free state, internal LEDs for telegram status display, push-in terminals and large three-line display (illuminated, individually programmable). The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

VFTF-Modbus-T3  
without display  
(RTU cable)



VFTF-wModbus  
without display  
(wireless)



TECHNICAL DATA	
Power supply:	24 V AC ( $\pm 20\%$ ); 15...36 V DC
Power consumption:	< 1.2 W / 24 V DC; < 1.8 VA / 24 V AC
System of units:	<b>SI</b> (default) or <b>Imperial</b> (switchable via Modbus)
Data points:	temperature [ $^{\circ}\text{C}$ ] [ $^{\circ}\text{F}$ ], relative humidity [% RH], dew point [ $^{\circ}\text{C}$ ] [ $^{\circ}\text{F}$ ], absolute humidity [ $\text{g}/\text{m}^3$ ] [ $\text{gr}/\text{ft}^3$ ], mixing ratio [ $\text{g}/\text{kg}$ ] [ $\text{gr}/\text{lb}$ ], enthalpy [ $\text{kJ}/\text{kg}$ ] [ $\text{Btu}/\text{lb}$ ]
Sensor:	<b>digital humidity sensor with integrated temperature sensor</b> , low hysteresis, high long-term stability
Measuring range:	0...100 % RH (humidity); $-35...+80\text{ }^{\circ}\text{C}$ (temperature)
Accuracy, humidity:	typically $\pm 2.0\%$ (20...80 % RH) at $+25\text{ }^{\circ}\text{C}$ , otherwise $\pm 3.0\%$
Accuracy, temperature:	typically $\pm 0.2\text{ K}$ at $+25\text{ }^{\circ}\text{C}$
Zero point offset:	$\pm 10\%$ RH (humidity); $\pm 5\text{ }^{\circ}\text{C}$ (temperature)
Ambient temperature:	$-30...+70\text{ }^{\circ}\text{C}$
Medium:	clean air and non-aggressive, non-combustible gases
Communication:	<b>Modbus</b> (RTU cable), Bus interface RS 485, <b>galvanically isolated</b> , Baud rate 9600, 19200, 38400 baud <b>or</b> <b>W-Modbus</b> (Wireless Modbus, AES-128 encrypted) Frequency <b>2.4 GHz</b> ISM, Transmission power <b>100 mW</b> , Range <b>max. 500 m</b> (open field) / approx. 50-70 m (inside buildings)
Bus protocol:	Modbus (RTU mode), address range 0... <b>247</b> selectable
Signal filtering:	4 s / 32 s
Sensor protection:	<b>probe</b> made of stainless steel, <b>V4A</b> (1.4571), <b>pluggable</b> ; sensor head $\varnothing = 17\text{ mm}$ , H = approx. 2.5 mm; protective sleeve $\varnothing = 10\text{ mm}$ , NL = approx. 25 mm, M10 x 1.0; with plastic plug connector $\varnothing =$ approx. 11 mm, NL = approx. 25 mm
Mounting (sensor):	cut-out $\varnothing = 11-15\text{ mm}$ , (EL) = approx. 50 mm, lock nut for fixing is included in the scope of delivery.
Sensor cable:	PVC, LiYY, 4 x 0.14 mm <sup>2</sup> , cable length (KL) = approx. 2 m (other lengths optional)
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!
Housing dimensions:	108 x 78.5 x 43.3 mm (Tyr 3 without display) 108 x 78.5 x 45.8 mm (Tyr 3 with display)
Cable connection:	<b>cable gland</b> , plastic (M20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm) <b>or</b> <b>M12 connector</b> according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	0.2 - 1.5 mm <sup>2</sup> , using push-in terminal
Permissible air humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	<b>IP 65</b> (according to EN 60 529)
Standards (Modbus):	CE conformity according to EMC Directive 2014 / 30 / EU
Standards (W-Modbus):	CE conformity according to Radio Directive 2014 / 53 / EU
Features:	<b>display with illumination</b> , three-line, programmable, cutout approx. 51 x 29 mm (W x H), for displaying the actual humidity and actual temperature (cyclic) or a selectable parameter (static) or an individually programmable display value

Programmable display screen

Tyr 3



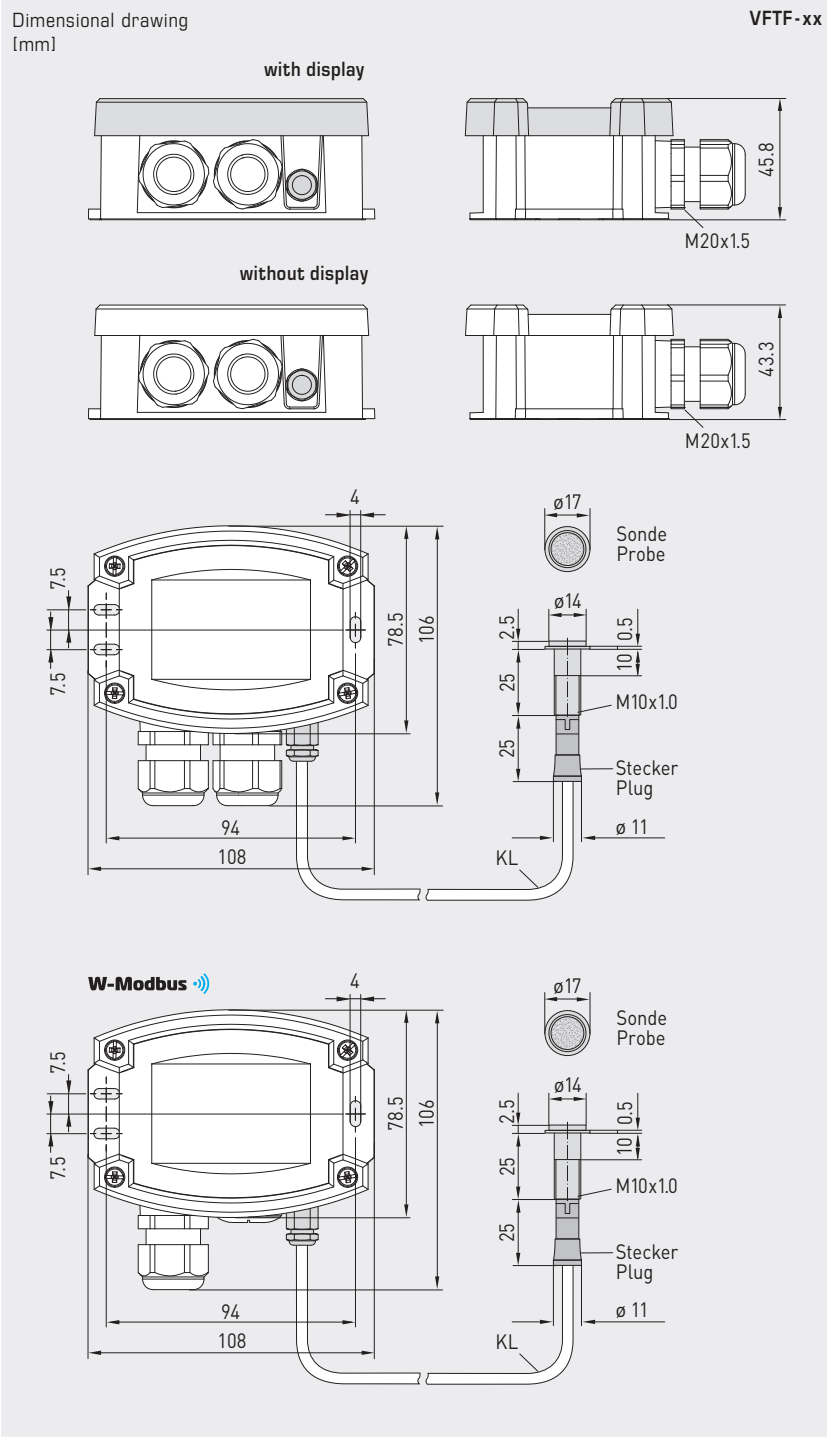


**NEW**

S+S REGELTECHNIK

# HYGRASGARD® VFTF-Modbus-T3 HYGRASGARD® VFTF-wModbus

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**VFTF-Modbus-T3**  
with display  
(RTU cable)



SI IMP

**VFTF-wModbus**  
with display  
(wireless)



SI IMP

Device version  
with **M12 connector**  
(optional on request)



**Probe**  
made of stainless steel,  
pluggable



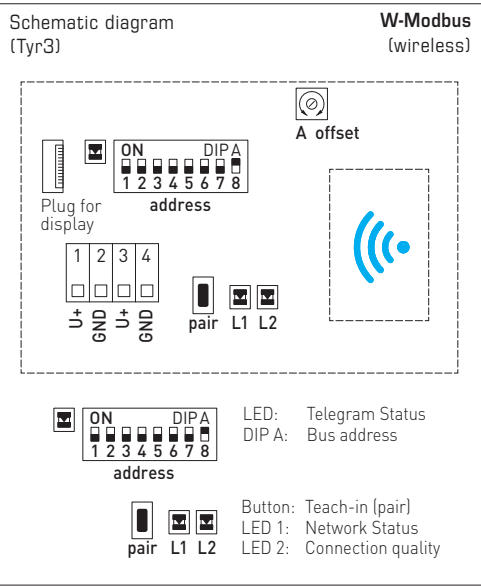
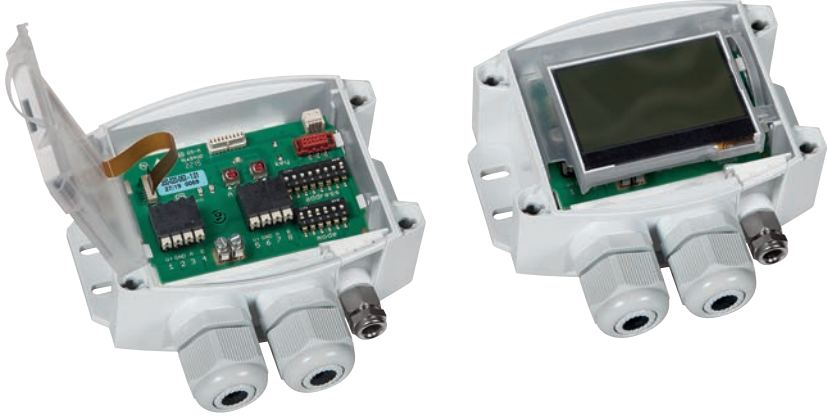
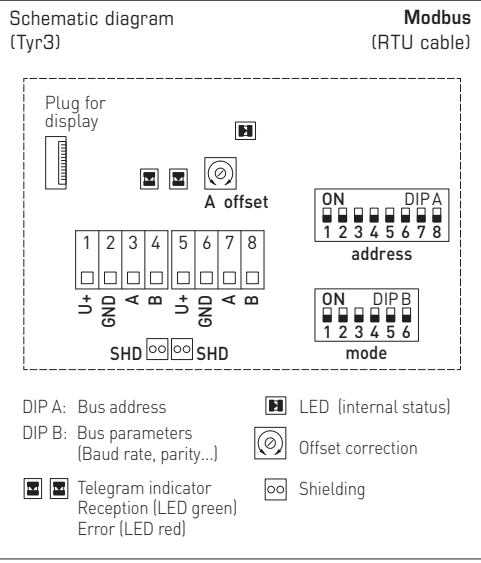
# HYGRASGARD® VFTF-Modbus-T3

## HYGRASGARD® VFTF-wModbus



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 and temperature, calibratable, with Modbus connection or W-Modbus (wireless)

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**GW-wModbus (Pro)**  
 Gateway with W-Modbus module,  
 for radio-based connection to Modbus networks





NEW

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# HYGRASGARD® VFTF-Modbus-T3 HYGRASGARD® VFTF-wModbus

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and temperature, calibratable, with Modbus connection or W-Modbus (wireless)

VFTF- wModbus  
with / without display  
(wireless)



VFTF-Modbus-T3  
with / without display  
(RTU cable)



HYGRASGARD®  
VFTF-Modbus-T3  
VFTF-wModbus

Showcase humidity and temperature sensor ( $\pm 2.0\%$ ), *Premium*  
with with Modbus connection (RTU cable) or  
with W-Modbus (wireless)



Type/WG01	Measuring Range/Readout	Temperature	Output	Display	Item No.	Price
<b>VFTF-Modbus-T3</b>						
VFTF-Modbus-T3	0...100% RH (default) 0...80 g/kg (MV) 0...80 g/m <sup>3</sup> (AH) 0...85 kJ/kg (ENT.) 0...+50°C (DP)	-35...+80°C	Modbus (RTU cable)		1201-6256-1000-000	578,92 €
VFTF-Modbus-T3 LCD	(5x as above)	(1x as above)	Modbus (RTU cable)	■	1201-6256-1400-000	641,39 €
<b>VFTF-wModbus</b>						
VFTF-wModbus	0...100% RH (default) 0...80 g/kg (MV) 0...80 g/m <sup>3</sup> (AH) 0...85 kJ/kg (ENT.) 0...+50°C (DP)	-35...+80°C	W-Modbus (wireless)		1201-625F-1000-000	620,52 €
VFTF-wModbus LCD	(5x as above)	(1x as above)	W-Modbus (wireless)	■	1201-625F-1400-000	682,99 €
Extra charge:	per running metre of connecting lead (PVC)				on request	
	Cable connection with <b>M12 connector</b> according to DIN EN 61076-2-101				on request	
<b>Note:</b>	System of units <b>SI</b> (default) or <b>imperial</b> (can be changed via Modbus).					

### MODBUS ACCESSORIES

<b>GW-wModbus</b>	Gateway with W-Modbus (Wireless) for radio-based connection to Modbus networks, operating modes ' <b>Gateway</b> ' (basic function as a base station) and ' <b>Node</b> ' (adapter function for max. 1 wired sensor)	1801-1211-1101-000	238,16 €
<b>GW-wModbus Pro</b>	and ' <b>Node Pro</b> ' (adapter function for max. 16 wired sensors)	1801-1211-1101-100	322,40 €
<b>KA2-Modbus</b>	<b>Communication adapter</b> (USB/RS485) for system connection	1906-1200-0000-100	229,23 €
<b>LA-Modbus</b>	<b>Line termination device</b> (with terminating resistor) as an active bus termination	1906-1300-0000-100	85,49 €

For further information see the end of the chapter!