

**Room humidity and temperature sensor ($\pm 2.0\%$), on-wall,
for temperature, relative / absolute humidity, dew point, mixture ratio, enthalpy,
calibratable, with Modbus connection**

**RFTF-Modbus
Standard**

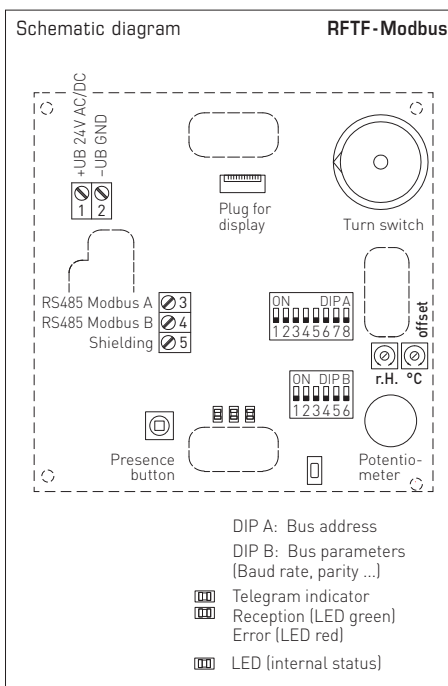
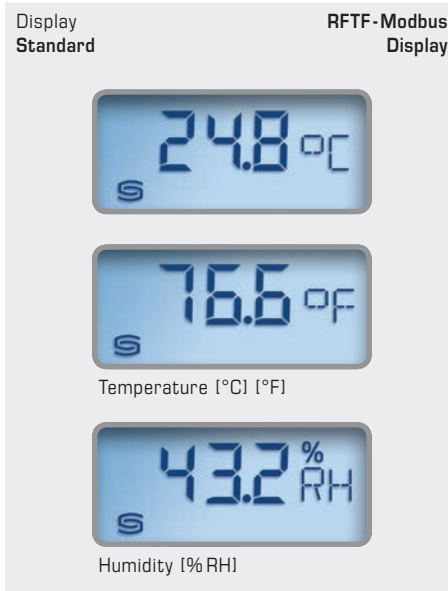
The calibratable room sensor **HYGRASGARD® RFTF-Modbus** with Modbus connection, in an elegant plastic housing (Baldur 2) with snap-on lid, base with 4-hole attachment, optionally with/without display, measures air humidity (0...100%RH) and temperature (0...+50°C). International system of units **SI** (default) can be changed to **imperial** (via Modbus). These measured values are used to internally calculate the following parameters that can be retrieved via Modbus: relative humidity, absolute humidity, mixture ratio, dew point temperature, enthalpy (ignoring atmospheric air pressure) and temperature.

A long-term stable, **digital humidity and temperature sensor** guarantees exact measurement results. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible. **Modbus sensor** with galvanically separated RS485 Modbus interface, selectable bus termination resistance, DIP switches for setting the bus parameters and bus address in a currentless state, internal LEDs for telegram status display and two-line display (illuminated, in the 7-segment and dot-matrix range, individually programmable).



TECHNICAL DATA

Power supply:	24 V AC ($\pm 20\%$) and 15...36V DC
Power consumption:	< 1.0 W / 24 V DC; < 2.2 VA / 24 V AC
Sensor:	Digital humidity sensor with integrated temperature sensor , low hysteresis, high long-term stability
System of units:	SI (default) or Imperial (switchable via Modbus)
Data points:	Temperature [°C] [°F], relative humidity [%RH], absolute humidity [g/m ³] [gr/ft ³], dew point [°C] [°F], mixture ratio [g/kg] [gr/lb], enthalpy [kJ/kg] [Btu/lb], setpoint potentiometer, rotary switch and presence button
Measuring range:	0...100% RH (humidity) 0...+50°C (temperature)
Deviation, humidity:	typically $\pm 2.0\%$ (20...80% RH) at +25°C, otherwise $\pm 3.0\%$
Deviation, temperature:	typically ± 0.2 K at +25°C
Zero point offset:	$\pm 10\%$ RH (humidity) $\pm 10^\circ$ C (temperature) adjustable using potentiometer
Ambient temperature:	storage -35...+85°C; operation 0...+50°C
Medium:	clean air and non-aggressive , non-combustible gases
Bus protocol:	Modbus (RTU mode), address range 0...247 selectable
Baud rate:	9600, 19200, 38400 Baud
Signal filtering:	4 s / 32 s
Electrical connection:	0.2 - 1.5 mm ² , via terminal screws
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimensions:	98 x 98 x 33 mm (Baldur 2)
Installation:	wall mounting or on in-wall flush box, \varnothing 55 mm, base with 4 holes, for attachment to vertically or horizontally installed in-wall flush boxes for rear cable entry, with predetermined breaking point for cable entry from top/bottom in case of plain on-wall installation
Long-term stability:	$\pm 1\%$ per year
Permissible air humidity:	< 95% RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 30 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014/30/EU, according to EN 61 326
Features:	Display with illumination , two-line, programmable, cutout approx. 36 x 15 mm (W x H), to display actual humidity and temperature or a selectable parameter or an individually programmable display value
ACCESSORIES	see table





S+S REGELTECHNIK

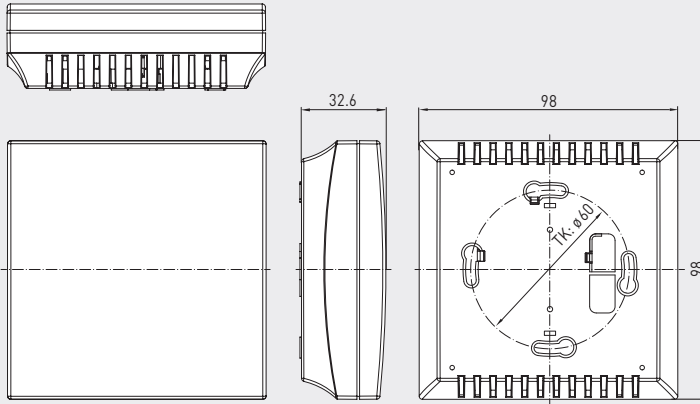
Room humidity and temperature sensor ($\pm 2.0\%$), on-wall,
for temperature, relative / absolute humidity, dew point, mixture ratio, enthalpy,
calibratable, with Modbus connection

Dimensional drawing
[mm]

Housing Baldur 2



RFTF-Modbus
with display



Display
alternative output variables

RFTF-Modbus
Display



The display value depends on the set unit system.
By default, the display alternates between the **actual temperature** and the **actual humidity** (relative humidity).
The Modbus interface allows the display to be **individually** configured both in the 7-segment area and in the dot-matrix area.

The **Modbus configuration** can be used to program an alternative output variable instead of the standard display.
In this case, the first line displays the value and index while the second line displays the corresponding unit.
The index identifies the display type:

- Index 1** = temperature
- Index 2** = setpoint potentiometer
- Index 3** = dew point
- Index 4** = relative humidity
- Index 5** = absolute humidity
- Index 6** = mixture ratio
- Index 7** = enthalpy

HYGRASGARD® RFTF-Modbus		Room humidity and temperature sensor				
Type/WG01	Measuring Range / Readout	Output	Display	Item No.	Price	
	Humidity (switchable)	Temperature				
RFTF-Modbus						
RFTF-Modbus	0...100 % RH (default) 0...80 g / kg (MR) 0...80 g / m³ (A.H.) 0...85 kJ / kg (ENT.) -20...+80 °C (DP)	0...+50 °C	Modbus	1201-42B6-6000-000	164,21 €	
RFTF-Modbus LCD	0...100 % RH (default) 0...80 g / kg (MR) 0...80 g / m³ (A.H.) 0...85 kJ / kg (ENT.) -20...+80 °C (DP)	0...+50 °C	Modbus	■ 1201-42B6-7000-000	202,41 €	
Note: System of units SI (default) or imperial (can be changed via Modbus).						
ACCESSORIES						
KA2-Modbus	Communication adapter (with USB and RS485 interface) for system connection			1906-1200-0000-100	213,99 €	
LA-Modbus	Line termination device (with terminating resistor) as an active bus termination			1906-1300-0000-100	79,81 €	

Roomoperating humidity and temperature sensor (± 2.0 %), on-wall, for temperature, relative / absolute humidity, dew point, mixture ratio, enthalpy, calibratable, with Modbus connection

The calibratable room sensor **HYGRASGARD® RFTF - Modbus** with Modbus connection, in an elegant plastic housing (Balduur 2) with snap-on lid, base with 4-hole attachment, optionally with/without display, measures air humidity (0...100%RH) and temperature (0...+50°C). International system of units **SI** (default) can be changed to **imperial** (via Modbus). These measured values are used to internally calculate the following parameters that can be retrieved via Modbus: relative humidity, absolute humidity, mixture ratio, dew point temperature, enthalpy (ignoring atmospheric air pressure) and temperature. Available as a room control unit in various type versions with **control elements** such as setpoint potentiometer (%), rotary switch (5-step), presence button or five-colour LEDs (colours and modes configurable) for displaying the operating states.

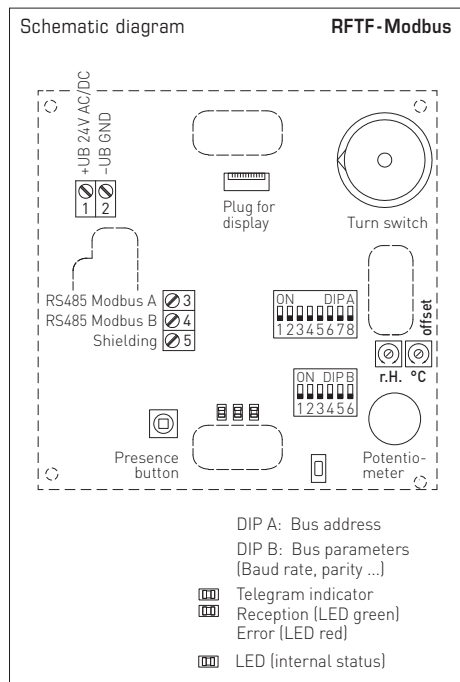
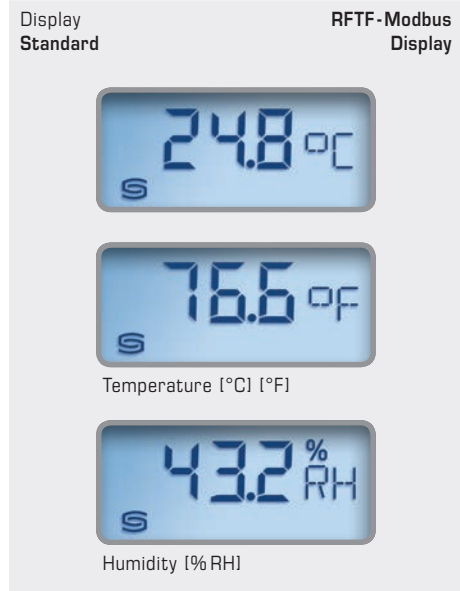
A long-term stable, **digital humidity and temperature sensor** guarantees exact measurement results. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible. **Modbus sensor** with galvanically separated RS485 Modbus interface, selectable bus termination resistance, DIP switches for setting the bus parameters and bus address in a currentless state, internal LEDs for telegram status display and two-line display (illuminated, in the 7-segment and dot-matrix range, individually programmable).

RFTF - Modbus - PTD5 5L
with potentiometer, push-buttons, rotary switches and LED display



TECHNICAL DATA

Power supply:	24 V AC (± 20 %) and 15...36 V DC
Power consumption:	< 1.0 W / 24 V DC; < 2.2 VA / 24 V AC
Sensor:	Digital humidity sensor with integrated temperature sensor , low hysteresis, high long-term stability
System of units:	SI (default) or Imperial (switchable via Modbus)
Data points:	Temperature [°C] [°F], relative humidity [%RH], absolute humidity [g/m³] [gr/ft³], dew point [°C] [°F], mixture ratio [g/kg] [gr/lb], enthalpy [kJ/kg] [Btu/lb], setpoint potentiometer, rotary switch and presence button
Measuring range:	0...100 % RH (humidity) 0...+ 50 °C (temperature)
Deviation, humidity:	typically ± 2.0 % (20...80 % RH) at +25 °C, otherwise ± 3.0 %
Deviation, temperature:	typically ± 0.2 K at +25 °C
Zero point offset:	± 10 % RH (humidity) ± 10 °C (temperature) adjustable using potentiometer
Ambient temperature:	storage -35...+85 °C; operation 0...+50 °C
Medium:	clean air and non-aggressive , non-combustible gases
Bus protocol:	Modbus (RTU mode), address range 0... 247 selectable
Baud rate:	9600, 19200, 38400 Baud
Signal filtering:	4 s / 32 s
Electrical connection:	0.2 - 1.5 mm², via terminal screws
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimensions:	98 x 98 x 33 mm (Balduur 2)
Installation:	wall mounting or on in-wall flush box, Ø 55 mm, base with 4 holes, for attachment to vertically or horizontally installed in-wall flush boxes for rear cable entry, with predetermined breaking point for cable entry from top /bottom in case of plain on-wall installation
Long-term stability:	± 1 % per year
Permissible air humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP30 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU, according to EN 61 326
Features:	Display with illumination , two-line, programmable, cutout approx. 36 x 15 mm (W x H), to display actual humidity and temperature or a selectable parameter or an individually programmable display value LEDs (colour-programmable)
ACCESSORIES	see table





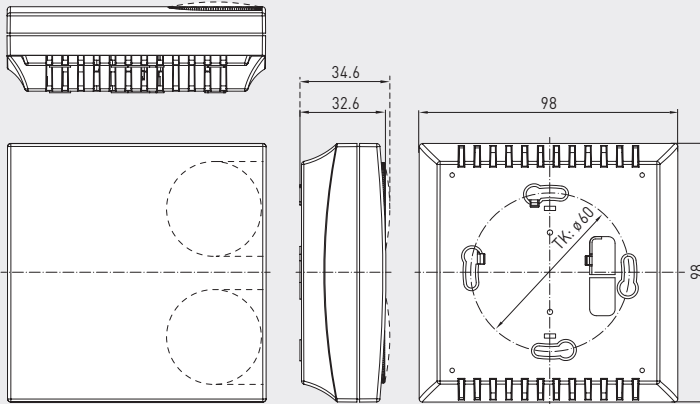
S+S REGELTECHNIK

HYGRASGARD® RFTF-Modbus-xx

Roomoperating humidity and temperature sensor ($\pm 2.0\%$), on-wall,
for temperature, relative / absolute humidity, dew point, mixture ratio, enthalpy,
calibratable, with Modbus connection

Dimensional drawing
[mm]

Housing Baldur 2



RFTF-Modbus-PT 5L
with display, potentiometer,
push-buttons and LED display



Display
alternative output variables

RFTF-Modbus
Display



The display value depends on the set unit system.
By default, the display alternates between the **actual temperature** and the **actual humidity** (relative humidity).
The Modbus interface allows the display to be **individually** configured both in the 7-segment area and in the dot-matrix area.

The **Modbus configuration** can be used to program an alternative output variable instead of the standard display.
In this case, the first line displays the value and index while the second line displays the corresponding unit.
The index identifies the display type:

- Index 1 = temperature
- Index 2 = setpoint potentiometer
- Index 3 = dew point
- Index 4 = relative humidity
- Index 5 = absolute humidity
- Index 6 = mixture ratio
- Index 7 = enthalpy

HYGRASGARD® RFTF-Modbus Roomoperating humidity and temperature sensor						
Type / WG01	Measuring Range / Readout	Temperature	Output	Display	Item No.	Price
RFTF-Modbus-xx						
RFTF-Modbus P	0...100% RH (default) 0...80 g/kg (MR) 0...80 g/m³ (A.H.) 0...85 kJ/kg (ENT.) -20...+80 °C (DP)	0...+50 °C	Modbus		1201-42B6-6001-005	200,50 €
RFTF-Modbus P LCD	(5x as above)	(1x as above)	Modbus	■	1201-42B6-7001-005	238,69 €
RFTF-Modbus P 5L	(5x as above)	(1x as above)	Modbus		1201-42B6-6119-005	258,54 €
RFTF-Modbus P 5L LCD	(5x as above)	(1x as above)	Modbus	■	1201-42B6-7119-005	296,73 €
RFTF-Modbus P D5	(5x as above)	(1x as above)	Modbus		1201-42B6-6012-841	230,74 €
RFTF-Modbus P D5 5L	(5x as above)	(1x as above)	Modbus		1201-42B6-6120-841	291,20 €
RFTF-Modbus P T D5 5L	(5x as above)	(1x as above)	Modbus		1201-42B6-6121-841	305,72 €
RFTF-Modbus P T	(5x as above)	(1x as above)	Modbus		1201-42B6-6047-005	212,59 €
RFTF-Modbus P T LCD	(5x as above)	(1x as above)	Modbus	■	1201-42B6-7047-005	250,78 €
RFTF-Modbus P T 5L	(5x as above)	(1x as above)	Modbus		1201-42B6-6051-005	273,05 €
RFTF-Modbus P T 5L LCD	(5x as above)	(1x as above)	Modbus	■	1201-42B6-7051-005	311,24 €
Equipment:	P = Potentiometer (setpoint setter) T = Presence push-buttons		D5 = Rotary switch, 5-step 5L = LED display, multi-colour (5x)			
ACCESSORIES						
KA2-Modbus	Communication adapter (USB/RS485)				1906-1200-0000-100	213,99 €