

**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, with/without optional display in an elegant enclosure (Baldur 2) measures the relative humidity and temperature of the room air. These measurands are used to internally calculate various parameters. 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 room temperature [°C].

TECHNICAL DATA

Power supply:	24 V AC ($\pm 20\%$) 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
Data points:	Temperature, relative humidity, absolute humidity, dew point, mixture ratio, enthalpy and setpoint potentiometer, rotary switch and presence button
Measuring range:	0...100% r.H. (humidity) 0...+50 °C (temperature)
Deviation, humidity:	typically $\pm 2.0\%$ (20...80% r.H.) at +25 °C, otherwise $\pm 3.0\%$
Temperature deviation:	± 0.2 K at +25 °C
Zero point offset:	$\pm 10\%$ r.H. (humidity) ± 10 °C (temperature) adjustable using potentiometer
Ambient temperature:	Storage -35...+85 °C; Operation 0...+50 °C
Medium:	clean air and other non-aggressive , non-combustible gases
Bus protocol:	Modbus (RTU mode), address range 0...247 selectable
Signal filtering:	4 s / 32 s
Enclosure:	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:	$\pm 1\%$ / year
Permissible air humidity:	< 95% r. H., 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



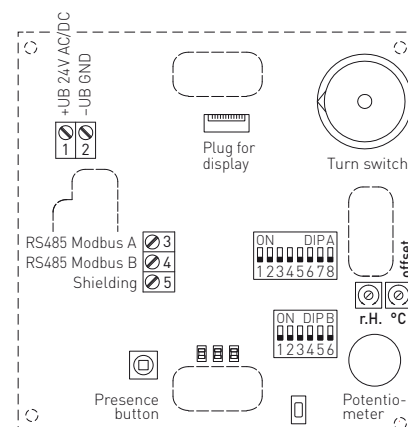
Display
Standard

RFTF-Modbus
Display



Schematic diagram

RFTF-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

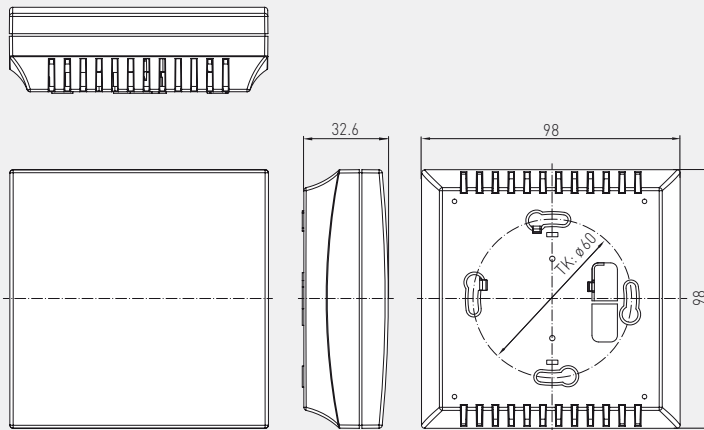


S+S REGELTECHNIK

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Dimensional drawing

Enclosure **Baldur 2**



RFTF-Modbus
with display



Display
alternative output variables

RFTF-Modbus
Display



By default, the display alternates between the **actual temperature** and the **actual humidity** (relative humidity). For improved legibility, backlighting is provided.

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 in $^{\circ}\text{C}$
Index 2 = setpoint potentiometer in %
Index 3 = dew point in $^{\circ}\text{C}$
Index 4 = relative humidity in % r.H.
Index 5 = absolute humidity in g/m^3
Index 6 = mixture ratio in g/kg
Index 7 = enthalpy in kJ/kg

HYGRASGARD® RFTF-Modbus – Roomoperating humidity and temperaturesensor

Type / WG01	Measuring Range / Readout Humidity (switchable)	Temperature	Output	Display	Item No.	Price
RFTF-Modbus						
RFTF-MODBUS	0...100 % r. H. 0...80 g / kg 0...80 g / m ³ 0...85 kJ / kg -20...+80 °C	(standard) (MR) (A.H.) (ENT.) (DP)	0...+50 °C	Modbus	1201-42B6-6000-000	138,51 €
RFTF-MODBUS DISPLAY	0...100 % r. H. 0...80 g / kg 0...80 g / m ³ 0...85 kJ / kg -20...+80 °C	(standard) (MR) (A.H.) (ENT.) (DP)	0...+50 °C	Modbus	■ 1201-42B6-7000-000	170,72 €

Accessories

KA-2	Modbus communication adapter with USB/RS485 interface for system connection or/and as an active bus termination resistance	on request
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