

Description

This sensor is designed to measure the temperature and relative humidity in indoor environments as schools, hotels, commercial buildings, offices, homes...

Applications

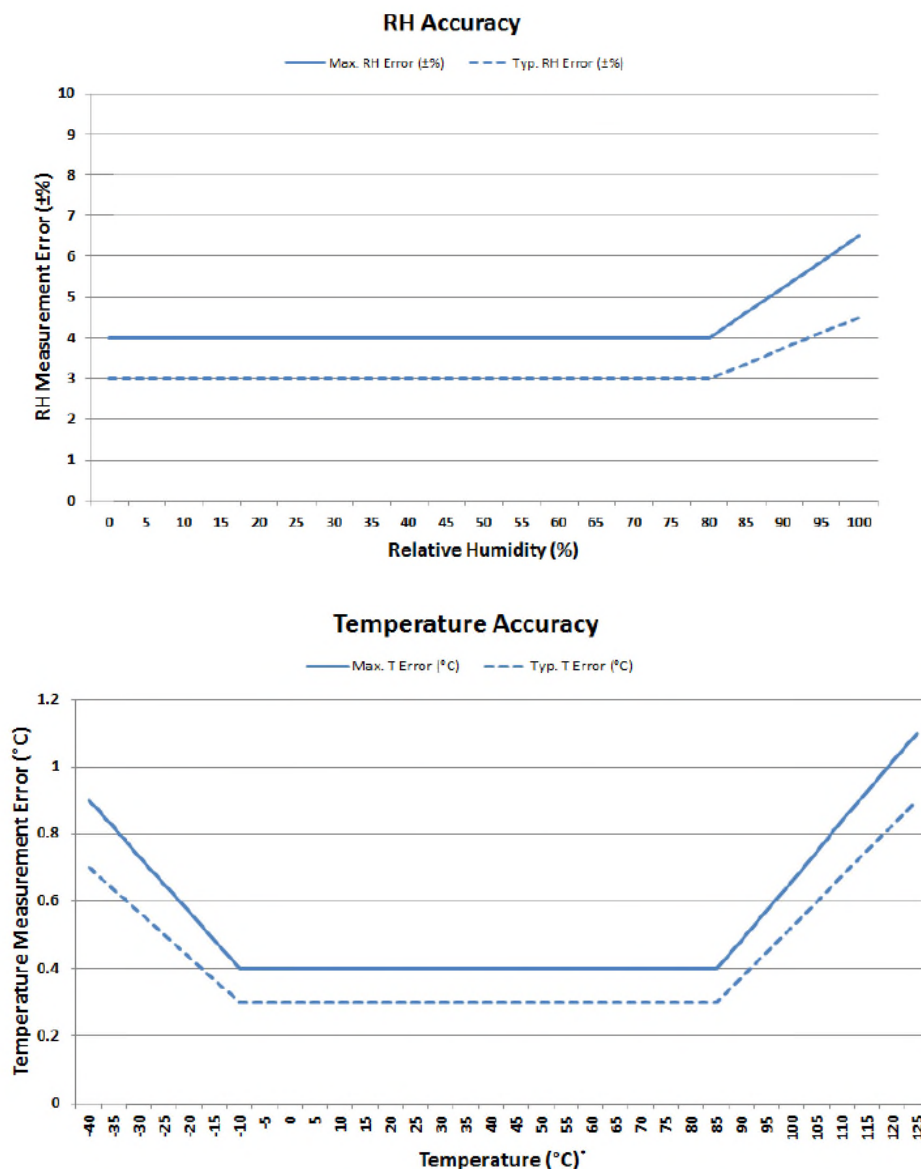
- HVAC applications for building management
- Air conditioning
- Hotels, museums, offices...



Technical Specifications

Humidity	
sensing principle	capacitive
Measuring Range	0 to 100% RH
Accuracy Typ.	$\pm 3\%$ ($0\% \leq rH \leq 80\%$)
resolution min.	0.2 %

Temperature	
sensing principle	capacitive
Measuring Range	- 40°C to +125°C
Accuracy Typ.	$\pm 0.3^\circ\text{C}$ ($- 10^\circ\text{C} \leq t_a \leq +85^\circ\text{C}$)
resolution min.	0.08°C





Electrical Specifications		General Specifications	
Power supply	24 Vdc (7-28 Vdc)	Regulatory Compliance	CE Mark: EMC 2004/108/EC, RoHS 2011/65/EU, WEEE
Power consumption	Less than 10mA		EN61000-6-1/2/3/4
Operating Temperature	-40 ~ +125° C	Casing Material	ABS UL94-V0
Storage Temperature	-40 ~ + 120 °C	Protection Class	IP20
Operating Humidity	0 ~ 95% non-condensing	Housing color	White
Electrical connection	screw terminals max. 1.5 mm2	Dimensions	80x80x25 mm
MODBUS output	EIA-485 physical layer RTU Default: 9600, even, 1 bit, address 7		3.15x3.15x0.98 "
		Weight	0.049 kg

MODBUS REGISTERS

INPUT REGISTERS [100-101-102-103-104-105-106-107-108] i.e. if protocol-message address and counts from 0

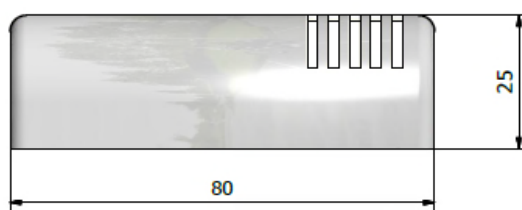
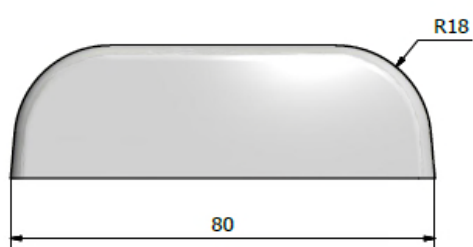
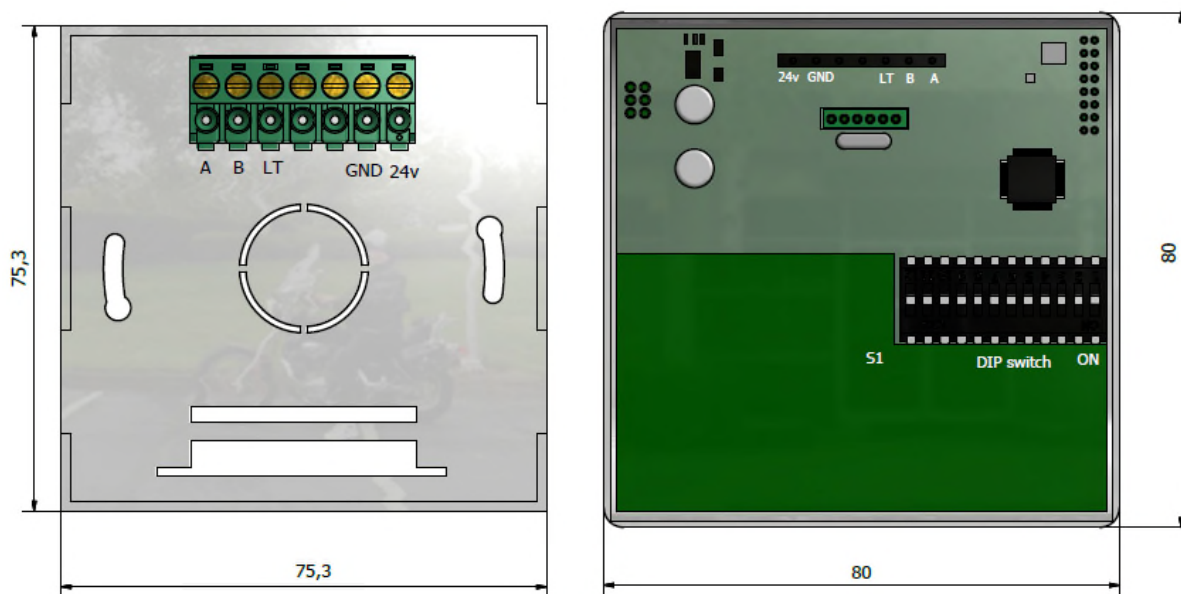
HOLDING REGISTERS [101-102-103-104-105-106-107-108-109] i.e. if device address counts from 1

Unsigned integer 16 bits [100-101-102-103-104] i.e. HOLDING REGISTERS

100	Last measured Humidity value (Integer value)
101	Last measured temperature value (Integer value)
102	Last measured Humidity sensor value (Integer value) $\%RH = (125 * [102]) / (65536) - 6$
103	Last measured Temperature sensor value (Integer value) $^{\circ}C = (175,72 * [103]) / (65536) - 46,85$
104	TIME REFERENCE
105 & 106	Last Measured temp value in IEEE-754 float big endian –single precision 4 bytes – Swap Words <i>Example: if the number were 1,2345678 in hex 0x3f9e0651 then the transmitted number will be</i> <i>105: 0x0651</i> <i>106: 0x3f9e</i>
107 & 108	Last measured humidity value in IEEE-754 float big endian - single precision 4 bytes – Swap Words

Installation Diagram – Cabling – Housing Dimensions (mm)

PIN	Signal
1	A-RS485
2	B-RS485
3	Line Termination
4	
5	
6	GND
7	24V dc



***(1)**
ON=0
OFF=1

Product Name	Reference
Humidity and Temperature MODBUS sensor	EN220212