

Data sheet
RATIO®-radio bus system
Room Temperature Sensor RTF102



The Ratio®-room temperature sensor RTF102 is a battery- and maintenancefree radio sender. The power generation is effected by transmission of roomlight into electrical energy by a solargenerator. It conduces to the measuring of the room temperature and the transmission by radio to the radio senders and atuators/gateways..
 By its very flat construction it can be installed on walls and even on glass.

By short roomlight for the power generation the temperature sensor can also be runned with a battery.

Technical Data	Room Temperatur Sensor RFT 102	Remarks
Operating data	Solar Power Generator, battery-free.	
Radio technology	Protocol EnOcean-STM, Transmission power max. 10mW EIRP	Frequency 868,3MHz Modulation ASK
Radio module / Channels	STM100 / 1Reed Contact with 2 action states (open/closed)	
Start up time from empty storage	for learning use for use for 14 hours in darkness	> 10 min. @ 100 lx > 5 h @ 1000 lx or > 13 h @ 400 lx
Temperature collection	Range 0°C..40°C Accuracy +/- 0,4K	Dissolution 0,15K
Desired value collection (angle of rotation)	0° left = 0 Bits, 180° right = 255 Bits	Dissolution 0,8°
Measurement value logging	Every 10 seconds	
Transmission interval	every 100 seconds during change of measured value > 0,8K every ca. 16 Minutes status telegram by change angle of rotation >3°	
Range	Interior 30 to 100m, exterior up to300m	
Dimensions	Casing: LxBxT 81mm x 81mm x 16mm	
Mechanical Data	Casing: plastic ABS,	Weight: 80g
Protection category	IP20 after EN 60529	
Mounting / Assembly	Finery on a flat underground	Adhesion or screws
Environmental conditions	Room temperature when in operation Storage temperature Rel. humidity (non-condensing)	0°C ... +65°C -40°C ... +85°C 0 ... 70%
Approbation	R&TTE guidelines 1999/5/EC and conforming to EU regulations. ROHS conforming according to 2002/95/EC.	

Telegram							
Byte	Symbol	Significance	Value	Byte	Symbol	Meaning	Value
0	SYNC1	Synchronization	A5h	1	SYNC2	Synchronization	5Ah
2	HEADER	Length	0Bh	3	ORG	Type of transmitter	07h
4	DATA3	always 0	00h	5	DATA2	Desired value angle of rotation linear 0° left = 0 Bit, 180° right = 255 Bit	xxh
6	DATA1	Actual value linear, 0°C = 255 Bit, 40°C = 0 Bit	xxh	7	DATA0	Bit 0 = no meaning, Bit 1 = Coding = 1, Bit 2 = Coding = 1, Bit 3 = Learning branch, pressed=0, Bit 4 .. 7 = no meaning	xxh
8	ID3	ID-Number part 1	xxh	9	ID2	ID-Number part 2	xxh
10	ID1	ID-Number part 3	xxh	11	ID0	ID-Number part 4	xxh
12	STATUS	Status byte	xxh	13	CHK	Check sum	xxh

Designation	Designation additive	Typ	Article number
Room temperatur sensor with set point setter	Color clean-white	RTF102-rw	2104153
	Color anthracite	RTF102-a	2104201
	Color aluminum varnished	RTF102-sb	2104200
	Battery kit		On request