


● Characteristics

	- Input:	RTD Pt100 (maximum range -50...+400 °C)
	- Output:	Radio transceiver
	- Voltage supply:	Lithium-ion battery pack
	- Accuracy:	ca. 0,2% FS
	- Process connection:	Several options
	- Electrical connection:	Without / M12x1, 4-pole (charge, supply)
	- Radio range:	50 m / 200 m
	- Temperature range:	-20...+45...60 °C (ambient)
	- Configuration:	Factory configuration
	- Material:	Stainless steel 1.5471 (medium contact)
- Protection:	At least IP65	

● Technical data

Input

Sensor	RTD Pt100, 4-wire
Maximum range:	-50...+400 °C
Ranges:	0...50, ...100, ...150, ...200, ...250, ...300, ...400 °C / -50...400, ...100, ...200 °C / -40...60 °C / -30...60, ...70, ...150, ...170 °C / -10...40, ...200 °C / -20...20, ...60 °C

Output

Input / Output:	Radio signal
Radio range:	Antenna internally: 50 m (free visibility) Antenna externally: 200 m (free visibility)
External antenna:	Connection plug: SMA plug (female), built-in
Frequency:	SRD-Band 868 MHz ISM-Band 916 MHz
Modulation	FSK

Performance

Sensor:	RTD Pt100:	Class A
RTD module:	Name:	MS-RTD
	Resolution:	16 bit, 0,1 °C
	Measuring rate:	8 measurements/s
	Filter/Damping:	0...1 s
	Accuracy:	0,15% FS
	Temperature coefficient:	50 ppm/K
	Internal bus:	I2C
CPU module:	Connection:	in SIM slot
	Name:	MS-CPU-C
	Clock rate:	8 MHz
	Internal bus:	I2C
	Connection:	soldered
	Additional task:	Voltage control

● Applications

For use in the whole range of industrial application where measuring point and evaluation has to be bridged by radio. With the configuration from a distance and the evaluation software the temperature sensor MSTS-WR is also suitable for applications with higher requirements.



● **Technical data (continued)**

Performance (continued)

Radio module:	Name:	MS-RDI, MS-RDE
	RF output power:	up to 5 dBm (ca. 3,2 mW)
	Transmission rate:	19,2 kb/s
	Signalisierung:	2 LED (red, green), visible under lens on top
	Internal bus:	I2C
	Connection:	in SIM slot

Supply

Accumulator:	Voltage:	3,6 V
	Capacity:	2600 mAh
	Type:	Lithium-ion battery pack
	Operating time:	1 measurement / minute: ca. 1 year 6 measurements / minute: ca. 100 days
Charging:	Voltage:	5 VDC
	Current:	1 A maximum
External permanent:	Voltage:	5 VDC
	Current:	1 A maximum

Power management:

Optimization:	In factory
Radio module:	Power consumption: 14...24 mA (TX-mode) 0,8...7,5 µA (Sleep mode)
RTD module:	Power consumption: 7 mA maximum (active) ?? µA (sleep mode)
CPU module:	Power consumption: 10 mA maximum (active) 200 µA (sleep mode)

Ambient conditions

Temperature:	Operating range:	-20...+60 °C 0...+45 °C (Charging of accumulator)
	Medium:	-50...+400 °C
	Storing:	-20...+50 °C
Air humidity:	????	

Mechanics

Dimensions:	see page 3
Process connection:	1/4" / 3/8" / 1/2" / 3/4" / 1" / 1/4NPT / 3/8NPT / 1/2NPT
Extension:	100 mm, temperature medium: up to 200 °C (option) 200 mm, temperature medium: up to 400 °C (option)
Electrical connection:	Without: accumulator to replace Option: M12x1, 4-pole (charge) Option: M12x1, 4-pole (permanent supply, accumulator parallel)
ON/OFF switch:	On top, switching with magnet
Material:	Protecting tube: stainless steel 1.4571 (standard 6 mm) Extension: stainless steel 1.4571 Process connection: stainless steel 1.4571 Lens: PMMA Screw cap: PA6.6 GF30
Weight:	approx. 400 g (50 mm, 1/2", M12x1)
Fitting position:	any
System pressure:	PN 25
Protection of device:	Ingress protection: at least IP 65 (electronics) PCB: potted by parts
Conformity:	ETSI-directive, EMC directive: 2004/108/EG

Accessories

PC software:	Operating system: XP, W7, W8
	Channels: 32
	Use 1: storage, indication, evaluation and export of data received from radio devices
	Use 2: Configuration of radio devices from a distance
USB transceiver:	Name: USB-RC
	Connection: PC or notebook
	Use: transmit-receive device
	Range: 200 m (free visibility)
	Frequency: SRD band 868 MHz ISM band 916 MHz

● Electrical connection

View: plug pins of male connector

Charging M12x1, 4-pole	Supply permanent M12x1, 4-pole			
1 = +5 VDC 3 = -	1 = +5 VDC 3 = -			

● Dimensions (in mm)

Accumulator to replace	With plug M12x1 and internal antenna	With plug M12x1 and external antenna	Extension

● Order code

N C X X X X - X - X X X X X X

Input:	RTD Pt100, 4-wire	1											
Sensor type:	Class A	1											
Range:¹⁾	0...50 °C		1										
	0...100 °C		2										
	0...150 °C		3										
	0...200 °C		4										
	0...250 °C		5										
	0...300 °C		6										
	0...400 °C		7										
	-50...100 °C		8										
	-30...60 °C		9										
	-30...70 °C		A										
	-30...150 °C		B										
	-10...40 °C		C										
	-20...20 °C		D										
	-20...60 °C		E										
Protecting tube:	Ø6 mm						6						
	Ø6 mm with extension 100 mm						L						
	Ø6 mm with extension 200 mm						M						
Fitting length:²⁾	50 mm											050	
	100 mm											100	
	200 mm											200	
	250 mm											250	
	400 mm											400	
	600 mm											600	
	1000 mm											A00	
Process connection:	1/4"												1
	3/8"												2
	1/2"												3
	3/4"												4
	1"												5
	1/4NPT												7
	3/8" NPT												8
	1/2" NPT												9
Electrical connection:	without (accumulator to replace)												0
	M12x1, 4-pole (charge plug)												1
	M12x1, 4-pole (permanent supply, accumulator parallel)												2
Antenna:	Internally, 868 MHz												1
	Externally, 868 MHz												2
	Internally, 916 MHz												3
	Externally, 916 MHz												4
Configuration:	Factory setting ³⁾												1
	Customized (to specify) ⁴⁾												2
Special model:	No												0
	Yes (to specify)												1

1) Other ranges: -30...170 °C = F / -10...200 °C = G / -40...60 °C = H / -50...200 °C = I / -50...400 °C = J
 2) Other length see in price list (every 5 mm)
 3)
 4)

Accessories:		
PC software	Storage, indication, evaluation, export, configuration	Order No.:
USB transceiver	Transmit and receive of data from and to device (USB-RC)	Order No.: