




● Characteristics

1 - RESISTANCE THERMOMETER - RTD - PT100 -

		Number of certificate 47 922-03 HH	
	Measuring element:	RTD Pt 100, Pt 1000 (2-, 3-, 4-wire)	
	Process connection:	several options available	
	Option:	transmitter 4...20 mA (1x Pt100)	
	Configuration:	measuring range programmable (Windows)	
	Protection:	IP 67, electronics completely potted	
	Material:	stainless steel 1.4571 (protecting tube and case)	
	Connection:	several options available	
Standard thermowell: Ø6 x 1 mm, optionally Ø6 x 0,5 mm			

● Technical data

Input

Resistance thermometer: 1 x Pt 100(0) (2-, 3- or 4-wire), 2 x Pt 100(0) (2-wire)

Output

Transmitter: 4...20 mA, 2-wire (load: max. (U_b - 10 V) / 0,023 A)

Accuracy

Resistance thermometer: Class A, DIN EN 60751 (sensor: HERAEUS M222)
 Transmitter: 0,1K / 0,8% of adjusted range
 Sensor current: <0,6 mA / Response time electronics: 1 s
 Response time in water: Protecting tube 6x0,5 mm: z0,5~12,0 s / z0,9~30,9 s
 Protecting tube 6x1,0 mm: z0,5~7,6 s / z0,9~22,1 s

Usability and measuring range

Pt 100(0): Usability -50...+200°C
 Transmitter: Measuring range programmable (standard: 0...100°C)
 Minimum span: 10 K

Power supply

Transmitter: 10...35 V, supply out of current loop

Ambient temperature conditions

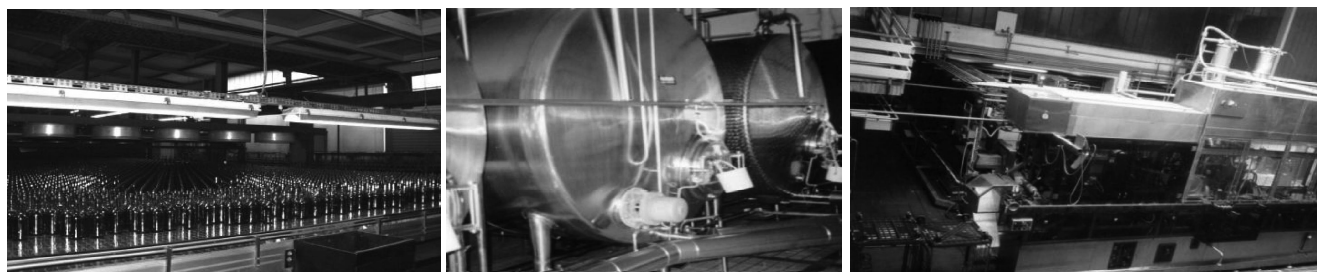
Operating: -50...+100°C, with transmitter: -40...+85°C
 Storing: -50...+100°C, with transmitter: -40...+100°C

Mechanics

Case: Ø 26 x 63...86 mm + fitting length (dependent on electrical connection)
 Material: Protection tube, body of case: stainless steel 1.4571
 Weight: 200...240 g, fitting length 50 mm
 Process connection: 1/4" / 3/8" / 1/2" / 3/4" / 1" / 1/4NPT / 3/8NPT / 1/2NPT
 Electrical connection: MIL plug D 38999, 6-pole / Valve plug DIN EN 175301-803, 4-pole, type A
 Plug M12x1, 4-pole / Cable entry M12x1,5 with 2 m cable
 Protection: Degree IP 67

● Applications

For use in climating, ventilating and heating installations. Due to the used materials and the compact design, this sensor with its small dimensions is very robust. The programmable transmitter reduces storekeeping considerably.



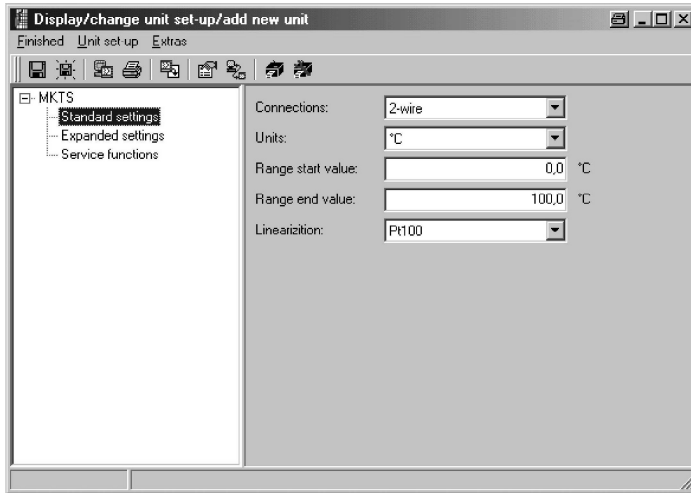
● Transmitter (configuration)

MKTS-GL with transmitter can be configured comfortably by using a software.

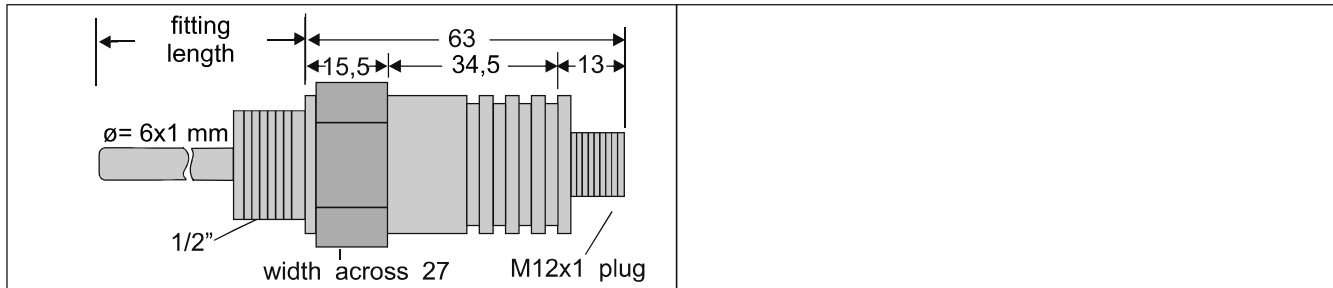
Presetable parameters:

- Connection (2-, 3-, 4-wire)
- Simulation (on/off)
- Damping (0... 60s)
- Compensation resistance
- Units (°C/°F)
- Fault condition reaction
- Offset (-9,9...+9,9 K)
- Measurement ranges
- Output (analog standard/inverse)
- Identification/TAG

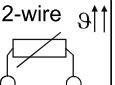
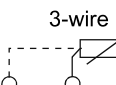

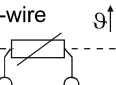
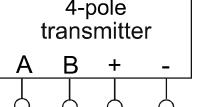




Screenshot of the software for configuration



● Dimension, connection (M12x1)



● Electrical connection

Sensor \ Connection	2-wire 	3-wire 	4-wire 	 2x 2-wire	4-pole transmitter 
M12x1*	3 2	4 3 2	4 3 2 1	4 3 2 1	2 4 1 3
valve plug	3 2	 3 2	 3 2 1	 3 2 1	 3 1 2
MIL-plug	2 3	1 2 3	1 2 3 4	4 3 2 1	3 5 1 2
cable	bn gn rd wh	ye bn gn rd rd wh	ye bn gn wh rd rd wh wh	gn bn ye wh rd wh bk ye	bn gn ge ws

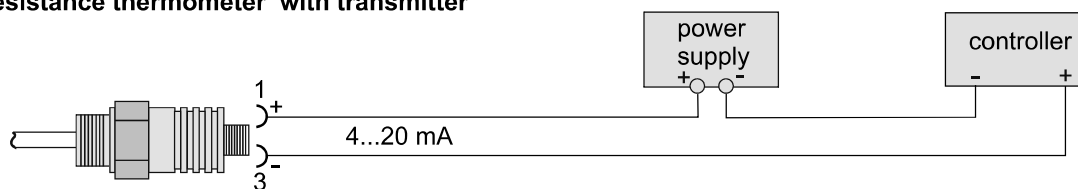
* The MKTS-GL with transmitter has lowered pins for programming. For normal use of the sensor a standard female plug is necessary, for the programming a special female plug which is included in the cable set (see accessories in the data sheet/price list of MKTS-GL)

Specification pin-and-socket connector

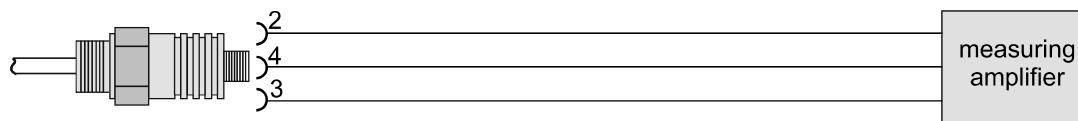
Kind of connector	existing on the sensor	necessary counterpart
Pin-and-socket connector M12x1 4-pole, A-coding	built-in plug M12x1, 4-pole Escha EWAS4 / Lumberg RSE	tip jack M12x1, 4-pole Escha WA.., WW... / Lumberg RK...
Valve pin-and-socket connector model A (Binder series M-A)	built-in plug 4-pole (3+PE) DIN EN 175301-803	tip jack 4-pole (3+PE) DIN EN 175301-803
MIL pin-and-socket connector	built-in plug D38999, 6-pole	tip jack D38999, 6-pole

Example of connection

Resistance thermometer with transmitter



Resistance thermometer 3-Leiter



● Ordering code

		M	K	X	X	X	X	-	X	-	X	X	X	X
Model:	Without transmitter	A												
	With transmitter	B												
Sensor element:	RTD Pt100			0										
	RTD Pt1000			1										
	RTD 2x Pt100			2										
	RTD 2x Pt1000			3										
Sensor:	2-wire			0										
	3-wire			1										
	4-wire			2										
Accuracy:	Class A					0								
Fitting length:	Up to 300 mm (to specify) ¹⁾							0						
Process connection:	1/2"											0		
	1/4"											1		
	3/8"											2		
	3/4"											3		
	1"											4		
	1/4NPT											5		
	3/8NPT											6		
	3/4NPT											7		
	1/2NPT											8		
Electr. connection:	M12x1, 4-pole												0	
	Valve plug DIN EN 175301-803, 4-pole												1	
	MIL-plug, 6-pole												2	
	Cable, 2 m (Teflon/silicone)												3	
Range transmitter:	Standard (0...100 °C)													0
	Other range (to specify) ²⁾													1
Other:	Special model													0

1): Within range 10...300 mm

2): Within range -50...+200°C

Note: the model M12x1 with transmitter has a special connector only. For the connection of the sensor it is possible to use a standard M12x1 socket. For the programming of the sensor a special socket connector is necessary, which is included in the cable set for programming (the plug of the sensor has lowered pins).

Accessories

Socket: M12x1, 4-pole / valve, DIN EN 175301-803, 4-pole / MIL, D3899, 6-pole

Cable set for programming: M12x1 / MIL / valve / cable

Adaptor for programming, software / software

Flange for ventilating tube

Protecting tube