

Modular and compact temperature sensors

Safety warnings



General: When mounting, initiating and operating this sensor the safety precautions and regulations have to be observed. Only staff with a corresponding qualification should work with the sensor. A non-observance of the safety regulations may cause serious injuries and/or damages. Check before initial operation the suitability of the sensor for this area of application. The technical data of this manual have to

Important for types with transmitter



Take care that there is no contact between the connectors for programming (A, B) and the measuring circuit or its supply voltage. Any contact will destroy the transmitter.

Table of connection

Connection \ sensor	9-pin connector				4-pole transmitter				CANopen-bus													
	2-wire		3-wire		4-wire		2x 2-wire		A	B	+	-	VCC+	CANL	GND	CANH	Shield					
M12x1* (old version)	3	2	4	3	2	4	3	2	1	4	3	2	1	3	4	1	2					
M12x1 (4-pole)*	3	2	4	3	2	4	3	2	1	4	3	2	1	2	4	1	3					
M12x1 (5-pole)																		1	2	3	4	5
valve plug	3	2	⊥	3	2	⊥	3	2	1	⊥	3	2	1	⊥	3	1	2					
MIL-plug	3	2	4	3	2	4	3	2	1	4	3	2	1	3	5	1	2	1	2	3	4	5
cable	bn	gn	ye	bn	gn	ye	bn	gn	wh	gn	bn	ye	wh	bn	gn	ye	wh					

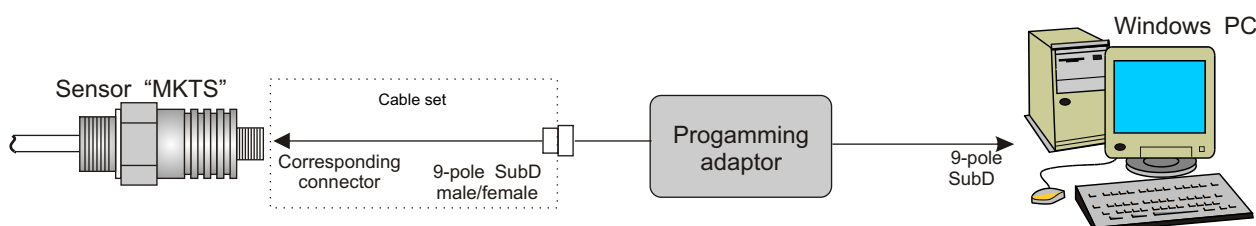
*Affected are MKTS with transmitter (old version: MKX3.../MKX4.../MKX5...). With the new version (MKX7.../MKX8.../MKX9...) the pins for programming are low. For normal use of the sensor a standard female plug is necessary, for the programming a special female plug which is included in the cable set (see accessories in the data sheet/price list of MKTS)

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...
Pin-and-socket connector M12x1 5-pole,	built-in plug M12x1, 5-pole Escha / Lumberg	tip jack M12x1, 5-pole Escha / Lumberg
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 programming the transmitter

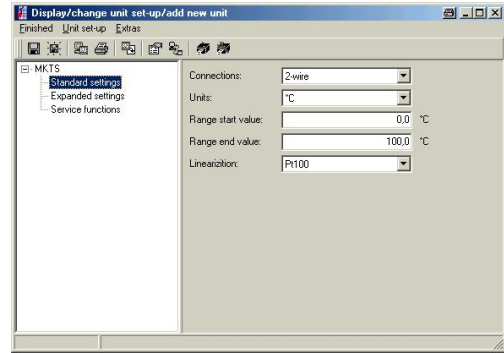
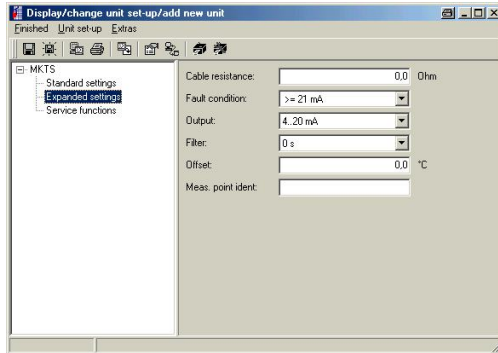
Connect the temperature sensor with the corresponding connector of the programming adaptor, the 9-pole SubD connect with a Windows-PC.. With the installed programming software now adjust the transmitter according to manual.



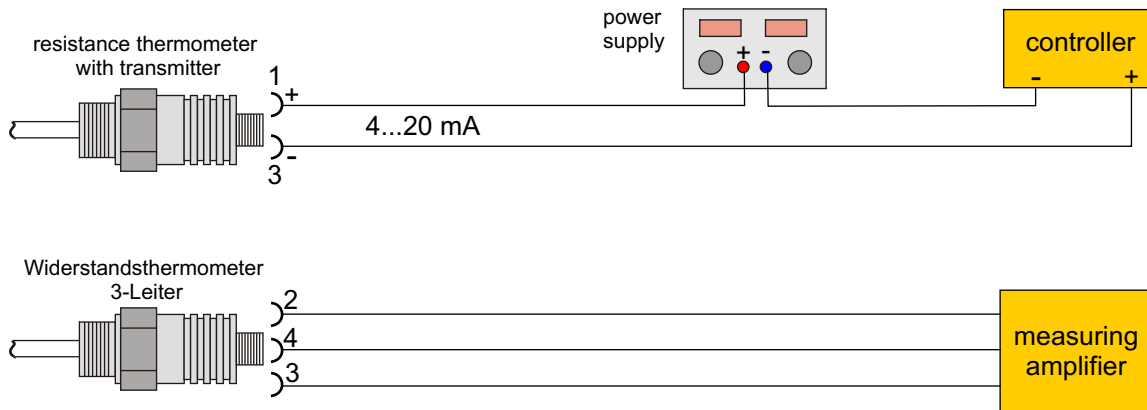
Transmitter (programming)

- Presentable parameters:**
- connection (2-, 3-, 4-wire)
 - units (°C/°F)
 - measurement ranges
 - compensation resistance
 - fault condition reaction
 - output (analog standard/inverse)
 - damping (0... 60s)
 - offset (-9,9...+9,9 K)
 - measurement point identification/TAG
 - simulation (on/off)

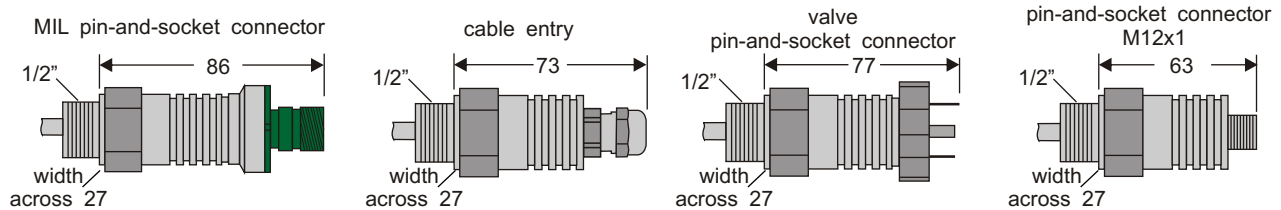
After the installation of the programming software please use the help (find it here “?”) and follow the step by step explanation.



Example of connection



Dimensions



Technical data

Input

- Resistance thermometer
- 1 x Pt 100 (types 2-, 3- or 4-wire)
 - 2 x Pt 100 (type 2-wire)
 - 1 x Pt 1000 (types 2-, 3- or 4-wire)
 - 2 x Pt 1000 (type 2-wire)

Output

- Transmitter
- 4...20 mA, 2-wire

Accuracy

- Resistance thermometer:
- class B, optional class A, 1/2 DIN, 1/3 DIN, 1/5 DIN or 1/10 DIN
- Transmitter:
- 0,1% of end scale value

Measuring range

- Pt 100(0)
- 50...+200°C
- Transmitter:
- programmable (standard: 0...100°C)

Power supply

- Transmitter:
- 10...35 V, supply out of current loop
- CANopen:
- 18...36 VDC

Temperature conditions

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

Mechanics

- Case:
- with MIL plug: Ø 31 x 86 mm + fitting length
 - with valve plug: Ø 31 x 77 mm + fitting length
 - with plug M12x1: Ø 31 x 63 mm + fitting length
 - with cable entry: Ø 31 x 73 mm + fitting length
- Material:
- protection tube, body of case: stainless steel 1.4571
- Colour:
- stainless steel natural
- Weight:
- with MIL plug, fitting length 50 mm: approx. 240 g
 - with valve plug, fitting length 50 mm: approx. 200 g
 - with plug M12x1, fitting length 50 mm: approx. 200 g
 - with cable entry, fitting length 50 mm: approx. 200 g
- Connections:
- MIL plug D 38999, 6-pole
 - valve plug DIN EN 175301-803, 4-pole
 - plug M12x1, RSE4 compatible, 4-pole
 - cable entry M12x1,5 MS-SC-M, 2 m cable
- Protection:
- degree IP 67

MANUAL

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