

RTD Temperature probe with standard M12X1 connectors

Type TR23

- For temperatures from -50 to +400 °C
- As single or double RTD temperature probes
- Plug connection locked contact stable, protection type IP67 (IP69K)
- Available with transmitter

This temperature probe in compact design type comprises a protection tube with integrated temperature sensor, a process connection, and an attached case for the transmitter electronics. The integrated programmable two-wire transmitter converts the resistance value into a current signal.

RTD temperature probe with programmable two-wire transmitter is used to measure temperatures from -50 °C to +400 °C. The measuring range, the fine adjustment, or the measuring circuit monitoring etc. can be configured using a setup program.

The output signal 4 to 20 mA is available in a linearized way. The transmitter must be protected from temperatures above 85 °C.

The device is designed for industrial applications.

Technical data

Terminal head	Machine connector M12×1 4-pin is the standard, other versions also available
Process connection	Thread and flange is available, stainless steel or brass; customizable
Sheath	Stainless steel AISI 304 or 316L, Various materials and diameters are available
Measuring insert	Pt100 according to DIN EN 60751, Pt500 or Pt1000 are also available
Response times	t0.5 approx. 2 s, t0.9 approx. 6 s, in water 0.2m/s, Ø 6mm t0.9 approx. 50 s, in water 0.2 m/s, Ø 9 mm



Agent:

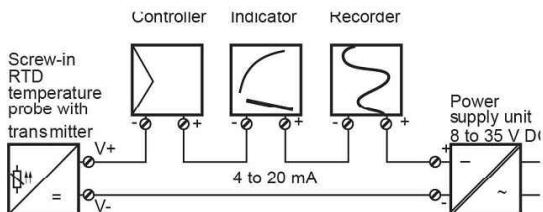


RTD Temperature probe with standard M12X1 connectors Type TR23

Connection diagram

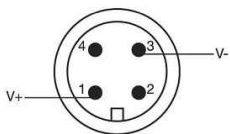
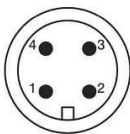
Connection example with transmitter

Connection example with power supply unit



Connection diagram

Machine connector M12 x 1, 4-pin according to IEC 60947-5-2



Warning:
Do not connect Pin 2 and 4 to voltage!

Electrical connection	Terminal assignment
Basic type without transmitter	
Screw-in RTD temperature probe in two-wire circuit	
Screw-in RTD temperature probe in four-wire circuit	
Basic type with programmable transmitter	
Voltage supply DC 8 to 35 V	
Current output 4 to 20 mA	
Setup communication via special configuration cable (for configuration only, continuous operation is not admissible)	

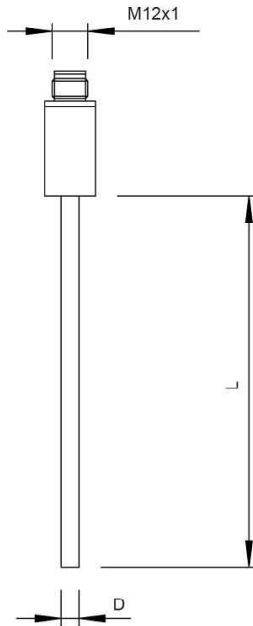
Agent:



**RTD temperature probe with standard
M12X1 connectors
Type TR23V0**

Ordering Guidance

Type	1	2	3	4	5	6	7	8	9
TR23V0	L	P	D	R	M	E	A	T	S



L	1. Fitting length L in mm
L 100	100mm
L 200	200mm
L 300	300mm
L	Customization

P	2. Process connection
P0	without process connection
PA3	Sheath screw connection G1/4
PA5	Sheath screw connection G1/2
PA14	Sheath screw connection 1/2NPT
PA41	Sheath screw connection M16×1.5
P	Customization

D	3. Sheath diameter D in mm
D4	4mm
D6	6mm
D8	8mm
D	Customization

R	4. Range in °C
R1	-50..200°C
R2	-50..260°C
R3	-50..400°C
R	Customization

M	5. Material of sheath
M1	Stainless steel ANSI 304
M2	Stainless steel 1.4435/316L
M	Customization

E	6. Elements of measuring insert
E1	1×Pt100 2-wires
E2	1×Pt100 3-wires
E3	1×Pt100 4-wires
E4	2×Pt100 2-wires
E7	1×Pt500 2-wires
E8	1×Pt500 3-wires
E9	1×Pt500 4-wires
E10	2×Pt500 2-wires
E13	1×Pt1000 2-wires
E14	1×Pt1000 3-wires
E15	1×Pt1000 4-wires
E16	2×Pt1000 2-wires
E	Customization

A	7. Accuracy class to EN 60 751
A1	B Class: ±0.3°C at 0°C
A2	A Class: ±0.15°C at 0°C
A3	AA Class: ±0.1°C at 0°C
A	Customization

T	8. Connectors
T11	M12×1 Connector male
T	Customization

S	9. Special requirements
S0	None
S6	Transmitter, 4...20mA
S16	gMatching socket
S	Customization

TanPoQuiEr DATA SHEET

Agent:

ISO 16949

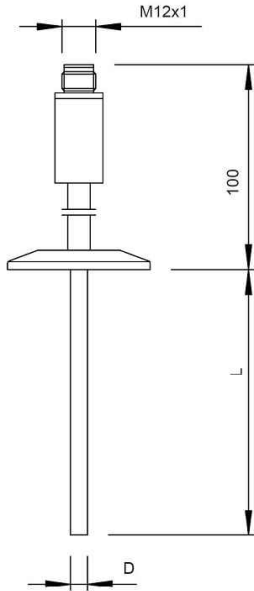
国际汽车质量管理体系认证
IAF\CNAS\UKAS



**RTD temperature probe with standard
M12X1 connectors-Clamp process connection
Type TR23V1**

Ordering Guidance

Type	1	2	3	4	5	6	7	8	9
TR23V1	L	P	D	R	M	E	A	T	S



D	3. Sheath diameter D in mm
D4	4mm
D6	6mm
D8	8mm
D	Customization

A	7. Accuracy class to EN 60 751
A1	B Class: $\pm 0.3^{\circ}\text{C}$ at 0°C
A2	A Class: $\pm 0.15^{\circ}\text{C}$ at 0°C
A3	AA Class: $\pm 0.1^{\circ}\text{C}$ at 0°C
A	Customization

R	4. Range in $^{\circ}\text{C}$
R1	$-50..200^{\circ}\text{C}$
R2	$-50..260^{\circ}\text{C}$
R3	$-50..400^{\circ}\text{C}$
R	Customization

T	8. Connectors
T11	M12x1 Connector male
T	Customization

M	5. Material of sheath
M1	Stainless steel AISI 304
M2	Stainless steel 1.4435/AISI 316L
M	Customization

S	9. Special requirements
S0	None
S6	Transmitter, 4...20mA
S16	gMatching socket
S	Customization

E	6. Elements of measuring insert
E1	1xPt100 2-wires
E2	1xPt100 3-wires
E3	1xPt100 4-wires
E4	2xPt100 2-wires
E7	1xPt500 2-wires
E8	1xPt500 3-wires
E9	1xPt500 4-wires
E10	2xPt500 2-wires
E13	1xPt1000 2-wires
E14	1xPt1000 3-wires
E15	1xPt1000 4-wires
E16	2xPt1000 2-wires
E	Customization

L	1. Fitting length L in mm
L100	100mm
L200	200mm
L300	300mm
L	Customization

P	2. Process connection
P90	Clamp DIN 32676 DN10/16/20 ($\varphi 34$)
P91	Clamp DIN 32676 DN25/32/40 ($\varphi 50.5$)
P92	Clamp DIN 32676 DN50 ($\varphi 64$)
P94	Clamp ASME 1/4;3/8;1/2;3/4 ($\varphi 24.99$)
P	Customization

TanPoQuiEr DATA SHEET

Agent:

ISO 16949

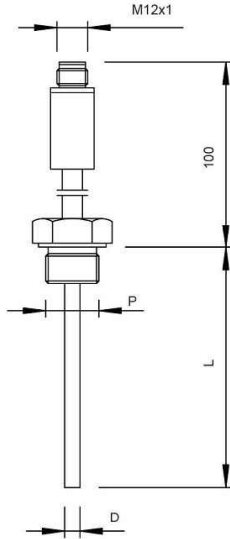
国际汽车质量管理体系认证
IAF\CNAS\UKAS



**RTD temperature probe with standard M12X1 connectors-Screw in connection
Type TR23V2**

Ordering Guidance

Type	1	2	3	4	5	6	7	8	9
TR23V2	L	P	D	R	M	E	A	T	S



D	3. Sheath diameter D in mm
D4	4mm
D6	6mm
D8	8mm
D	Customization

A	7. Accuracy class to EN 60 751
A1	B Class: ±0.3°C at 0°C
A2	A Class: ±0.15°C at 0°C
A3	AA Class: ±0.1°C at 0°C
A	Customization

R	4. Range in °C
R1	-50...200°C
R2	-50...260°C
R3	-50...400°C
R	Customization

T	8. Connectors
T11	M12x1 Connector male
T	Customization

M	5. Material of sheath
M1	Stainless steel AISI 304
M2	Stainless steel 1.4435/AISI 316L
M	Customization

S	9. Special requirements
S0	None
S6	Transmitter, 4...20mA
S16	gMatching socket
S	Customization

E	6. Elements of measuring insert
E1	1×Pt100 2-wires
E2	1×Pt100 3-wires
E3	1×Pt100 4-wires
E4	2×Pt100 2-wires
E7	1×Pt500 2-wires
E8	1×Pt500 3-wires
E9	1×Pt500 4-wires
E10	2×Pt500 2-wires
E13	1×Pt1000 2-wires
E14	1×Pt1000 3-wires
E15	1×Pt1000 4-wires
E16	2×Pt1000 2-wires
E	Customization

L	1. Fitting length L in mm
L100	100mm
L200	200mm
L300	300mm
L	Customization

P	2. Process connection
P3	Thread G1/4
P5	Thread G1/2
P7	Thread G3/4
P41	Thread M16×1.5
P	Customization

TanPoQuiEr DATA SHEET

Agent:

ISO 16949

国际汽车质量管理体系认证
IAF\CNAS\UKAS

