

TP, TM Resistance Temperature Detectors

Entered into the State Register of measuring instruments under ## 14475-95, 14476-95, 16264-97.

GENERAL DATA FOR TP, TM RESISTANCE TEMPERATURE DETECTORS

Wiring diagram between inner conductors and sensing element

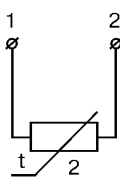


Diagram 2

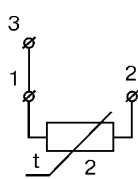


Diagram 2 (a)

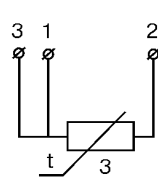


Diagram 3

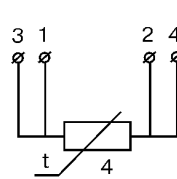
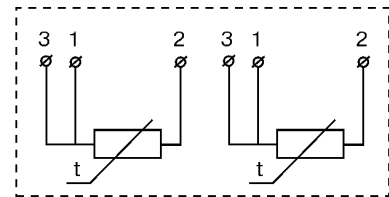


Diagram 4



2 x 3 - "double SE"
(two SE in one housing)

TEMPERATURE AND AMBIENT HUMIDITY RESISTANCE

Version according to resistance to temperature and air humidity: U3 per GOST 15150.

EXPECTED LIFE

Total life time: 8 years minimum.

VERIFICATION

Interval:
 - TP: 3 years maximum;
 - TM: 1 year maximum.
 Procedure: per GOST8.461.

ORDERING INFORMATION

TP-9208	- Fig.1	- -50...350°C	- 50P	- B	- 1SE	- diag.2	- 200 mm	- 8 mm	- 12Cr18Ni10Ti	- TU...	- P
1	2	3	4	5	6	7	8	9	10	11	12

1. RTD type.
2. Design Figure.
3. Operating temperature range.
4. Standard curve.
5. Tolerance class.
6. Number of sensing elements.
7. Wiring diagram between conductor and sensing element.
8. Immersion length (if required: l).
9. Protection fitting diameter*.
10. Protection fitting material*.
11. Specifications.
12. Metrological verification:
GP - verification by GosStandard Authorities;
P - metrological verification by manufacturer.
 * optional.

RTD Type	TU Number
TP-9202, -9207-01	TU-4211-003-12296299-94
TM-9202, -9207-01	TU-4211-001-12296307-93
TM-9206	TU-4211-001-12296299-94
TP-8052	TU-4211-006-12296299-94

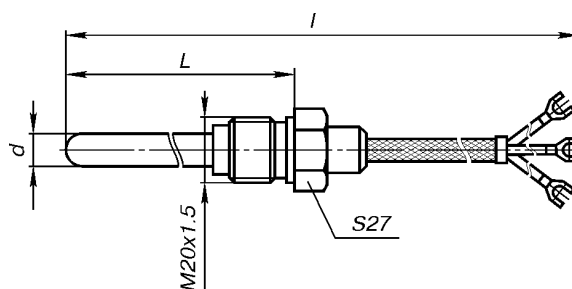
TP-9202, TM-9202

Application: for fluid temperature measurement in various industries.

Specifications	TP-9202	TM-9202
Measured temperature range, °C	-50...250	-50...150
Standard curve per GOST 6651	50P, 100P	50M, 100M
Tolerance class	B, C	C
Max. pressure, MPa	0.4	
Thermal inertia index, max, s	30	
Number of sensing elements	1	
Wiring diagram per GOST 6651	3	2a
Dust and water tightness per GOST 14254	IP00	IP55
Protection fitting material	12Cr18Ni10Ti, 08Cr13	
Weight, kg	0.11...0.35	

Dimensions, mm

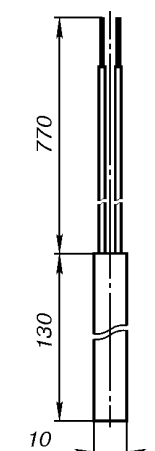
d	l	L
8	620	80
	640	100
	660	120
	700	160
	740	200
	790	250
	860	320
1040	500	
6	640	100



TM-9206

Application: for temperature measurement of solid surfaces (e.g. electric machine sheathing).

Specifications	TM-9206
Measured temperature range, °C	-50...150
Standard curve per GOST 6651	50M
Tolerance class	B
Max. pressure, MPa	0.1
Thermal inertia index, max, s	10
Number of sensing elements	1
Wiring diagram per GOST 6651	2
Dust and water tightness per GOST 14254	IP54
Protection fitting material	KO-815 varnished glass fabric
Weight, kg	0.03



TP-9207-01, TM-9207-01

Application: for fluid temperature measurement in various industries.

Specifications	TP	TM
Measured temperature range, °C	-50...350	-50...150
Standard curve per GOST 6651	50P, 100P	50M, 100M
Tolerance class	B	
Max. pressure, MPa	0.4 - Fig.1; 6.3 - Fig.2	
Thermal inertia index, max, s	80	
Number of sensing elements	1	
Wiring diagram per GOST 6651	2, 3, 4	2
Dust and water tightness per GOST 14254	IP55	
Protection fitting material	12Cr18Ni10Ti	
Head material	aluminium	
Weight, kg	0.5...0.74	

Immersion length, L, mm

Fig.1	320, 500, 800, 1000
Fig.2	120, 160, 200, 250, 320, 400, 500, 630, 800, 1000

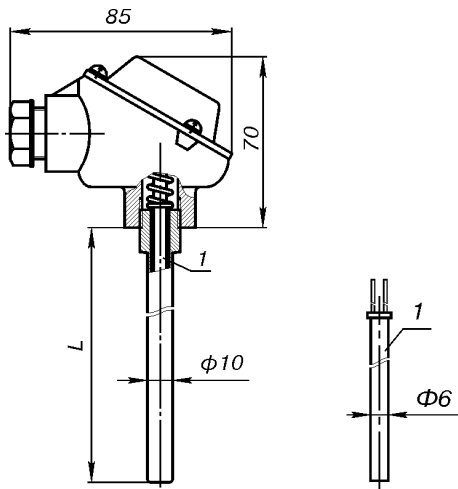


Fig.1.

1 - thermometric insert.

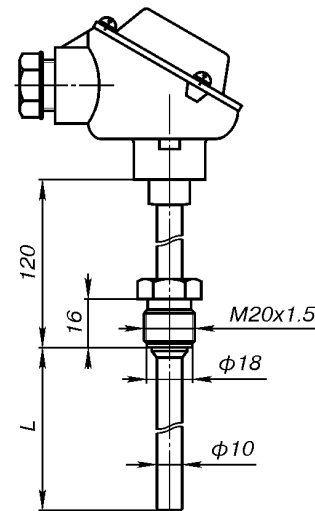


Fig.2.

Note: modular design with replaceable thermometric insert.

TP-9208, TM-9208

Application: for fluid temperature measurement in various industries.

Specifications	TP-9208	TM-9208
Measured temperature range, °C	-50...350	-50...150
Standard curve per GOST 6651	50P, 100P	50M, 100M
Tolerance class	A, B	B, C
Max. pressure, MPa	4	
Thermal inertia index, max, s	20 for d=6 mm 30 for d=8 mm	
Number of sensing elements	1	
Wiring diagram per GOST 6651	2, 3, 4	2, 3
Dust and water tightness per GOST 14254	IP55	
Protection fitting material	12Cr18Ni10Ti	08Cr13; 12Cr18Ni10Ti
Head material	AG-4V	
Weight, kg	0.1...0.35	

L, mm	d, mm
80	8
100	
120	
160	
200	
250	
320	
500	6
100	

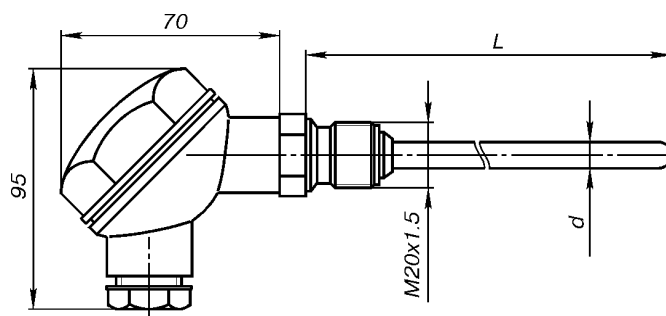
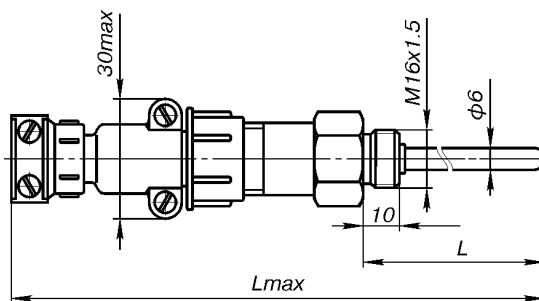


Fig. 1.

TM-9210

Application: for fluid temperature measurement in diesel locomotive (water, oil, air).

Specifications	TM-9210
Measured temperature range, °C	0...150
Standard curve per GOST 6651	50M
Tolerance class	B
Max. pressure, MPa	4
Thermal inertia index, max, s	17
Number of sensing elements	1
Wiring diagram per GOST 6651	2
Dust and water tightness per GOST 14254	IP54
Protection fitting material	12Cr18Ni10Ti
Weight, kg	0.11...0.13



Length, mm

L	60	80	100	120
Lmax	160	180	200	220

TP-9211

Application: for fluid temperature measurement in chemical and gas industries, in cryoengineering.

Specifications	TP-9211
Measured temperature range, °C	-50...350
Standard curve per GOST 6651	50P, 100P
Tolerance class	A, B
Max. pressure, MPa	2.5
Thermal inertia index, max, s	8
Number of sensing elements	1
Wiring diagram per GOST 6651	2, 3, 4
Dust and water tightness per GOST 14254	IP54, IP20
Protection fitting material	12Cr18Ni10Ti
Head material	aluminium
Weight, kg	0.45...0.64

Immersion length, L, mm

Fig.1	80, 100, 120, 160, 200, 250, 320, 500
Fig.2	160

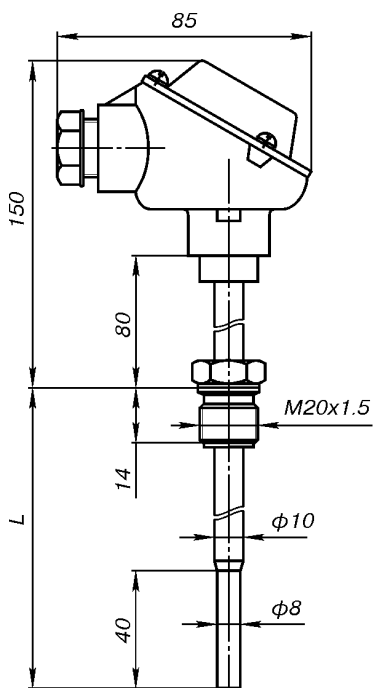


Fig.1.

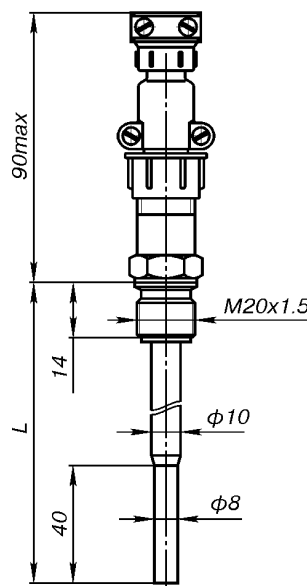


Fig.2.

TP-9212

Application: for temperature measurement on chemical fiber lines.

Specifications	TP-9212
Measured temperature range, °C	-50...350
Standard curve per GOST 6651	50P, 100P
Tolerance class	B
Max. pressure, MPa	0.1
Thermal inertia index, max, s	10, 20
Number of sensing elements	1
Wiring diagram per GOST 6651	2, 3
Dust and water tightness per GOST 14254	IP55, IP00
Protection fitting material	12Cr18Ni10Ti
Head material	AG-4V
Weight, kg	0.035...0.13

Dimensions, mm

	L	l
Fig.1	160	
	250	
	320	
	400	
Fig.2	60	340
	160	440
	320	600
	630	785

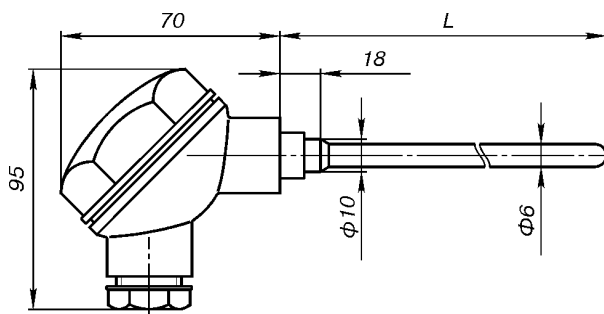


Fig. 1.

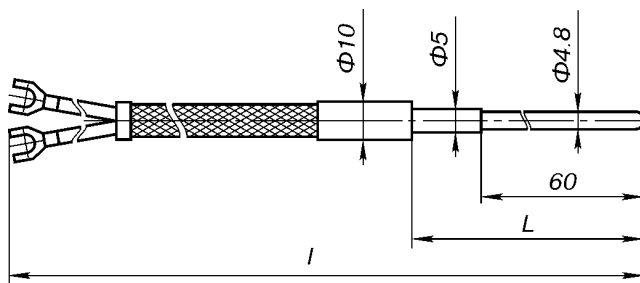


Fig. 2.

TP-9218

Application: for media temperature measurement in test chambers.

Specifications	TP-9218
Measured temperature range, °C	-50...200
Standard curve per GOST 6651	100P
Tolerance class	A, B
Max. pressure, MPa	0.16
Thermal inertia index, max, s	8
Number of sensing elements	1, 2
Wiring diagram per GOST 6651	3
Protection fitting material	08Cr18Ni10Ti
Weight, kg	0.05...0.16

Fig.	L, mm	l, mm
1	120	60
	630	85
2	160, 200, 250, 320, 400, 630	60, 85

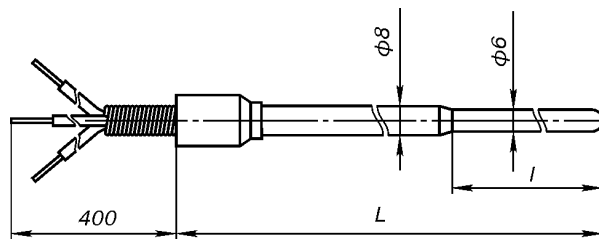


Fig. 1.

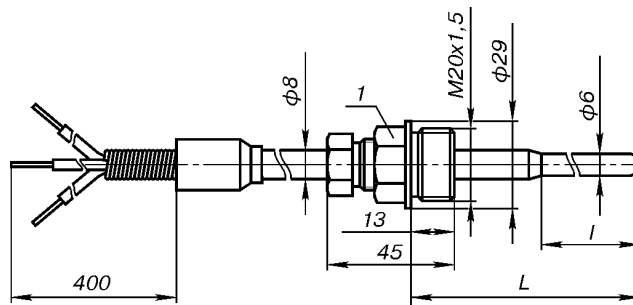


Fig.2.

1 - adjustable connector.