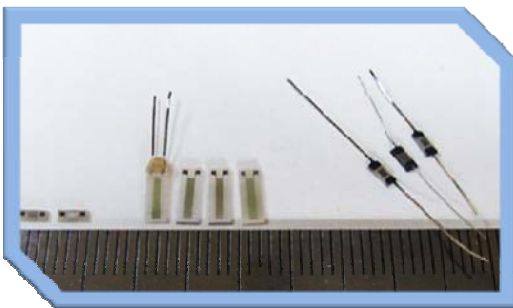




THIN-FILM PLATINUM TEMPERATURE SENSORS
MMSENSOR-T

Sensors **MMSENSOR-T** are intended for conversion of temperature of dry gaseous fluids and a surface of solid bodies (objects) to output electrical signal.

- *Reliability and stability of characteristics at high temperatures (1000 °C) and cryogenic (up to minus 196 °C) temperatures and harsh mechanical loads.*
- *Compliance with the requirements of international standards.*
- *Long-term operation at the influence of corrosive gas mixtures.*



General specifications

Parameter	Value range
Temperature range of conversation , °C	minus 196...+1000
Rated resistance (R ₀), Ohm	100; 1000
Temperature coefficient of resistance(α _T)	0,00385 ± 0,63×10 ⁻⁴
Long-term stability , % (maximum drift R ₀ after 1000h at 500°C)	0,1 ... 0,05
vibration strength , g (acceleration in frequency range 10 Hz ... 2 kHz)	0,04
Shock strength , g (8 msec, half-wave)	0,1
Isolation , MOhm ▶ at 20°C ▶ at 500°C	> >
High-voltage durability, V ▶ at 20°C ▶ at 500°C	> >



Limit variation of thin-film temperature sensors with 1000Ohm resistance

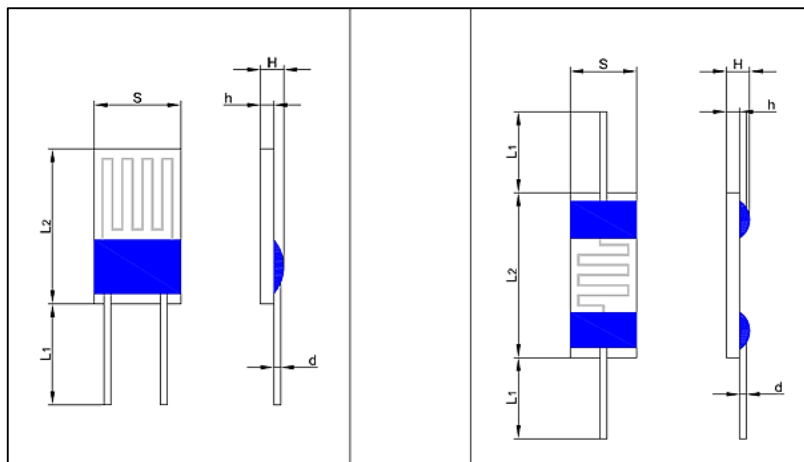
Temperature, °C	Error			
	Class A		Class B	
	R ₀ = 1000 Ohm		R ₀ = 1000 Ohm	
	°C	Ohm	°C	Ohm
- 200	± 0,6	± 0,29	±1,30	± 0,58
- 100	±0,35	±0,18	±0,80	± 0,35
0	±0,10	±0,06	±0,30	± 0,13
100	±0,35	±0,17	±0,80	± 0,34
200	±0,60	±0,27	±1,30	± 0,54
300	±0,85	±0,37	±1,80	± 0,74
400	±1,10	±0,47	±2,30	± 0,93
500	±1,35	±0,56	±2,80	± 1,12
600	±1,6	±0,65	±3,30	± 1,29
650	±1,75	±0,69	±3,55	± 1,38
700	±1,85	±0,73	±3,80	± 1,46
800	±2,10	±0,81	±4,30	± 1,63
850	±2,25	±0,85	±4,55	± 1,71
900	±2,35	±0,89	±4,80	± 1,78
950	±2,45	±0,93	±5,05	± 1,86
1000	±2,6	±0,97	±5,30	± 1,93

Preferred current of measuring

- ▶ for sensors with R₀ = 100 Ohm maximum 1,0 mA;
- ▶ for sensors with R₀ = 1000 Ohm maximum 0,3 mA

It is possible to produce sensors with rated resistances R₀=200 Ohm, 300 Ohm, 400 Ohm, 500 Ohm on the customer's concurrence.

Sensors of «V» type





Contact wires: nickel.

It is possible to produce sensors from platinum, nickel with platinum-coated or silver outlets on the customer's concurrence.

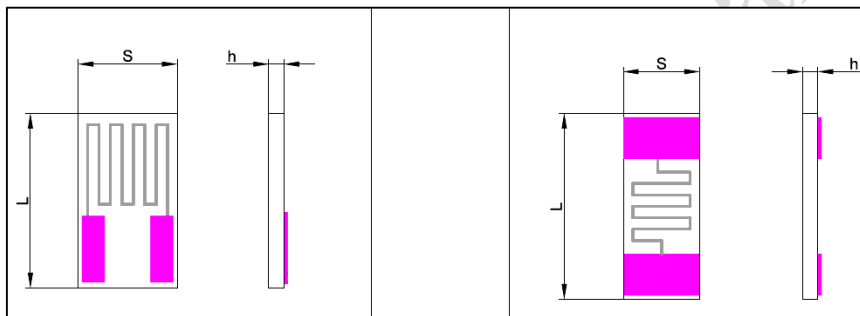
Name			Size,mm			Self-heating Water at 0 °C, in K/mV	Time of thermal response, sec, (no more than)			
Type	Code of size	Rate,Ohn	L ₁	L ₂	S		Water: v=0,4 m/sec		Air: v=0,4 m/sec	
							t _{0,5}	t _{0,9}	t _{0,5}	t _{0,9}
01	011	100	10,0	6,5	2,2	0,2	0,08	0,28	3,8	12
01	011	1000	10,0	6,5	2,2	0,3	0,08	0,25	3,8	12
02	021	100	10,0	3,7	1,5	0,4	0,07	0,17	3,0	10
02	021	1000	10,0	3,7	1,5	0,4	0,07	0,17	3,0	10

Accuracy of sizes, mm:

L ₁ : ±	L ₂ : ±	S: ±	H: ±	h: ±	d: ±
0,15	0,15	0,15	0,15	0,15	0,15

It is possible to produce sensors with nonstandard sizes' relation on the customer's concurrence.

Sensors of «R» type



Material of contact areas is platinum.

Name			Size, mm			Self-heating Water at 0 °C, in K/mV	Time of thermal response, sec, (no more than)			
Type	Code of size	Rate,Ohn	L	S	h		Water: v=0,4 m/sec		Water: v=0,4 m/s	
							t _{0,5}	t _{0,9}	t _{0,5}	t _{0,9}
01	011	100	5,5	2,1	0,5	0,3	0,15	0,3	4,0	12
01	011	1000	5,5	2,1	0,5	0,3	0,15	0,3	4,0	12
02	021	100	3,3	1,3	0,5	0,6	0,10	0,25	2,5	8
02	021	1000	3,3	1,3	0,5	0,6	0,10	0,25	2,5	8

Accuracy of sizes, mm:

L ₁ : ±	S: ±	h: ±
0,15	0,15	0,15

Methods of making an order: MMSENSOR-T-X-YY-ZZZ-Pt100 or MMSENSOR-T-X-YY-ZZZ-Pt1000

T – thin-film; X – execution type V – with outlets and R – without outlets;
 YY – 01 (outlets – on one side of microcircuit), 02 (outlets-on two sides of microcircuits); ZZZ – code of size

It is possible to produce sensors with nonstandard size relation on the customer's concurrence.