



Platinum Temperature Sensors

R – Product Series

Temperature Range: –50°C...+600°C

Platinum temperature sensors in round housing

Advantage: Facilitates mounting

Technical Data

Specification:	DIN EN 60751	
Temperature range:	-50°C to +600°C	
Temperature Coefficient:	TCR = 3850 ppm/K	
Tolerance Classes:	F 0.1 (Class Y)	-50°C to +150°C
	F 0.15 (Class A)	-50°C to +300°C
	F 0.3 (Class B)	-50°C to +600°C
	F 0.6 (Class C)	-50°C to +600°C
	1/5 F 0.3 (Class K)	on request
	1/10 F 0.3 (Class K)	on request
Leads:	Platinum-coated nickel wire ($\varnothing = 0.2$ mm) Recommended connection technology: Soldering, Welding, Crimping	
Lead Lengths:	7 mm	
Long-term stability:	Max. Drift = Less than 0.03% after 1000h at max. operating temperature	
Note:	Only usable in dry environment	



INNOVATIVE SENSOR TECHNOLOGY

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Temperature Range: –50°C...+600°C

R 281

Dimensions, LxØ:	13.0 x 2.8 mm	
Nominal Resistance at 0°C (ohm):	100/500/1000	
Self Heating (mK):	Water (v= 0 m/s)	$\Delta T_w = 1.7$ at 0°C
	Air (v= 0 m/s)	$\Delta T_a = 18$ at 0°C
Response Time (s):	Water (v= 0.4 m/s)	$T_{0.5} = 2.5$
		$T_{0.63} = 4.5$
		$T_{0.9} = 8$
	Air (v= 1 m/s)	$T_{0.5} = 10$
		$T_{0.63} = 15$
		$T_{0.9} = 28$
Measuring Current (mA):	100 Ω :	1
	500 Ω :	0.5
	1000 Ω :	0.3



R 281(2x)

Dimensions, LxØ:	13.0 x 2.8 mm	
Nominal Resistance at 0°C (ohm):	100/500/1000	
Self Heating (mK):	Water (v= 0 m/s)	$\Delta T_w = 2.2$ at 0°C
	Air (v= 0 m/s)	$\Delta T_a = 25$ at 0°C
Response Time (s):	Water (v= 0.4 m/s)	$T_{0.5} = 2$
		$T_{0.63} = 2.5$
		$T_{0.9} = 5.5$
	Air (v= 1 m/s)	$T_{0.5} = 10$
		$T_{0.63} = 12$
		$T_{0.9} = 22$
Measuring Current (mA):	100 Ω :	1
	500 Ω :	0.5
	1000 Ω :	0.3
Note:	2 sensors in 1 ceramic tube	



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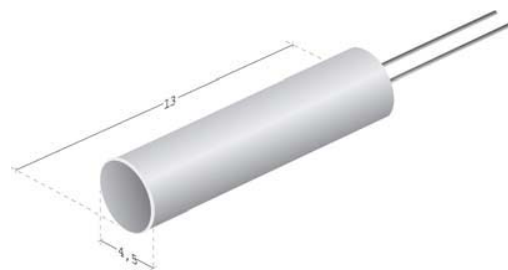
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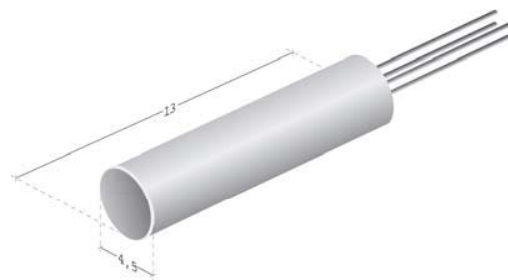
R 451

Dimensions, LxØ:	13.0 x 4.5 mm	
Nominal Resistance at 0°C (ohm):	100/500/1000	
Self Heating (mK):	Water (v= 0 m/s)	$\Delta T_w = 1.2$ at 0°C
	Air (v= 0 m/s)	$\Delta T_a = 13$ at 0°C
Response Time (s):	Water (v= 0.4 m/s)	$T_{0.5} = 8$
		$T_{0.63} = 10$
		$T_{0.9} = 22$
	Air (v= 1 m/s)	$T_{0.5} = 12$
		$T_{0.63} = 22$
		$T_{0.9} = 40$
Measuring Current (mA):	100 Ω :	1
	500 Ω :	0.5
	1000 Ω :	0.3



R 451(2x)

Dimensions, LxØ:	13.0 x 4.5 mm	
Nominal Resistance at 0°C (ohm):	100/500/1000	
Self Heating (mK):	Water (v= 0 m/s)	$\Delta T_w = 1.2$ at 0°C
	Air (v= 0 m/s)	$\Delta T_a = 13$ at 0°C
Response Time (s):	Water (v= 0.4 m/s)	$T_{0.5} = 8$
		$T_{0.63} = 10$
		$T_{0.9} = 22$
	Air (v= 1 m/s)	$T_{0.5} = 12$
		$T_{0.63} = 22$
		$T_{0.9} = 40$
Measuring Current (mA):	100 Ω :	1
	500 Ω :	0.5
	1000 Ω :	0.3
Note:	2 sensors in 1 ceramic tube	



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Order Example:

<i>P</i>	<i>1K0.</i>	<i>281.</i>	<i>6</i>	<i>W.</i>	<i>B.</i>	<i>R</i>
1	2	3	4	5	6	7

1. *Material Identification = Platinum temperature sensor*
2. *Resistance Value in ohm = 1000Ω / 0°C*
3. *Chip Dimension = 13.0 x 2.8 mm*
4. *Temperature Range = -50 °C to +600 °C*
5. *Extension = Wire Connections*
6. *Tolerance Class = DIN EN 60751 F 0.3 (former Class B)*
7. *Special = Round housing*



INNOVATIVE SENSOR TECHNOLOGY

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