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**JUMO Process Control, Inc.**

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## PCW-H-Pd

### Platinum-chip temperature sensors with connection wires

according to DIN EN IEC 60751

#### Areas of application

- Applications with particularly high and permanently higher application temperatures
- Medical and laboratory technology
- Motor and commercial vehicles
- Mechanical engineering
- Industrial technology

#### Special features

- Standardized nominal values and tolerances
- High measuring accuracy
- High long-term stability
- Quick response behavior
- Good vibration resistance

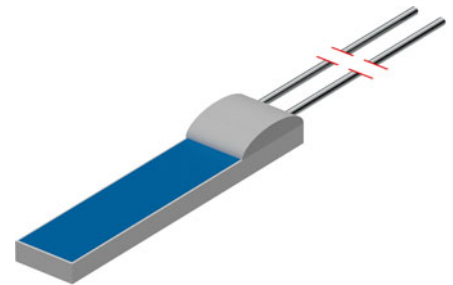
#### Description

Platinum-chip temperature sensors belong to the category of temperature sensors that are made using thin film technology. The measuring principle is based on a temperature-dependent resistance, the curve and admissible tolerance of which are defined in the international standard DIN EN IEC 60751.

The preferred applications for platinum-chip temperature sensors in the version PCW-H-Pd are those with particularly high and permanently higher application temperatures.

JUMO platinum-chip temperature sensors are available in different versions. You can find a summary and further information on our website.

⇒ [Platinum-chip temperature sensors](#)



Type 906136

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## Technical data

Temperature range	-70 to +600 °C
Temperature coefficient	$\alpha = 3.851 \times 10^{-3} \text{ } ^\circ\text{C}^{-1}$ (between 0 and 100 °C)
Temperature range of validity	
Class F 0.1	0 to 150 °C
Class F 0.15	-30 to +300 °C
Class F 0.3	-50 to +600 °C
Measuring current	
Pt100	Recommended 1.0 mA, maximum 7.0 mA
Pt500	Recommended 0.7 mA, maximum 3.0 mA
Pt1000	Recommended 0.1 mA, maximum 1.0 mA
Operating conditions	Do not use platinum-chip temperature sensors unprotected in a humid environment or in aggressive atmospheres. Direct immersion into liquids is not admissible. Refer to the installation instructions "Application notes for platinum-chip temperature sensors", which can be found on the website.
Self-heating	$\Delta t = I^2 \times R \times E$ $\Delta t$ : Self-heating or measurement error $I$ : Measuring current $E$ : Self-heating coefficient, see the table "Self-heating and response times"
Connection wires	Palladium (Pd)
Series resistance	2.2 m $\Omega$ /mm
Temperature coefficient	$3.8 \times 10^{-3} \text{ } ^\circ\text{C}^{-1}$
Wire length	10 mm (standard) Other wire lengths are available upon request.
Processing	Melting and laser melting method and hard-soldered joints Avoid lateral stress on the connection wires and unnecessary bending.
Tensile strength	6 N on a single connection wire
Measuring point	2 mm in front of open wire end with wire length 10 mm (standard) Take the line resistance into account when the wire length is changed.
Long-term stability	Max. $R_0$ drift of 0.05 % per year
Storage	Can be stored for at least 24 months after delivery in the original packaging.
Compliant with RoHS 2011/65/EU and RoHS 2015/863/EU	Yes
Compliant with REACH 1907/2006	Yes

## Self-heating and response times

Size (B × L) in mm	Self-heating coefficient E in °C/mW in air ( $v = 3 \text{ m/s}$ , $t = 22 \text{ } ^\circ\text{C}$ )	Response times in s in air ( $v = 3 \text{ m/s}$ )	
		$t_{0.5}$	$t_{0.9}$
2.0 × 10.0	0.15	3	10

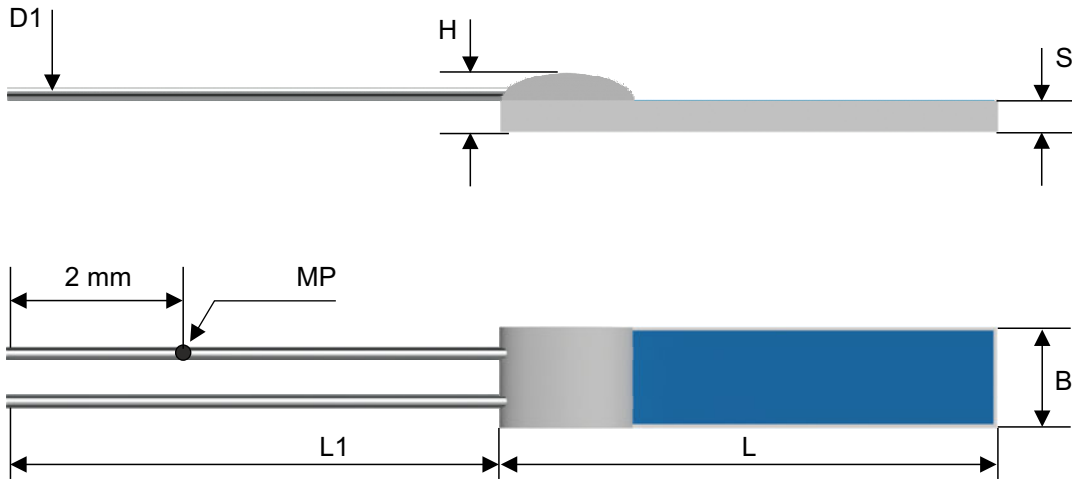
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## Dimensions



MP	Measuring point	D1	Diameter of connection wire (tolerance $\pm 0.01$ mm)
B	Width (tolerance $\pm 0.2$ mm)	L1	Wire length (tolerance $\pm 0.5$ mm)
H	Height (tolerance $\pm 0.2$ mm)	S	Substrate height (tolerance $\pm 0.1$ mm)
L	Length (tolerance $\pm 0.5$ mm)		

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## Order details

	<b>(1) Basic type</b>
906136	PCW-H-Pd – platinum-chip temperature sensors with connection wires
	<b>(2) Version</b>
0	Standard
1	Special version
	<b>(3) Width B</b>
2	2.0 mm
	<b>(4) Length L</b>
10	10.0 mm
	<b>(5) Height H</b>
1.2	1.2 mm
	<b>(6) Nominal value of resistance R<sub>0</sub></b>
100	100 Ω (Pt100)
1000	1000 Ω (Pt1000)
	<b>(7) Wire length L1</b>
10	10.0 mm (standard)
99	Other lengths are available upon request
	<b>(8) Type of packaging</b>
1	Clamshell packaging (standard), packaging unit 100 pieces, loose
2	Grip seal bags, loose
4	Blister belt (upon request)
5	Cardboard packaging, for temperature sensors with connection wires > 30 mm
6	On film (upon request); underdelivery or overdelivery ±3 %
	<b>(9) Tolerance class</b>
010	F 0.1
015	F 0.15
030	F 0.3
060	F 0.6

<b>Order code</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)								
<b>Order example</b>	906136	/	0	-	2	-	10	-	1.2	-	1000	-	10	-	1	-	030

## Stock versions

Size 2.0 × 10.0 mm (B × L)

Order code	Size	Substrate height	Diameter of connection wire	Nominal value	Wire length	Tolerance class	Part no.
	H in mm	S in mm	D1 in mm	R <sub>0</sub> in Ω	L1 in mm		
906136/0-2-10-1.2-100-10-1-030	1.2	0.64	0.25	100	10	F 0.3	00053198
F 0.15						00343069	
F 0.1						00343070	
906136/0-2-10-1.2-1000-10-1-030	1.2	0.64	0.25	1000	10	F 0.3	00044796
F 0.15						00343064	
F 0.1						00343065	