

Data sheet



Product group 74-WTH

Resistance thermometer with machine connector

Product group **74-WTH** Resistance thermometer with machine connector

Temperature sensors in this series are mainly compact, small-sized designs for measuring the temperature of gases, liquids and solids.

Advantages of temperature sensors with machine plug-in connector

- High resistance to vibrations
- Quick connection between sensor and wires
- Stainless steel constructions

The most common areas of application are machines and process lines where vibration and oscillation are present.

The M12 electrical connector guarantees a high degree of protection (IP65 / IP67) against both solids and liquids. The temperature sensors with angle plug are designed with a connector according to EN 175301-803 Form A.

The two electrical connections used enable the sensor to be quickly connected with the signal wires and reduce the integration time into the measuring system.

Standard measuring inserts are made with Pt100 sensors, in accuracy class A or B according to EN 60751. Depending on requirements, other sensors such as Pt1000 or NTC (also in double version) can also be used.

Versions with a built-in temperature transmitter enable signal transmission over the longest distance while maintaining high measurement accuracy.



Applications of resistance thermometers with machine plug connection



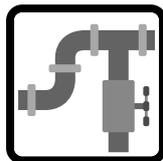
Liquids



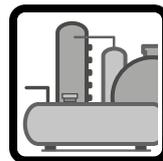
Food industry



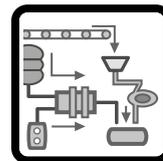
Machines and devices



Pipelines



Tanks and vessels



Technological processes

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Example of a common design in this product group:

1	Connector plug
	M12 male thread
	Angle plug according to DIN EN 175301

2	Process connection
	Without
	Thread G 1/2 A
	Thread G 1/4 A
	Thread G 3/8 A
	Thread M18 x 1.5
	Thread M20 x 1.5
	Small flange DN 25 KF
	Other as required

3	Measuring insert
	Pt100 class A
	Pt100 class B
	Pt100 class B 1/3
	Pt100 class B 1/5
	Pt1000 class A
	Pt1000 class B
	Nickel (Ni 100, ...)
	NTC/PTC
	Circuit:
	1x 2-wire
	1x 3-wire
	1x 4-wire
	2x 2-wire

4	Type of construction
	Tapered to a diameter of 3 - 6 mm to increase sensor speed



Special solutions such as materials not listed here, process connections, accessories, etc. can often be realised on request.

Please contact us!

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Article number key

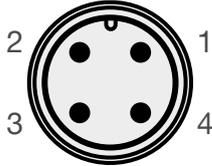
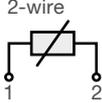
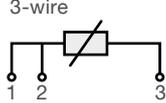
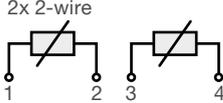
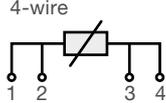
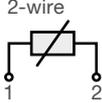
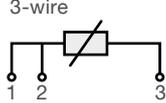
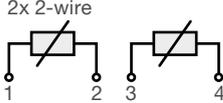
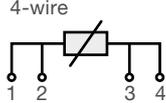
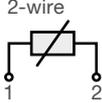
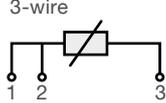
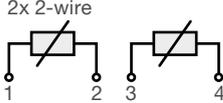
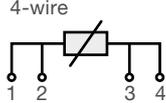
Produktgruppe	7	4	-	2	3	3	6	0	1	0	1	-	0	0	8	0	.	G	0	1	2	.	0	5	0
Measuring insert See table below				2	3																				
Connectors / transmitters																									
Machine connector M12 without transmitter	1																								
Connector acc. to DIN EN 175301 without transmitter	2																								
Machine connector M12 with transmitter	3																								
Connector acc. to DIN EN 175301 with transmitter	4																								
Protective tube Outer diameter in mm, e.g. 6 mm	6																								
Protective tube tip																									
Straight tip, unmodified	0																								
Tapered: outer diameter in mm, e.g. 4 mm	4																								
Neck tube																									
Without neck tube	0																								
With neck tube	1																								
The next version number																									
Standard version	0 1																								
Modified version - number provided by the manufacturer																									
Installation length In mm e.g. 80 mm													0	0	8	0									
Process connection																									
Thread G 1/2 A	G 0 1 2																								
Thread G 1/4 A	G 0 1 4																								
Thread G 3/8 A	G 0 3 8																								
Thread M20 x 1.5	M F 2 0																								
Thread M18 x 1.5	M F 1 8																								
Small flange DN 25 KF	K F 2 5																								
etc. ... freely configurable																									
Necktube length In mm e.g. 50 mm	0 5 0																								

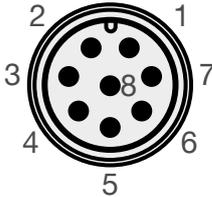
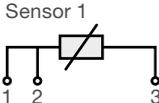
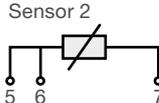
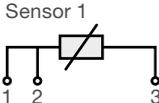
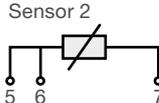
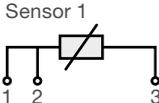
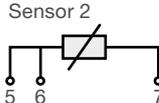
Table – Measuring insert (type, circuit)

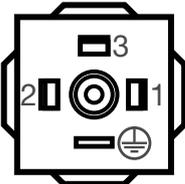
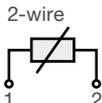
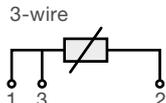
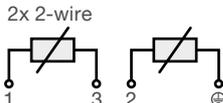
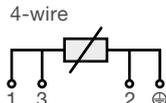
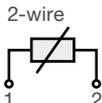
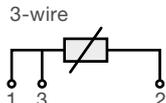
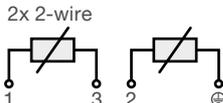
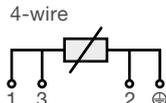
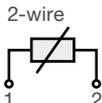
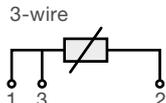
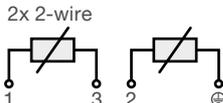
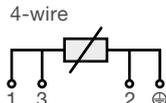
Circuit	Sensor									
	Pt100 Class B	Pt100 Class A	Pt100 Class B 1/3	Pt100 Class B 1/5	Pt1000 Class B	Pt1000 Class A	Platin Others	Nickel (Ni100, ...)	NTC / PTC	Others
1x 2-wire	11	12	13	14	16	17	18	19	20	21
1x 3-wire	22	23	24	25	27	28	29	30	31	32
1x 4-wire	33	34	35	36	38	39	40	41	42	43
2x 2-wire	44	45	46	47	49	50	51	52	53	54
2x 3-wire	55	56	57	58	60	61	62	63	64	65
2x 4-wire	66	67	68	69	71	72	73	74	75	76
3x 2-wire	77	78	79	80	82	83	84	85	86	87

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Connection diagrams plug connectors

Connection diagram machine plug M12, 4-pin					
	<p>Sensor</p> <table border="1"> <tr> <td> <p>2-wire</p>  </td> <td> <p>3-wire</p>  </td> </tr> <tr> <td> <p>2x 2-wire</p>  </td> <td> <p>4-wire</p>  </td> </tr> </table>	<p>2-wire</p> 	<p>3-wire</p> 	<p>2x 2-wire</p> 	<p>4-wire</p> 
	<p>2-wire</p> 	<p>3-wire</p> 			
	<p>2x 2-wire</p> 	<p>4-wire</p> 			
	<p>Temperature transmitter, 4 ... 20 mA output, 2-wire</p> <p>Pin 1: +24 V, voltage supply, current output Pin 2: -- (not used) Pin 3: 0 V, voltage supply, current output Pin 4: -- (not used)</p>				

Connection diagram machine plug M12, 8-pin			
	<p>Sensor 2x 3-wire</p> <table border="1"> <tr> <td> <p>Sensor 1</p>  </td> <td> <p>Sensor 2</p>  </td> </tr> </table>	<p>Sensor 1</p> 	<p>Sensor 2</p> 
	<p>Sensor 1</p> 	<p>Sensor 2</p> 	

Connection diagram for plug connectors according to DIN EN 175301					
	<p>Sensor</p> <table border="1"> <tr> <td> <p>2-wire</p>  </td> <td> <p>3-wire</p>  </td> </tr> <tr> <td> <p>2x 2-wire</p>  </td> <td> <p>4-wire</p>  </td> </tr> </table>	<p>2-wire</p> 	<p>3-wire</p> 	<p>2x 2-wire</p> 	<p>4-wire</p> 
	<p>2-wire</p> 	<p>3-wire</p> 			
	<p>2x 2-wire</p> 	<p>4-wire</p> 			
	<p>Temperature transmitter, 4 ... 20 mA output, 2-wire</p> <p>Pin 1: +24 V, voltage supply, current output Pin 2: 0 V, voltage supply, current output Pin 3: -- (not used) ⊕ : -- (not connected to transmitter housing)</p>				



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