

Resistance thermometer with screw connection - metal sealing cone - Type TP16 / TP26 -



CHARACTERISTICS

- PROCESS CONNECTION WITH HYGIENE DESIGN, EHEDG
- EXCHANGEABLE MEASURING INSERT
- SINGLE OR DOUBLE PT100
- OPTIONALLY WITH MEASURING TRANSDUCER
- SHORT ADDRESSING TIMES AND TAPERED SENSOR TIP
- "FR" HOUSING IN IP 67
- OPTIONAL AS A QUICKTEMP VERSION FOR MEASURING POINTS REQUIRING QUALITY ASSURANCE MEASURES

DESCRIPTION

The **TP16 and TP26** temperature sensors have threaded connections and come in a stainless steel housing with or without a transmitter. These are high-performance devices used in processes that require high hygiene levels (e.g. breweries, dairies, beverage industry, pharmaceutical industry, etc.)

The PT 100 switch comes with 3 wires in its standard, Class A form according to EN 60751. Accuracy classes B 1/2, B 1/3, B 1/10 DIN and other switch types (single or double PT 100) are available. The utilisation of the measuring inserts must be adapted to the requirements with regard to temperature, length, vibration resistance and measuring accuracy. Tapered sensor tips for particularly short response times are, for example, obtainable for regulatory processes.

The version with an exchangeable measuring insert allows the measuring point to be accessible all the time without interrupting the process or having to open the device; this offers the advantage of additional safety and saves resources. The process connection is a metal threaded connection in the form of a conical seal, with an EHEDG certificate and the corresponding welding sockets and adaptors.

Programmable 4-20 mA, HART or Profibus PA transmitters can be installed for transmission of the measuring values. The QUICKTEMP series is particularly recommended for measuring points that require calibration.

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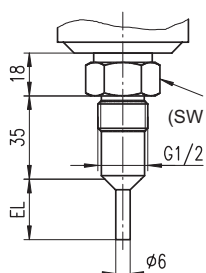
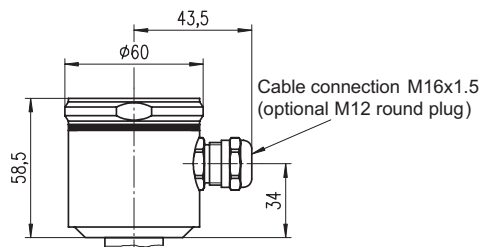
TECHNICAL DATA

Design configuration	
Type	field housing (Cr Ni ST)
Temperature sensor	PT 100 acc. to EN 60751, exchangeable measuring insert (standard), Insert tube 1.4571
Measuring insert, electrical	1 x PT 100 in a 2-, 3- or 4-wire circuit, standard: 1 x 3-wire circuit, Class A, 2 x PT 100 in 2- or 3-wire circuit
Electrical connection	- M16, 1.5 cable connection, MS-nickel-plated, - optional: M12 x 1 round plug, 4-pin
Accuracy	- standard: Tolerance class A according to EN 60751, - optional: Tolerance categories B 1/10, 1/5, 1/3, 1/2
Response time	T05 (measured in water): 6 s (design-dependent, d = 6 mm) < 6 s with tapered sensor tip, on request
Measuring material temperature	T _{max} at the sensor = -20... +200°C
Housing material	stainless steel 1.4301 (standard field housing)
Sensor material	stainless steel 1.4571, optional 316L = 1.4435 or 1.4404, optional: high surface quality
Sensor diameter	standard: continuously smooth, d = 6 mm, optional: tapered sensor tip d = 4 mm (exchangeable measuring insert) tapered sensor tip d = 3 mm or 2 mm (non-exchangeable measuring insert)
Sensor length	- TP16: 50 mm, 100 mm (standard), - TP26: 20 mm (standard), - deviating lengths on request
Type of protection	EN 60529, IP 67 with cable connection, optionally with cable output
Permissible pressure	PN = 10 bar, depending on design and temperature
CE conformity	EMV guidelines are met, CE symbol
Process connections	
	- TP16/TW39...T215 => G½ B metal with sealing cone - TP26/TW39...T427 => M12 x 1.5 metal with sealing cone
Accessories	
	(please order separately, see data sheet on WTH field construction overview)
Parts for assembly	-- zem / TP16, Item No. 06002000 welding socket, metal seal G½, with PG-positioning -- zem / TP26, Item No. 07002000 welding socket, with welding flange, metal seal M12 x 1.5 -- zem / TP 16 K, Item No. 06002001 welding socket, with collar, d = 40 mm, metal seal G½ -- zem / TP 26 K, Item No. welding socket, with collar, metal seal M12 x 1.5 -- zfl / MG 50-TP16, tapered connection DN 50 according to DIN 11851, with welded zem / TP16 -- zfl / VA-TP16, VARIVENT DN 50/40 (d = 68 mm), with welded zem / TP16 -- ztm / DN 40/50/65/80/100 – TP16, welded T-piece according to DIN 11850, Series 2, 316L, with a metallic G½ connection, internal and external surface electropolished -- ztm / DN 40/50/65/80/100 – M12 welded T-piece according to DIN 11850, Series 2, 316L, with M12 x 1.5 connection, internal and external surface electropolished
Options	
Electrical connection	-- ceramic connection socket -- flexible connection wires -- sheathed cable version (vibration-resistant version) -- transmitter TE 42, programmable, 4...20 mA, 2-wire switch (standard) -- transmitter TE 41, programmable, galvanically separated -- transmitter TE 52, HART -- transmitter TE 82, PA
Calibration	factory calibration, calibration certificate (3-point or 5-point), with DKD standard
Certificates	material certificate according EN 10204, EHEDG, FDA

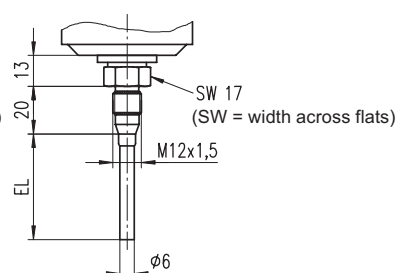
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DIMENSIONAL DRAWINGS

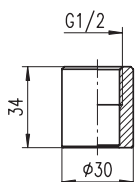


TP16 / TW39 ... T215
with G1/2 thread
metal seal
for welding socket zem / TP16

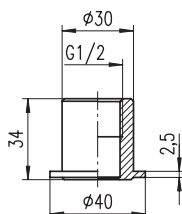


TP26 / TW39 ... T427
with M12x1,5 thread
metal seal
for welding socket zem / TP26

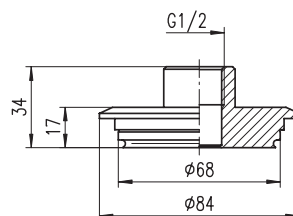
CONNECTION ADAPTER



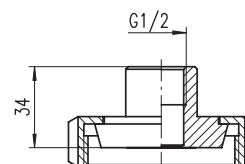
zem / TP16
Welding socket TP16
Item No. 06002000



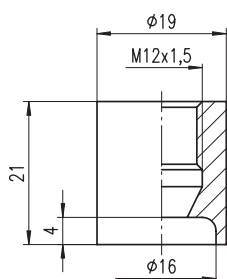
zem / TP16K
Welding socket TP16
with collar
Item No. 06002001



zfl / VA - TP16
VARIVENT flange d=68mm

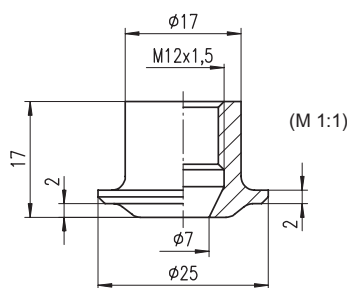


zfl / MG ... - TP16
Tapered connection DIN 11851
DN25 ... DN50



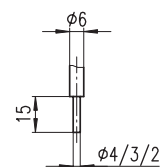
zem / TP26
Welding socket TP26
with welding flange
Item No. 07002000

(M 1:1)



zem / TP26K
Welding socket TP26
with collar
Item No. 07002001

(M 1:1)



Option:
tapered sensor tip

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ELECTRICAL CONNECTION

connection with measuring transducer*

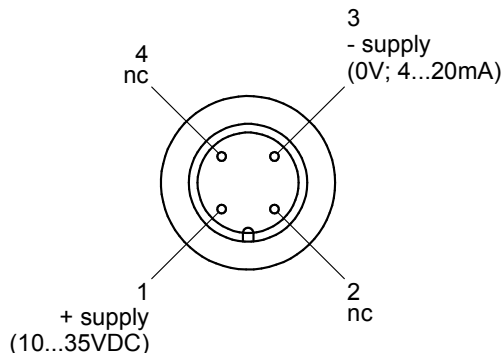
Version example: M12 round plug

Addressing times for WTH PT100

Apart from the protective pipe at the measuring point, the addressing time is mainly determined by the heat transport:

- Medium, flow speed, etc.
- Heat capacity

Higher flow speeds and heat capacities considerably reduce the addressing time. It is indicated how long it will take until the measuring value reaches 50% or 90% of the final value



* connection without measuring transducer see field housing label

ORDER INFORMATION

Sensor type, tolerance class, switch system	
A	1 x PT 100, class A, 2-wire
B	1 x PT 100, class A, 3-wire
C	1 x PT 100, class A, 4-wire
D	2 x PT 100, class A, 2-wire
E	2 x PT 100, class A, 3-wire

Connection head	
H	Field housing, 1.4301, M16 x 1.5
3	Bayonet housing NG 63, 1.4301, M16 x 1.6
1	Form B, aluminium pressure casting
9	Other (BUKH, BUSH,...)

Insertion length, nominal length	
05	50 mm
10	100 mm
20	160 mm
30	200 mm
50	250 mm
70	300 mm
80	400 mm
90	Other

Version output / measuring range		
K0	00	Resistor output
L0		Transmitter 4-20 mA, 2-wire
	30	0 - 50° C
	40	0 - 100° C
	50	0 - 150° C
	60	0 - 200° C
	70	0 - 300° C
	80	0 - 400° C
	99	Other measuring ranges

TP16/TW39	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T215
TP26/TW39	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	T427

Our products are constantly in further development, therefore subjects to modifications.

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