

Compact resistance thermometer - Type TP51/TW68...T504/T516 Quicktemp -



CHARACTERISTICS

- **TWO VERSIONS:
T516 FOR SMALL NOMINAL PIPE WIDTHS AND T504 FOR
NOMINAL PIPE WIDTHS FROM DN 40 ONWARDS**
- **COMPACT DEVICE WITH PT 100 OR 4...20MA OUTPUT FOR A
DEFINED REQUIREMENT PROFILE**
- **TO BE INSTALLED BY USING THERMAL CONDUCTANCE PASTE**
- **VARIOUS DESIGNS FOR APPROPRIATE INSTALLATION,
ADAPTATION TO EXISTING MEASURING POINTS WITHOUT
DESIGN CHANGES.**

DESCRIPTION

The **TP51** temperature sensor in the Quicktemp series increases the accessibility of the measuring points without, for example, having to open them for maintenance or calibration work. The device is easy to insert into or remove from the sheath, which saves time and resources and ensures process safety.

The design of the Quicktemp system is based on one basic device with various fitting lengths or process connections, assuming defined fitting lengths. For the user, this guarantees a high degree of flexibility, while at the same time minimising the storage costs.

Application-appropriate fitting lengths and process connections are available. The temperature sensor can be designed as a resistance output (4-wire) or be equipped with a transmitter. The short installation length and the coordinated process connections make it possible to install the device in pipes with a small nominal width, especially when using the T516 compact device. High temperature stress at the connection head should be avoided. Installation into the Quicktemp sheath system should take place with the aid of thermal conductance paste to ensure short addressing times.

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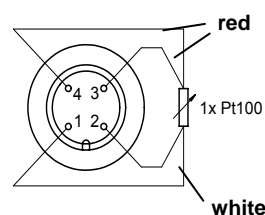
TECHNICAL DATA

Design configuration: - TP 51 basic device -	
Type	compact housing, 63 x d=18mm
Housing material	stainless steel 316L
Temperature sensor	PT 100 according to EN 60751, sensor 1.4571
Diameter of measuring insert	continuously smooth, d = 3 mm (not exchangeable)
Sensor length	T516 = 63 mm, T504 = 117 mm
Connection, electrical	M12 plug-in connection, 4-pin
Measuring insert, electrical	1 x PT 100 in 4-wire circuit
Type of connection, electrical	- transmitter TE 62, 4-20 mA, 2L, programmable, galvanically separated (TE41) - resistance 1x4-wire - sheathed cable version (vibration-resistant version)(on request)
Temperature of measuring material	T _{max} at the sensor = -50... +150°C (check collar pipe)
Response times	T50 (measured in water): 6 s (design-dependent, d = 6 mm),
Accuracy	tolerance class acc. to EN 60751, standard: Class A, optional: Class B 1/10, 1/3, 1/2 DIN
Protection type EN 60529	IP 68
Admissible pressure	design- and temperature-dependent
Process connections	- Quicktemp zeh / TP16 – 504 G1/2, with metal sealing cone, total length = 117mm, EI = 50 mm, d = 6 mm - Quicktemp zeh / TP15 – T504, smooth sensor, no threaded joint, total length = 117mm, EI = 102 mm, d = 6 mm - Quicktemp zeh / TP136 - T504, welded spherical protection sleeve, DN = 25 mm, total length = 117mm, EI = 50 mm, d = 6 mm - Quicktemp zeh / T535, smooth welded sensor, total length = 118mm, EI = 50 mm, d = 6 mm, tapered to d = 4 mm - Quicktemp zeh / T516 – G1/2, smooth sensor, cylindrical, total length = 64mm, EI = 20 mm, d = 6 mm - Quicktemp zeh / TP26 – T516, with M12 metal sealing cone, total length = 117mm, EI = 20 mm, d = 6 mm - Quicktemp zeh / TP136 - T516, with spherical welding socket, total length = 64mm, EI = 20 mm, d = 6 mm
Electronic data transmitter	
Output signal	4...20 mA analog or 20...4 mA
Breakdown signal	- measuring range not achieved: linear drop up to 3.8 mA - measuring range exceeded: linear rise up to 20.5 mA - sensor failure: Sensor short-circuit ≤ 3.6 mA or ≥ 21.0 mA
Power requirement	≤ 3.5 mA
Switch-on delay	2s
Supply voltage	10...35V DC
Environmental temperature	-40...+85 °C
Storage temperature	-40...+85 °C
Climate class	EN 60654-1, class C, condensation permissible
CE conformity	EMV guidelines have been met
Options: (on request)	
Calibration	factory calibration, calibration certificate (3-point or 5-point), traceable to DKD standard
Certificates	material certificate
CE conformity	EMV guidelines are met, CE symbol
Accessories: (process connections and adaptors: see data sheet - overview of WTH accessories)	
	- configuration set TZ62, USB connection - 5m cable with M12 x 1 coupling

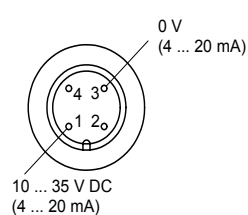
ELECTRICAL CONNECTION

M12 plug connection - without / with transmitter

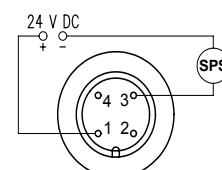
1 x PT100 (4-wire)



4 ... 20 mA

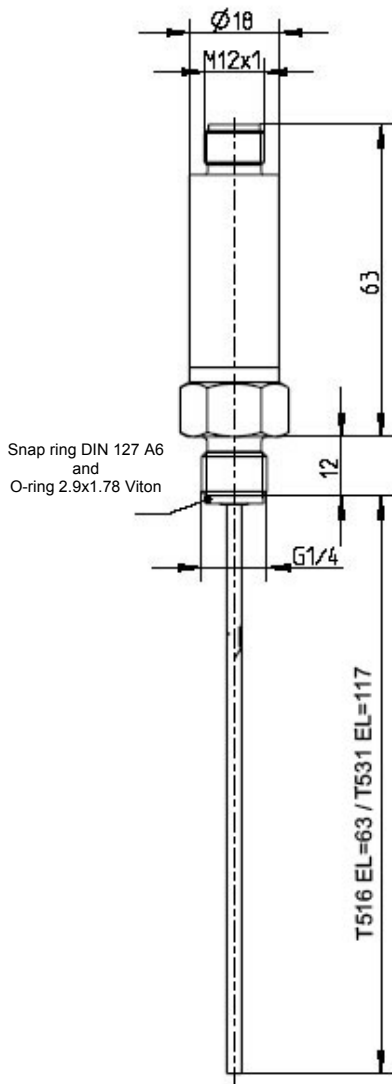


with measuring transducer



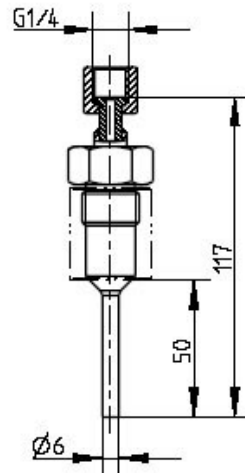
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DIMENSIONAL DRAWINGS

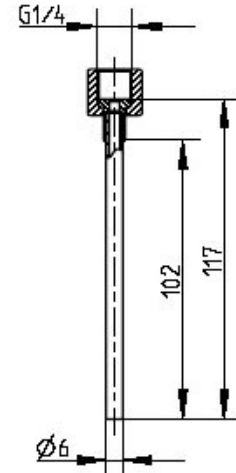


Snap ring DIN 127 A6
and
O-ring 2.9x1.78 Viton

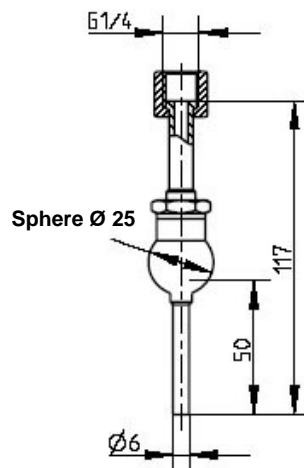
Quicktemp - basic device
TP51 / TW68...T531/T516



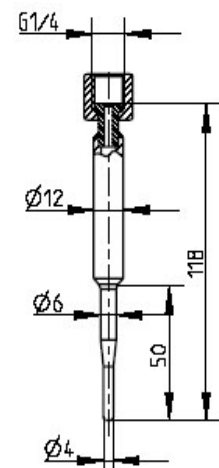
Quicktemp sleeve
zeh / TP16-T500
metal sealing cone
Item 06402380



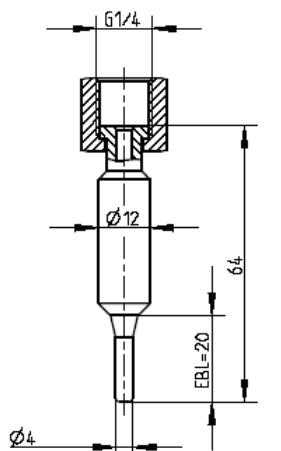
Quicktemp sleeve
zeh / TP15-T500
smooth sensor, cylindrical
Item 06402381



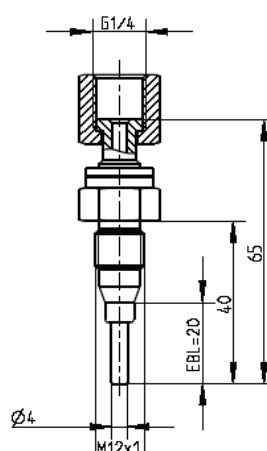
Quicktemp sleeve
zeh / TP136-T500
spherical welding socket
Item 06402382



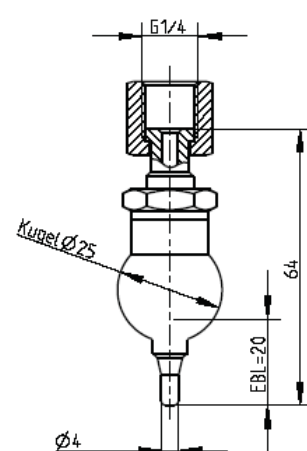
Quicktemp sleeve
zeh / T535
smooth sensor, cylindrical
Item 06402400



Quicktemp sleeve
zeh / T516
smooth sensor, cylindrical
Item 06402409



Quicktemp sleeve
zeh / TP26-T516
M12 metal sealing cone
Item 06402386



Quicktemp sleeve
zeh / TP136-T516
spherical welding socket
Item 06402413

T-TP51-TW68-D-08-e-1/3

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ORDERING INFORMATION (Type TP51/TW68...T504/T516)

Type	
TP51/TW68	Compact basic device
Sensor type, tolerance class, switch system	
C	1 x Pt100, class A, 4-wire
Output	
Y0	Resistance output
L0	Transmitter TE62, 4...20 mA, 2L
Measuring range	
00	Resistance output
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
Sensor length	
T516	63 mm
T504	117 mm

TP51/TW68	C			
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Process adaptation for QUICKTEMP system	(please order separately)
QUICKTEMP sleeve, zeh / TP16 - T500 with metallic sealing cone G $\frac{1}{2}$ B	Item No. 06402380
QUICKTEMP sleeve, zeh / TP15 - T500, with smooth sensor, cylindrical	Item No. 06402381
QUICKTEMP sleeve, zeh / TP136 - T500, with spherical welded socket	Item No. 06402382
QUICKTEMP sleeve, zeh / T535 - T535, with smooth sensor, tapered tip	Item No. 06402400
QUICKTEMP sleeve, zeh / T516 - T516, smooth sensor, cylindrical	Item No. 06402409
QUICKTEMP sleeve zeh / TP26 - T516, M12 metal sealing cone	Item No. 06402386
QUICKTEMP sleeve, zeh / TP136 - T516 spherical welding socket	Item No. 06402413
Options / accessories:	please specify acc. to data sheet for TW-D-07 resistance thermometer

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