



Temperature Transmitter ETS 4500

Integrated temperature probe

Accuracy 1 %

Description:

The ETS 4500 is a robust electronic temperature transmitter which is particularly suited to measuring temperature in hydraulic applications in industry.

Based on a silicon semiconductor device and corresponding evaluation electronics, the temperature sensor is designed to measure temperatures within a range of -25 °C .. +100 °C.

The sensor has analogue output signals of 4 .. 20 mA and 0 .. 10 V available as standard for integration in modern control systems. The pressure resistance up to 600 bar and excellent EMC characteristics make the ETS 4500 ideal for use in harsh conditions.

Technical data:

Input data

Measuring range	-25 .. +100 °C					
Probe length	mm	10.7	50	100	250	350
Probe diameter	mm	8	8	8	8	8
Pressure resistance	bar	600	125	125	125	125
Mechanical connection	G1/4 A ISO 1179-2					
Tightening torque, recommended	20 Nm					
Parts in contact with fluid ¹⁾	Mech. connection: Stainless steel Seal: FKM					

Output data

Output signal, permitted load resistance	4 .. 20 mA, 2-conductor $R_{Lmax} = (U_B - 8 V) / 20 \text{ mA}$ [kΩ] 0 .. 10 V, 3-conductor $R_{Lmin} = 2 \text{ kΩ}$
Accuracy (at room temperature)	$\leq \pm 1.0 \%$ FS typ. $\leq \pm 2.0 \%$ FS max.
Temperature drift (environment)	$\leq \pm 0.02 \%$ FS / °C
Response time acc. to DIN EN 60751	$t_{50}: \sim 4 \text{ s}$ $t_{90}: \sim 8 \text{ s}$

Environmental conditions

Operating temperature range ²⁾	-40 .. +85 °C / -25 .. +85 °C
Storage temperature range	-40 .. +100 °C
Fluid temperature range ²⁾	-40 .. +125 °C / -25 .. +125 °C

CE mark	EN 61000-6-1 / 2 / 3 / 4
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Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 25 \text{ g}$
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Shock resistance acc. to DIN EN 60068-2-27	$< 20 \text{ g}$
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Protection class acc. to DIN EN 60529 ³⁾	IP 67
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Other data

Supply voltage	8 .. 32 V DC 2-conductor 12 .. 32 V DC 3-conductor
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Residual ripple of supply voltage	$\leq 5 \%$
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Current consumption 3-conductor	$\sim 25 \text{ mA}$
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Weight	$\sim 200 \text{ g}$ (probe length 10.7 mm) $\sim 215 \text{ g}$ (probe length 50 mm) $\sim 235 \text{ g}$ (probe length 100 mm) $\sim 280 \text{ g}$ (probe length 250 mm) $\sim 315 \text{ g}$ (probe length 350 mm)
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Note: Reverse polarity protection of the supply voltage, overvoltage, override and short circuit protection are provided.

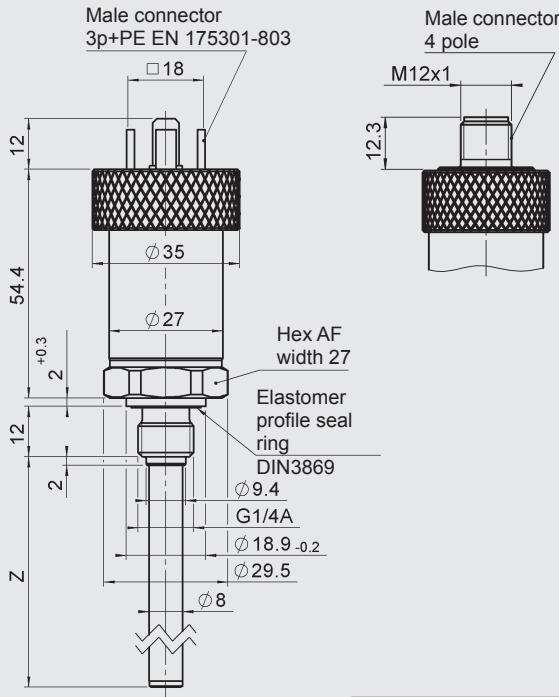
FS (Full Scale) = relative to complete measuring range

¹⁾ Other seal materials on request

²⁾ -25 °C with FKM seal, -40 °C on request

³⁾ With mounted mating connector in corresponding protection class

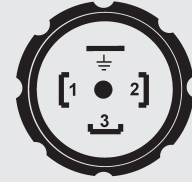
Dimensions:



Probe length (Z) [mm]	Probe diameter [mm]
10.7	8
50	8
100	8
250	8
350	8

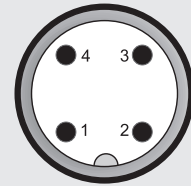
Pin connections:

EN175301-803



Pin	ETS 4545-A	ETS 4545-B
1	Signal +	+U _B
2	Signal -	0 V
3	n.c.	Signal
L	Housing	Housing

M12x1



Pin	ETS 4546-A	ETS 4546-B
1	Signal +	+U _B
2	n.c.	n.c.
3	Signal -	0 V
4	n.c.	Signal

Model code:

ETS 4 5 4 X - X - XXX - 000

Mechanical connection

4 = G 1/4 A ISO 1179-2

Electrical connection

5 = male, EN 175301-803, 3 pole + PE
(mating connector supplied)

6 = male M12x1, 4 pole
(mating connector not supplied)

Output signal

A = 4 .. 20 mA, 2-conductor

B = 0 .. 10 V, 3-conductor

Probe length

010 = 10.7 mm

050 = 50 mm

100 = 100 mm

250 = 250 mm

350 = 350 mm

Modification number

000 = standard

Accessories:

Appropriate accessories, such as mating connectors, can be found in the Accessories brochure.

Note:

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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