Temperature Transmitter
ETS 4100

Integrated temperature probe | **Accuracy 0.4 %**

Description:

The ETS 4100 is a robust electronic temperature transmitter which is particularly suited to measuring temperature in hydraulic applications in industry.

The temperature sensor, based on a PT 1000 and corresponding evaluation electronics, is capable of measuring temperatures in the 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 of up to 600 bar and excellent EMC characteristics make the ETS 4100 ideal for use in harsh conditions.

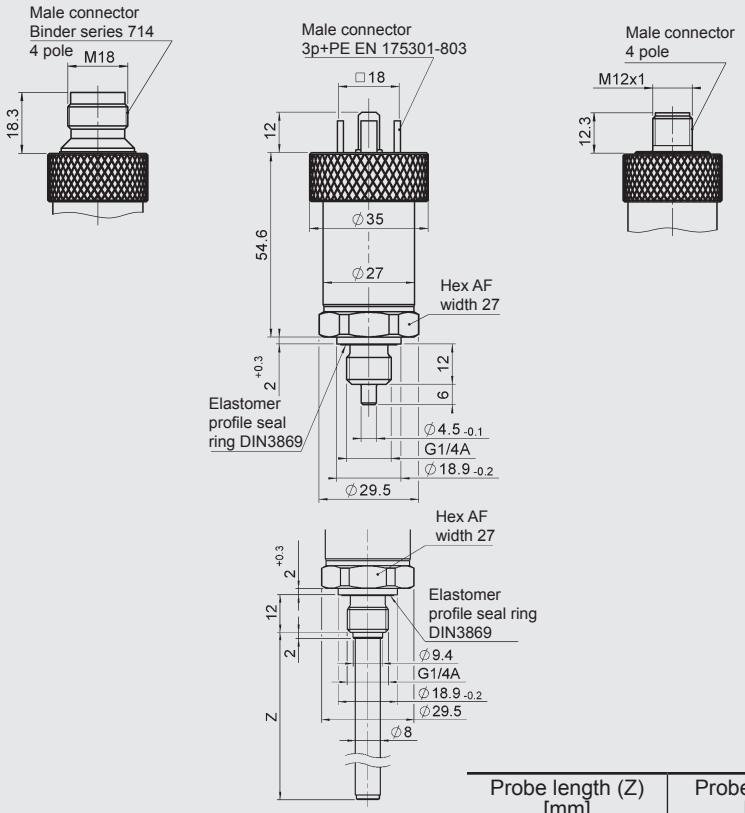
Technical data:

Input data						
Measuring range	-25 .. +100 °C					
Probe length	mm	6	50	100	250	350
Probe diameter	mm	4.5	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 $R_{Lmax.} = (U_B - 8\ V) / 20\ mA\ [k\Omega]$ 0 .. 10 V, 3-conductor $R_{Lmin.} = 2\ k\Omega$					
Accuracy (at room temperature)	≤ ± 0.4 % FS typ. ≤ ± 0.8 % FS max.					
Temperature drift (environment)	≤ ± 0.01 % FS / °C					
Response time acc. to DIN EN 60751	t_{50}: ~ 4 s t_{90}: ~ 8 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					
Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 25 g					
Shock resistance acc. to DIN EN 60068-2-27	20 g for 6 mm probe length < 20 g for all others					
Protection class acc. to DIN EN 60529 [3]	IP 65 (Binder 714 M18) IP 67 - male connector M12x1 - male connector EN 175301-803					
Other data						
Supply voltage	8 .. 32 V DC 2-conductor 12 .. 32 V DC 3-conductor					
Residual ripple of supply voltage	≤ 5 %					
Current consumption 3-conductor	~ 25 mA					
Weight	~ 200 g (probe length 6 mm) ~ 215 g (probe length 50 mm) ~ 235 g (probe length 100 mm) ~ 280 g (probe length 250 mm) ~ 315 g (probe length 350 mm)					

Note: Reverse polarity protection of the supply voltage, overvoltage, override and short circuit protection are provided.
FS (**F**ull **S**cale) = 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]
6	4.5
50	8
100	8
250	8
350	8

Model code:

ETS 4 1 4 X – X – XXX – 000

Mechanical connection
4 = G 1/4 A ISO 1179-2

Electrical connection
4 = male, Binder series 714 M18, 4 pole
(mating connector not supplied)
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
006 = 6 mm
050 = 50 mm
100 = 100 mm
250 = 250 mm
350 = 350 mm

Modification number
000 = standard

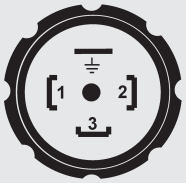
Accessories:
Appropriate accessories, such as mating connectors, can be found in the Accessories brochure.

Pin connections:

Binder series 714 M18

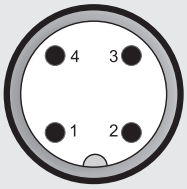
Pin	ETS 4144-A	ETS 4144-B
1	n.c.	$+U_B$
2	Signal +	Signal
3	Signal -	0 V
4	n.c.	n.c.

EN175301-803



Pin	ETS 4145-A	ETS 4145-B
1	Signal +	$+U_B$
2	Signal -	0 V
3	n.c.	Signal
⊥	Housing	Housing

M12x1



Pin	ETS 4146-A	ETS 4146-B
1	Signal +	$+U_B$
2	n.c.	n.c.
3	Signal -	0 V
4	n.c.	Signal

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.