

HYDAC INTERNATIONAL

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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 $R_{Lmax} = (U_B - 8 V) / 20 \text{ mA}$ [kΩ] 0 .. 10 V, 3-conductor $R_{Lmin} = 2 \text{ kΩ}$
Accuracy (at room temperature)	$\leq \pm 0.4 \%$ FS typ. $\leq \pm 0.8 \%$ FS max.
Temperature drift (environment)	$\leq \pm 0.01 \%$ 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
Vibration resistance acc. to DIN EN 60068-2-6 at 10 .. 500 Hz	$\leq 25 \text{ g}$
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	$\leq 5 \%$
Current consumption 3-conductor	$\sim 25 \text{ mA}$
Weight	$\sim 200 \text{ g}$ (probe length 6 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)

Note: Reverse polarity protection of the supply voltage, overvoltage, overcurrent and short circuit protection are provided.

FS (Full Scale) = relative to complete measuring range

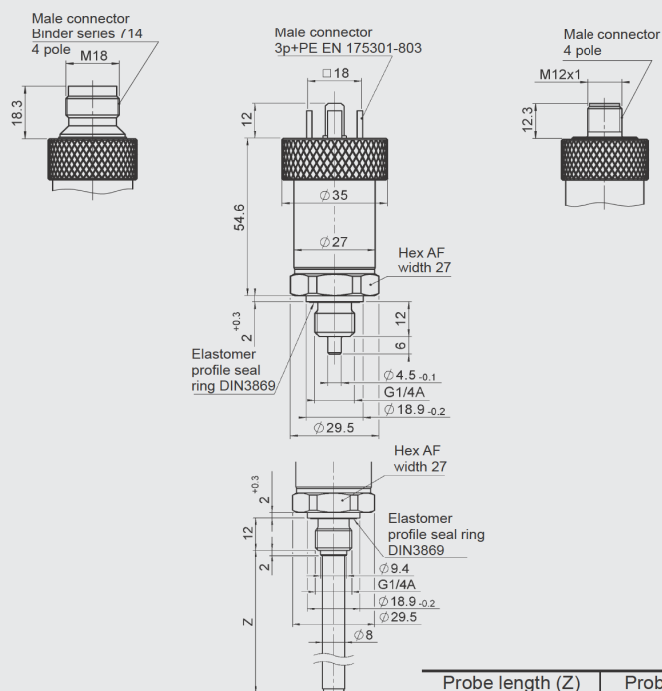
¹⁾ Other seal materials on request

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

³⁾ With mounted mating connector in corresponding protection class

EN 18.302.1.1/02.18

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

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.

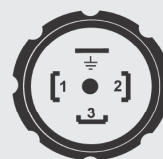
Pin connections:

Binder series 714 M18



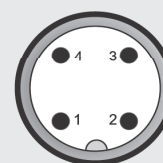
Pin	ETS 4144-A	ETS 4144-B
1	n.c.	+U _B
2	Signal +	Signal
3	Signal -	0 V
4	n.c.	n.c.

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