HYDAC INTERNATIONAL

Electronic Temperature Transmitter ETS 4500

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 in the range -25 to +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.

Special features:

- Accuracy ≤ ± 2 % FS
- Ideal for industrial applications
- Robust design
- Excellent EMC characteristics
- Excellent long term stability
- Standard protection class IP 65 / IP 67

Technical data:

Input data	
Measuring principle	Silicon semiconductor device
Measuring range	-25 .. +100 °C
Probe length	10.7; 50; 100; 250; 350 mm
Probe diameter	8 mm
Pressure resistance	600 bar (probe length 10.7 mm) 125 bar (probe length 50 mm) 125 bar (probe length 100 mm) 125 bar (probe length 250 mm) 125 bar (probe length 350 mm)
Mechanical connection	G1/4 A DIN 3852
Torque value	20 Nm
Parts in contact with medium[1)]	Mech. conn.: Stainless steel Seal: FPM
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)	≤ ± 1.0 % FS typ. ≤ ± 2.0 % FS max.
Temperature drift (environment)	≤ ± 0.02 % FS / °C
Rise time 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 to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 25 g
Protection class to IEC 60529	IP 65 (for male EN175301-803 (DIN 43650)) IP 67 (for male M12x1 male, when an IP 67 connector is used)
Other data	
Electrical connection	M12x1, 4 pole EN 175301-803 (DIN 43650)
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 10.7 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, excess voltage, 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 FPM seal, -40 °C on request

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Model code:

ETS 4 5 4 X – X – XXX – 000

Mechanical connection
4 = G1/4 A DIN 3852 (male)

Electrical connection
5 = Male, 3 pole + PE, EN 175301-803 (DIN 43650) (connector supplied)
6 = Male M12x1, 4 pole (connector not supplied)

Signal
A = 4 .. 20 mA, 2 conductor
B = 0 .. 10 V, 3 conductor

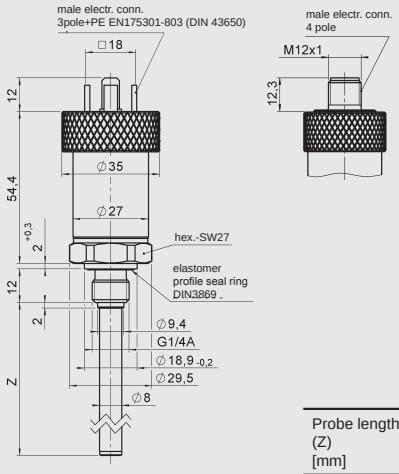
Probe length
010 = 10 mm
050 = 50 mm
100 = 100 mm
250 = 250 mm
350 = 350 mm

Modification number
000 = Standard

Note:
On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

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

Dimensions:



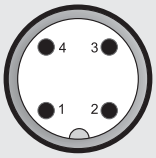
Probe length (Z) [mm]	Probe diameter [mm]
10.7	8
50	8
100	8
250	8
350	8

Pin connections:

EN175301-803 (DIN 43650)

Pin	ETS 4545-A	ETS 4545-B
1	Signal+	$+U_B$
2	Signal-	0V
3	n.c.	Signal
⊥	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

Note:

The information in this brochure relates to the operating conditions and applications described.
For applications or operating conditions not described, please contact HYQUIP.
Subject to technical modifications.