



Electronic Temperature Switch ETS 3200 for Tank Installation with IO-Link Interface



Description:

The ETS 3200 with IO-Link communication interface is a compact, electronic temperature switch with 4-digit display.

With its integrated temperature probe, the ETS 3200 is particularly suitable for direct tank installation and is available in various lengths.

The instrument has a switching output and additional output that can be configured as switching or analogue (4 .. 20 mA or 0 .. 10 V).

Compared with the standard version, the IO-Link interface enables bidirectional communication between the device and the control. Parameterisation and cyclical transmission of process and service data is therefore possible.

The temperature switch series ETS 3200 with communication interface IO-Link according to specification V1.1 was specially designed to connect sensors in automation systems. Typical fields of application are machine tools, handling and assembly automation, intralogistics or the packaging industry.

Special features:

- IO-Link interface
- 1 PNP transistor switching output
- Additional signal output, can be configured as PNP transistor switching output or analogue output
- 4-digit display
- Display can be rotated in two axes for optimum alignment

Technical data:

Input data	
Measuring range	-25 .. 100 °C (-13 .. 212 °F)
Probe length	100; 250; 350 mm
Pressure resistance	50 bar
Hydraulic connection	G1/2 A DIN 3852
Torque value	45 Nm
Parts in contact with medium	Mech. connection: Stainless steel Seal: FPM
Output data	
Output signals	Output 1: PNP transistor switching output Output 2: can be configured as PNP transistor switching output or analogue output
Accuracy (display, analogue output)	≤ ± 1.0 °C (≤ ± 2.0 °F)
Temperature drift (environment)	≤ ± 0.015 % FS / °C max. zero point ≤ ± 0.015 % FS / °C max. range
Analogue output	
Signal	selectable: 4 .. 20 mA load ≤ 500 Ω 0 .. 10 V ohmic resist. min. 1 kΩ corresp. in each case to -25 .. +100 °C
Switch outputs	
Type	PNP transistor switching output
Switching current	max. 250 mA per output
Switching cycles	> 100 million
Rise time to DIN EN 60751	t ₅₀ : 8 s t ₉₀ : 15 s
Parameterisation	
	Via IO-Link interface, with HYDAC programming device HPG 3000 or push buttons on the ETS 3200
Environmental conditions	
Ambient temperature range	-25 .. +80 °C
Storage temperature range	-40 .. +80 °C
Fluid temperature range ¹⁾	-40 .. +100°C / -25°C .. 100 °C
CE mark	EN 61000-6-1 / -2 / -3 / -4
Vibration resistance according to DIN EN 60068-2-6 (0 .. 500 Hz)	≤ 10 g
Shock resistance according to DIN EN 60068-2-29 (11 ms)	≤ 50 g
Protection class to IEC 60529	IP 67
Other data	
Supply voltage	9 .. 35 V DC (without analogue output) 18 .. 35 V DC (with analogue output)
Current consumption	≤ 0.535 A with active switching outputs ≤ 35 mA with inactive switching outputs ≤ 55 mA with inactive switching output and analogue output
Residual ripple of supply voltage	≤ 5 %
Display	4-digit, LED, 7-segment, red, height of digits 7 mm
Weight (complete unit including probe)	~ 150 g (probe length 100 mm) ~ 185 g (probe length 250 mm) ~ 210 g (probe length 350 mm)

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

FS (Full Scale) = relative to complete measuring range

¹⁾ -25 °C with FPM seal, -40 °C on request

Setting options:

All terms and symbols used for setting the ETS 3200 as well as the menu structure comply with the specifications in the VDMA Standard for temperature switches.

Setting ranges for the switch outputs:

Measuring range	Lower limit of RP / FL	Upper limit of SP / FH
-25 .. +100 °C	-23.8 °C	100.0 °C
-13 .. +212 °F	-11 °F	212 °F

Measuring range	Min. difference betw. RP and SP & FL and FH	Increment*
-25 .. +100 °C	1.2 °C	0.2 °C
-13 .. +212 °F	2 °F	1 °F

* All ranges given in the table are adjustable by the increments shown.

SP = switch point

RP = switch-back point

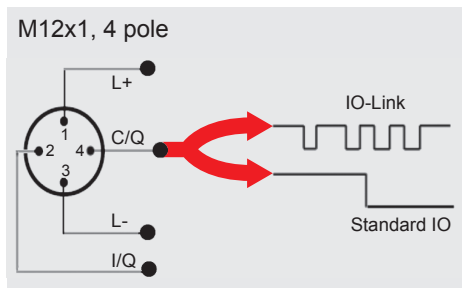
FL = temperature window lower value

FH = temperature window upper value

Additional functions:

- Switching mode of the switching outputs adjustable (switching point function or window function)
- Switching direction of the switching outputs adjustable (N/C or N/O function)
- Switch-on and switch-off delay adjustable from 0.00 .. 99.99 seconds
- Choice of display (current temperature, peak temperature, switching point 1, switching point 2, display off)

Pin connections:



Pin	Signal	Description
1	L+	Supply voltage
2	I/Q	Switching output (SP2) / analogue output
3	L-	Gnd
4	C/Q	IO-Link communication / switching output (SP1)

IO-Link-specific data:

Baud rate	38.4 kBaud *
Cycle time	2.5 ms
Process data width	16 Bit
Frame type	2.2
Specification	V1.1

* Connection with unshielded standard sensor line possible up to a max. line length of 20 m.

Download the IO Device Description (IODD) from:

<http://www.hydac.com/de-en/service/downloads-software-on-request/>

Model code:

ETS 3 2 2 6 - L - XXX - 000

Type _____
 2 = With integrated temperature probe

Mechanical connection _____
 2 = G1/2 A DIN 3852, (male)

Electrical connection _____
 6 = Male M12x1, 4 pole (connector not supplied)

Output _____
 L = IO Link interface

Probe length in mm _____
 100; 250; 350

Modification number _____
 000 = Standard

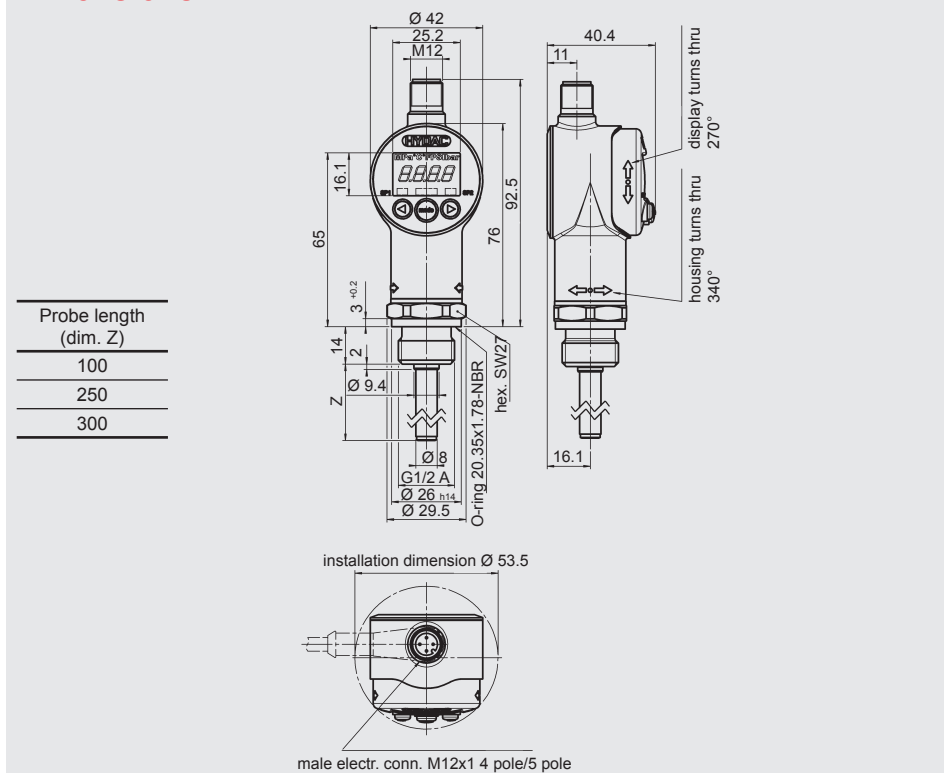
Notes:

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, mechanical adapters, splash guards, clamps for wall-mounting etc can be found in the Accessories brochure.

Dimensions:



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.

HYDAC ELECTRONIC GMBH

Hauptstraße 27, D-66128 Saarbrücken
 Telephone +49 (0)6897 509-01
 Fax +49 (0)6897 509-1726
 E-mail: electronic@hydac.com
 Internet: www.hydac.com