

THERMOMETERS WITH DIGITAL DISPLAY OF THE SERIE TDX

These thermometers are manufactured in five variants:

Version **TDi** is equipped with the programmable converter in a current loop 4–20 mA. Optionally the version with the modulator FSK is available. The version can communicate on the current loop by means of some commands of the protocol HART®. The buttons enable setting some parameters of the current loop and presentation on the display (for example a temperature unit).

Version **TDu** with voltage output 0–10 V or 0–5 V (3-wire connection). With buttons you can configure parameters of the output voltage or the unit on display. Optionally can be added two switching semiconductor switches.

Version **TDs** is the version only with contact-free switches 30 V/500 mA. By means of the buttons parameters of the switching and units on the display can be set.

Version **TDb** is the version with battery supply. It has not any analog or switch output. The thermometer is generally in a sleep mode and the presentation on the display appears approximately for 10 seconds. Also in the design some parameters of the presentation on the display (for example a temperature unit or minimum/maximum displaying of a value) can be selected.

Version **TDd** is the version with the digital output RS232 or RS485 (three wire connection). The version enables use of 1 switch. Communications protocol is ASCII or MODBUS RTU.

Specifications

Power supply: (Vs): 9 to 30 V DC for 2 wire connection (TDi), 15 to 30 V DC for 3 wire connection (TDu, TDs, TDd)

Standard Measuring range: -50 to +150 °C, -50 to +400 °C

Load resistance: $(V_s - 9V)/0,02$ for 2 wire connection > 10 k for 3 wire connection

Display range: 4 ½ digits, bargraph, influence of change of power supply (IEC 770): <math>< 0,005\% / 1V</math>

Sensing element error: see standard Pt100 A or Pt100 B

Errors of the converter (according to IEC 770): basic 0,15 %, repeatability 0,05 %, hysteresis 0,03 %, linearity 0,25 %

Temperature dependences (IEC 770): zero error 0,15 % /10 °K (for the range 0 to 70 °C)
error of the interval 0,15 % /10 °K (for the range 0 to 70 °C)

Range of analog outputs: adjustable by means of the buttons and the display
– minimum interval 20 % of the standard range.

Time response: standard (streaming water, 0,4 ms–1,50 s) <math>< 7\text{ s}</math>

fast (streaming water, 0,4 ms–1,50 s) <math>< 4\text{ s}</math>

fast (streaming water, 0,4 ms–1,90 s) <math>< 10\text{ s}</math>

Damping factor: programmable 0 to 100 s

Connection head ambient temperature: -20 to +70 °C

Relative humidity: <math>< 95\%</math> (without condensation))

Ingress protection: IP 65

Material of the stem: stainless steel EN X5CrNi18-10 (DIN 1.4301)

Material of the connection head: PA 6.6, polycarbonate

EMC (elektromagnetic compatibility): EN 50 081-2 (emissions), EN 50 082-2 (resistivity)



ALARM UNIT SENSIT HPS10-8

Using: The unit processes and indicates alarm or fault signals and interlocks appropriate equipment. The alarm unit is designed for use in boiler rooms, air-condition units, heat exchange stations, heat generating systems and other heat equipments. The box is equipped by a mounting clamp for DIN TS 35 rail attachment. The unit incorporates a low voltage power supply (mains transformer), LEDs as alarm indicators, input and output terminals, two switchover relays with potential-free contacts and a microprocessor.

Power supply: 230V AC $\pm 10\%$

Number of inputs: 8

Number of relay: 2 potential-free contacts, $I_{max} (AC1) = 1\text{ A}$

Input voltage: 230 V AC $\pm 10\%$ or 24 V AC/DC (eventually internal)

Current input: max. 50 mA

Operating temperature: 0 to 50 °C

Ingress protection: IP 40/20

Dimensions: 106 x 90 x 58 mm

