Thank you for choosing a NIVELCO instrument.

THERMOCONT

TXP
TEMPERATURE SENSORS
FOR GASES

USER'S MANUAL

1. APPLICATION

THERMOCONT TXP resistance thermometers with a drilled thermo-well case are used as temperature measurement sensors in industrial process control, especially in the gas industry. The temperature sensors are suitable for temperature measurement of various gaseous media inside pipelines, tanks, and furnaces. The heat-sink on the outer protective tube provides accurate measurement independently from the ambient temperature. The double pipe construction - including the inner and outer tube and well - meets the mechanical and vibrational protection requirements. Process connection and electrical connection are provided as detailed below. The cable glands provide sealing for the cables.
The outer protective tube is a drilled thermo-well case made from stainless steel. The cover of the housing has a chain to prevent misplacing it. The Pt100 temperature sensor can be replaced without removing the instrument from the process.

2. TECHNICAL DATA

		TXP–□1□–□	TXP–□4□–□	TXP–□7□–□
Sensor	Accuracy class	Pt100A, class "A" (MSZ EN 60751), as per order code		
	Type	single, 2-wire	dual, 3-wire	single, 4-wire
	Material of internal protective tube	PTFE		
	Process connection	Spring loaded		
	Version	Ground-independent		
Housing	Housing material	Powder-coated aluminum (EN AC – 43100)		
	Cable gland	M20×1.5 or without cable glands, ½" NPT interior thread		
	Cable	For Ex ia protection type: nickel-plated brass cable gland, or closing bolt; For Ex d and Ex dia protection types: Ex d IIC certified cable gland for cable Ø6…Ø12 mm (Ø.236…Ø.472")		
	Electrical connection	Screw type terminal		
	Ingress protection	IP67		
Probe	Process connection	M33x2, 1" NPT		
	Material	1.4571 stainless steel		
	Insertion length	max. 500 mm (19.7"), as per order codes		
	Process pressure	Max. 80 bar (8 MPa / 1160 psi)		
Measuring range		–50…+150 °C (–58…+302 °F)		
Ambient temperature		–30…+80 °C (–22…+176 °F)		
Electrical protection		Class III		
Ex marking		Ⓔx II 1 G Ex ia IIB T6…T4 Ga Ⓔx II 2 G Ex d IIB T6…T4 Gb Ⓔx II 1/2 G Ex d ia IIB T6…T4 Ga/Gb		
Ex Information		U_i: 30 V, I_i: 140 mA, P_i: 1,1W, C_o = 0, L_o = 0		

2.1 Ex TEMPERATURE CLASSIFICATION

Temperature class	T6	T5	T4
Max. ambient temperature	+65 °C (+149 °F)	+70 °C (+158 °F)	+70 °C (+158 °F)
Max. medium temperature	+85 °C (+185 °F)	+100 °C (+212 °F)	+135 °C (+275 °F)

2.2 ACCESSORIES

– User's Manual
– Warranty Card
– EU Declaration of Conformity

2.3 ORDER CODES

THERMOCONT T X P – □ □ □ – □ Ex [1]

PROCESS CONNECTION	CODE
1" NPT	1
M33x2	V

SENSOR TYPE / PT100 CLASS "A"	CODE
Single, 2-wire	1
Dual, 3-wire	4
Single, 4-wire	7

PROBE LENGTH	CODE
120 mm	0
160 mm	1
200 mm	2
250 mm	3
300 mm	4
350 mm	5
400 mm	6
450 mm	7
500 mm	8

EX CERTIFICATE	CODE
None	0
Ex d ia IIB / ½" NPT[2]	6
Ex ia IIB	7
Ex d ia IIB	8
Ex d IIB	9

[1] *The order code of the Ex-version ends in "Ex"*

[2] *Without cable glands, use glands with protection designation "d" only*

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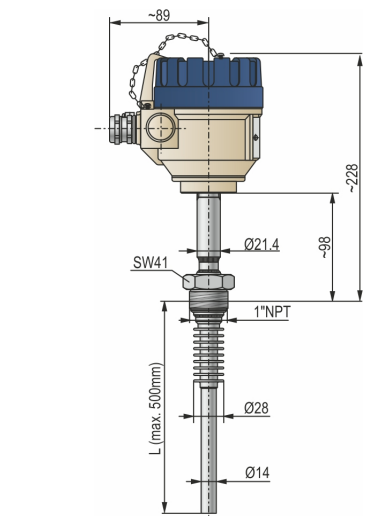
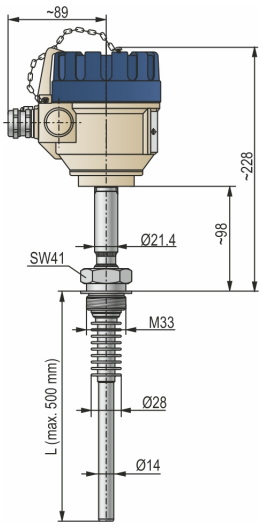
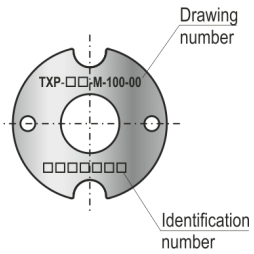
E-mail: sales@nivelco.com www.nivelco.com

2.4 DIMENSIONS

TXP–1□□–□	TXP–V□□–□	LABEL OF THE INCORPORATED SENSOR
		 The sensor insert has a unique manufacturing identification number.

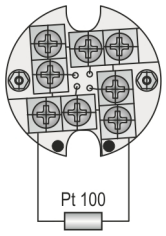
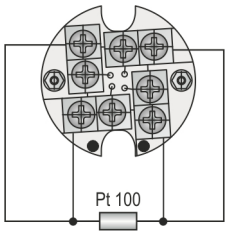
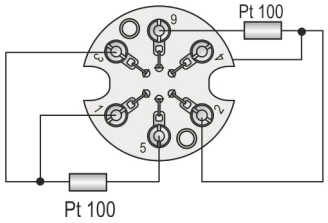
3. MOUNTING

The temperature sensor has a threaded process connection. The cables are sealed by the cable glands. The cable glands can be regular or Ex approved type.

4. SPECIAL CONDITIONS FOR SAFE USE

- Do not remove the housing cover when energized!
- The housing of the device must be connected to the equipotential network.
- The device must be operated only with properly sealed Ex d IIC or Ex d IIB certified protective cable gland.
- The unused cable gland must be closed with certified closing bolt.
- When the wiring is finished and the housing cover is closed, the chain must be attached.
- Take heed that the process connection of the instrument could be the same temperature as the measured medium. Therefore, the temperature class of the instrument depends on the highest process temperature.
- Tightening torque for the NPT 1" process connection types is 45 Nm.
- II 1/2 G Ex d ia IIB T__ Gb approved temperature sensors must be operated from certified [Ex ia] IIC or [Ex ia] IIB intrinsically safe circuits of the following technical specifications:
- U_i: 30 V, I_i: 140 mA, P_i: 1,1W

5. WIRING

		
Wiring of 2-wire single temperature sensor	*Wiring of 4-wire single temperature sensor*	Wiring of 3-wire dual temperature sensor

6. MAINTENANCE, REPAIR

The device does not require regular maintenance. The warranty card contains the terms and conditions. Before returning the device for repairs, it must be cleaned thoroughly. The parts in contact with the medium may contain harmful substances; therefore, they must be decontaminated.

Our official form (Returned Equipment Handling Form) must be filled and enclosed in the parcel. Download it from our website www.nivelco.com. The device must be sent back with a declaration of decontamination. A statement must be provided in the declaration that the decontamination process was successfully completed and that the device is clean from any hazardous substances.

7. STORAGE CONDITIONS

Ambient temperature: –25…+60 °C (–13…+140 °F).

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