



**Thank you for choosing a NIVELCO instrument.
We are sure that you will be satisfied throughout its use!**

1. APPLICATION

THERMOCONT TXP resistance thermometers with drilled thermo-well case are used as sensors of temperature measurement in industrial process control, especially in the gas industry. The temperature sensors are suitable for temperature measurement of various kinds of gaseous media inside pipelines, tanks or furnaces. The heat-sink on the outer protection tube provides accurate measurement independently from the ambient temperature. The mechanical and vibration-protection requirements are met by double pipe construction including the inner and outer tube and well. Process connection and electrical connection are provided as detailed below. Sealing of the wiring cables are provided by the cable glands.

The outer protection tube is a drilled thermo-well case made from stainless steel. The cover of housing has a security chain against loss. The Pt100 temperature sensor can be replaced without removing the instrument from the process.

2. TECHNICAL DATA

TYPE		TXP-□1□-□	TXP-□4□-□	TXP-□7□-□
SENSOR	Accuracy class	Pt100A		
	Design	single, 2-wire	dual, 3-wire	single, 4-wire
	Material of inner protection tube	PTFE		
	Mechanical connection	Spring loaded		
	Vibration-resistance	As per MSZ EN 60751 4.4.2		
	Grounding	Ground-independent		
HEAD	Housing material	Paint coated aluminium (EN AC – 43100)		
	Cable gland connection	M 20 x 1,5 or without cable glands, ½" NPT interior thread		
	Cable gland	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 Ø8.5-16 mm		
	Electrical connection	Screw type terminal		
	Ingress protection	IP 67		
PROBE	Mechanical connection	M33x2, 1" NPT		
	Material	DIN 1.4571 stainless steel		
	Insertion length	As per order codes		
	Operation pressure	Max. 8 MPa (80 bar)		
Measurement range		-50 °C ... +150 °C		
Ambient temperature		-30 °C ... +80 °C		
Electrical protection		Class III.		
Ex marking		 II 1/2 G Ex d ia IIB T ₁ Gb  II 2 G Ex d IIB T ₁ Gb		
Intrinsically safe limit data		U _i : max. 30 V, I _i : max. 100 mA, P _i : max. 750 mW; C ₀ =0, L ₀ =0		

THERMOCONT

TXP
TEMPERATURE SENSORS
FOR GASES

USER'S MANUAL



NIVELCO

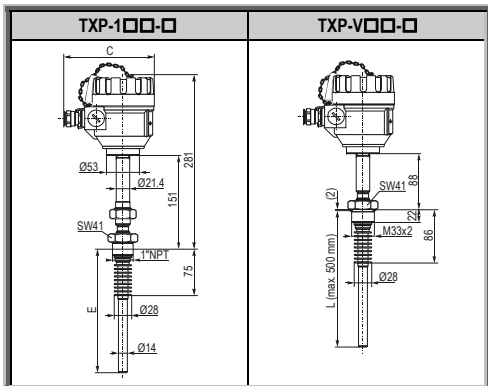
2.1 EX TEMPERATURE CLASSIFICATION

Max. surface temperature	+85 °C	+100 °C	+135 °C	+150 °C
Max. medium temperature	+85 °C	+100 °C	+135 °C	+135 °C
Max. ambient temperature	+65 °C	+70 °C	+70 °C	+80 °C

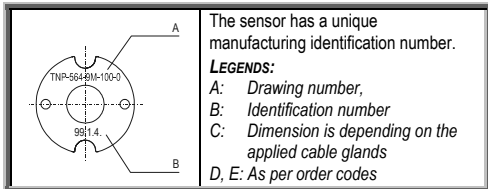
2.2 ACCESSORIES

- User's Manual
- Warranty Card
- Declaration of Conformity

2.4 DIMENSIONS



Label of the incorporated sensor



2.3 ORDER CODES

THERMOCONT T X P - □ □ □ □ 1

PROCESS CONNECTION	CODE	SENSOR TYPE / Pt-100	CODE	PROBE LENGTH	CODE	EX CERTIFICATE 2	CODE
1" NPT	1	Class A, single, 2-wire	1	120 mm	0	None	0
M33x2	V	Class A, dual, 3-wire	4	160 mm	1	Ex d ia without cable glands	6 ²
		Class A, single, 4-wire	7	200 mm	2	Ex ia	7
				250 mm	3	Ex d ia	8
				300 mm	4	Ex d	9
				350 mm	5		
				400 mm	6		
				450 mm	7		
				500 mm	8		

¹ The order code of an Ex version should end in „Ex“

² Only allowed to use with approved cable glands

3. MOUNTING

The temperature sensor instruments have threaded process connection. Sealing of the wiring cables are provided by the cable glands. The cable glands can be normal or Ex approved type.

4. SPECIAL CONDITIONS FOR SAFE USAGE

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 using properly sealed Ex d IIC or Ex d IIB certified protective cable gland.
 The unused cable gland connection should be closed with certified closing bolt.

When the wiring is finished and the housing cover is closed the security chain should be mounted.

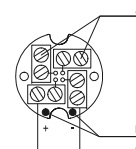
Take into consideration that process connection of the instrument could be the same as the temperature of the medium to be measured. So the temperature class of the applied instrument depends on the highest medium temperature.

Tightening torque for the NPT 1" process connection types should be 45 Nm.

The II 1/2 G Ex d ia IIB T₁ Gb approved temperature sensor devices must be operated from certified [Ex ia] IIC or [Ex ia] IIB approved intrinsically safe circuits complying with the following technical specifications:

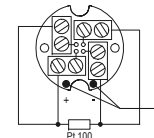
$U_{\text{max}} \leq 30\text{V}$, $I_{\text{omax}} \leq 100\text{mA}$, $P_{\text{omax}} \leq 750\text{mW}$.

5. WIRING

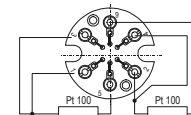


Wiring of 2-wire single temperature sensor

A: No.1 Pt100
 B: Marking
 C: No.2 Pt100



Wiring of 4-wire single temperature sensor



Wiring of 3-wire dual temperature sensor

6. MAINTENANCE, REPAIR

The devices do not require maintenance on a regular basis. In some instances, the sensor probe may need occasional cleaning to remove surface deposits. This must be carried out gently, without harming the sensor. Repairs during or after the warranty period are effected at the Manufacturers.

7. STORAGE CONDITIONS

Ambient temperature: -25 °C ... +55 °C.

txp1710a0600h_01
 2012. March

NIVELCO reserves the right to change technical specifications without notice.