



# Level and temperature switch

## NT 61-Z0-Atex

In hydraulics and lubrication technology the fill level of oil tanks needs to be monitored continuously. Here, modern factory automation requires compatible signals. To minimise production costs and the space required on containers, it makes sense to use one monitor for both e.g. the fill level and oil temperature. The NT 61-Z0...-ATEX series meets virtually all requirements arising in this area of application. This model can be equipped with max. four fixed, bistable level contacts or max. three level plus one temperature contact to monitor the fill level. The temperature can alternatively also be assessed using a Pt100 resistance thermometer.

The NT 61-Z0...-ATEX is a simple electrical equipment without separate voltage source used to monitor the level and temperature inside a tank in explosive areas. Here the stainless steel tube a stainless steel float slides along is located inside the tank in zone 0. The stainless steel flange is mounted to the outside of the tank by 6 screws, meaning the connector plug is located outside the tank in zone 1. A flat seal between the tank and level switch provides the seal between the tank and the environment.

EU type test/IECEX certified

IECEX: IECEX IBE 17.0020X, ATEX: IBExU16ATEX1183 X

Area of application in Ex zone 0/1

Level/temperature combination

Bistable = only one float

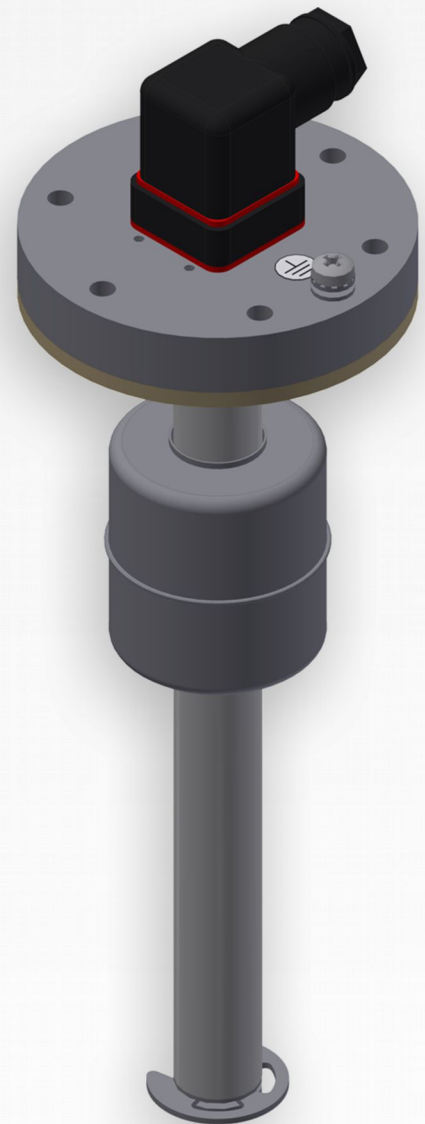
Standardised flange drawing: DIN 24557, part 2

various plug options

variable lengths

Stainless steel version

Maintenance free



**Technical Data**

**NT 61-Z0-Atex**

Operating pressure:	max. 1 bar
Operating temperature:	-20 °C to +70 °C
Ambient temperature:	-20 °C to +70 °C
Min. fluid density:	0.85 kg/dm <sup>3</sup>
Weight at L = 280 mm:	approx. 950 g
Each 100 mm add:	approx. 50 g

**Material**

Float:	1.4571
Immersion tube:	1.4571
Flange (DIN 24557)	1.4571

**Includes**

Mounting screws (quantity 6) and rubberised cork seal.


**Options**

Stilling tube (SSR)	1.4571/NBR
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**The equipment comply with:** IEC 60079-0 (Ed.6.0); IEC 60079-11 (Ed.6.0); EN 60079-0:2012+A11:2013; EN 60079-11:2012

**ATEX/IECEx marking**

 II 1G Ex ia IIC T4 Ga

 II 1D Ex ia IIIC T70°C Da

**The level switches may only be operated on intrinsically-safe circuits!**

**Level switching outputs**

Level contact	K10	W11
Function	NC/NO*	Change-over contact
U <sub>i</sub>		30 V
I <sub>i</sub>		50 mA
L <sub>i</sub> ; C <sub>i</sub>		Negligible
P <sub>i</sub>		100 mW

\*NC = rising NC contact/falling NO contact, NO = rising NO contact/falling NC contact

**Optional temperature switching outputs**

Temperature contact	TKÖ	TKS
Function	NC**	NO**
U <sub>i</sub>		30 V
I <sub>i</sub>		50 mA
L <sub>i</sub> ; C <sub>i</sub>		Negligible
P <sub>i</sub>		100 mW

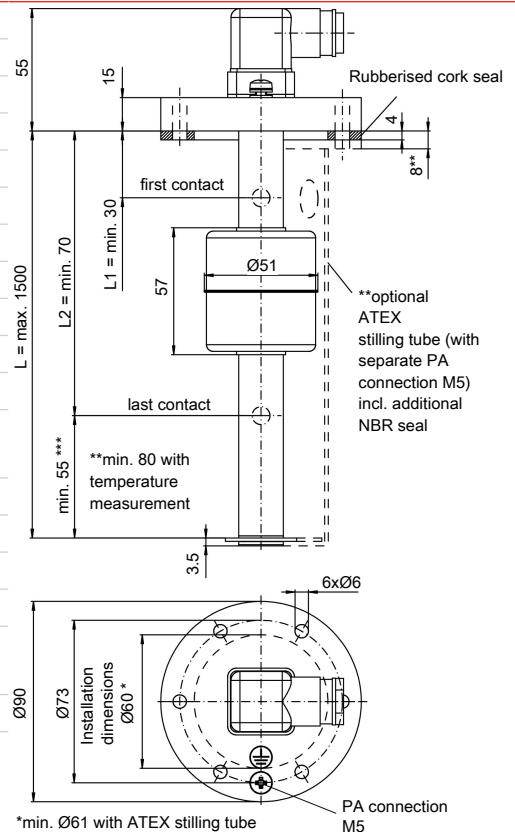
\*\*NC = NC contact, NO = NO contact

**Temperature signal**

**Pt100 Resistance Thermometer**

Temperature sensor	Pt100 Class B, DIN EN 60 751
Tolerance:	±0.8 °K
P <sub>i</sub>	100 mW
U <sub>i</sub>	30 V
I <sub>i</sub>	50 mA
I <sub>Mess</sub> (measuring current)	≤1 mA
L <sub>i</sub> ; C <sub>i</sub>	Negligible

**Dimensions**

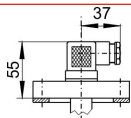
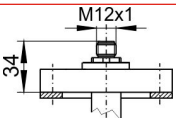
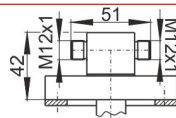


Pt100 measuring resistance base values

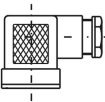
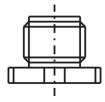
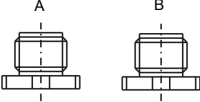
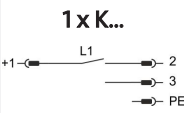
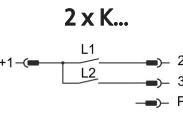
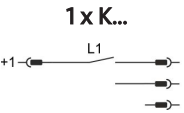
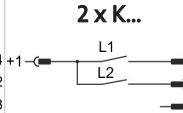
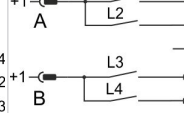
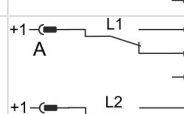


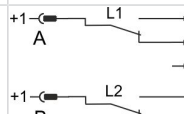
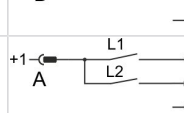
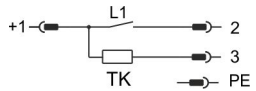
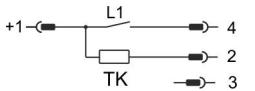
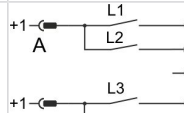
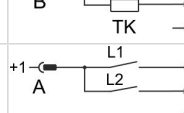
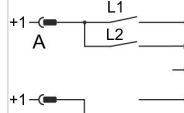
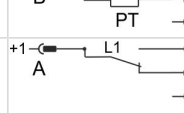
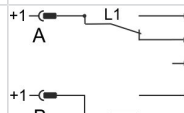
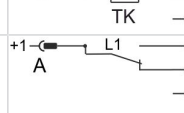
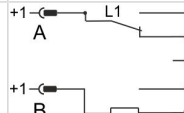
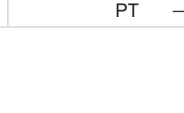
°C	0	10	20	30	40	50	60	70	80	90	100
Ohm	100.00	103.90	107.79	111.67	115.54	119.40	123.24	127.07	130.89	134.70	138.50

Standard pin assignment

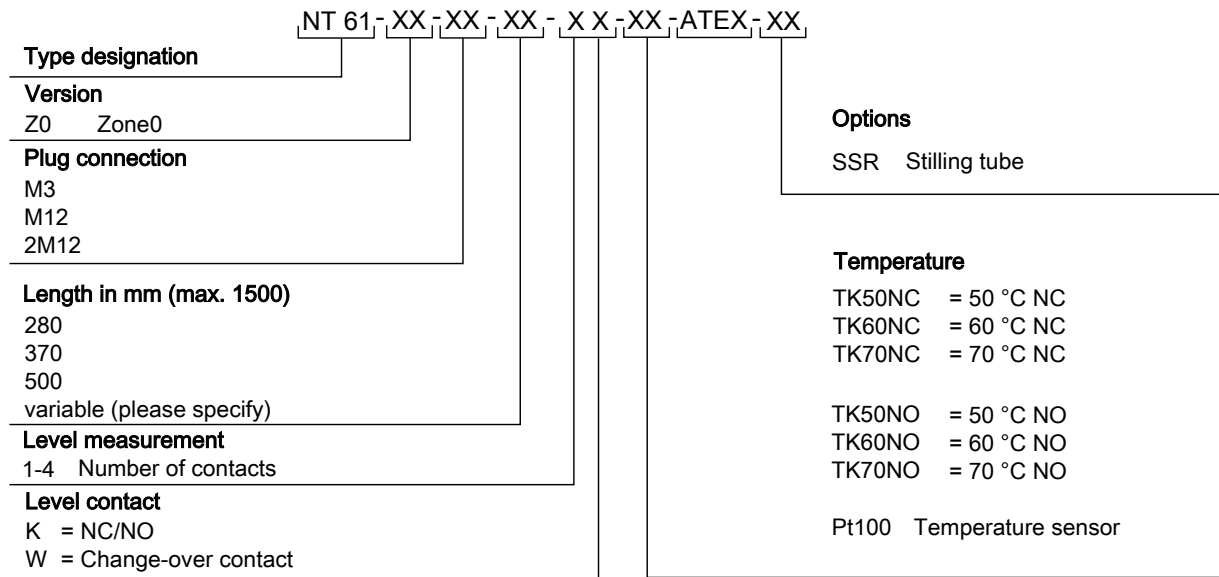
Plug connection

	M3	M12	2 x M12
Dimensions			
Number of pins	3-pin + PE	4-pin	4-pin / 4-pin
DIN EN	175301-803	61076-2-101	61076-2-101
Degree of protection	IP65	IP67**	IP67**
Cable fitting	PG 11		

\*\* with respective plug top

	M3	M12 (base)	2 x M12 (base)
Connection schematic			
Only level contact(s) type K10 (NC/NO)	<p>1 x K... </p> <p>2 x K... </p>	<p>1 x K... </p> <p>2 x K... </p>	<p>A </p> <p>B </p>
Only level contact(s) type W11 (changeover contact)			<p>A </p> <p>B </p>
Level contact(s) type K10 plus temperature contact TK			<p>A </p> <p>B </p>
Level contact(s) type K10 plus Pt100 temperature sensor			<p>A </p> <p>B </p>
Level contact(s) type W11 plus temperature contact TK			<p>A </p> <p>B </p>
Level contact(s) type W11 plus Pt100 temperature sensor			<p>A </p> <p>B </p>

**Ordering Instructions**



**Ordering example**

You require: Level switch, M12 plug connection, length L=280 mm, 1x level contact, contact at L1=100 mm function NC, temperature contact 60 °C function NO, with stilling tube

Order: NT 61-Z0-M12-280-1K-TK60NO-ATEX-SSR, L1 = 100 NC

Item no.	Description
9144 05 0010	Connecting cable M12x1, 4-pin, 1.5 m, angular coupling and straight plug
9144 05 0046	Connecting cable M12x1, 4-pin, 3.0 m, angular coupling and straight plug
9144 05 0047	Connecting cable M12x1, 4-pin, 5.0 m, angular coupling and strands