

## ***Level and temperature switch with display NV64D***

- Highly visible LED display indicates the switching outputs, able to rotate 270°
- Menu structure based on the VDMA guidelines
- Two wireless, adjustable level contacts
- Up to four programmable temperature switching outputs
- Continuous temperature signal (adjustable current or voltage) plus one programmable output
- Switching output adjustable as window or hysteresis
- Two switching outputs adjustable as frequency output (1 to 100 Hz)
- Min/Max memory, logbook function



## ***Level and temperature switch NT 64***

- Wireless, adjustable level contacts
- Flange according to DIN 24557 part 2
- Multiple connector options
- Up to four level contacts or two outputs for level plus RTD or analogue output for temperature
- Reliable dynamic float system
- Stainless steel option for temperatures up to 150 °C
- Probe length up to 1.5 m (longer on request)
- 24 V standard, 230 V on request

## Technical data

## NT 64

### Basic unit

max. operating pressure	1 bar
operating temperature	-20 °C to +80 °C
min. density of fluid	0.80 kg/dm <sup>3</sup> with float SK 601 0.85 kg/dm <sup>3</sup> with float SK 221
length mm	280, 370, 500

### Material / Design

float	<b>MS</b> hard PU (SK 601)	<b>VA</b> 1.4571 (SK 221)
immersion tube	brass	1.4571
flange (DIN 24557)	PA	PA

### Level contacts

function	<b>K</b> NO/NC*	<b>W</b> change over
max. #	4	2
max. voltage	30 V	30 V
max. current	0.5 A	0.5 A
max. contact load	10 VA	20 VA
min. distance of contact	40 mm	40 mm

\*NO = normally open / NC = normally closed

### included in delivery

mounting bolts M5 (6 pieces) and GI cork-gasket

### Temperature contact

max. voltage	<b>TK</b> 30 V
max. current	2.5 A
max. contact load	100 VA

### Function

switching point in °C	<b>NC</b> 50 / 60 / 70 / 80	<b>NO</b> 50 / 60 / 70 / 80
switching point tolerance	± 3 K	± 5 K
max. hysteresis	10 K ± 3 K	10 K ± 3 K

NO = normally open / NC = normally closed (figures at **increasing temperature**)

### Temperature sensor

**Pt 100** (RTD), class B, DIN EN 60751

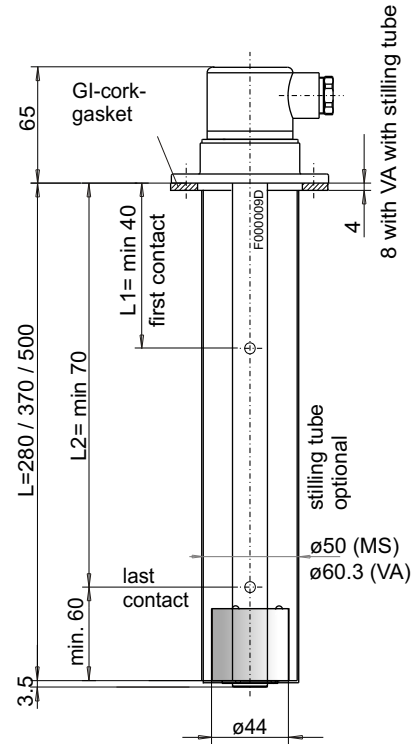
tolerance ± 0.8 °C

### Temperature transmitter

probe element	<b>KT</b> Pt 100 (RTD), class B, DIN EN 60751
measuring range	0 °C to +100 °C
operating voltage (U <sub>B</sub> )	10 - 30 V DC
output	4 - 20 mA
load Ω max.	= (U <sub>B</sub> - 7.5 V) / 0.02 A
other measurement ranges on request	

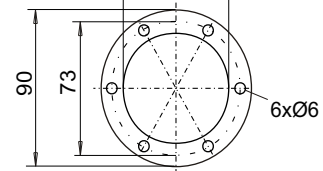
### Option

**SSR** - stilling tube material same as immersion tube

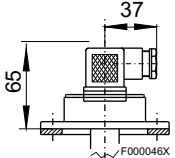
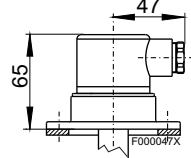
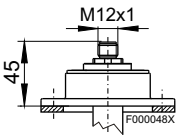
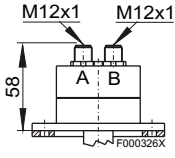


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Installation dimension  
min. Ø60  
min. Ø61 with  
stilling tube



according to DIN 24557 / Part 2

Connector	M3	S6	M12 (base)	2 x M12 (base)
max. voltage	3 pol. + PE DIN EN175301-803 30 V AC/DC	6 pol. + PE DIN EN 175201-804 30 V AC/DC	4 pol. 30 V DC	2 x 4 pol. 30 V DC
protection class	IP 65	IP 65	IP 67**	IP 67**
cable connection	PG 11	M20 x 1.5		
max. # of contacts				
- level / temp. contact	1 x K / 1 x TK - / -	3 x K / 1 x TK 1 x W / 1 x TK	1 x K / 1 x TK - / -	3 x K 10 / 1 x TK 1 x W11 / 1 x TK
- level only	2 x K 1 x W	4 x K 2 x W	2 x K 1 x W	4 x K 2 x W

\*\*with casted connector head / other connectors on request

## Product code for NT 64

NT 64-

**Series**  
Nivotemp **NT 64**

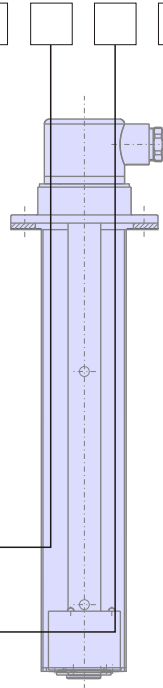
**Design**  
**MS** brass  
**VA** float and immersion tube stainless steel

**Connector**  
**M3**  
**S6**  
**M12**  
**2M12**

**Length (mm)**  
**280**  
**370**  
**500**

**# of level contacts**  
**1-4**

**Level contact**  
**K** = NO/NC  
**W** = change over



**Accessories**  
SSR = stilling tube

**Temperature**

Pt 100 = Temperature sensor (RTD)  
KT = Temperature transmitter

TK = Temperature contact  
T50NO = 50 °C  
T60NO = 60 °C  
T70NO = 70 °C  
T80NO = 80 °C


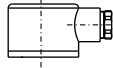

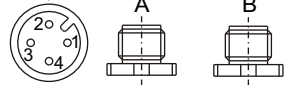
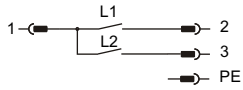
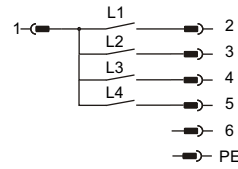
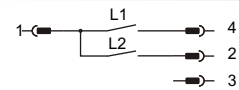
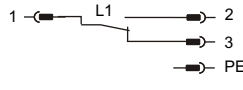
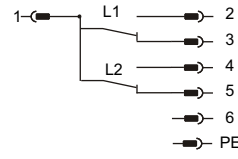
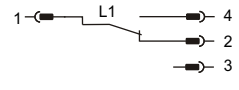
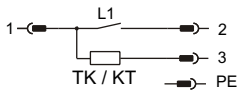
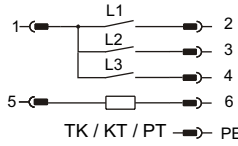
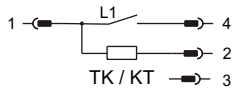
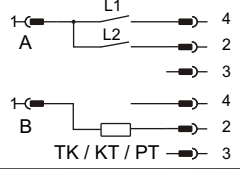
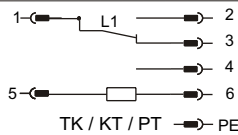
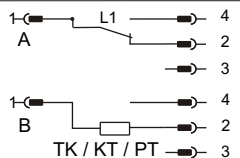
T50NC = 50 °C  
T60NC = 60 °C  
T70NC = 70 °C  
T80NC = 80 °C

**Example for order**

You need: Level switch with flange, brass, connector S6, length L= 500 mm, 2 x level contacts and temperature contact TK80 as NC, 1st contact 100 mm) NC, 2nd contact 420 mm NO

You order: NT 64-MS-S6/ 500 - 2K -T80NC, L1=100 NC, L2 = 420 NO

### Standard pin assignment NT 64

Connector	M3 	S6 	M12 (base) 	2 x M12 (base) 
only level contact(s) Type K				
only level contact(s) Type W				
Level contact(s) Type K and temperature				
Level contact(s) Type W and temperature				

TK = Thermo contact      KT = Temperature transmitter      PT = Temperature sensor Pt 100 (RTD)      other assignments on request

## Technical data

## NT 64D

### Basic unit

max. operating pressure	1 bar
operating temperature	-20 °C to +80 °C
min. density of fluid	0.80 kg/dm <sup>3</sup> , float SK 601 0.85 kg/dm <sup>3</sup> , float SK 221
lengths mm	280, 370, 500

### Material / Design

	MS	VA
display housing	PA	PA
float	hard PU (SK 601)	1.4571 (SK 221)
immersion tube	brass	1.4571
flange (DIN 24557)	PA	PA
SSR (option)	brass	stainless steel

### Level contacts

	K10
max. #	2
function	NO / NC*
max. voltage	30 V
max. current	0.5 A
max. contact load	10 VA
min. distance of contact	40 mm

\*NO = normally open / NC = normally closed

### included in the delivery

mounting bolts M5 (6 pieces) and GI cork-gasket

### Display

temperature display range	-20 °C to +120 °C
alarm indicator range	0 °C to 100 °C
accuracy	1%
resolution	0.5 °C
protection class	IP65
display	4 digit 7 segment LED display
operation	3 button keypad
current consumption at power up	approx. 100 mA for 100 ms
operating current consumption	approx. 50 mA
supply voltage (U <sub>B</sub> )	10 - 30 V DC (nominal voltage 24 V DC)
ambient temperature	-20 °C to +70 °C

**Temperature sensor:** Pt 100 (RTD) class B, DIN EN 60751

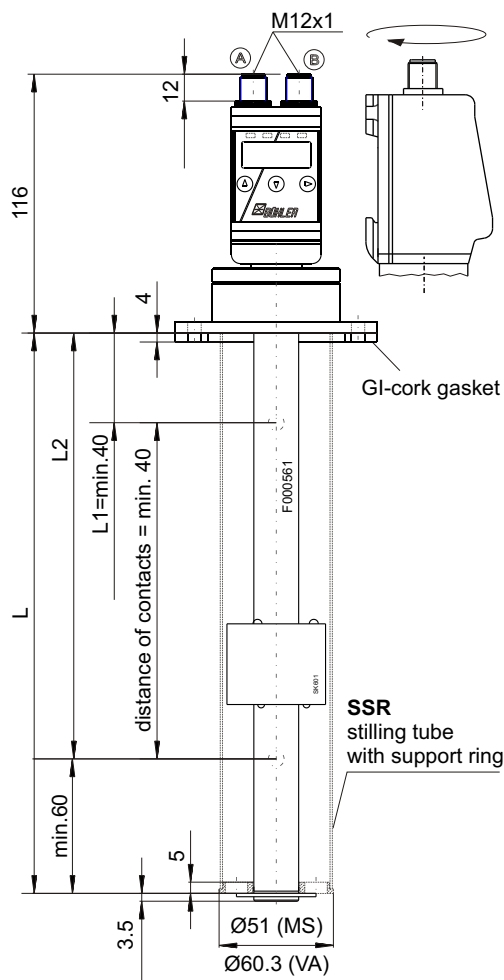
The following temperature outputs are available:

connector (base)	<b>-2T</b> 2 x M12 - 4 pol	OPTIONS
max. contact load	1 A	
PNP transistor output, max. current PNP output	2 x free programmable 0.5 A per output	
connector (base)	<b>1T-KT</b> 2 x M12 - 4 pol	
max. contact load	1 A	
PNP transistor output, max. current PNP output analog output	1 x free programmable 0.5 A per output 1 x 4-20 mA, 2-10 V, 0-10 V or 0-5 V	
load analog output max.	500 Ω	
connector (base)	<b>-4T</b> 1 x M12 - 4 pole 1 x M12 - 8 pole	
max. contact load	1 A	
PNP transistor output, max. current PNP output	4 x free programmable 0.5 A per output / 1 A overall	

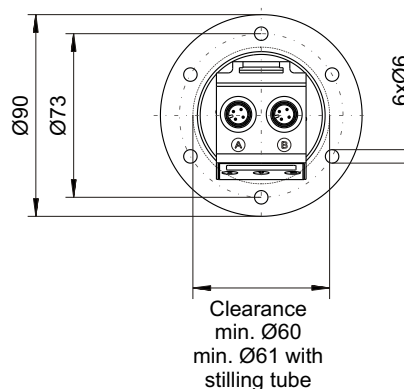
### Option

stilling tube	<b>SSR</b> Material same as immersion tube
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Housing  
able to rotate 270 degrees



top view:



# Product code for NT 64D

NT 64D-  -2M12

**Series**  
Nivotemp **NT 64D**

**Design**  
**MS** brass  
**VA** float / immersion tube stainless steel

**Connector**  
2 x M12

**Length**  
**280**  
**370**  
**500**

**# of level contacts**  
**1K or 2K**  
K = NO/NC

**Position L1=...mm**  
1st level contact

**Switch function 1st contact**  
NO/NC

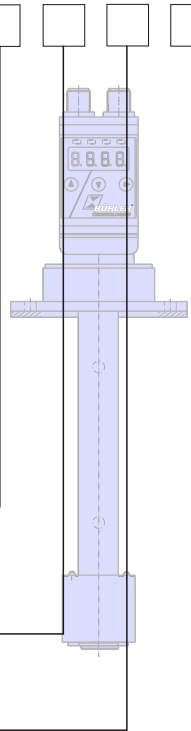
**-2T**  
LED Temperature display  
2 x Temperature output

**-4T**  
LED Temperature display  
4 x Temperature output

**-1T-KT**  
LED Temperature display  
1 x Temperature output  
1 x Analogue output

**Switch function 2nd contact**  
NO/NC

**Position L2=...mm**  
2nd level contact



**Accessories:**

Part No.	Description
91 44 05 0010	Connecting cable M12x1, 4-pol., 1.5 m, elbow connector (female) and straight connector (male)
91 44 05 0046	Connecting cable M12x1, 4-pol., 3.0 m, elbow connector (female) and straight connector (male)
91 44 05 0047	Connecting cable M12x1, 4-pol., 5.0 m, elbow connector (female) and wire
91 44 05 0048	Connecting cable M12x1, 8-pol., 1.5 m, elbow connector (female) and straight connector (male)
91 44 05 0049	Connecting cable M12x1, 8-pol., 3.0 m, elbow connector (female) and straight connector (male)
91 44 05 0033	Connecting cable M12x1, 8-pol., 5.0 m, elbow connector (female) and wire

**Example for order**

You need: Level switch with flange, design MS, connector S6, length L= 500 mm, 2 x level contacts; 1st contact 100 mm NC, 2nd contact 420 mm NO, with temperature display and 2x programmable temperature output

You order: NT 64D-MS-2M12/500-2K-100NC-420NO-2T

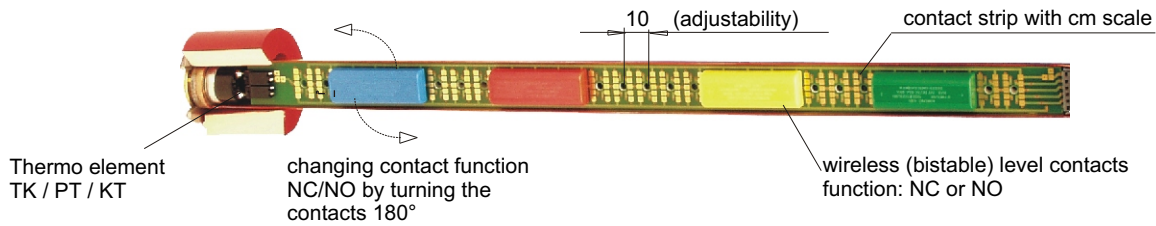
## Standard pin assignment NT 64D

	<b>Type NT 64D-2T</b> Level contact(s) 2 x Temperature output	<b>Type NT 64D-1T-KT</b> Level contact(s) 1 x Temperature output 1 x Analogue output	<b>Type NT 64D-4T</b> Level contact(s) 4 x Temperature output
Connector A = level 			
Connector B = temperature 			

**Note:**

If the switching output is measured with high-impedance measuring equipment or if the frequency output is used, connect a 10 kΩ resistor between output and ground to avoid faulty measurements.

## The EasyJust System



Using adjustable level contacts allows the application of standardized immersion tubes in oil tanks of different sizes and geometrical shapes.

The switching points are changeable to the requirement of the individual application at any time without purchasing a specific level switch.

This facilitates design and logistics for the users and OEMs.

The Easy Just System is based on a wireless structure of the contacts.

The contacts are designed of closed and color coded housings. They are positioned on a printed circuit board with gold plated contacts. The colors are used for the coding of the different contacts and assure the allocation of the connector's assignments.

The contacts' function (NC or NO) is determined by the 180° rotation on the printed circuit board.

An adjusted temperature switch (bi-metal, NO or NC), a Pt 100 (RTD) or a 4-20 mA transmitter is fixed at the lower end of the printed circuit board, depending on the chosen option for the temperature monitoring.