

Level and temperature switch with display NT 61D

- Highly visible LED display indicates the switching outputs, able to rotate 270°
- Up to 4 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)
- Menu structure based on the VDMA guidelines
- Min/Max memory, logbook function

Level and temperature switch NT 61

- Flange according to DIN 24557 / Part 2
- Various connector options
- Up to 4 level outputs or 2 switching level outputs plus RTD or analog 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)
- Voltage up to 230 V applicable



Technical data

Nivotemp NT 61-...

Basic unit

max. operating pressure
operating temperature
min. spec. density of fluid

1 bar
-20 °C to +80 °C
0,80 kg/dm³ with float SK 601
0,85 kg/dm³ with float SK 221
280, 370, 500 (standard)
variable up to max. 1500

length

weight
at L=280 mm
plus per 100 mm

MS
approx. 200 g
approx. 30 g

VA
approx. 300 g
approx. 50 g

Material / design

float
immersion tube
flange (DIN 24557)
stilling tube (option)

MS
hard PU (SK 601)
brass
PA
brass

VA
SS 1.4571 (SK 221)
SS 1.4571
PA
stainless steel

Level contacts

function
max. voltage
max. current
max. contact load
min. distance of contact

K10
NO / NC*
230 V
0,5 A
10 VA
40 mm

W11
change over
48 V
0,5 A
20 VA
40 mm

*NO= normally open / NC = normally closed at empty reservoir

Included in delivery

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

Temperature contact

of temp. contacts
max. voltage
max. current
max. contact load

TK
1
230 V
2,5 A
100 VA

TM
2
230 V
2 A
100 VA

Function

switching point °C
switching point tolerance
max. hysteresis

NC
50 / 60 / 70 / 80
± 3 K
10 K ± 3 K

NC
50 / 60 / 70 / 80
± 5 K
18 K ± 5 K

Function

switching point °C
switching point tolerance
max. hysteresis

NO
50 / 60 / 70 / 80
± 3 K
10 K ± 3 K

NO
50 / 60 / 70 / 80
± 5 K
26/35/40/45 K ± 5 K

NC = open / NO = closed at **increasing temperature**

Other temperatures and designs with 2x TK contacts on request

Temperature sensor

tolerance

RTD (Pt 100) class B, DIN EN 60 751
±0,8 °C

Temperature transmitter

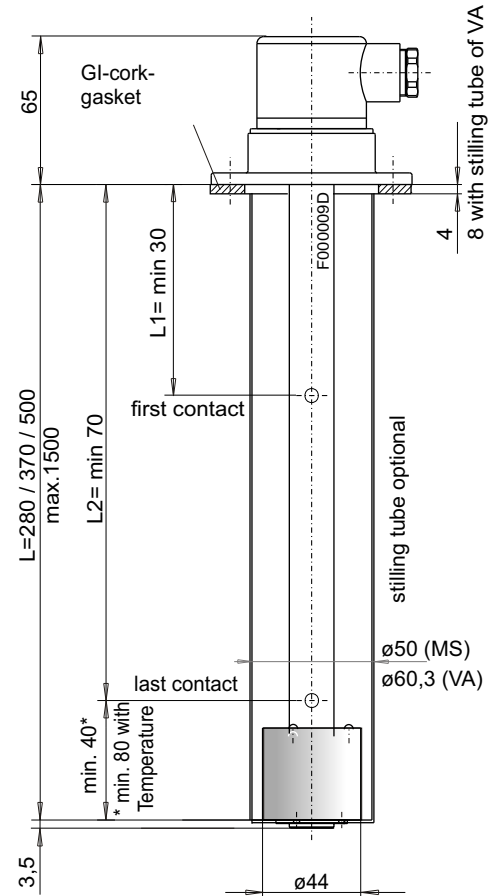
probe element
measuring range
operating voltage (U_B)
output
load Ω max.
other measuring range on request

KT
RTD (Pt 100) class B, DIN EN 60 751
0 °C to +100 °C
10 - 30 V DC
4 - 20 mA
(U_B - 7,5 V) / 0,02 A

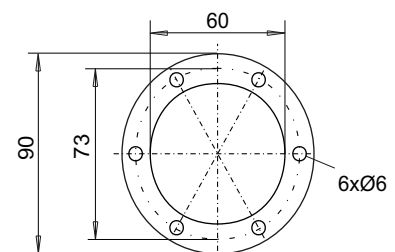
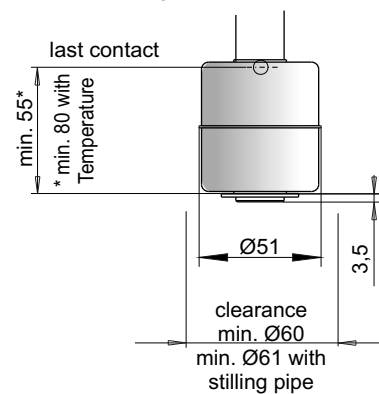
Options

stilling pipe (SSR) material same as immersion tube

NT 61-MS



NT 61-VA



according to DIN 24557 part 2

Product code for Nivotemp NT 61-...

NT 61- [] - [] - [] - [] - [] - **A** **B** - **C** - []

Series

Nivotemp NT 61

Design

MS brass
VA float and immersion tube
stainless steel

Connector

M3
S6
M12
2M12
C6F

Length (max. 1500 mm)

280
370
500
Variable (please specify length)

level contacts

1-4

Level contact

K = NO/NC
W = change over

SSR = stilling tube

only for double temp. contact

C T2 (2nd Temperature contact)
NC NO
TM50NC TM50NO =50 °C
TM60NC TM60NO =60 °C
TM70NC TM70NO =70 °C
TM80NC TM80NO =80 °C

B T1 (1st Temperature contact)

NC NO
TM50NC TM50NO =50 °C
TM60NC TM60NO =60 °C
TM70NC TM70NO =70 °C
TM80NC TM80NO =80 °C

A Temperature *

Pt 100 = Temperature sensor (RTD)
KT = Temperature transmitter
TK = Temperature contact
TK50NC = 50 °C NC
TK60NC = 60 °C NC
TK70NC = 70 °C NC
TK80NC = 80 °C NC

TK50NO = 50 °C NO
TK60NO = 60 °C NO
TK70NO = 70 °C NO
TK80NO = 80 °C NO

*cannot be combined with temperature contact TM

Accessories

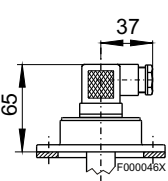
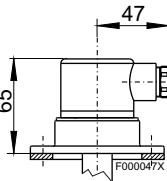
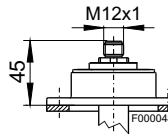
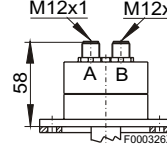
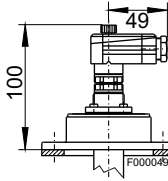
Part-No. 4-pole Description

9144 05 0010 Connecting cable M12x1, 1,5 m, elbow connector (female) and straight connector (male)
9144 05 0046 Connecting cable M12x1, 3,0 m, elbow connector (female) and straight connector (male)
9144 05 0047 Connecting cable M12x1, 5,0 m, elbow connector (female) and wire

Example for order

You need: Level switch design MS, connector S6, length L= 550 mm, 2 level contacts (NO/NC) and temperature contact 80 °C as NC, 1st contact 100 mm NC, 2nd contact 470 mm NO

You order: NT 61-MS-S6-550-2-K-T80NC, L1=100 NC, L2 = 470 NO

Connection	M3 3 pol. + PE DIN EN 175301-803 230 V AC/DC* IP 65 PG 11	S6 6 pol. + PE DIN EN 175201-804 230 V AC/DC* IP 65 M20 x 1,5	M12 (base) 4 pol. DIN EN 61076-2-101 30 V DC IP 67**	2 x M12 (base) 2 x 4 pol. DIN EN 61076-2-101 30 V DC IP 67**	C6F 6 pol. + PE DIN EN 175301-804 230 V AC/DC* IP 65 PG 11
max. voltage protection class cable connection					
Max. # of contacts Level/ Temp. contact	1 x K10 / 1 x TK - / - - / -	3 x K10 / 1 x TK 2 x K10 / 2 x TM 1 x W11 / 1 x TK 1 x W11 / 2 x TM	1 x K10 / 1 x TK - / - - / -	3 x K 10 / 1 x TK 2 x K10 / 2 x TM 1 x W11 / 1 x TK 1 x W11 / 2 x TM	3 x K10 / 1 x TK 2 x K10 / 2 x TM 1 x W11 / 1 x TK 1 x W11 / 2 x TM
Only level or	2 x K10 1 x W11	4 x K10 2 x W11	2 x K10 1 x W11	4 x K10 2 x W11	4 x K10 2 x W11

* max. 48 V at switch contacts / **with casted connector head / other connectors on request

Technical data

Nivotemp NT 61-HT

Basic unit

max. operating pressure	1 bar
operating temperature	-20 °C to 150 °C (only with HT contacts)
min. density of fluid	0.85 kg/dm ³ with float SK 221
standard length mm	280, 370, 500
	variable up to max. 1.5 m
weight	VA
at L=280 mm	approx. 950 g
plus per 100 mm	approx. 50 g

Material

float	SS 1.4571
immersion tube	SS 1.4571
flange	SS 1.4571

Level contacts

	K10	W11	K10HT*	W11HT*
max. voltage	230 V	48 V	230 V	48 V
max. current	0.5 A	0.5 A	0.5 A	0.5 A
max. contact load	10 VA	20 VA	10 VA	20 VA
min. distance of contact	40 mm	40 mm	40 mm	40 mm
max. operating temperature	105 °C	105 °C	150 °C	150 °C

*NO= normally open / NC = normally closed at empty reservoir

***HT = not adjustable**

Included in delivery

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

Temperature contact

	TK	TM
# of temp. contacts	1	2
max. voltage	230 V	230 V
max. current	2.5 A	2 A
max. contact load	100 VA	100 VA

Function

	NC	NC
switching point in °C	50 / 60 / 70 / 80	50 / 60 / 70 / 80
switching point tolerance	± 3 K	± 5 K
max. hysteresis	10 K ± 3 K	18 K ± 5 K

Function

	NO	NO
switching point in °C	50 / 60 / 70 / 80	50 / 60 / 70 / 80
switching point tolerance	± 3 K	± 5 K
max. hysteresis	10 K ± 3 K	18 K ± 5 K

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

other temperatures and designs with 2 x TK contacts on request

Temperature sensor

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

±0,8 °C

Temperature transmitter

probe element **KT**

Pt 100 class B, DIN EN 60751

alarm range 0 °C to +100 °C

operating voltage (U_B) 10 - 30 V DC

output 4 - 20 mA

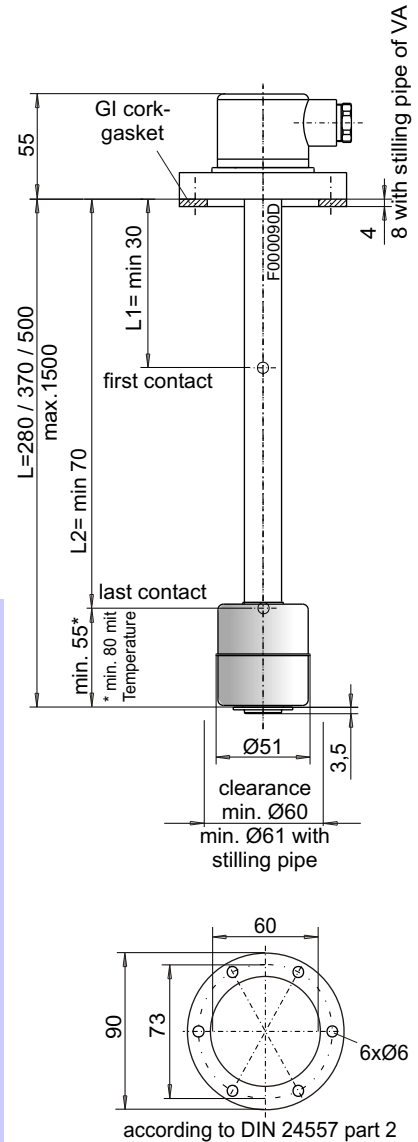
load Ω max. = (U_B - 7.5 V) / 0.02 A

other measuring ranges on request

Options

stilling pipe **SSR**

Material same as immersion tube



Product code for Nivotemp NT 61-...

NT 61-HT- [] - [] - [] - [] - **A** **B** - **C** - []

Series
Nivotemp NT 61

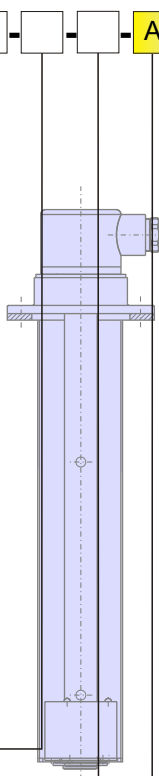
Design
-HT stainless steel

Connector
M3
S6
M12
2M12
C6F

Length (max. 1500mm)
280
370
500
Variable (please specify length)

level contacts
1-4

Level contact
K = NO/NC
K-HT = NO/NC
W = change over
W-HT = change over



SSR = stilling tube

Only for double temp. contact C T2 (2nd Temperature contact)
NC NO
TM50NC TM50NO =50 °C
TM60NC TM60NO =60 °C
TM70NC TM70NO =70 °C
TM80NC TM80NO =80 °C

B T1 (1st Temperature contact)
NC NO
TM50NC TM50NO =50 °C
TM60NC TM60NO =60 °C
TM70NC TM70NO =70 °C
TM80NC TM80NO =80 °C

A Temperature*
Pt 100 = Temperature sensor (RTD)
KT = Temperature transmitter
TK = Temperature contact
TK50NC = 50 °C NC
TK60NC = 60 °C NC
TK70NC = 70 °C NC
TK80NC = 80 °C NC

TK50NO = 50 °C NO
TK60NO = 60 °C NO
TK70NO = 70 °C NO
TK80NO = 80 °C NO

*cannot be combined with temperature contact TM

Accessories

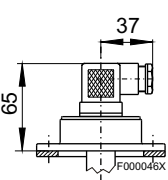
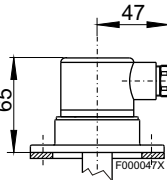
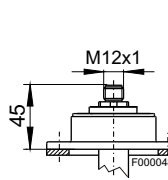
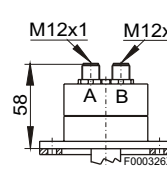
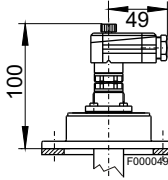
Part-No. 4-pole Description

9144 05 0010	Connecting cable M12x1, 1.5 m, elbow connector (female) and straight connector (male)
9144 05 0046	Connecting cable M12x1, 3.0 m, elbow connector (female) and straight connector (male)
9144 05 0047	Connecting cable M12x1, 5.0 m, elbow connector (female) and wire

Example for order

You need: Level switch, connector M3, length L= 550 mm, 2 level contacts (NO/NC)
1st contact 100 mm NC, 2nd contact 470 mm NO, temperature sensor, stilling tube

You order: NT 61HT-M3-550-2-K-HT-Pt 100-SSR, L1=100 NC, L2 = 470 NO

Connector	M3	S6	M12 (base)	2 x M12 (base)	C6F
max. voltage	3 pol. + PE	6 pol. + PE	4 pol.	2 x 4 pol.	6 pol. + PE
protection class	DIN EN 175301-803	DIN EN 175301-804	DIN EN 61076-2-101	DIN EN 61076-2-101	DIN EN 175301-804
cable connection	230 V AC/DC* IP 65 PG 11	230 V AC/DC* IP 65 M20 x 1,5	30 V DC IP 67**	30 V DC IP 67**	230 V AC/DC* IP 65 PG 11
max. # of contacts					
level/ temp. contact	1 x K10 / 1 x TK - / - - / -	3 x K10 / 1 x TK 2 x K10 / 2 x TM 1 x W11 / 1 x TK 1 x W11 / 2 x TM	1 x K10 / 1 x TK - / - - / -	3 x K 10 / 1 x TK 2 x K10 / 2 x TM 1 x W11 / 1 x TK 1 x W11 / 2 x TM	3 x K10 / 1 x TK 2 x K10 / 2 x TM 1 x W11 / 1 x TK 1 x W11 / 2 x TM
only level or	2 x K10 1 x W11	4 x K10 2 x W11	2 x K10 1 x W11	4 x K10 2 x W11	4 x K10 2 x W11

* max. 48 V at change over contacts / **with casted connector head / other connectors on request

Standard pin assignment NT 61 and NT 61-HT

Connector	M3	S6/C6	M12 (base)	2 x M12 (base)
only level contact(s) Type K10				
only level contact(s) Type W11				
level contact(s) Type K10 and temperature				
level contact(s) Type W11 and temperature				
level contact(s) Type K10 and Pt 100 (RTD)				
level contact(s) Type K10 and 2 Temp. contacts				
level contact Type W11 and 2 Temp. contacts				

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

Standard pin assignment NT 61D

	Type NT 61D-2T level contact(s) 2 x Temperature output	Type NT 61D-1T-KT level contact(s) 1 x Temperature output 1 x Analogue output	Type NT 61D-4T 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.