

# Level switch

## Nivotemp NT-EL, NT-ELD

In hydraulics and lubrication technology the fill level of oil tanks needs to be monitored continuously. Here, modern factory automation requires compatible signals. Despite central system control, visualising the current level on the actual tanks is often desired. 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 Nivotemp series meets virtually all requirements arising in this area of application.

### NT-EL

Tank connections G1/2, M20x1.5, 7/8-14UNF

M12 plug connection

Level and/or temperature control

Small, compact design

Proven, highly dynamic float system

### NT-ELD

Tank connections G1/2, M20x1.5, 7/8-14UNF

Fixed fill level monitor switching outputs

LED display swivels 270°

Standardised VDMA-based menu structure

Two programmable temperature switching output

Alternatively, one continuous temperature output signal plus one freely programmable switching output

Switching output configurable as window or hysteresis

Switching output configurable as frequency output (1-100 Hz)

Min./Max. value memory, logbook



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NT-EL Technical Data

<b>Version</b>	<b>MS</b>
Operating pressure:	max. 1 bar
Operating temperature:	-20 °C to +80 °C
Float:	SK 174
Min. fluid density:	0.80 kg/dm <sup>3</sup>
Lengths (all versions):	280, 370, 500 mm (standard) variable to max. 500 mm
Weight at L = 500 mm:	approx.180 g

**Material**

Float:	PU
Immersion tube:	Brass
G1/2 connection, M20 x 1,5, 7/8-14UNF:	Aluminium

**Level switching output**

**K40**

Number max.:	2 not adjustable
Function:	NO / NC*
Max. voltage:	30 V DC
Max. switching current:	0.5 A
Max. contact load:	5 VA
Min. contact spacing:	30 mm (in 10 mm increments)

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

**Optional temperature**

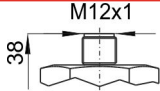
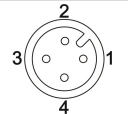
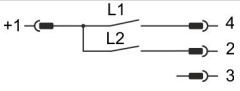
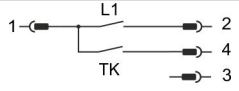
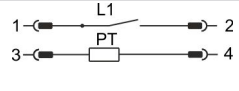
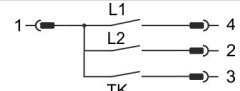
<b>Temperature contact:</b>	<b>TEL xx</b>
Max. voltage:	30 V DC
Max. switching current:	1 A
Max. contact load:	10 VA
Function:	NC
Switching point °C:	50 / 60 / 70 / 80
Switching point tolerance:	± 5 K
Max. hysteresis:	20 K ± 5 K

Other temperatures and switching function available upon request

**Temperature sensor**

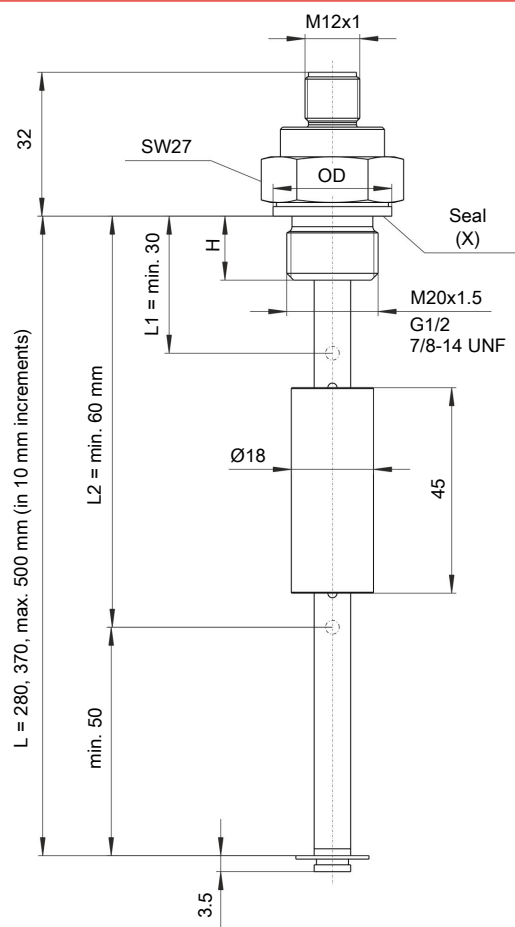
Pt100	DIN EN 60 751 (Tolerance ± 0.8 °C)
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NT-EL default pin assignment

 M12x1 IP rating IP67*	Level contact(s) only	Only level contact K40 and temperature contact (TK)	Level contact K40 and temperature sensor (PT)	Level contacts K40 and temperature contact (TK) with special connection
				

\* with IP67 cable box attached

**Dimensions**



	M20 x1.5	G1/2	7/8-14UNF
OD	26	26.6	26
H	14	14	12.7
X	Eolastic seal	Eolastic seal	O-ring



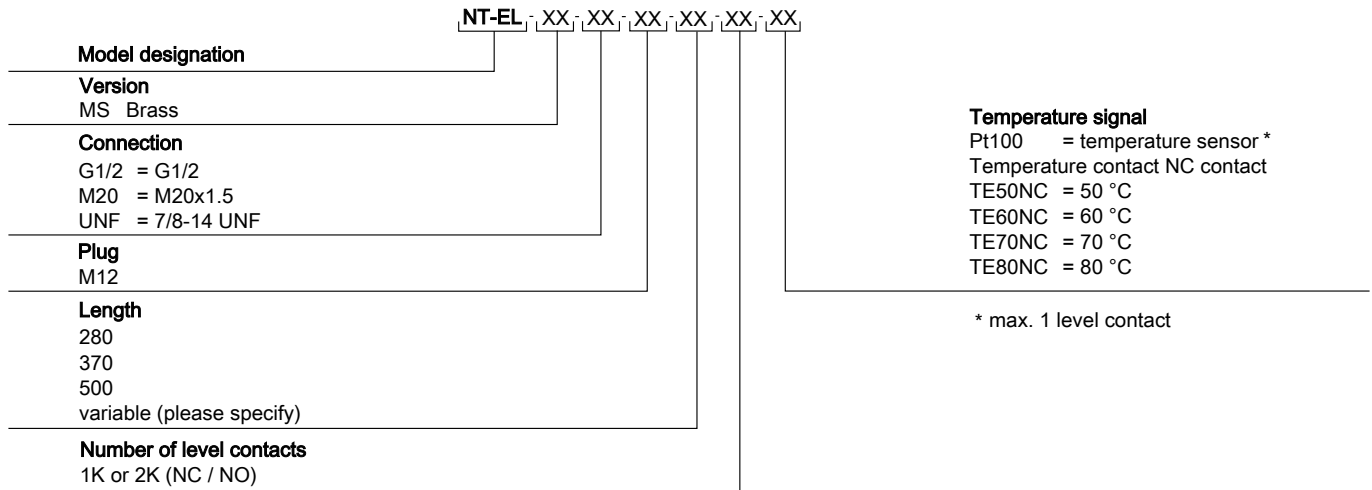
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**Ordering instructions NT-EL**

**Model key**



**Ordering example**

You require: Level switch with connector M20x1.5, length L= 370 mm,  
2 level contacts, L1 = 280 mm NC / L2 = 320 mm NO

Order NT-EL-MS-M20-M12/370-2K-280NC/320NO



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## Technical Data NT-ELD

Version	MS
Operating pressure:	max. 1 bar
Operating temperature:	-20 °C to +80 °C
Float:	SK 174
Min. fluid density:	0.80 kg/dm <sup>3</sup>
Lengths (all versions):	280, 370, 500 mm (standard) variable to max. 500 mm
Weight at L = 500 mm:	approx. 300 g

### Material

Float:	PU
Immersion tube:	Brass
G1/2 connection, M20 x 1,5, 7/8-14UNF:	Anodised aluminium

### Level switching output K40

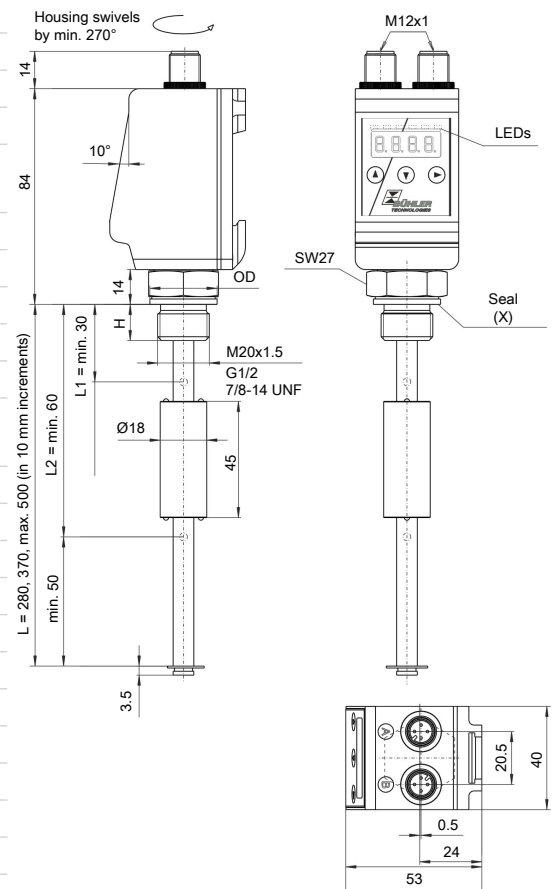
Number max.:	2 not adjustable
Function:	NO / NC*
Max. voltage:	30 V DC
Max. switching current:	0.5 A
Max. contact load:	5 VA
Min. contact spacing:	30 mm (in 10 mm increments)

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

### Temperature display electronics

Display:	4 character 7 segment LED
Operation:	Via 3 keys
Memory:	Min. / Max. Data memory
Starting current input:	approx. 100 mA for 100 ms
Current input during operation:	approx. 50 mA (without current- and switching outputs)
Supply voltage (U <sub>b</sub> ):	10–30 V DC (nominal voltage 24 V DC)
Ambient temperature:	-20 °C to +70 °C
Temperature display units:	°C / °F
Display range:	-20 °C to +120 °C
Alarm setting range:	0 °C to 100 °C
Display accuracy:	± 1 % FS
Measuring principle:	Pt 100 Class B, DIN EN 60751

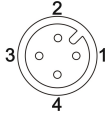
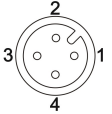
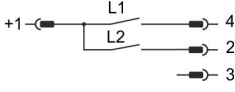
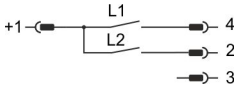
## Dimensions



	M20 x1.5	G1/2	7/8-14UNF
OD	26	26.9	26
H	14	14	12.7
X	Elastic seal	Elastic seal	O-ring



## NT-ELD standard pin assignment

	Plug A level M12 (base)		Plug B temperature M12 (base)
Connection schematic:			
<b>Number of poles:</b>	4-pin		4-pin
<b>DIN EN:</b>	61076-2-101		61076-2-101
<b>Max. voltage:</b>	30 VDC		30 VDC
<b>IP rating:</b>	IP65		IP65
<b>2T</b>		<b>PIN</b>	
2 x temperature output		1 2 3 4	+24 V S2 (PNP) GND S1 (PNP)
<b>1T-KT</b>		<b>PIN</b>	
1 x Temperature output 1 x Analog output		1 2 3 4	+24 V Analogue GND S1 (PNP)