Level- and temperature sensor
Nivotemp NT 67-XP-DC

- Daimler Specification -

Fluidcontrol

IO-Link

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.

- Connecting flange as per DIN 24557 Part 2
- Combined, continuous liquid level and oil temperature monitoring
- LED display swivels 270°
- Menu structure based on VDMA standard sheet 24574 ff.
- Two adjustable alarm outputs each for level and temperature
- Alternatively one analogue output (current or voltage) for level and temperature plus two parametrisable alarm outputs
- IO-Link interface built in
- Min/max memory, logbook function
- M12 plug base
- Proven and tested highly dynamic float system
- Immersion tube in matched lengths to max. 1420 mm, other lengths available upon request

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Technical Data

Basic Unit

Version	MS
Operating pressure	max. 1 bar
Operating temperature	-20 °C to +80 °C
Float	SK 604
Min. fluid density	0.80 kg/dm³

Material/Version	
Display housing	PA
Float	hard PU
Immersion tube	Brass
Flange (DIN 24557)	PA
Weight at L=280 mm Each 100 mm add	approx. 850 g approx. 30 g
IP rating	IP65

Analysis 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_B)	10 – 30 V DC (nominal voltage 24 V DC) / with IO-Link 18 – 30 V DC	
Ambient temperature	-20 °C to +70°C	
Display units	Level	Temperature
	%, cm, L, i, Gal	°C / °F
Display range	adjustable	-20 °C to +120 °C
Alarm setting range	e.g. 0 – 100 %	0 °C to 100 °C
Display accuracy	± 1 % from end value	± 1 % from end value

Input values	Level	Temperature
Principle of measurement	Reed-contact	Pt100 Cl. B, DIN EN 60751
	Resolution 5 mm	Tolerance ± 0.8 °C

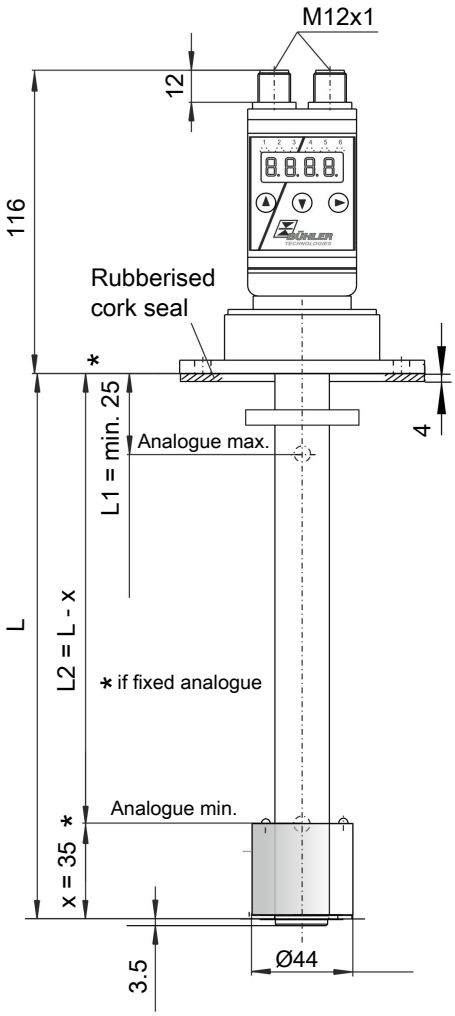
Optional switching outputs

	1D3S	1D1S-KN-KT
Plug (base)	2 x M12 – 4-pin	2 x M12 – 4-pin
Switching outputs (preset per Ordering Instructions [▷ 4])	4 Parametrisable switching outputs Assignment 2 x level/2 x temperature preset or 1 x programmable with assignment options plus IO-Link	2 parametrisable switching outputs with arbitrary assignment level/temperature or 1 x programmable with assignment options plus IO-Link
Alarm memory	with 1 x assignable to alarm logbook	with 1 x assignable to alarm logbook
max. switching current	0.5 A per output continuous short-circuit protected	0.5 A per output continuous short-circuit protected
Contact load	max. 1 A total	max. 1 A total
Analogue outputs		1x level and 1x temperature
Programmable as		4 - 20 mA, 2 - 10 VDC, 0 - 10 VDC, 0 - 5 VDC
Max. burden Ω as current output		(U_B – 8 V) / 0.02 A
Min. input load as voltage output		10 kΩ

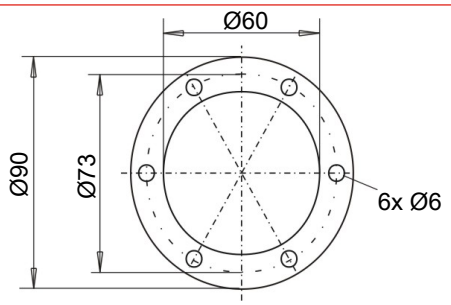
**Output 1 max. 0.2 A.

Dimensions

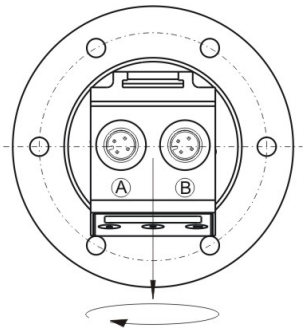
Basic version



Flange pattern as per DIN 24557 Part 2



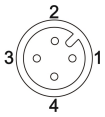
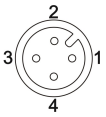
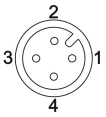
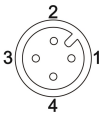
Top view



Housing swivels 270°

Standard pin assignment

Plug connections

Version	1D3S		1D1S-KN-KT	
Plug	**2x M12 4-pin**		**2x M12 4-pin**	
Connection schematic	Plug A	Plug B	Plug A	Plug B
				
Pin				
1	+24 VDC	+24 VDC	+24 VDC	+24 VDC
2	S2 (PNP)	S4 (PNP)	S2 (PNP)	Level (analogue)
3	GND	GND	GND	GND
4	S1 (PNP) *	S3 (PNP)	S1 (PNP)	Temp. (analogue)

* When used as IO-Link, PIN 4 on plug A = C/Q (switching and communications line). Plug B is then not required and must be sealed with a plug to maintain the IP rating (IP65)!

Ordering Instructions

Item no.	Type	Length (L)	Preset Level outputs*	Preset Temperature outputs**
1067901001	NT 67-XP-DC01/280-1D3S	280 mm	L1 = 150 mm NC (S1) L2 = 190 mm NO (S2)	T1 = 50 °C NC (S3) T2 = 60 °C NC (S4)
1067901002	NT 67-XP-DC02/370-1D3S	370 mm	L1 = 150 mm NC (S1) L2 = 200 mm NO (S2)	T1 = 50 °C NC (S3) T2 = 60 °C NC (S4)
1067901003	NT 67-XP-DC03/370-1D3S	370 mm	L1 = 200 mm NC (S1) L2 = 300 mm NO (S2)	T1 = 50 °C NC (S3) T2 = 60 °C NC (S4)
1067901004	NT 67-XP-DC04/500-1D3S	500 mm	L1 = 200 mm NC (S1) L2 = 300 mm NO (S2)	T1 = 50 °C NC (S3) T2 = 60 °C NC (S4)
			* Hysteresis 10 mm	** Hysteresis 5 K

with analogue outputs

Item no.	Type	Length (L)	Level (analogue)	Temp. (analogue)
1067901005	NT 67-XP-DC05/280-1D1S-KN-KT	280 mm	25 mm (20 mA) 245 mm-(4 mA)	0 °C = 4 mA 100 °C = 20 mA
1067901006	NT 67-XP-DC06/370-1D1S-KN-KT	370 mm	25 mm (20 mA) 335 mm-(4 mA))	0 °C = 4 mA 100 °C = 20 mA
1067901007	NT 67-XP-DC07/500-1D1S-KN-KT	500 mm	25 mm (20 mA) 465 mm-(4 mA)	0 °C = 4 mA 100 °C = 20 mA

*Function of level switching points NC = falling NO contact, NO = falling NC contact