Level- and temperature sensor Nivotemp NT 63

Fluidcontrol

IO-Link

In hydraulics and lubrication technology the liquid level of oil tanks must be monitored continuously. Here, modern factory automation requires compatible signals. To minimise production costs and the space required on tanks, it makes sense to use one monitoring device for both the monitoring of the liquid level and oil temperature for example. The Nivotemp series meets virtually all requirements arising in this area of application.

The digital, bidirectional communication of these sensors meets the requirements of modern plant automation, reduces acquisition and installation costs, and improves system availability.

NT 63

Connecting flange as per DIN 24557 Part 2
Continuous liquid level measurement
Continuous liquid level and temperature measurement
IO-Link and 1 x programmable switching output
Analog output 4-20 mA (2-10 V DC upon request)
Resolution 5 mm (0.2 in) (liquid level)
Various plug options
Proven and tested highly dynamic float system
Float and immersion tube optionally available in stainless steel
Immersion tube length up to 1420 mm (55.90 in) (longer upon request)

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Internet: www.buhlertech.com

Technical Data NT 63

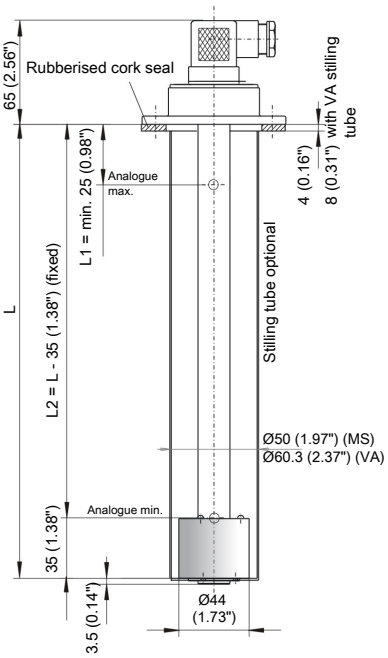
Basic unit

K = continuous liquid and temperature measurement
KN = continuous level measurement
LTD = level and temperature measurement (IO-Link)

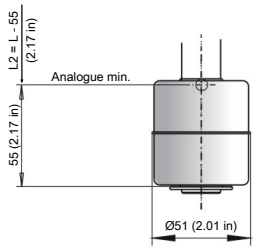
Version	MS	VA
Operating pressure:	max. 1 bar (14.5 psi)	max. 1 bar (14.5 psi)
Medium temperature:	-20 °C to +80 °C (-4 °F to 176 °F)	-20 °C to +80 °C (-4 °F to 176 °F)
Float:	SK604	SK221
Min. fluid density:	0.80 kg/dm³ (0.029 lb/in³)	0.85 kg/dm³ (0.030 lb/in³)
Lengths (all versions):	280 (11.02 in), 370 (14.57 in), 500 (19.69 in), 670 (26.38 in), 820 (32.28 in), 970 (38.19 in), 1120 (44.09 in), 1270 (50 in) and 1420 mm (55.90 in) (other lengths available upon request)	
Material/Version		
Float:	PU	1.4571
Immersion tube:	Brass	1.4571
Flange DIN 24557 Part 2:	PA	PA
Weight at L=280 mm (11.02 in): Each 100 mm (3.94 in) add:	approx. 200 g (0.44 lb) approx. 30 g (0.06 lb)	approx. 300 g (0.66 lb) approx. 50 g (0.11 lb)
Includes: Mounting screws (quantity 6) and rubberised cork seal.		
Options		
Stilling tube (SSR):	Brass	VA
Input values	**Level**	**Temperature**
Measuring principle:	Reed-contact	Pt100 Cl. B, DIN EN 60751
Resolution:	5 mm (0.2 in)	
Tolerance:		± 0.8 °C (1.44 °F)
Analogue version		
Ambient temperature:	-20 °C to 80 °C (-4 °F to 176 °F)	
Operating voltage (U_B):	10 – 30 V DC	10 – 30 V DC
Analysis display electronics accuracy:	± 1 % from end value	± 1 % from end value
Output:	4-20 mA	4-20 mA (0-100 °C/32-212 °F*) *Other ranges upon request
Max. burden Ω:	=(U_B -7.5 V) / 0.02 A	=(U_B -7.5 V) / 0.02 A
Digital version		
Ambient temperature:	-20 °C to 70 °C (-4 °F to 158 °F)	
Operating voltage (U_B):	18 – 30 V DC	18 – 30 V DC
Analysis display electronics accuracy:	± 1 % from end value	± 1 % from end value
IO-Link version:	Revision 1.1	
Baudrate:	COM3 (230.4 k)	
SIO Mode:	Yes	
min. time period:	10 ms	

Dimensions

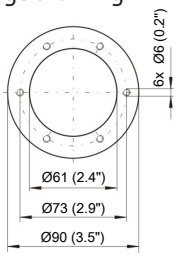
Basic model



SK 221 Float



Flange drawing



Ordering instructions NT 63

Model key

NT 63-□□-□□-□□-□□-□□

Model designation

Measuring mode
K Level and temperature measurement
KN only level measurement
LTD Level and temperature measurement (IO-Link)

Version
MS Brass
VA float and VA immersion tube

Plug connection
M3 (only K/KN)
M12

Optional
SSR Stilling tube

Length (max. 1420 mm/55.90 in)
280 (11.02 in)
370 (14.57 in)
500 (19.69 in)
670 (26.38 in)
820 (32.28 in)
970 (38.19 in)
1120 (44.09 in)
1270 (50 in)
1420 (55.90 in)

Another accessory offered is a programmable display and control unit for displaying and monitoring measured variables, see data sheet no. 180201.

Accessories

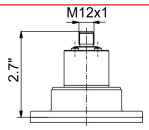
Item no.	Description
9144 05 0010	Connecting cable M12x1, 4-pin, 1.5 m (4.9 ft), angular coupling and straight plug
9144 05 0046	Connecting cable M12x1, 4-pin, 3.0 m (9.8 ft), angular coupling and straight plug
9144 05 0047	Connecting cable M12x1, 4-pin, 5.0 m (16.4 ft), angular coupling and strands

Ordering example

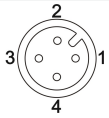
You require:	Level and temperature measurement with 5 mm resolution, brass version with M12 plug connector and length L = 670 mm (26.38 in)
Order:	NT 63- K-MS-M12-670

Standard pin assignment NT 63-LTD

Connector

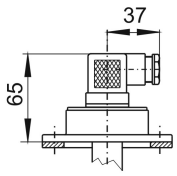
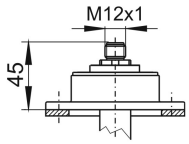
	M12
Dimensions	
Number of pins	4-pin
DIN EN	61076-2-101
IP rating	IP67*

*with IP67 cable box attached

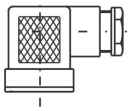
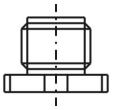
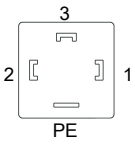
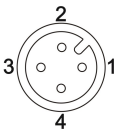
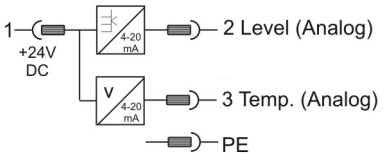
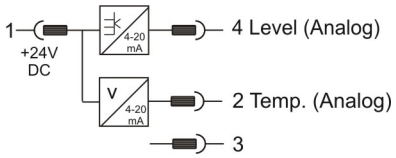
Version	LTD-1D1S
Plug	M12 4-pin
Connection schematic	
Pin	
1	+24VDC
2	S2 (PNP max. 200 mA)
3	GND
4	C/Q (IO-Link)

Standard pin assignment NT 63-K, NT 63-KN

Plug connection

	M3	M12 (base)
Dimensions		
Number of pins	3-pin + PE	4-pin
DIN EN	175301-803	61076-2-101
IP rating	IP65	IP67*
Cable fitting	PG11	

*with IP67 cable box attached

	M3	M12 (base)
		
Connection schematic		
K continuous level and temperature measurement		
KN continuous level measurement