

Level switch

HD NS 250/HD NS 360-AM-G1-V

Forging and press technology require large fluid volumes to be moved very rapidly under high overpressure. For this purpose, hydraulic accumulators are charged with the fluid up to the required operating pressure and pressurised to release the desired volume at the correct pressure at the defined time.

The NS 250 and NS 360 series are suitable for monitoring variable fill volumes in these types of systems. Available with up to 250 or 360 bar pressure ratings, they indicate the desired liquid level via clearly visible sight glass float, as well as via variable switching contacts and/or continuous output position encoder. A magnetic field generated by the interior unsinkable main float moves the sight glass float. The same magnetic field also triggers the electric contacts and the position encoder.

Level switch HD NS for tank top installation

Visual and electric liquid level monitoring

Operating pressure up to 360 bar

TÜV (Technical Inspection Agency) approval

Lengths up to 5000 mm

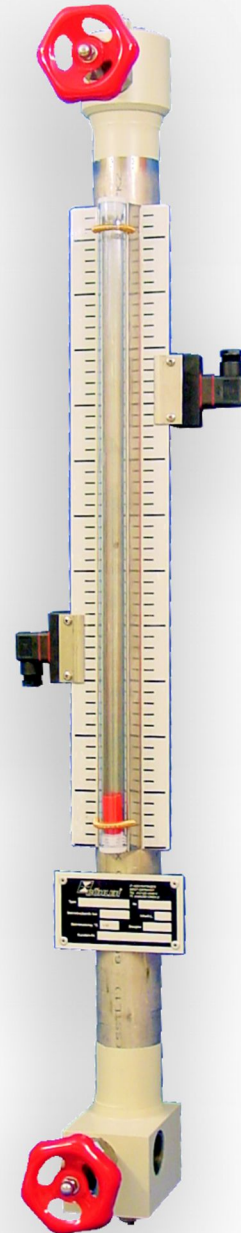
Adjustable level contacts

Optional analog output 4-20 mA or IO-Link

Display with scale

Compact design

Special versions available upon request



Technical Data HD NS 250 ..-AM

Basic unit

Max. operating pressure	250 bar
Max. operating temperature	50 °C
spec. min. fluid weight	0.80 kg/dm ³
L1 max.	5000 mm
Weight at L1=500 mm	approx. 15 kg
Weight L1+100 mm	approx. 0.65 kg

Longer version available upon request

Material

Float SK597	Solid plastic
Riser	1.4571
Upper end piece	Steel
Bottom end piece	Steel
Check valve	1.4571
Bleeder valve	1.4571
Sight glass	PC

Connection

Air end	G1
Water end	G1

Options

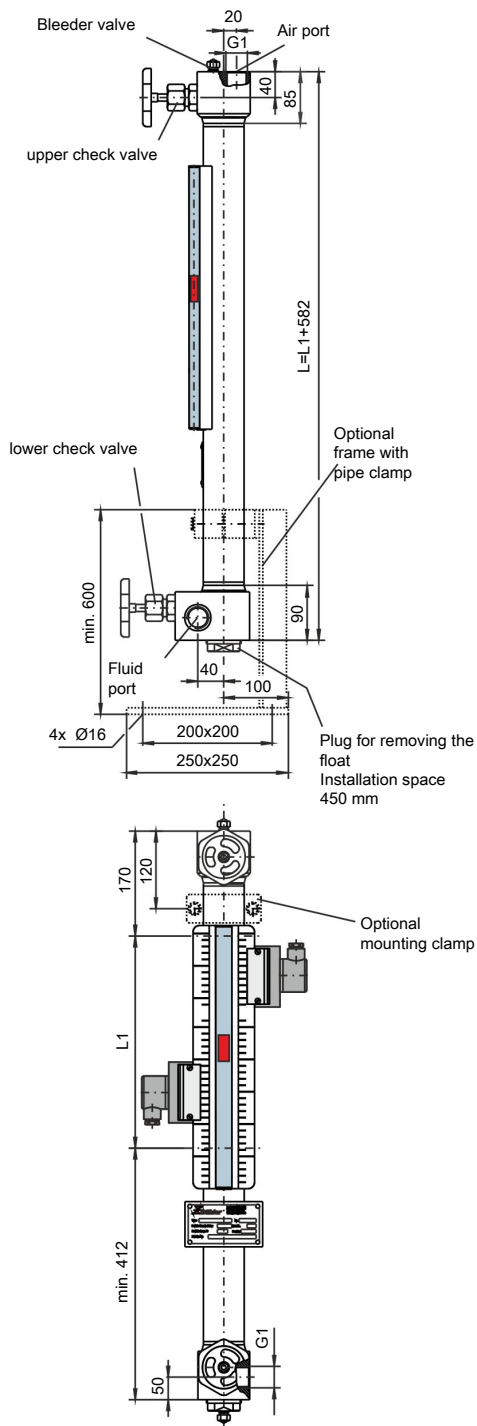
Continuous liquid level measurement BLT or switching contacts, see below

Accessories

Item no.:	Description:
20 51 002	Mounting clamp heavy series SPAL 6060
22 54 999	Frame for ground anchoring the level switch with SPAL 6060 pipe clamp
22 74 999	Masonry screws 4x DIN529-M12x300 with nuts

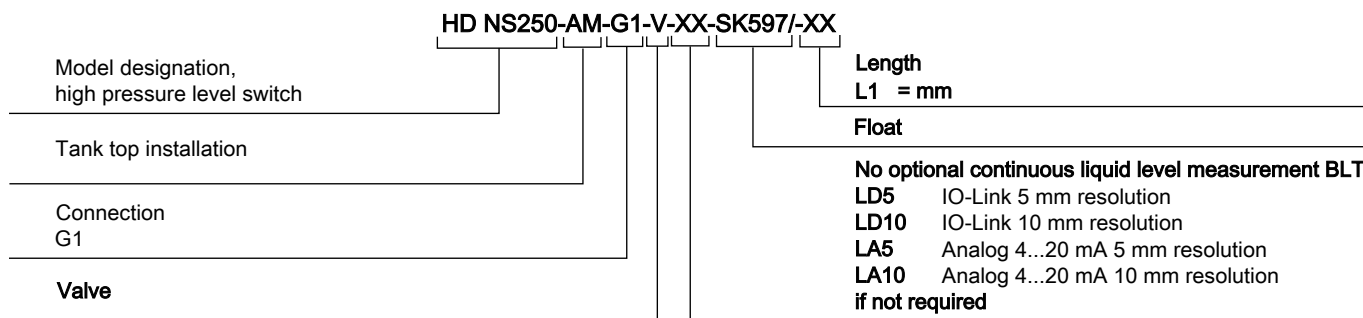
Note!

These level switches include TÜV-approval.
Tested to Pressure Equipment Directive 2014/68/EU (Module G).



Model key HD NS 250

Model key



Ordering example:

You require: Level switch for tank top installation, operating pressure 250 bar, measuring length L1 = 2400 mm, with 2 changeover contacts

Order HD NS 250-AM-G1-V-SK597 / L1 = 2400
2 x item no. 28 89 999 contact MKS 1/W

Ordering example with continuous liquid level measurement:

You require: Level switch for tank top installation, operating pressure 250 bar, measuring length L1 = 2400 mm, with continuous level output, transducer tube IO-Link 5 mm and 2 changeover contacts

Order HD NS 250-AM-G1-V-LD5-SK597 / L1 = 2400
2 x item no. 28 89 999 contact MKS 1/W

Technical Data HD NS 360 ..-AM

Basic unit

Max. operating pressure	360 bar
Max. operating temperature	50 °C
spec. min. fluid weight	0.80 kg/dm ³
L1 max.	5000 mm
Weight at L1=500 mm	approx. 20 kg
Weight L1+100 mm	approx. 1.0 kg

Longer version available upon request

Material

Float SK597	Solid plastic
Riser	1.4571
Upper end piece	Steel
Bottom end piece	Steel
Check valve	1.4571
Bleeder valve	1.4571
Sight glass	PC

Connection

Air end	G1
Water end	G1

Options

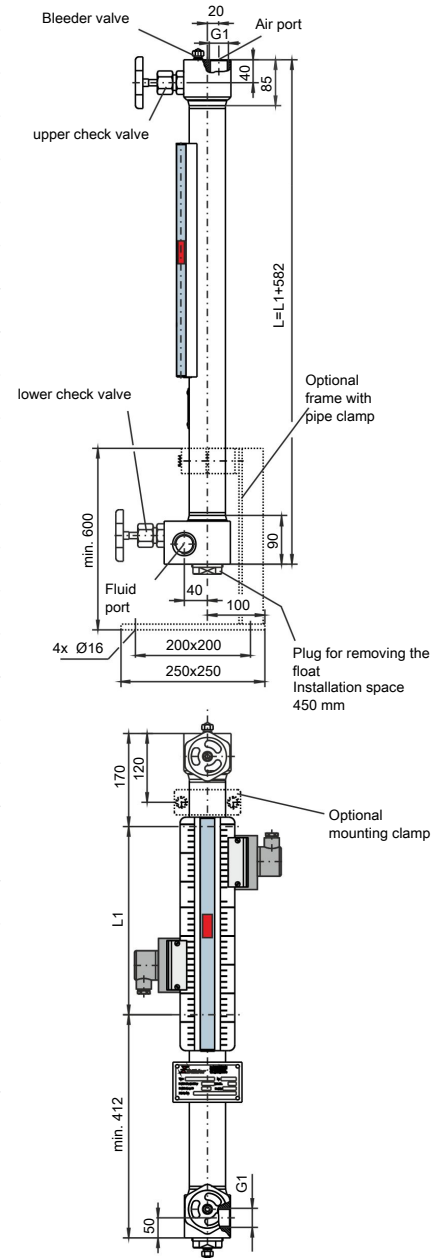
Continuous liquid level measurement BLT or switching contacts, see below

Accessories

Item no.:	Description:
20 51 003	Mounting clamp heavy series SPAL 6063.5
20 55 999	Frame for level switch ground anchoring with pipe clamp SPAL 6063.5
22 74 999	Masonry screws 4x DIN529-M12x300 with nuts

Note!

These level switches include TÜV-approval.
Tested to Pressure Equipment Directive 2014/68/EU (Module G).



Model key HD NS 360

Model key

HD NS360-AM-G1-V-XX-SK597/-XX	
Model designation, high pressure level switch	Length L1 = mm
Tank top installation	Float
Connection G1	No optional continuous liquid level measurement BLT
Valve	LD5 IO-Link 5 mm resolution
	LD10 IO-Link 10 mm resolution
	LA5 Analog 4...20 mA 5 mm resolution
	LA10 Analog 4...20 mA 10 mm resolution
	if not required

Ordering example:

You require: Level switch for external installation, max. operating pressure 360 bar, measuring length L1 = 3200 mm, with 2 changeover contacts

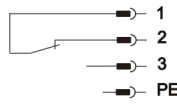
Order HD NS 360-AM-G1-V-SK597 / L1=3200
2 x item no. 28 89 999 contact MKS 1/W

Contacts for NS ..-AM

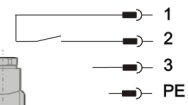
Pin Assignment (Contact position empty tank)

Type	MKS-1/K (-60)
Function	NC contact/NO contact
Max. voltage	230 VAC/DC
Max. switching current	1 A
Max. contact load	50 VA
Connector	M3 (DIN EN 175301-803)
	3-pin + PE
IP class	IP 65
Item no.	28 88 999

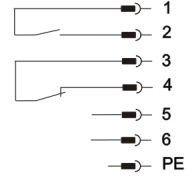
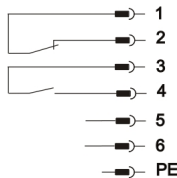
Mounted left



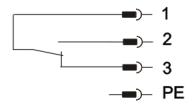
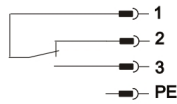
Mounted right



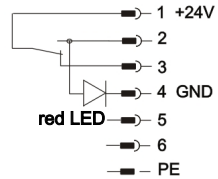
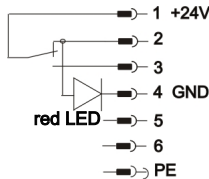
Type	MKS-2/K
Function	2 x NC contact/NO contact
Max. voltage	230 VAC/DC
Max. switching current	1 A
Max. contact load	50 VA
Connector	S6 (DIN EN 175291-804)
	6-pin + PE
IP class	IP 65
Item no.	28 91 999



Type	MKS-1/W (-60)
Function	Changeover contact
Max. voltage	230 VAC/DC
Max. switching current	1 A
Max. contact load	50 VA
Connector	M3 (DIN EN 175301-803)
	3-pin + PE
IP class	IP 65
Item no.	28 89 999



Type	MKS-1/W-L 24 V (-60)
Function	Changeover contact with LED
Max. voltage	24 VDC
Max. switching current	1 A
Max. contact load	25 VA
Connector	S6 (DIN EN 175291-804)
	6-pin + PE
IP class	IP 65
Item no.	28 90 999



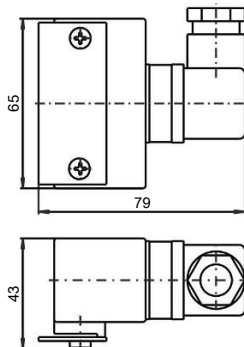
Other contacts available upon request

For applications in high shock and vibration environments we recommend using the MKS-1/K and MKS-2K contacts.

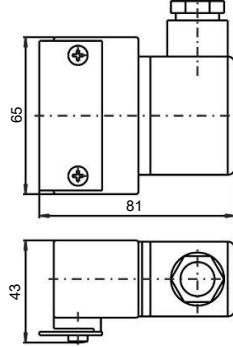
Versions ending in -60 are for switch type NS 3/20 AM and have a pipe clamp for mounting to the level switch tube.

When installing a BLT transducer tube with continuous output signal, the contacts can only be mounted on the left.

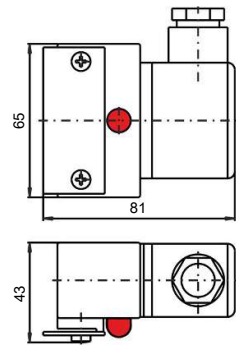
MKS 1/K, MKS 1/W



MKS 2/K



MKS 1/W-L24V



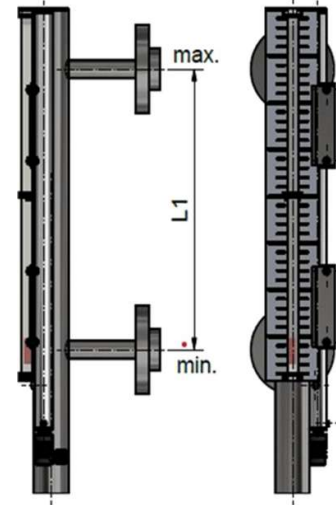
BLT Technical Data

LD-5(10)-1D1S-/VAR with IO-Link interface

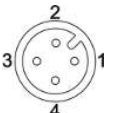
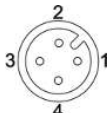
LA-5(10)-1A-/VAR with 4-20 mA output

	1D1S	1A
Transducer tube material:	Nickel-plated brass	
Ambient temperature:	-20 °C to +70 °C	
Lengths:	variable to max. 5000 mm	
Input value		
Sensor element:	Reed chain 5 or 10 mm resolution	
Tolerance:	±1% FS	
Operating voltage (UB):	18 - 30 VDC	10 - 30 VDC
Measuring range:	0 to 100 %	4-20 mA > 0-100 %
Output:	IO-Link	4-20 mA
IO-Link	Rev. 1.1	-
Baudrate:	COM3 (230.4k)	-
SIO Mode:	Yes	-
Min. Time Period	10 ms	-
Max. Load:	-	(UB-8V)/0.02 A

Dimensions



BLT Standard Pin Assignment

Connector	M12 (base)	M12 (base)
Number of pins	4-pin	4-pin
DIN EN 61076-2-101	30 VDC	30 VDC
IP rating with IP67 cable box attached	IP67	IP67
Version	1D1S	1A
Connection schematic		
	1D1S (IO-Link)	1A (4-20 mA)
1	+24 VDC	+24 VDC
2	S2 (PNP max. 200 mA)	OUT 4-20 mA
3	GND	GND
4	C/Q (IO-Link)	NC