

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

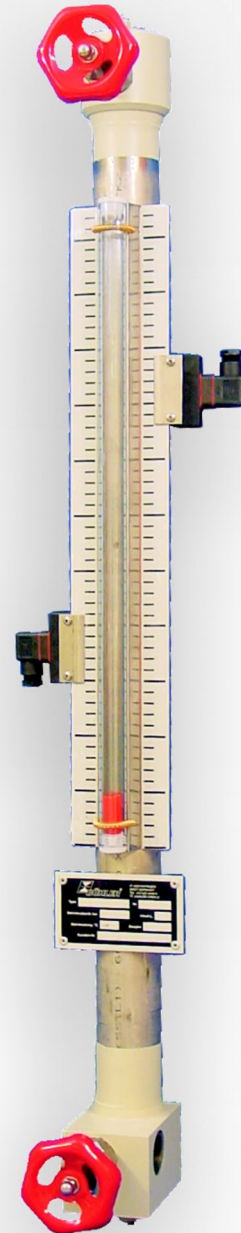
Adjustable level contacts

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

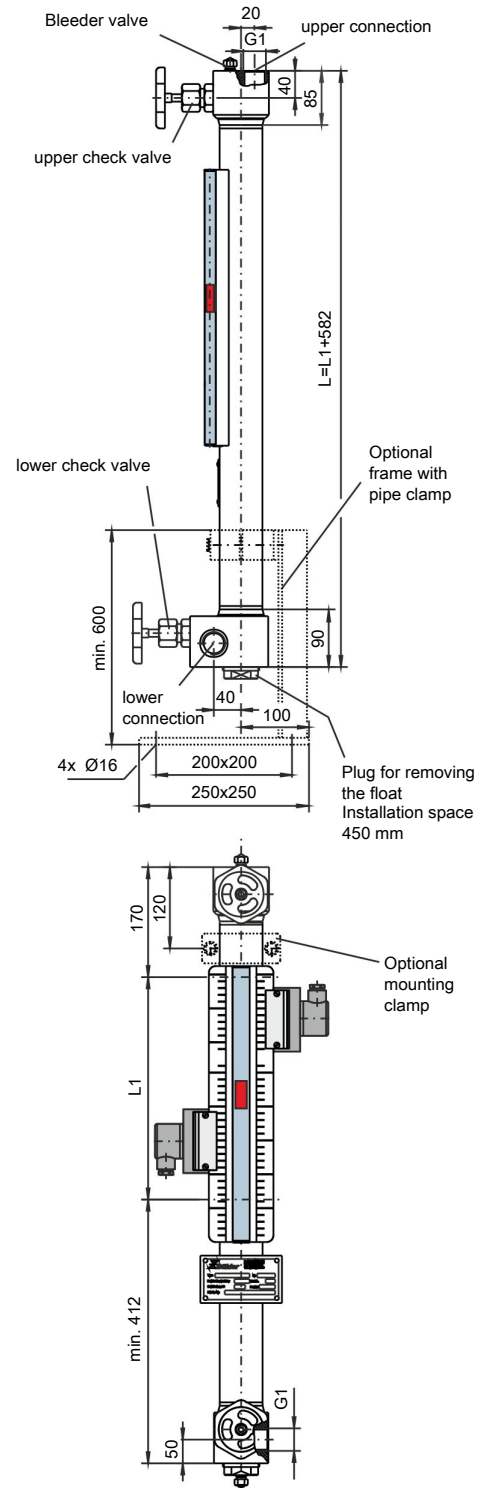
Continuous liquid level measurement BLT or switching contacts, see below

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 |

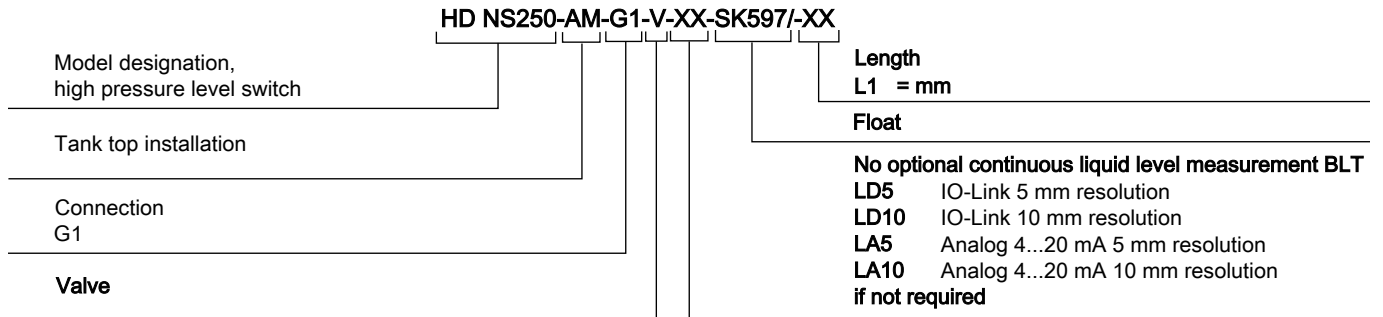
Note!

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

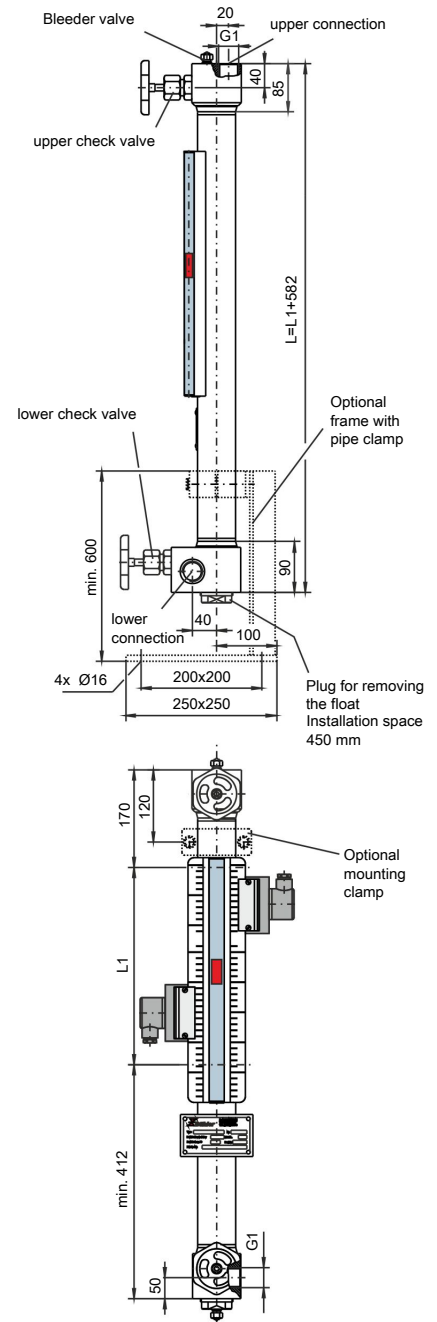
Continuous liquid level measurement BLT or switching contacts, see below

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 |

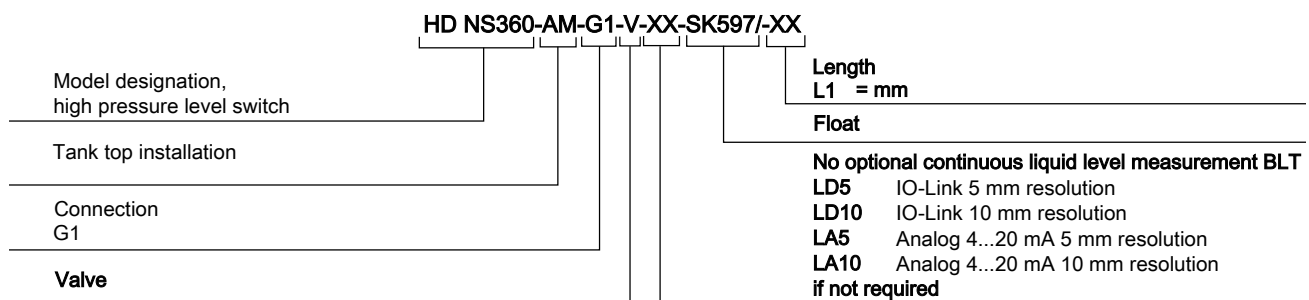
Note!

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



Model key HD NS 360

Model key



Ordering example:

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

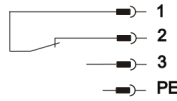
Order: HD NS 360-AM-G1-V-SK597 / L1=3200
2 x item no. 28 89 999 contact MKS 1/W

Contacts for NS ..-AM

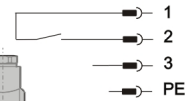
Pin Assignment (Contact position empty tank)

| | |
|------------------------|------------------------|
| 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 |

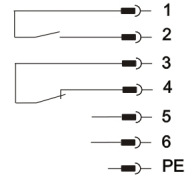
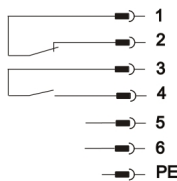
Mounted left



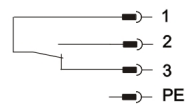
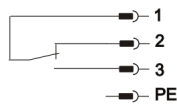
Mounted right



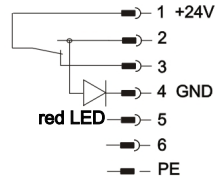
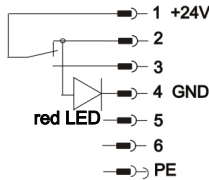
| | |
|------------------------|---------------------------|
| Type | MKS-2/K |
| Function | 2 x NC contact/NO contact |
| Max. voltage | 230 VAC/DC |
| Max. switching current | 1 A |
| Max. contact load | 50 VA |
| Connector | S6 (DIN EN 175291-804) |
| | 6-pin + PE |
| IP class | IP 65 |
| Item no.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



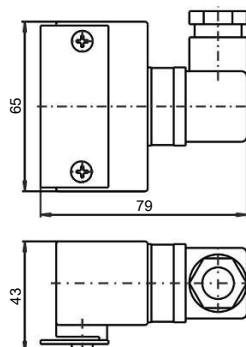
Other contacts available upon request

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

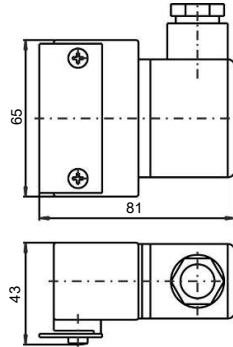
Versions ending in -60 are for switch type NS 3/20 AM and have a pipe clamp for mounting to the level switch tube.

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

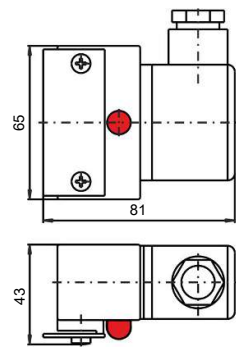
MKS 1/K, MKS 1/W



MKS 2/K



MKS 1/W-L24V



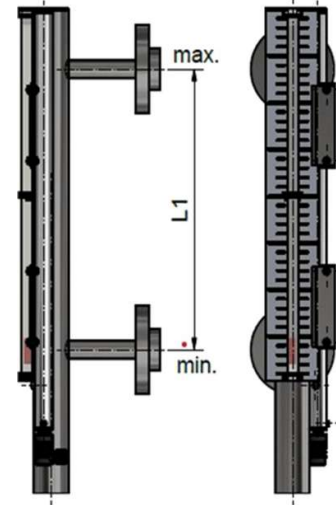
BLT Technical Data

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

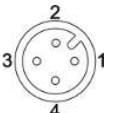
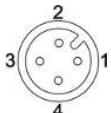
LA-5(10)-1A-/VAR with 4-20 mA output

| | 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 |