Oil tanks in lubrication and oil supply systems are often under overpressure compared to the ambient atmosphere. All oil moistened parts of devices mounted externally on the tanks or housings for monitoring the liquid level must therefore be pressure-resistant.

The NS 10 and NS 25 series are designed for 10 or 25 bar operating pressures. The separate display float can easily be viewed inside the upstream guide tube and the magnetic field ensures the touchless connection with the interior main float. The variable electric switching contacts and/or the continuous position encoder are located on the scale plate, which also holds the sight glass. On the NS 10 it is standard connected to the tank via pipe sockets and fittings, on the NS 25 via DIN flange.

**Level switch NS for external installation**

- Visual and electric liquid level monitoring
- Operating pressure up to 25 bar
- Lengths up to 5000 mm
- Adjustable level contacts
- Optional 4-20 mA analogue output
- Display with scale
- Compact design
- Particularly buoyant floats
- Special versions available upon request
Technical Data NS 10 ..-AM

**Basic Unit**
- Max. operating pressure: 10 bar
- Max. operating temperature: 100 °C
- Spec. min. fluid weight: 0.75 kg/dm³

**Material**
- Float SK166: NBR
- Riser: 1.4571
- Flange: Galvanised steel
- Sight glass: PC
- Sealing cap: 1.4571

**Version**

<table>
<thead>
<tr>
<th>Connection</th>
<th>0-AM</th>
<th>15-AM</th>
<th>25-AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIN 2656 flange</td>
<td>Tube</td>
<td>Flange</td>
<td>Flange</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ØD</th>
<th>20</th>
<th>95</th>
<th>115</th>
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</thead>
<tbody>
<tr>
<td>Øk</td>
<td>65</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Ød</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>16</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>ØA</td>
<td>45</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>h</td>
<td>12</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

- Weight at L1=500 mm: approx. 7.5 kg approx. 8.0 kg approx. 8.75 kg
- Weight L1+100 mm: approx. 0.2 kg approx. 0.2 kg approx. 0.2 kg

**Other versions available upon request**

**Options**

**Transducer tube**
- K continuous level

**Measurement principle**
- Reed contact

**Resolution**
- 5 or 10 mm

**Operating voltage (Uₜₐ)***
- 10 - 30 VDC

**Output**
- 4 - 20 mA
- (nominal voltage 24 VDC)

**Load Ω max.**
- (Uₜₐ – 7.5 V) / 0.02 A

**Accessories**

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 51 000</td>
<td>Flange seal 45/22x2 mm (DN15)</td>
</tr>
<tr>
<td>22 52 000</td>
<td>Flange seal 68/27x2 mm (DN25)</td>
</tr>
<tr>
<td>22 71 999</td>
<td>Mounting bolts 8 x M12x65</td>
</tr>
</tbody>
</table>

**Pressure Equipment Directive information:**
The level switches are designed, manufactured and tested to Pressure Equipment Directive 2014/68/EU according to AD-2000 code. The actual category of the level switch achieved is printed on the type plate. Depending on the category, comprehensive quality assurance is performed according to module H or H1.
### Model key NS 10

#### Model key

<table>
<thead>
<tr>
<th>Type designation</th>
<th>Length $L_1$</th>
<th>Optional</th>
<th>Float</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS 10/-XX-XX-SK166/-XX</td>
<td>$= \text{mm}$</td>
<td>$\text{continuous resolution 5 mm}$</td>
<td>$\text{continuous resolution 10 mm}$</td>
</tr>
</tbody>
</table>

#### Ordering example

**You require:** Level switch for external installation, max. operating pressure 10 bar, with DN15 flange connection, adapter spacing $L_1 = 1500$ mm, with 2 changeover contacts

**Order**

NS 10/15-AM-SK166 / 1500

2 x item no. 28 89 999 contact MKS 1/W

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**Bühler Technologies GmbH**

We reserve the right to amend specification.
Technical Data NS 25 ..-AM

**Basic Unit**
- Operating pressure: max. 25 bar
- Operating temperature: max. 120 °C
- spec. min. fluid weight:
  - SK661: 0.85 kg/dm³
  - SK662: 0.70 kg/dm³

**Material**
- Float: 1.4571
- Riser: 1.4571
- Flange: Galvanised steel
- Sight glass: PC

**Version**
- Connection: Flange
- DIN 2656 flange: DN15, DN25
- ØD: 95, 115
- Øk: 65, 85
- Ød: 14, 14
- b: 16, 18
- ØA: 45, 68
- h: 12, 14
- S for float SK661: 205, 205
- S for float SK662: 390, 390
- Weight at L1=500 mm: approx. 9.5 kg, approx. 10.5 kg
- Weight L1+100 mm: approx. 0.4 kg, approx. 0.4 kg

*Other versions available upon request*

**Options**
- **Transducer tube** -K continuous level
- Measurement principle: Reed contact
- Resolution: 5 or 10 mm
- Operating voltage ($U_B$): 10 - 30 VDC
- Output: 4 - 20 mA (nominal voltage 24 VDC)
- Load $\Omega$ max.: ($U_B - 7.5$ V) / 0.02 A

**Accessories**
- Item no.: 22 51 000, 22 52 000, 22 71 999
- Description:
  - Flange seal 45/22x2 mm (DN15)
  - Flange seal 68/27x2 mm (DN25)
  - Mounting bolts 8 x M12x65

**Pressure Equipment Directive Information:**
The level switches are designed, manufactured and tested to Pressure Equipment Directive 2014/68/EU according to AD-2000 code. The actual category of the level switch achieved is printed on the type plate. Depending on the category, comprehensive quality assurance is performed according to module H or H1.
Model key NS 25

### Ordering example

**You require:** Level switch for external installation, max. operating pressure 25 bar, with DN25 flange connection, spec. weight fluid 0.89 kg/dm³, adapter spacing L1 = 1500 mm, continuous level output, 10 mm resolution and with 2 changeover contacts

**Order**

NS 25/25-AM-K10-SK661 / 1500
2 x item no. 28 89 999 contact MKS - 1/W

---

**Type designation**

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-AM</td>
<td>DN 15 flange</td>
</tr>
<tr>
<td>25-AM</td>
<td>DN 25 flange</td>
</tr>
</tbody>
</table>

**Option**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>K5</td>
<td>Transducer tube - continuous level measurement continuous resolution 5 mm</td>
</tr>
<tr>
<td>K10</td>
<td>continuous resolution 10 mm</td>
</tr>
</tbody>
</table>

**Length**

L1 = mm

**Float type**

- **-SK661** spec. min. fluid weight 0.85 kg/dm³
- **-SK662** spec. min. fluid weight 0.70 kg/dm³
### Contacts for NS ..-AM

<table>
<thead>
<tr>
<th>Type</th>
<th>Function</th>
<th>Max. voltage</th>
<th>Max. switching current</th>
<th>Max. contact load</th>
<th>Connector</th>
<th>IP class</th>
<th>Item no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKS-1/K (-60)</td>
<td>NC contact/NO contact</td>
<td>230 V AC/DC</td>
<td>1 A</td>
<td>50 VA</td>
<td>M3 (DIN EN 175301-803)</td>
<td>IP 65</td>
<td>28 88 999</td>
</tr>
<tr>
<td>MKS-2/K</td>
<td>2 x NC contact/NO contact</td>
<td>230 V AC/DC</td>
<td>1 A</td>
<td>50 VA</td>
<td>S6 (DIN EN 175291-804)</td>
<td>IP 65</td>
<td>28 91 999</td>
</tr>
<tr>
<td>MKS-1/W (-60)</td>
<td>Change-over contact</td>
<td>230 V AC/DC</td>
<td>1 A</td>
<td>50 VA</td>
<td>M3 (DIN EN 175301-803)</td>
<td>IP 65</td>
<td>28 89 999</td>
</tr>
<tr>
<td>MKS-1/W-L 24 V (-60)</td>
<td>Change-over contact with LED</td>
<td>24 V DC</td>
<td>1 A</td>
<td>25 VA</td>
<td>S6 (DIN EN 175291-804)</td>
<td>IP 65</td>
<td>28 90 999</td>
</tr>
</tbody>
</table>

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.

Pin assignment for AM-K with S3 connector

- **MKS 1/K, MKS 1/W**
  - Pin 1: +24V DC
  - Pin 2: Level out
- **MKS 2/K**
  - Pin 1: +24V
  - Pin 2: 4-20 mA
- **MKS 1/W-L24V**
  - Pin 1: +24V
  - Pin 2: red LED
  - Pin 3: red LED
  - Pin 4: GND
  - Pin 5: 24 V
  - Pin 6: PE

When installing a transducer tube with continuous output signal the contact can only be installed on the left side.