

Pneumatic diaphragm Level Switch NIS

No medium contact

- indirect pressure measurement
- switch outside the fluid

Non-medium dependent

- pressure transmission: air

High precision

- switching pressure 10 mbar or 100 mm level height

Liquid level switch

- min./max. control
- liquid shortage switch

Corrosion resistant

- uPVC and PP execution

Modular system

- 1 to 4 switching points

Variable immersion pipes

- length from 0.15 to 5.0 m

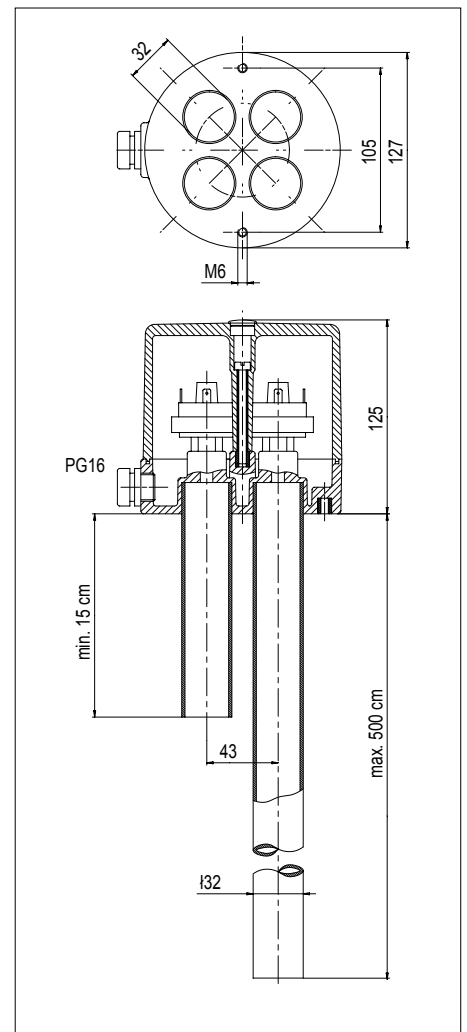
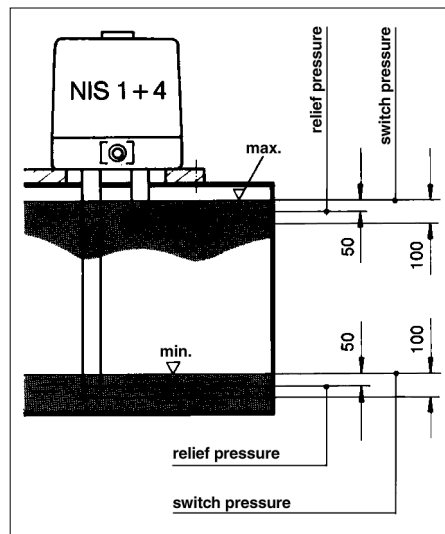
Process automation

- optical or acoustic signal
- direct valve and pump switching, but not for use as dry-running protection



Level switch NIS for monitoring liquid or filling level heights in pressureless containers or open pits. They are used to signal a shortage of liquid or if a set filling level has been surpassed. **Not suitable as overflow protector as defined by §19 WHG (water resources law).**

The level switch NIS contains 1 to 4 diaphragm switches and the same number of immersion tubes connected with them. If the liquid level rises, the air in the immersion tube is compressed. At a pressure increase of max. 0.01 bar (10 mbar), corresponding to a level difference of 100 mm (H₂O), the diaphragm activates a snap-action switch which e.g. could trigger a signal.



Ident No. for level switch (please state desired immersion length)

type	uPVC execution				PP execution			
	EPDM		FPM		EPDM		FPM	
diaphragm	silver-plated	gold-plated	silver-plated	gold-plated	silver-plated	gold-plated	silver-plated	gold-plated
switch								
NIS 1	62134	130741	52432	130745	62138	130749	52433	130753
NIS 2	62135	130742	52431	130746	62139	130750	52434	130754
NIS 3	62136	130743	52430	130747	62140	130751	52435	130755
NIS 4	62137	130744	52429	130748	62141	130752	52436	130756

Ident No. for fastening variants and spare diaphragm switch

fastening variants				diaphragm switch			
flange		mounting plate		EPDM		FPM	
uPVC	PP	uPVC	PP	silver-plated	gold-plated	silver-plated	gold-plated
50994	50997	62142	62143	133017	133018	133019	133020

selection and technical dates of switching contacts see page 2

If the level drops by a max. of 50 mm, the air in the immersion pipe expands and a reset occurs.

NOTE Because of the air absorption properties of most liquids the immersion tubes should be aerated at regular intervals to prevent any displacement of the switching points.

The unit is fastened by flange, alternatively mounting plate, over the tank or pit. The immersion tubes made of uPVC and PP end at least 100 mm and maximal 5000 mm below the level of the intended individual switching points.

Under certain local conditions flexible tubes, secured against surfacing, can be used instead of the immersion tubes.

The end of the immersion pipe or tube may not be located in the vicinity of suction or filling points.

Materials

Housing, flange, housing plate

- uPVC (Polyvinyl chloride)
- PP (Polypropylene)

Immersion tubes

- uPVC
- PP

Diaphragm

- EPDM
- FPM

Selection of materials

The intended use includes adhering to the specified limit values for pressure and temperature as well as the chemical resistance referring to the operating conditions.

For this purpose ensure that all components getting in contact with the media are "resistant" in accordance with the ASV resistance guide.

Technical Dates

Immersion tubes

d = 32 mm (DN 25)

Immersion tube length (L₁...L₄)

minimum: 150 mm
maximum: 5000 mm

Tank notch

88 x 88 mm, for 1 to 4 immersion tubes

Operating temperature (immersion tubes)

uPVC: +60 °C max.
PP: +80 °C max.

Admissible ambient temperature

Switching operating temperature or housing interior max. +60 °C

Diaphragm switch

- Switching pressure:
100 mm water head = appr. 10 mbar
- Reset pressure:
50 mm water head = appr. 5 mbar
- Pressure load of switches:
max. 0.5 bar
- Switching tolerance:
± 10 % of respective switching pressure but min. ±7.5 mm water head = appr. 0.75 mbar.
The switch is supplied with preset switching pressures which may not be changed.

Electrical switching capacity

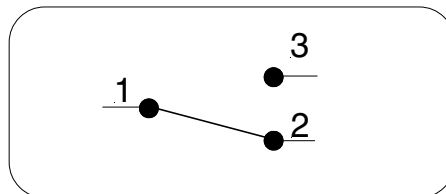
Max. values at ohmic loading:

- **Silver-plated contact execution:**
AgCdO contacts 6A / 250 VAC
AgCdO contacts 2A / 24 VDC
- **Gold-plated contact switching:**
< 100 mA / 24 VAC
< 30 mA / 24 VDC

NOTE Minimum current for the proper function of the contacts: 100 mA

NOTE Minimum current for the proper function of the contacts: 1 mA

Contact arrangement/circuit diagram



Circuit diagram: switch position in pressureless state

Electric connection

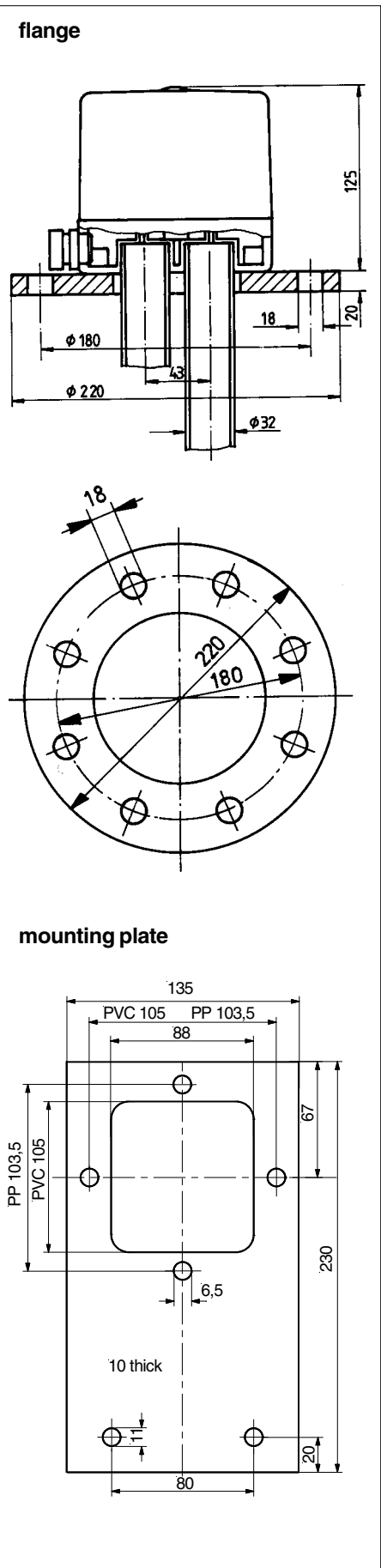
AMP flat plug 6.3 x 0.8 acc. DIN 46244

Housing connection

PG 16

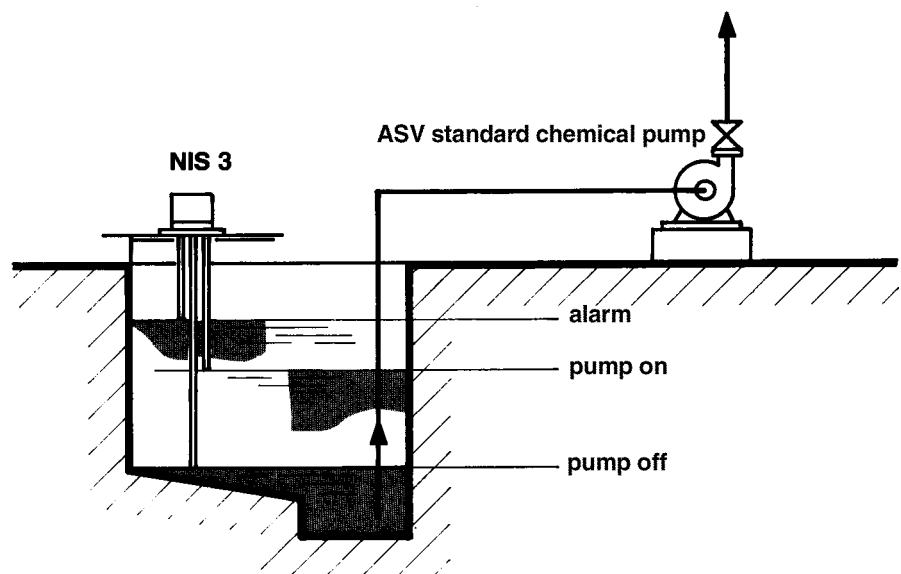
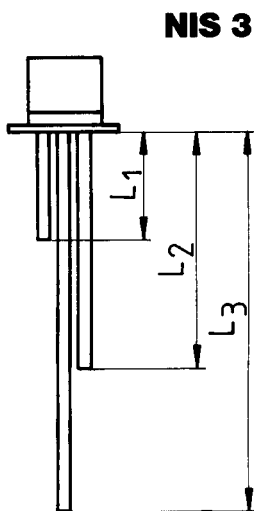
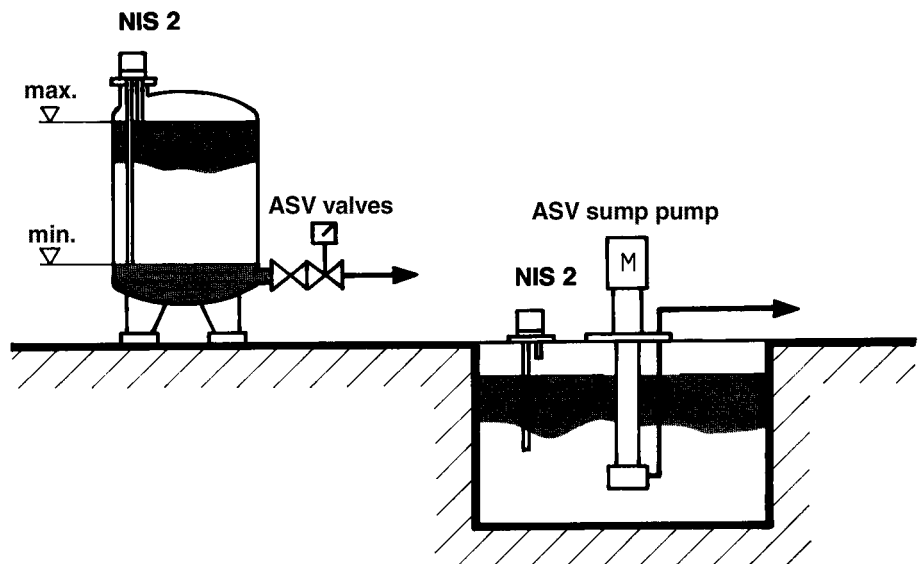
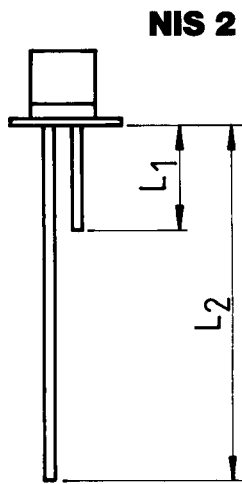
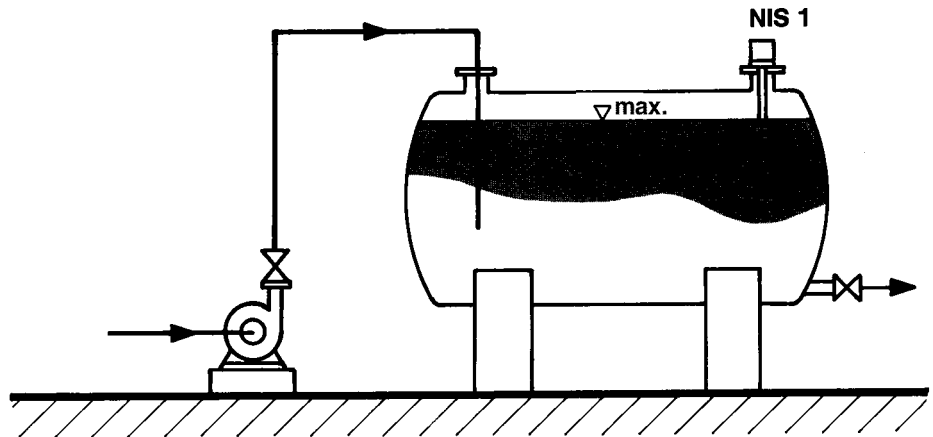
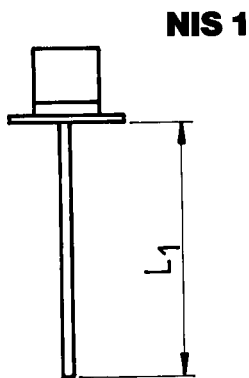
Protection type

IP 65



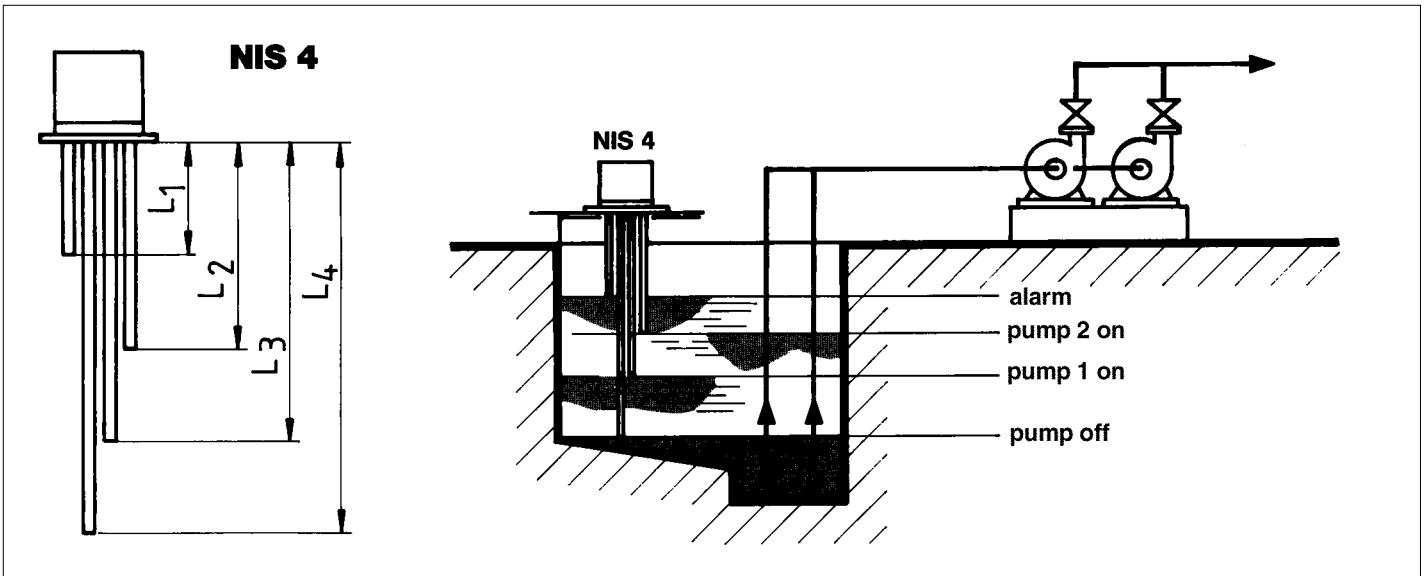
Installation examples for level switches NIS 1 to NIS 3

ASV Stübbe GmbH & Co. KG • Hollwieser Straße 5 • D-32602 Vlotho • Fon +49 (0) 57 33.7 99-0 • Fax +49 (0) 57 33.7 99-2 00 • www.asv-stuebbe.de • contact@asv-stuebbe.de



For pump controls use ASV dry-run devices (print 330 101) in addition.

Installation example NIS 4



Switching examples

