

Magnetic Level Switches for Liquids



- Switch points: max. 4
- p_{max}: 100 bar
t_{max}: 150 °C
- Connection:
G 1/8, G 3/8, G 1/2, G 1 male
thread, special connections
- Material:
Stainless steel, brass,
PVC-U, PP, PTFE



KOBOLD companies worldwide:

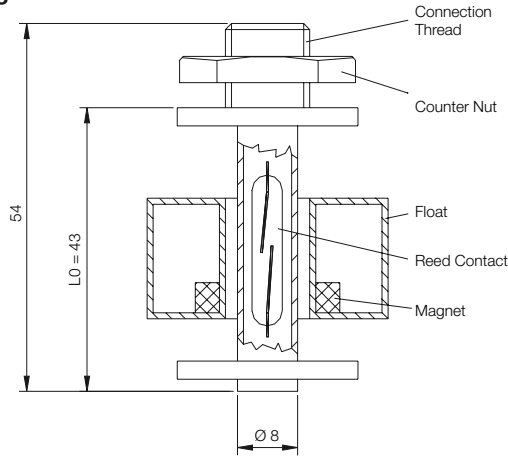
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Model:
N01-N20



Design



Description

Magnetic level switches are used for the monitoring and control of liquid levels in vessels. Magnetic level switches are manufactured to customer specification.

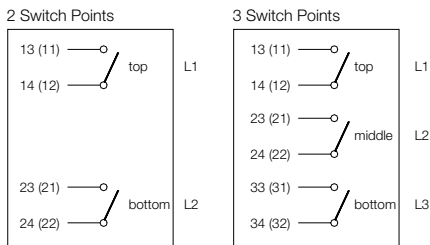
An overview of types available with minimum lengths of measuring tube is set out on the following pages. Please refer to this overview when placing your order. Furthermore any limits can be specified within the limits found in the brochure.

For example:

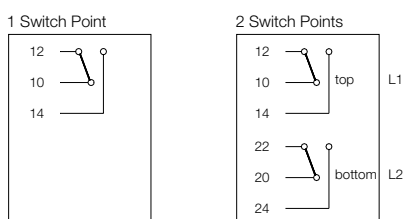
- Longer measuring tube
- Longer connection cable
- Different cable materials
- Several contacts and different contact operations
- Larger connection screwing with electrical terminal box
- Different materials.

Number code for cable connection

N/O contact
or
N/C contact



Changeover
contact



Method of Operation

Kobold magnetic float switches are fitted with a hermetically sealed contact which is situated in the tube.

The float sliding on the tube contains a ring magnet whose magnetic field switches the sealed contact in a non-contacting fashion. The sealed contacts are available as N/O, N/C or changeover contacts.

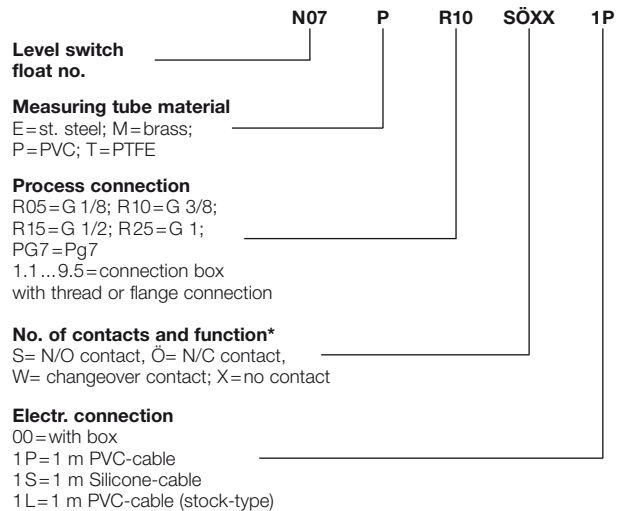
The float sliding up and down on the liquid is the only moving part in the Kobold magnetic float switches.

Advantages

- Simple installation
- Long electrical service life due to sealed contacts
- High-degree of operational reliability with air gap between measuring tube and float
- Installation in top or bottom of vessel
- Several levels can be monitored with one float
- Open/close function or changeover contact available

Order Keys

Type Codes



***Please note:**

The contact operation refers to a **rising level**.
Simply link letters for several contacts.

The first letter represents the topmost contact, the second letter the second contact from the top, and so on. The position of the contacts, measured from the sealing edge of the connection screwing, must also be specified.

L1 = highest contact (mm) from the top (sealing edge)
L2 = second contact (mm) from the top (sealing edge)
and so forth



Float designs

Model	Form	Materials	Float outside Ø [mm]	Height [mm]	Bore Hole Ø [mm]	Min. Liquid Density [kg/dm³]	Max. Temperature	Nominal Pressure at 20 °C
N01	Cylinder solid material	NBR	19	22	10	> 0.8	80 °C	10 bar
N02	Cylinder hollow	Polypropylene	26	19	10	> 0.8	90 °C	3 bar
N03	Cylinder hollow	PVC-U	26	19	10	> 0.9	55 °C	3 bar
N04	Cylinder hollow	St. steel 1.4571	30	30	9	> 0.8	90 °C	15 bar
N05	Cylinder hollow	Polypropylene	42	38	14	> 0.7	90 °C	5 bar
N06 ¹⁾	Cylinder solid material	Polypropylene	40	20	14	> 0.9	90 °C	100 bar
N07	Cylinder hollow	PVC-U	42	38	14	> 0.9	55 °C	3 bar
N08	Cylinder hollow	St. steel 1.4571	42	42	15	> 0.8	150 °C	20 bar
N10	Ball hollow	St. steel 1.4571	52	52	15	> 0.7	150 °C	30 bar
N12	Cylinder hollow	PTFE	53	75	13	> 0.9	150 °C	3 bar
N16	Cylinder hollow	PVC-U	60	60	18	> 0.8	55 °C	3 bar
N20	Ball hollow	St. steel 1.4571	105	105	23	> 0.5	150 °C	15 bar

1) One float is required for each switch point.
For all other floats two contacts can be operated with one float.

Connection cable

PVC: max. 70 °C (standard)
Silicone: max. 150 °C

Technical Details

Hysteresis: 3 - 5 mm difference in level
Switch point distance:
between contact 1 and 2 and contact 3 and 4 > 40 mm depending on height of float
between contact 2 and 3: height of float + 15 mm

Non-standard versions available

Contact protection relays

Model MSR 10 for single contacts
Model MSR 20 for single contacts
Model MSR 11 for twin contact, catching

Supplementary devices:

1. Contact protection relays

We recommend the use of contact protection relays in conjunction with sealed contacts.
Contact protection relays have the following advantages:

- No contact overloads arising from sparking and high currents, which can, for example, be caused by self-induced e.m.f.'s when switching solenoid valves.
- Float switches are electrically isolated from the high voltage power supply system.
- Protection for persons who come into contact with liquids according to VDE 0100.

2. Damping tube for agitated liquids

Float switches with damping tube for agitated or dirty liquids can be supplied upon request.

3. Temperature monitoring

Float switches with integrated temperature switch, fixed switch point between 60 °C and 150 °C upon request.

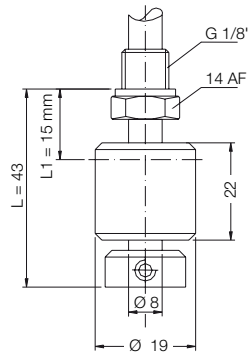
Option: Pt 100 available

4. Mounting instructions

Float switches can also be fitted in the bottom of vessels.

Important: The contact operation is then reversed.

Mini Switches

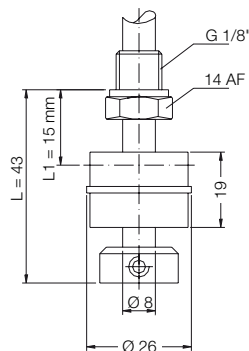


Contact operation with rising level:

N/O contact: 230 V_{AC} / 0.5 A / 10 VA
 N/C contact: 230 V_{AC} / 0.5 A / 10 VA
 Changeover contact: 100 V_{AC} / 0.25 A / 3 VA
 Cable length: 1 m NYLHY
 Installation position: vertical ± 30°
 Protection type: IP 64
 Max. length of meas. tube: 1500 m
 Max. number of contacts: N/O contact / N/C cont. max. 3 x off
 Changeover contacts max. 2 x off
 Specifications refer to a medium density of 1.0 kg/dm³
 Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 30 mm

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Flüssigkeits-Dichte [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable			
N01-P R05 S_____	PVC-U	NBR	3	55	55	1 N/O contact	43	> 0.8
N01-P R05 Ö_____	PVC-U	NBR	3	55	55	1 N/C contact	43	> 0.8
N01-P R05 W_____	PVC-U	NBR	3	55	55	1 changeover c.	43	> 0.8
N01-M R05 S_____	Brass	NBR	10	70	80	1 N/O contact	43	> 0.8
N01-M R05 Ö_____	Brass	NBR	10	70	80	1 N/C contact	43	> 0.8
N01-M R05 W_____	Brass	NBR	10	70	80	1 changeover c.	43	> 0.8
N01-E R05 S_____	St. steel	NBR	10	70	80	1 N/O contact	43	> 0.8
N01-E R05 Ö_____	St. steel	NBR	10	70	80	1 N/C contact	43	> 0.8
N01-E R05 W_____	St. steel	NBR	10	70	80	1 changeover c.	43	> 0.8

Mini Switches

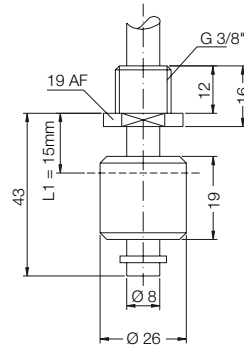


Contact operation with rising level:

N/O contact: 230 V_{AC} / 0.5 A / 10 VA
 N/C contact: 230 V_{AC} / 0.5 A / 10 VA
 Changeover contact: 100 V_{AC} / 0.25 A / 3 VA
 Cable length: 1 m NYLHY
 Installation position: vertical ± 30°
 Protection type: IP 64
 Max. length of meas. tube: 1500 m
 Max. number of contacts: N/O contact / N/C cont. max. 3 x off
 Changeover contacts max. 2 x off
 Specifications refer to a medium density of 1.0 kg/dm³
 Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 30 mm

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable			
N02-M R05 S_____	Brass	Polypropylene	3	70	90	1 N/O contact	43	> 0.8
N02-M R05 Ö_____	Brass	Polypropylene	3	70	90	1 N/C contact	43	> 0.8
N02-M R05 W_____	Brass	Polypropylene	3	70	90	1 changeover c.	43	> 0.8
N02-E R05 S_____	St. steel	Polypropylene	3	70	90	1 N/O contact	43	> 0.8
N02-E R05 Ö_____	St. steel	Polypropylene	3	70	90	1 N/C contact	43	> 0.8
N02-E R05 W_____	St. steel	Polypropylene	3	70	90	1 changeover c.	43	> 0.8

Mini Switches



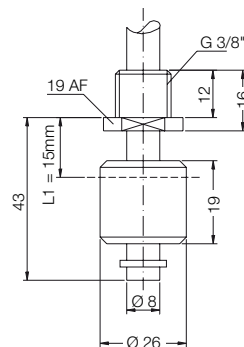
Contact operation with rising level:

N/O contact: 230 V_{AC} / 0.5 A / 10 VA
 N/C contact: 230 V_{AC} / 0.5 A / 10 VA
 Changeover contact: 100 V_{AC} / 0.25 A / 3 VA
 Cable length: 1 m LIYY
 Installation position: vertical ± 30°
 Protection type: IP 64
 Thread: R10 = G 3/8 or Pg7
 Max. length of meas. tube: 1500 mm
 Max. number of contacts: N/O contact / N/C cont. max. 3 x off
 Changeover contacts max. 2 x off
 Specifications refer to a medium density of 1.0 kg/dm³

Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 35 mm

Model	Materials		Nominal pressure at 20°C [bar]	Max. temperature [°C]	Contact number and function	Min. length of measuring tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float					
N03-P PG7 S ___ _	PVC-U	PVC-U	3	55	1 N/O contact	43	> 0.9
N03-P PG7 Ö ___ _	PVC-U	PVC-U	3	55	1 N/C contact	43	> 0.9
N03-P PG7 W ___ _	PVC-U	PVC-U	3	55	1 changeover c.	43	> 0.9
N03-P R10 S ___ _	PVC-U	PVC-U	3	55	1 N/O contact	43	> 0.9
N03-P R10 Ö ___ _	PVC-U	PVC-U	3	55	1 N/C contact	43	> 0.9
N03-P R10 W ___ _	PVC-U	PVC-U	3	55	1 changeover c.	43	> 0.9

Mini Switches



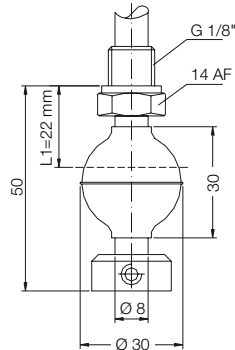
Contact operation with rising level:

N/O contact: 230 V_{AC} / 0.5 A / 10 VA
 N/C contact: 230 V_{AC} / 0.5 A / 10 VA
 Changeover contact: 48 V_{AC} / 0.25 A / 3 VA
 Cable length: 1 m LIYY
 Installation position: vertical ± 30°
 Thread: R10 = G 3/8 or PG7
 Protection type: IP 67
 Length of meas. tube: 43 mm
 Max. number of contacts: N/O contact / N/C cont. max. 1 x off
 Changeover contacts max. 1 x off
 Specifications refer to a medium density of 1.0 kg/dm³

Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 22 mm

Model	Materials		Nominal pressure at 20°C [bar]	Max. temperature [°C]	Contact number and function	Length of measuring tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float					
N03-P PG7 S ___ 1L	PVC-U	PVC-U	3	55	1 N/O contact	43	> 0.9
N03-P PG7 Ö ___ 1L	PVC-U	PVC-U	3	55	1 N/C contact	43	> 0.9
N03-P PG7 W ___ 1L	PVC-U	PVC-U	3	55	1 changeover c.	43	> 0.9
N03-P R10 S ___ 1L	PVC-U	PVC-U	3	55	1 N/O contact	43	> 0.9
N03-P R10 Ö ___ 1L	PVC-U	PVC-U	3	55	1 N/C contact	43	> 0.9
N03-P R10 W ___ 1L	PVC-U	PVC-U	3	55	1 changeover c.	43	> 0.9

Mini Switches

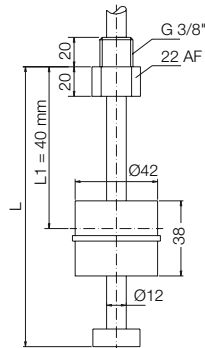


Contact operation with rising level:

- N/O contact: 230 V_{AC} / 0.5 A / 10 VA
 - N/C contact: 230 V_{AC} / 0.5 A / 10 VA
 - Changeover contact: 100 V_{AC} / 0.25 A / 3 VA
 - Cable length: 1 m NYLHY
 - Installation position: vertical ± 30°
 - Protection type: IP 64
 - Max. length of meas. tube: 1500 mm
 - Max. number of contacts: N/O contact / N/C cont. max. 3 x off
Changeover contacts max. 2 x off
- Specifications refer to a medium density of 1.0 kg/dm³
- Connection heads: see page 11-12
- Switch point min. clearance from end of measuring tube: 30 mm

Model	Materials		Nominal pressure at 20°C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable			
N04-M R05 S_____	Brass	St. steel	15	70	90	1 N/O contact	50	> 0.8
N04-M R05 Ö_____	Brass	St. steel	15	70	90	1 N/C contact	50	> 0.8
N04-M R05 W_____	Brass	St. steel	15	70	90	1 changeover c.	50	> 0.8
N04-E R05 S_____	St. steel	St. steel	15	70	90	1 N/O contact	50	> 0.8
N04-E R05 Ö_____	St. steel	St. steel	15	70	90	1 N/C contact	50	> 0.8
N04-E R05 W_____	St. steel	St. steel	15	70	90	1 changeover c.	50	> 0.8

Cylindrical float made of polypropylene or PVC

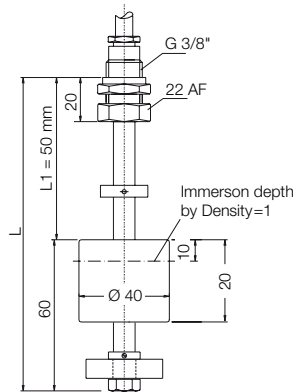


Contact operation with rising level:

N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Cable length: 1 m NYLHY
 Installation position: vertical ± 30°
 Protection type: IP 65
 Max. length of meas. tube: Brass/st. steel: 6 m
 PVC-U: 5 m
 Max. number of contacts: N/O contact / N/C cont. max. 4 x off
 Changeover contacts max. 3 x off
 Specifications refer to a medium density of 1.0 kg/dm³
 Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 40 mm

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable			
N05-M R10 S_____	Brass	Polypropylene	5	70	90	1 N/O contact	100	> 0.7
N05-M R10 Ö_____	Brass	Polypropylene	5	70	90	1 N/C contact	100	> 0.7
N05-M R10 W_____	Brass	Polypropylene	5	70	90	1 changeover c.	100	> 0.7
N05-E R10 S_____	St. st. 1.4571	Polypropylene	5	70	90	1 N/O contact	100	> 0.7
N05-E R10 Ö_____	St. st. 1.4571	Polypropylene	5	70	90	1 N/C contact	100	> 0.7
N05-E R10 W_____	St. st. 1.4571	Polypropylene	5	70	90	1 changeover c.	100	> 0.7
N07-P R10 S_____	PVC-U	PVC-U	3	55	55	1 N/O contact	100	> 0.9
N07-P R10 Ö_____	PVC-U	PVC-U	3	55	55	1 N/C contact	100	> 0.9
N07-P R10 W_____	PVC-U	PVC-U	3	55	55	1 changeover c.	100	> 0.9

High-pressure applications

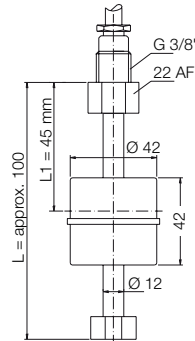


Contact operation with rising level:

N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Switch point distance: minimum 81 mm
 Cable length: 1 m NYLHY
 Installation position: vertical ± 0°
 Protection type: IP 65
 Max. length of meas. tube: 6 m
 Max. number of contacts: N/O contact / N/C cont. max. 4 x off
 Changeover contacts max. 3 x off
 Specifications refer to a medium density of 1.0 kg/dm³
 Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 60 mm

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable			
N06-M R10 S_____	Brass	Polypropylene	100	70	90	1 N/O contact	100	> 0.9
N06-M R10 Ö_____	Brass	Polypropylene	100	70	90	1 N/C contact	100	> 0.9
N06-M R10 W_____	Brass	Polypropylene	100	70	90	1 changeover c.	100	> 0.9
N06-E R10 S_____	St. st. 1.4571	Polypropylene	100	70	90	1 N/O contact	100	> 0.9
N06-E R10 Ö_____	St. st. 1.4571	Polypropylene	100	70	90	1 N/C contact	100	> 0.9
N06-E R10 W_____	St. st. 1.4571	Polypropylene	100	70	90	1 changeover c.	100	> 0.9

Cylindrical float in stainless steel 1.4571

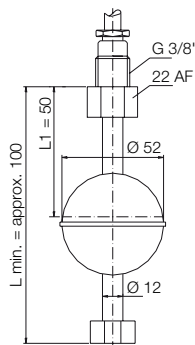


Contact operation with rising level:

Material:
 Measuring tube: Brass or stainless steel 1.4571
 Float: Stainless steel 1.4571
 N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Cable length: 1 m LIYY
 Installation position: vertical ± 30°
 Protection type: IP 65
 Max. length of meas. tube: 6 m
 Max. number of contacts: N/O contact / N/C cont. max. 4 x off
 Changeover contacts max. 3 x off
 Specifications refer to a medium density of 1.0 kg/dm³
 Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 50 mm

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable <small>*Special design</small>			
N08-M R10 S_____	Brass	St. st. 1.4571	20	70	90 (150*)	1 N/O contact	100	> 0.8
N08-M R10 Ö_____	Brass	St. st. 1.4571	20	70	90 (150*)	1 N/C contact	100	> 0.8
N08-M R10 W_____	Brass	St. st. 1.4571	20	70	90 (150*)	1 changeover c.	100	> 0.8
N08-E R10 S_____	St. st. 1.4571	St. st. 1.4571	20	70	90 (150*)	1 N/O contact	100	> 0.8
N08-E R10 Ö_____	St. st. 1.4571	St. st. 1.4571	20	70	90 (150*)	1 N/C contact	100	> 0.8
N08-E R10 W_____	St. st. 1.4571	St. st. 1.4571	20	70	90 (150*)	1 changeover c.	100	> 0.8

Ball float in stainless steel 1.4571



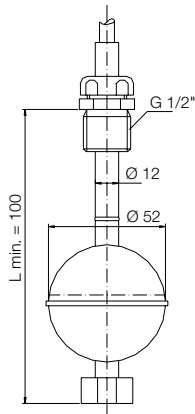
Contact operation with rising level:

Material:
 Measuring tube: Brass or stainless steel 1.4571
 Float: Stainless steel 1.4571
 N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Cable length: 1 m NYLHY
 Installation position: vertical ± 30°
 Protection type: IP 65
 Max. length of meas. tube: 6 m
 Max. number of contacts: N/O contact / N/C cont. max. 4 x off
 Changeover contacts max. 3 x off
 Specifications refer to a medium density of 1.0 kg/dm³
 Connection heads: see page 11-12
 Switch point min. clearance from end of measuring tube: 50

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable <small>*Special design</small>			
N10-M R10 S_____	Brass	St. st. 1.4571	30	70	90 (150*)	1 N/O contact	100	> 0.7
N10-M R10 Ö_____	Brass	St. st. 1.4571	30	70	90 (150*)	1 N/C contact	100	> 0.7
N10-M R10 W_____	Brass	St. st. 1.4571	30	70	90 (150*)	1 changeover c.	100	> 0.7
N10-E R10 S_____	St. st. 1.4571	St. st. 1.4571	30	70	90 (150*)	1 N/O contact	100	> 0.7
N10-E R10 Ö_____	St. st. 1.4571	St. st. 1.4571	30	70	90 (150*)	1 N/C contact	100	> 0.7
N10-E R10 W_____	St. st. 1.4571	St. st. 1.4571	30	70	90 (150*)	1 changeover c.	100	> 0.7

Common details All specifications refer to a medium density of 1.0 g/cm³.

Adjustable for height

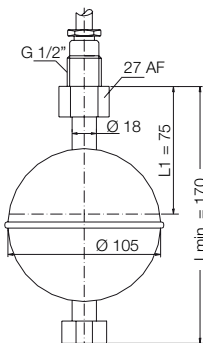


Contact operation with rising level:

Material:
 Measuring tube: Brass or stainless steel 1.4571
 Float: Stainless steel 1.4571
 N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Cable length: 1 m LYLHY
 Installation position: vertical ± 30°
 Protection type: IP 64
 Switch point min. clearance from end of measuring tube: 50 mm

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable *Special design			
N11-M R15 S_____	Brass	St. st. 1.4571	3	70	90 (150*)	1 N/O contact	100	> 0.6
N11-M R15 Ö_____	Brass	St. st. 1.4571	3	70	90 (150*)	1 N/C contact	100	> 0.6
N11-M R15 W_____	Brass	St. st. 1.4571	3	70	90 (150*)	1 changeover c.	100	> 0.6
N11-E R15 S_____	St. st. 1.4571	St. st. 1.4571	3	70	90 (150*)	1 N/O contact	100	> 0.6
N11-E R15 Ö_____	St. st. 1.4571	St. st. 1.4571	3	70	90 (150*)	1 N/C contact	100	> 0.6
N11-E R15 W_____	St. st. 1.4571	St. st. 1.4571	3	70	90 (150*)	1 changeover c.	100	> 0.6

Heavy-duty design

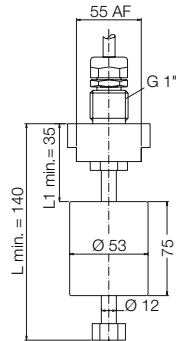


Contact operation with rising level:

Material:
 Measuring tube: Stainless steel 1.4571
 Float: Stainless steel 1.4571
 N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Cable length: 1 m NYLHY
 Installation position: vertikal ± 30°
 Protection type: IP 65
 Switch point min. clearance from end of measuring tube: 85 mm

Model	Materials		Nominal pressure at 20 °C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm ³]
	Measuring tube	Float		PVC cable	Silicone cable *Special design			
N20-E R15 S_____	St. st. 1.4571	St. st. 1.4571	15	70	90 (150*)	1 N/O contact	170	> 0.5
N20-E R15 Ö_____	St. st. 1.4571	St. st. 1.4571	15	70	90 (150*)	1 N/C contact	170	> 0.5
N20-E R15 W_____	St. st. 1.4571	St. st. 1.4571	15	70	90 (150*)	1 changeover c.	170	> 0.5

Teflon design



Contact operation with rising level:

N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Cable length: 1 m NYLHY
 Installation position: vertical ± 30°

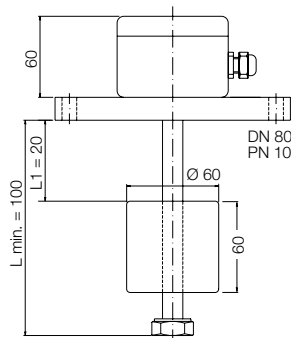
Please note: with 4 contacts min. clearance between contact 2 and 3 100 mm

Protection type: IP 65
 Switch point min. clearance from end of measuring tube: 100 mm

also available with connection 6.2

Model	Materials		Nominal pressure at 20°C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm³]
	Measuring tube	Float		PVC cable	Silicone cable *Special design			
N12-T R25 S_____	PTFE	PTFE	3	70	90 (150*)	1 N/O contact	140	> 0.9
N12-T R25 Ö_____	PTFE	PTFE	3	70	90 (150*)	1 N/C contact	140	> 0.9
N12-T R25 W_____	PTFE	PTFE	3	70	90 (150*)	1 Wechsler	140	> 0.9

PVC flange design



Contact operation with rising level:

N/O contact: 230 V_{AC} / 1 A / 60 VA
 N/C contact: 230 V_{AC} / 1 A / 60 VA
 Changeover contact: 230 V_{AC} / 1 A / 60 VA
 Cable length: vertical ± 30°
 Protection type: IP 65

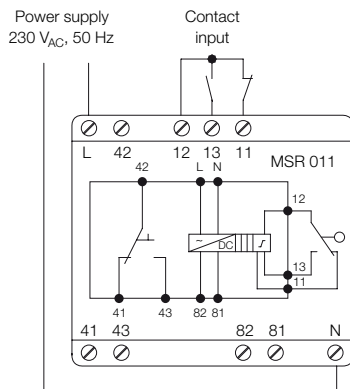
Switch point min. clearance from end of measuring tube: 70 mm

Model	Materials		Nominal pressure at 20°C [bar]	Max. temperature [°C]		Contact number and function	Min. length of meas. tube [mm]	Liquid density [kg/dm³]
	Measuring tube	Float		PVC cable	Silicone cable *Special design			
N16-P F80 S_____ 00	PVC-U	PVC-U	3	55	55	1 N/O contact	100	> 0.8
N16-P F80 Ö_____ 00	PVC-U	PVC-U	3	55	55	1 N/C contact	100	> 0.8
N16-P F80 W_____ 00	PVC-U	PVC-U	3	55	55	1 Wechsler	100	> 0.8

Accessories

MSR 11 for Pump control

Wiring diagram



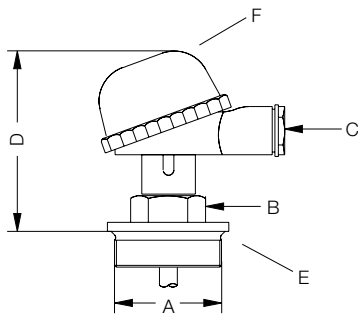
Magnetic level switch

L1: upper contact, N/O contact with rising level
 L2: lower contact, N/C contact with rising level

Relay output

Empty pump: terminal 42-43
 Full pump: terminal 42-41

Type 1

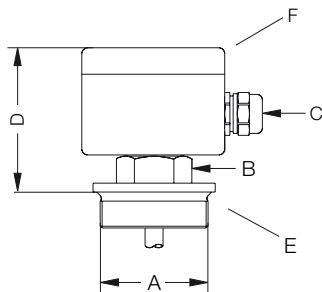


PA screwed cap housing

Dimensions and materials

A-Thread	G 1	G 1½	G 2
B-Width across flats	SW27	SW30	SW36
C-Electr. connection	Pg16	Pg16	Pg16
D-Overall height	110	110	114
F-Housing	PA	PA	PA
E Screwed fitting	PP	PP	PP
Code	1.0*	1.1	1.2
t_{max}	90°C	90°C	90°C

Type 2/3/4/6

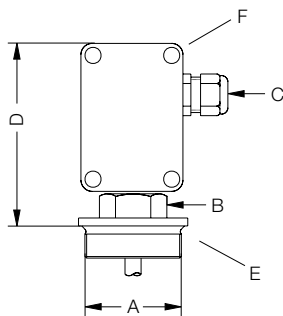


Aluminium adapter box

Dimensions and materials

A-Thread	G 1	G 1½	G 2
B-Width across flats	SW27	SW30	SW36
C-Electr. connection	M16	M16	M16
D-Overall height	76	77	79
F-Housing	ALU	ALU	ALU
E Screwed fitting	MS	MS	MS
Code	2.0*	2.1	2.2
E Screwed fitting	St37	St37	St37
Code	3.0*	3.1	3.2
E Screwed fitting	VA	VA	VA
Code	4.0*	4.1	4.2
E Screwed fitting	PTFE	PTFE	PTFE
Code	6.0*	6.1	6.2
t_{max}	90 (150)°C	90 (150)°C	90 (150)°C

Type 5

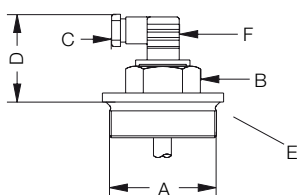


ABS terminal box

Dimensions and materials

A-Thread	G 1	G 1½	G 2
B-Width across flats	SW27	SW30	SW36
C-Electr. connection	Pg16	Pg16	Pg16
D-Overall height	111	111	111
F-Housing	PS	PS	PS
E Screwed fitting	PVC	PVC	PVC
Code	5.0*	5.1	5.2
t_{max}	55°C	55°C	55°C

Type 7



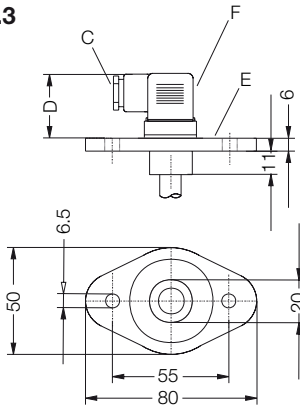
Connector with connecting box

Dimensions and materials

A-Thread	G 1	G 1½	G 2
B-Width across flats	SW27	SW30	SW36
E Screwed fitting	PP	PP	PP
D-Overall height 3-polig	70	70	73
D-Overall height 6-polig	46	46	49
F-Housing	ABS	ABS	ABS
C-Electr. connection	3-pol./Pg9	3-pol./Pg9	3-pol./Pg9
Code	7.0*	7.1	7.2
C-Electr. connection	6-pol./Pg7	6-pol./Pg7	6-pol./Pg7
Code	7.A*	7.B	7.C
t_{max}	90°C	90°C	90°C

*nur für N01, N02, N03 und N04

Type 7.3

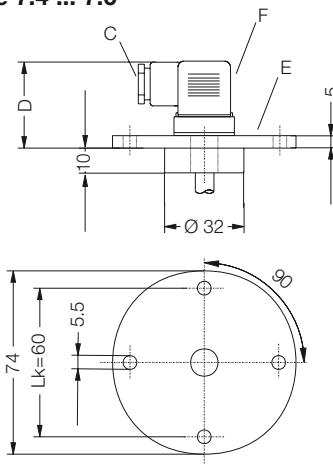


Oval flange polypropylene

Dimensions and materials

Plug	3-pol. with	6-pol. with
C-Electr. connection	Pg9	Pg7
D-Overall height	47	30
F-Housing	PA	PA
E-flange	PP	PP
Code	7.3	7.D
t_{max}	90°C	90°C

Type 7.4 ... 7.6

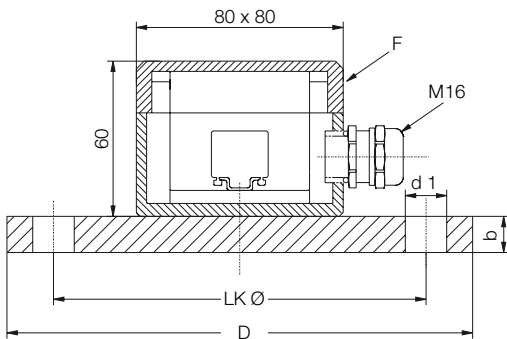


Round flange

Dimensions and materials

Plug	3-pol. with	6-pol. with
C-Electr. connection	Pg9	Pg7
D-Overall height	47	30
F-Housing	PA	PA
E-flange	MS	MS
Code	7.4	7.E
t_{max}	90°C	90°C
E-flange	VA	VA
Code	7.5	7.F
t_{max}	90°C	90°C
E-flange	PVC	PVC
Code	7.6	7.G
t_{max}	55°C	55°C

Type 8/9



Flange form B acc. to DIN 2527

Dimensions and materials

Nominal width	50	65	80	100	125
D	165	185	200	220	250
b	18	18	20	20	22
LK Ø	125	145	160	180	210
Thread	M16	M16	M16	M16	M16
Number d1	4	4	8	8	8
F-Housing	Alu	Alu	Alu	Alu	Alu
E-flange	Steel	Steel	Steel	Steel	Steel
Code	8.1	8.2	8.3	8.4	8.5
E-flange	VA	VA	VA	VA	VA
	1.4571	1.4571	1.4571	1.4571	1.4571
Code	9.1	9.2	9.3	9.4	9.5
t_{max}	90 (150)°C				