



Simple float switch

- Switch for neutral and aggressive liquids
- NO/NC, alternating
- Reed contact
- Vertical or horizontal mounting
- Molded lying leads (Type 8181) or cable (Type TCL001)

Product variants described in the data sheet may differ from the product presentation and description.

Type description

Float switch with hermetically sealed reed contacts in a fixed switch part, switching triggered by magnets in floating switch part, reed contact implemented as alternator or normally open/closed; for neutral and aggressive liquids; not sensitive to dirt particles in the medium; cylindrical threading for simple installation in side of container. Different versions are available depending on material (PP or stainless steel), mounting position (horizontal or vertical) and equipment (relay).

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1. General technical data

1.1. Type TCL001

Product properties	
Dimensions	Detailed information can be found in chapter "2. Dimensions" on page 4.
Switching point	At tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm)
Switching function	Normally closed/open or alternating
Operating temperature	-25...+105 °C
Probe material	PP (PVDF on request)
Thread	R 1/2"
Electrical data	
Normally closed/open	
Switching voltage	Max. 250 V
Switching current	Max. 1 A
Contact rating	Max. 50 W / VA
Alternating	
Switching voltage	Max. 48 V
Switching current	Max. 0.25 A
Contact rating	Max. 3 W / VA
Approvals and certificates	
Protection class	IP67
Product connections	
Electrical connections	PVC cable, 3 m long (other cable lengths on request)
Environment and installation	
Mounting position	Horizontal

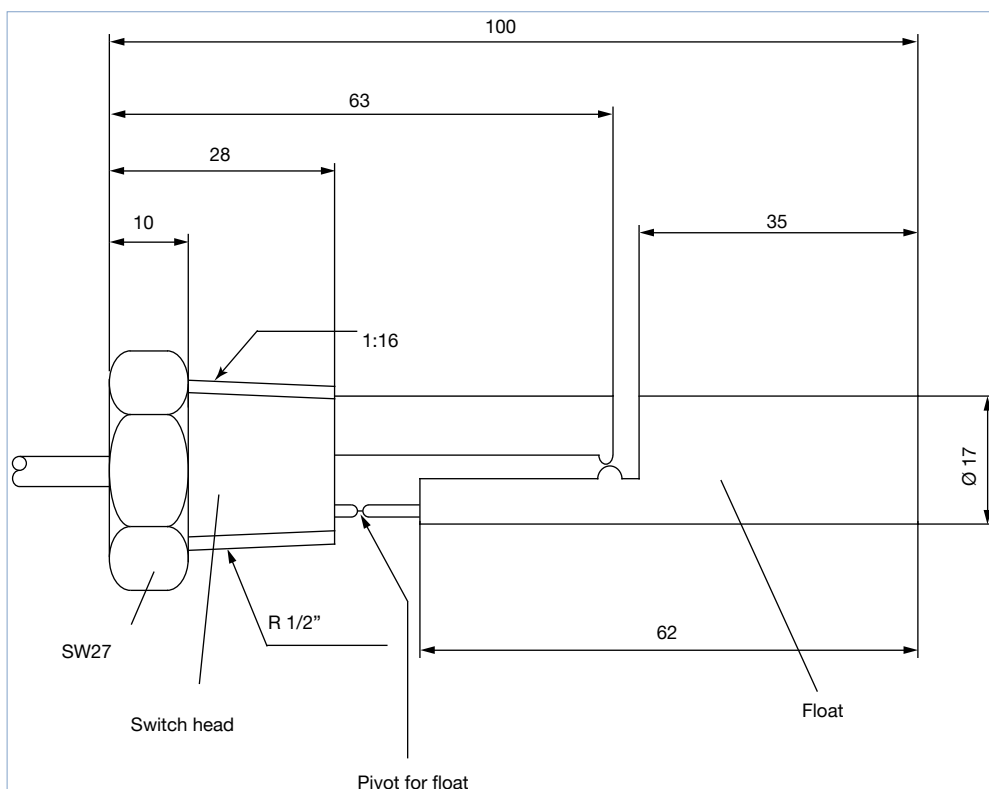
1.2. Type 8181

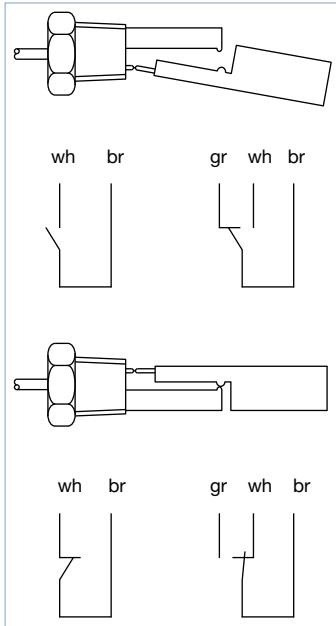
Product properties	Type 8181 Standard	Type 8181 mit Relais-Modul
Dimensions	Detailed information can be found in chapter "2. Dimensions" on page 4.	
Switching point	At tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm)	At tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm)
Switching function	Normally closed/open	Normally closed/open
Materials		
Housing, cover / contact	–	PC / AgNi 90/10
Stem, float	PP or stainless steel 304 (316L on request)	PP or stainless steel 304 (316L on request)
Circlip (only vertical version)	PP or stainless steel 304	PP or stainless steel 304
Cable plug, cable gland	PA (if one)	PA
Thread	G 1/4" (only for PP-horizontal version) or G 1/8" for leads version and G 3/4" for cable version	G 3/4"
Float density	Approx. 0.7	Approx. 0.7
Acceptable pressure		
PP version	1 bar (vertical or horizontal mounting position)	1 bar (vertical or horizontal mounting position)
Stainless steel version	10 bar (vertical mounting position) 5 bar (horizontal mounting position)	10 bar (vertical mounting position) 5 bar (horizontal mounting position)
Medium data		
Medium temperature		
PP version	-10...+80 °C	-10...+80 °C
Stainless steel version	-40...+120 °C	-40...+120 °C
Electrical data		
Output type	Reed contact	1 single change-over contact
Switching function	Normally closed/open	Normally closed/open
Voltage	Switching: max. 48 V AC/DC	Max. 250 V AC / 30 V DC
Current	Switching: max. 0.25 A	Max. 3 A

Product properties	Type 8181 Standard	Type 8181 mit Relais-Modul
Breaking power	66 VA AC/DC (only for PP-vertical version) 50 VA AC/DC	-
Contact resistance	Max. 150 mΩ Max. 200 mΩ (only for stainless steel horizontal version)	-
Breakdown voltage	Min. 310 V AC (only for PP-vertical version) 600 V DC	-
Insulating resistance	Min. 10 MΩ	-
Number of cycles	-	100 000 acc. to standard VDE 0435
Current consumption	-	<3 mA
Approvals and certificates		
Protection class	IP65	IP65
Vibrations and shocks	20G (for stainless steel version)	-
Product connections		
Electrical connection	Leads 300 mm or cable 5 m	Positionable M12 and EN175301 - 803 cable plug
Electrical cable	0.25 mm ² min. cross section leads or PVC covering cable, 0.25 mm ² min. cross section, 2 wires + shielding	-
Environment and installation		
Ambient temperature	- 10...+80 °C (operation and storage)	- 10...+80 °C (operation and storage)

2. Dimensions

2.1. Type TCL001

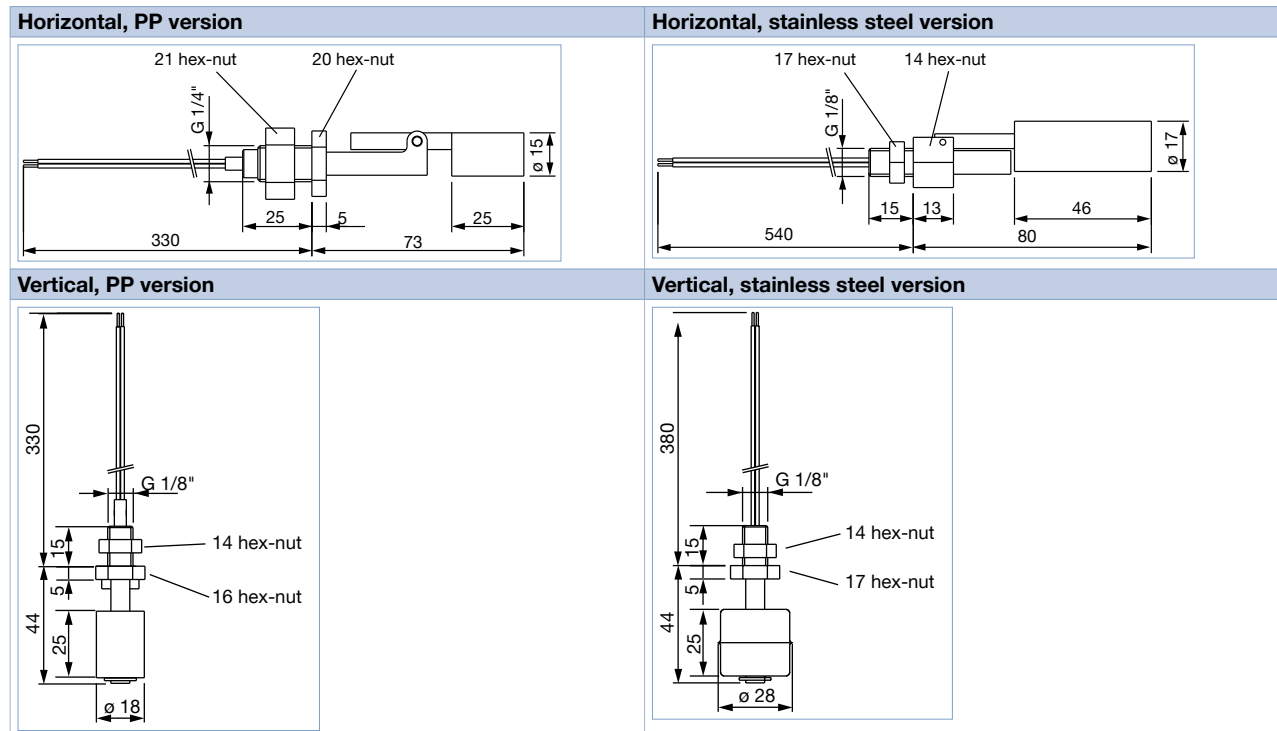




Abbreviation	Color
gr	green
wh	white
br	brown

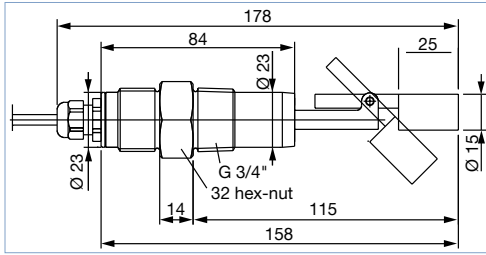
2.2. Type 8181

Switch with leads

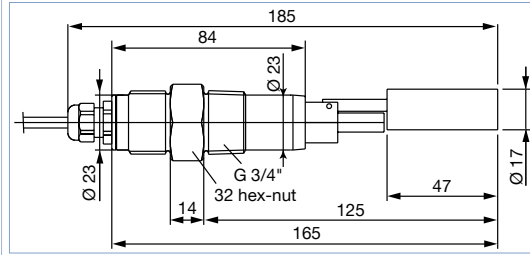


Switch with 5 m cable

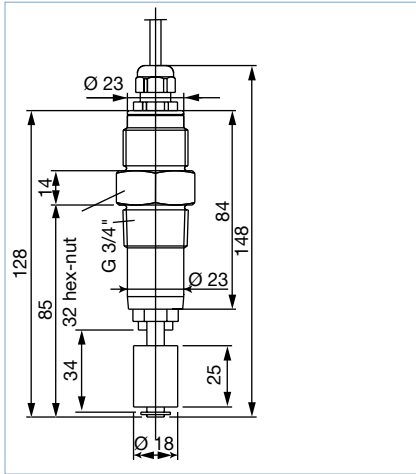
Horizontal, PP version



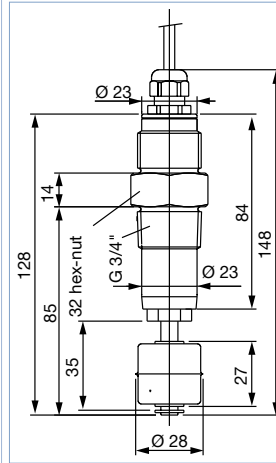
Horizontal, stainless steel version



Vertical, PP version

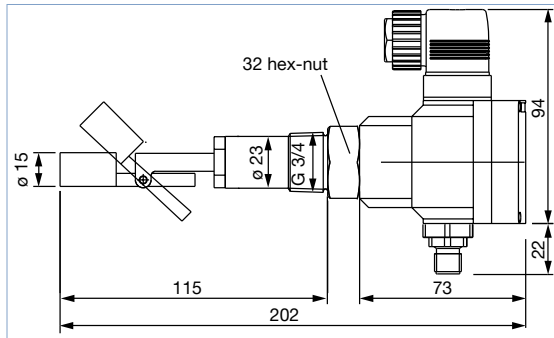


Vertical, stainless steel version

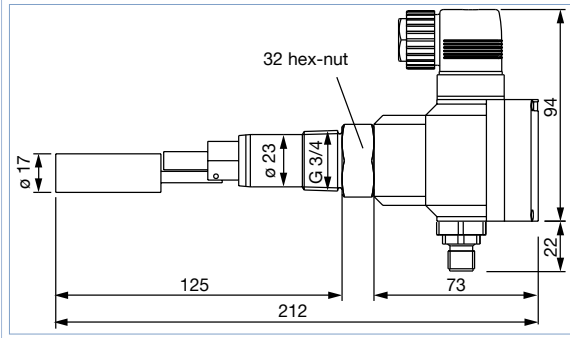


Switch with relay module

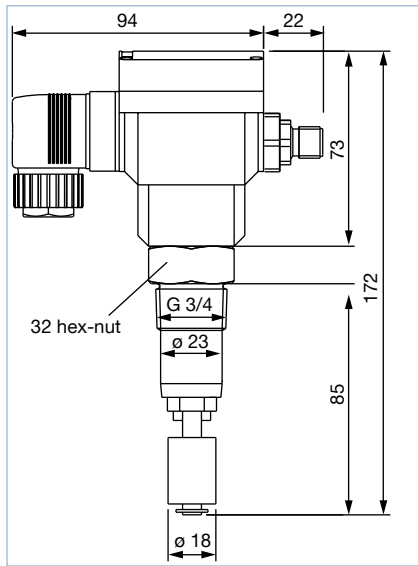
Horizontal, PP version



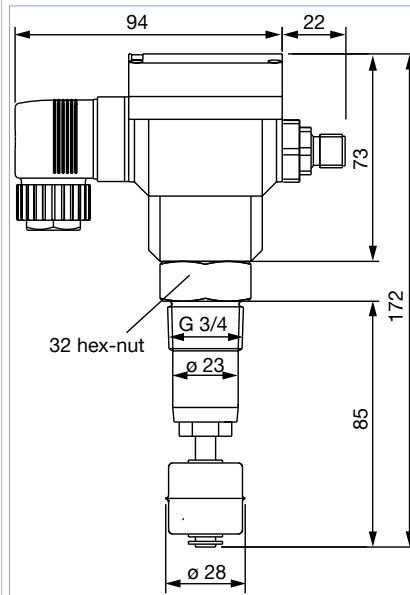
Horizontal, stainless steel version



Vertical, PP version



Vertical, stainless steel version



3. Ordering information

3.1. Bürkert eShop – Easy ordering and quick delivery




Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

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3.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

Try out our product filter

3.3. Ordering chart

Type	Connection	Material	Version	Switching current	Switching voltage	Switching function	Electrical connection	Article no.
TCL001	R ½	PP	Horizontal	Max. 1 A	Max. 250 V	Normally closed/open ^{1.)}	3 m cable	783793
					Max. 48 V	Alternating	3 m cable	783794
8181	G ¼	PP	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	300 mm leads	438141
			Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	300 mm leads	438132
		St. St.	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	300 mm leads	438150
			Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	300 mm leads	438159
	G ¾	PP	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	5 m cable	438496
			Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	5 m cable	438502
		St. St.	Horizontal	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	5 m cable	438499
			Vertical	0.5 A	Max. 48 V AC/DC	Normally closed/open ^{1.)}	5 m cable	438505
8181 with relay module supplied with 24 V DC	G ¾	PP	Horizontal	3 A	Max. 250 V AC / 30 V DC	Normally closed/open ^{1.)}	Positionable M12 and EN175301 - 803 cable plug	438497
			Vertical	3 A	Max. 250 V AC / 30 V DC	Normally closed/open ^{1.)}	Positionable M12 and EN175301 - 803 cable plug	438503
		St. St.	Horizontal	3 A	Max. 250 V AC / 30 V DC	Normally closed/open ^{1.)}	Positionable M12 and EN175301 - 803 cable plug	438500
			Vertical	3 A	Max. 250 V AC / 30 V DC	Normally closed/open ^{1.)}	Positionable M12 and EN175301 - 803 cable plug	438506

1.) Depending on mounting orientation

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