

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)

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.

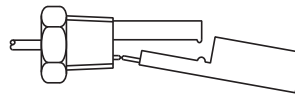
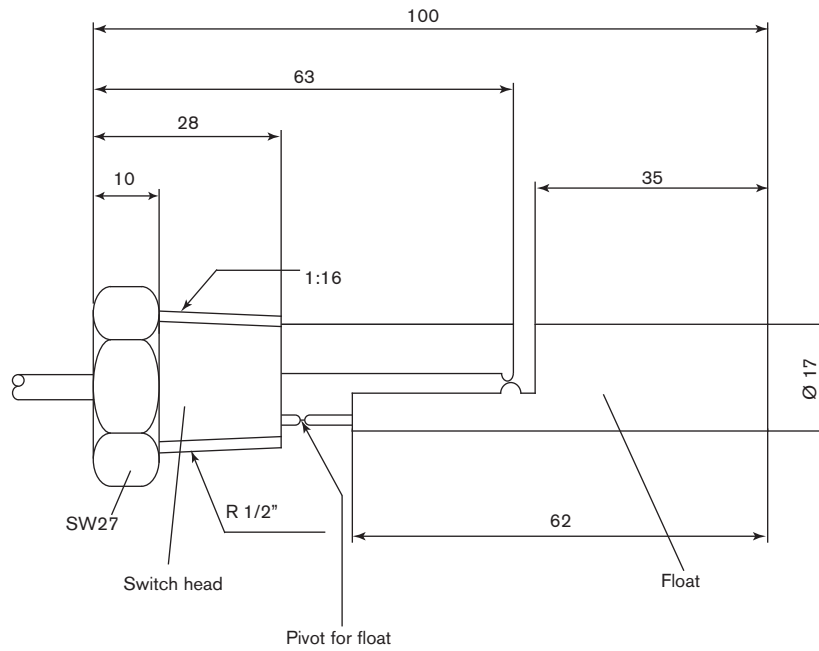
Different versions are available depending on material (PP or stainless steel), mounting position (horizontal or vertical) and equipment (relay).

Technical data - TCL001

Switching point	at tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm)
Switching function	normally closed/open or alternating
Normally closed/open	
Switching voltage	max. 250 V
Switching current	max. 1 A
Contact rating	max. 50 W / VA
Alternating	
Switching voltage	max. 150 V
Switching current	max. 0.25 A
Contact rating	max. 3 W / VA
Electrical connections	PVC cable, 3 m long (other cable lengths on request)
Protection class	IP67
Operating temperature	-25 up to +105°C
Probe material	PP (PVDF on request)
Mounting position	horizontal
Thread	R1/2"

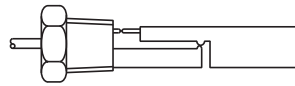
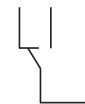
Technical data - 8181		
General data	Type 8181 standard	Type 8181 with relay module
Switching point	at tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm)	at tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm)
Mounting position	Horizontal or vertical	Horizontal or vertical
Thread	G1/4" (only for PP-horizontal version) or G1/8" for leads version and G3/4" for cable version	G3/4"
Materials Housing, cover / Contact Stem, float Circlip (only vertical version) Cable plug, cable gland	- PP or stainless steel 304 (316L on request) PP or stainless steel 304 PA (if one)	PC / AgNi 90/10 PP or stainless steel 304 (316L on request) PP or Stainless steel 304 PA
Float density	approx. 0.7 ¹⁾	approx. 0.7 ¹⁾
Acceptable pressure PP version Stainless steel version	1 bar (vertical or horizontal mounting position) 10 bar (vertical mounting position) 5 bar (horizontal mounting position)	1 bar (vertical or horizontal mounting position) 10 bar (vertical mounting position) 5 bar (horizontal mounting position)
Medium temperature PP version Stainless steel version	-10 to +80°C -40 to +120°C	-10 to +80°C -40 to +120°C
Electrical connection	Leads 300 mm or cable 5m	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	-
Electrical data	Type 8181 standard	Type 8181 with relay module
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
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
Environment	Type 8181 standard	Type 8181 with relay module
Ambient temperature	- 10 to +80°C (operation and storage)	- 10 to +80°C (operation and storage)
Standards, directives and approvals	Type 8181 standard	Type 8181 with relay module
Protection class	IP65	IP65
Vibrations and shocks	20G (for stainless steel version)	-

Dimensions [mm] Type TCL001



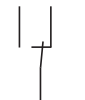
wh br

gr wh br



wh br

gr wh br

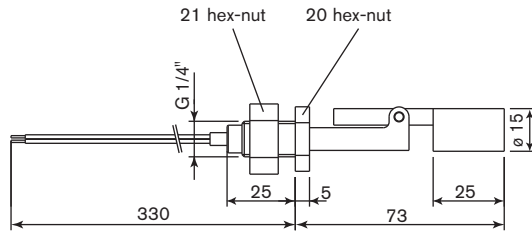


gr = green
wh = white
br = brown

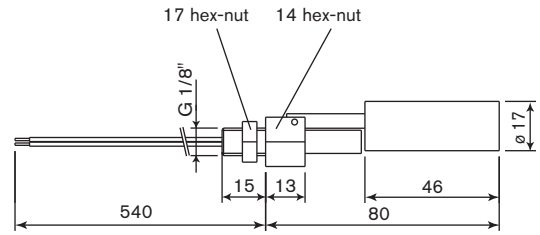
Dimensions [mm] Type 8181

Switch with leads

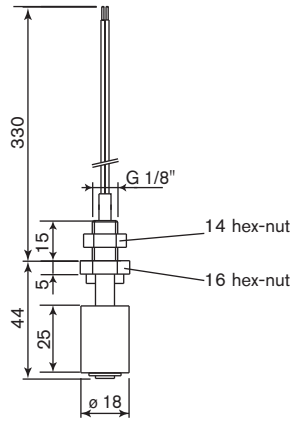
Horizontal, PP version



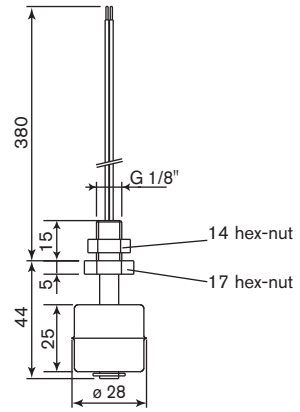
Horizontal, stainless steel version



Vertical, PP version

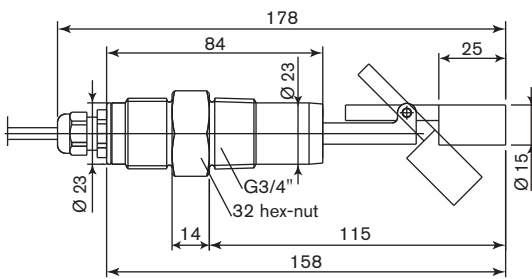


Vertical, stainless steel version

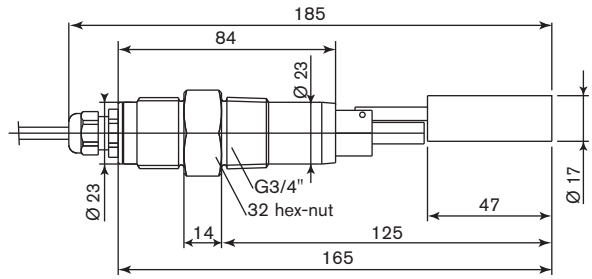


Switch with 5 m cable

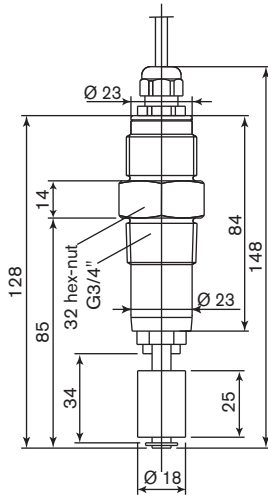
Horizontal, PP version



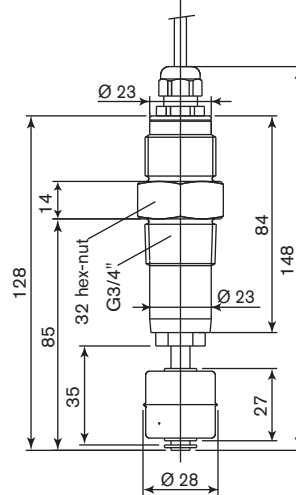
Horizontal, stainless steel version



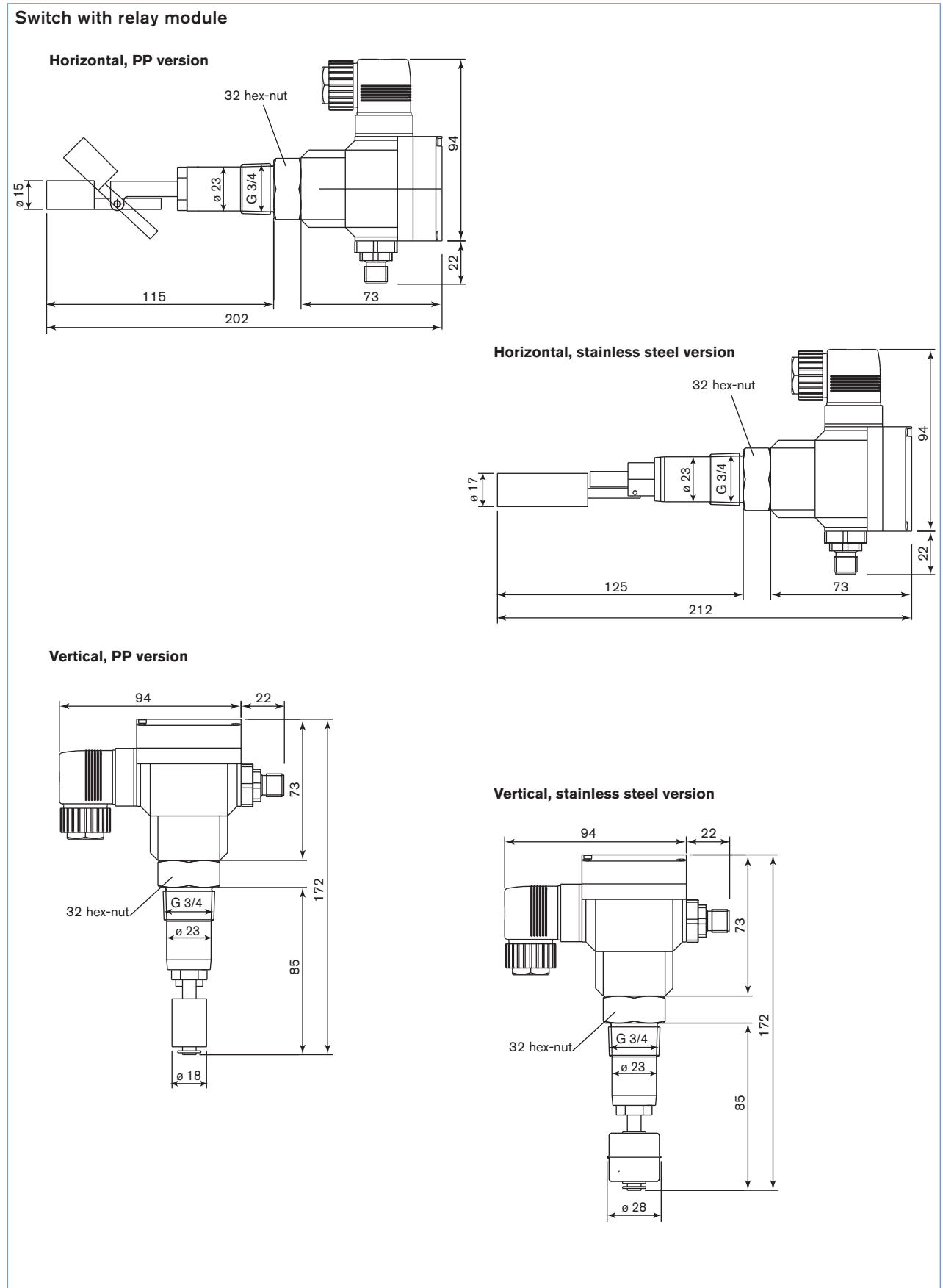
Vertical, PP version



Vertical, stainless steel version



Dimensions [mm] Type 8181



Ordering chart

Type	Connection	Material	Version	Switching current	Switching voltage	Switching function	Electrical connection	Item no.	
TCL001	R1/2	PP	Horizontal	max 1 A	Max 250V	Normally closed/open*	Cable 3 m	783 793	
					Max 150V	Alternating	Cable 3 m	783 794	
8181	G1/4	PP	Horizontal	0.5 A	Max 48 V AC/DC	Normally closed/open*	Leads 300 mm	438 141	
			Vertical	0.5 A	Max 48 V AC/DC	Normally closed/open*	Leads 300 mm	438 132	
	St. St.	PP	Horizontal	0.5 A	Max 48 V AC/DC	Normally closed/open*	Leads 300 mm	438 150	
			Vertical	0.5 A	Max 48 V AC/DC	Normally closed/open*	Leads 300 mm	438 159	
	G3/4	PP	Horizontal	0.5 A	Max 48 V AC/DC	Normally closed/open*	Cable 5 m	438 496	
			Vertical	0.5 A	Max 48 V AC/DC	Normally closed/open*	Cable 5 m	438 502	
		St. St.	PP	Horizontal	0.5 A	Max 48 V AC/DC	Normally closed/open*	Cable 5 m	438 499
				Vertical	0.5 A	Max 48 V AC/DC	Normally closed/open*	Cable 5 m	438 505
8181 with relay module supplied with 24 V DC	G3/4	PP	Horizontal	3 A	Max. 250 V AC / 30 V DC	Normally closed/open*	Positionable M12 and EN175301-803 cable plug	438 497	
			Vertical	3 A	Max. 250 V AC / 30 V DC	Normally closed/open*	Positionable M12 and EN175301-803 cable plug	438 503	
		St. St.	PP	Horizontal	3 A	Max. 250 V AC / 30 V DC	Normally closed/open*	Positionable M12 and EN175301-803 cable plug	438 500
				Vertical	3 A	Max. 250 V AC / 30 V DC	Normally closed/open*	Positionable M12 and EN175301-803 cable plug	438 506

*Depending on mounting orientation

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