

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.

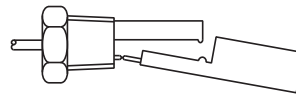
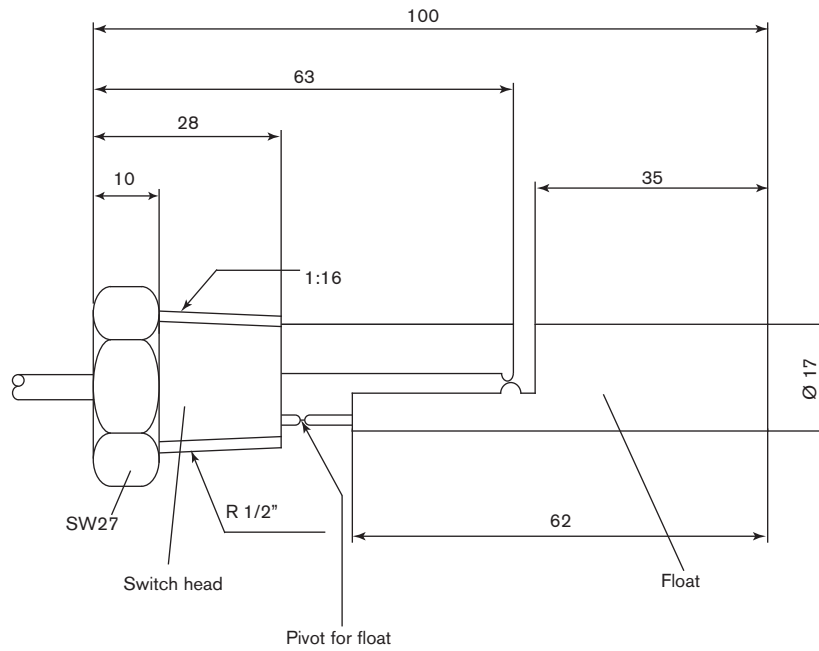
Different versions are available depending on material (PP or stainless steel), mounting position (horizontal or vertical) and equipment (relay).

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" |

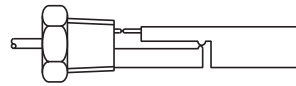
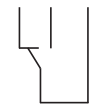
| Technical data - 8181 | | |
|---|---|---|
| General data | Type 8181 standard | Type 8181 with relay module |
| Switching point | at tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm) | at tilt of $7^\circ \pm 3^\circ$ (8.5 mm \pm 3 mm) |
| Mounting position | Horizontal or vertical | Horizontal or vertical |
| 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



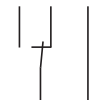
wh br

gr wh br



wh br

gr wh br

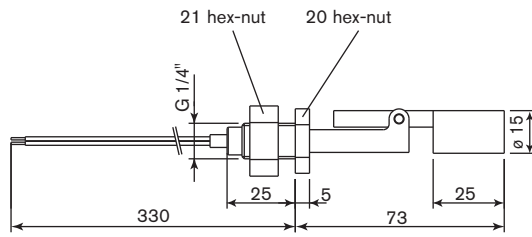


gr = green
wh = white
br = brown

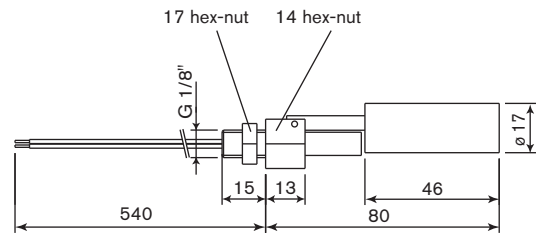
Dimensions [mm] Type 8181

Switch with leads

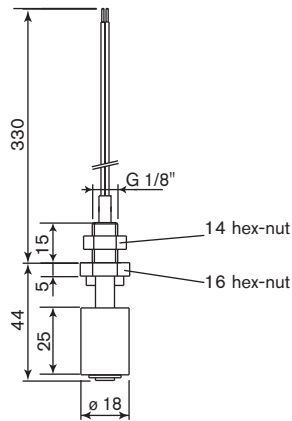
Horizontal, PP version



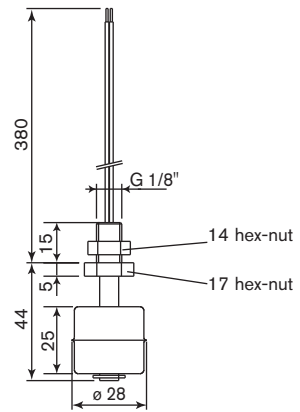
Horizontal, stainless steel version



Vertical, PP version

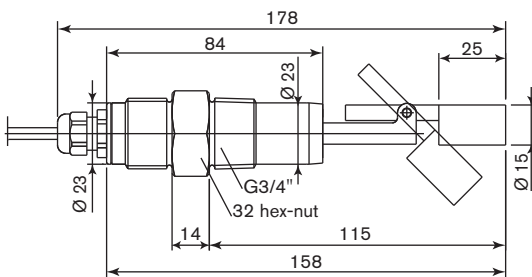


Vertical, stainless steel version

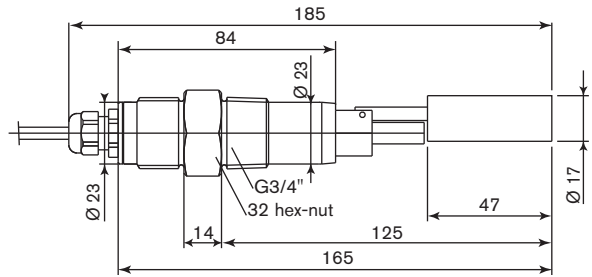


Switch with 5 m cable

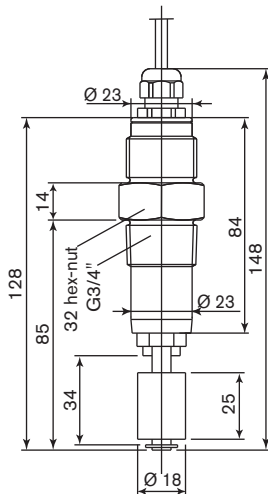
Horizontal, PP version



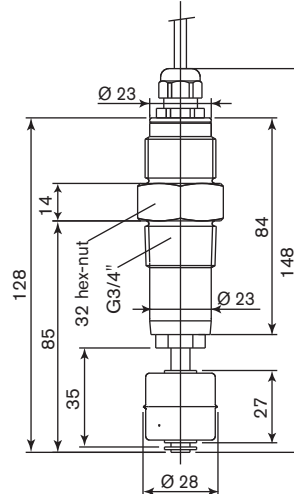
Horizontal, stainless steel version



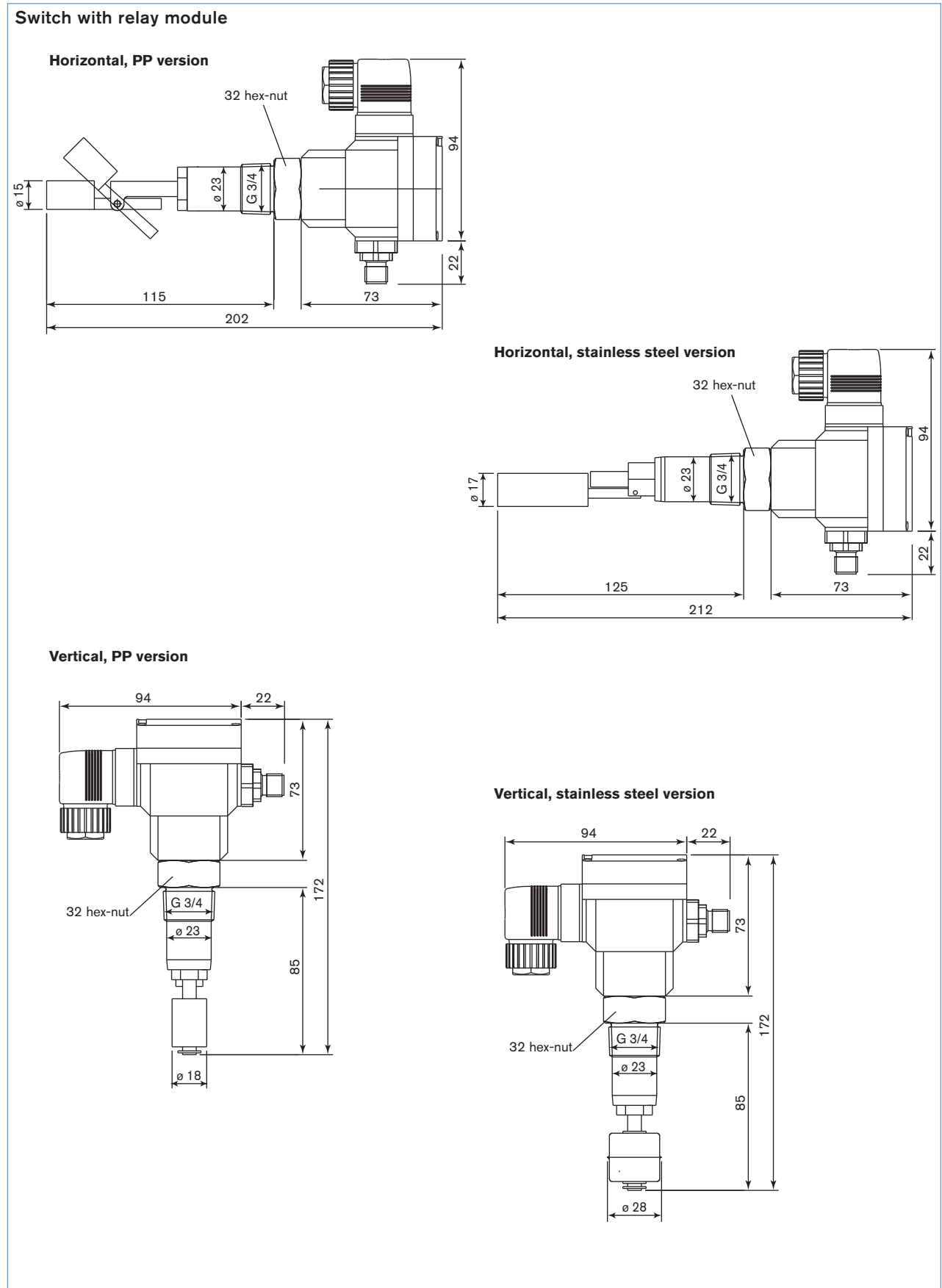
Vertical, PP version



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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