

Float Switches MTS... made of PP or PVDF

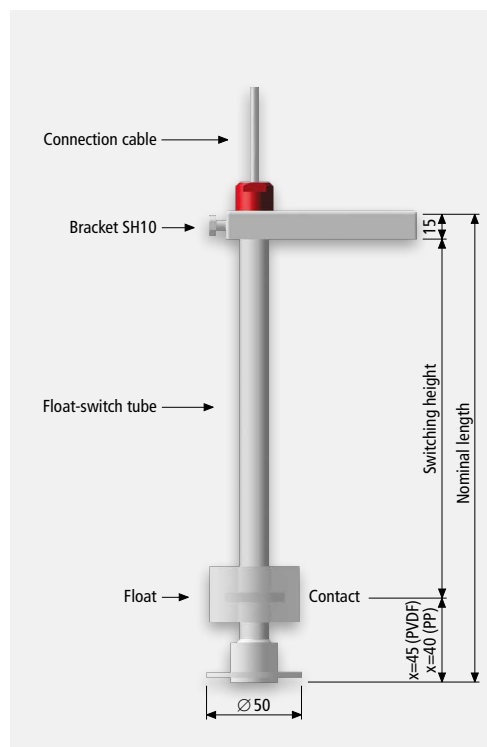
Liquid levels in process and storage tanks need to be measured and monitored, since unwanted variations in these levels (due to evaporation or removal of the liquids) must be corrected. In this respect, a distinction must be made between two general tasks:

- controlling of the level in order to permit automatic execution of process operations (such as dosing of liquids)
- monitoring of the level in order to prevent possible damage (dry-running, heating without sufficient liquid) to the devices (pumps, heaters) installed in the tanks or to prevent an overflow of the process liquid from the tanks.

Float switches offer a simple and economical solution for the controlling and monitoring of liquid levels in tanks. A float switch can even be used without connecting an additional electronic controller!

The function of a float switch is based on the moving float and can be guaranteed only in liquids which do not form encrustation. Dirt in the tank (such as coarse metal chips) can also block the movement of the float.

In such cases, where a float switch cannot be used, we recommend the use of our level rod-probes, providing the liquid is electrically conductive.



Float switch with one contact, version PG

The float switches are available in various versions:

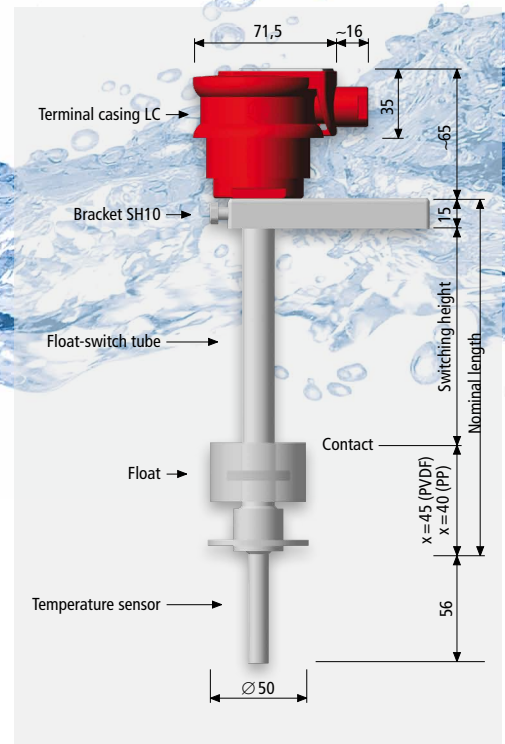
- with one switch contact (with or without an integrated temperature sensor),
- with two switch contacts,
- with three switch contacts.

All switch contacts are changeover contacts.

Function

A magnet inside the moving float actuates a reed contact mounted in a fixed position within the tube of the float switch.

In order to ensure optimal chemical and thermal resistance, the float switches are made of polypropylene



Float switch with one contact and integrated temperature sensor, version LC

The BC version can be mounted on the edge of a tank with the support HB (PP) and HB/L (PVDF) or on a crossbeam with the aid of the mounting sleeve EM or the holding sleeve HM.

PG version

On float switches without a terminal casing and with a permanently connected cable 1.6 m long (other cable lengths to order), the cable enters the tube of the float switch via a cable gland. Degree of protection IP 64 (splash-proof) according to EN 60529.

(PP) or polyvinylidene fluoride (PVDF). They are available without a terminal casing (version PG) and a permanently connected cable (length of 1.6 m), with the small terminal casing LC (material PP) or LC/L (material PVDF) and with the large terminal casing BC (material PP) or BC/L (material PVDF). The versions with terminal casings permit easy connection of the cables.

On the PG and LC versions, the brackets on the tube of the float switch permit adjustment to any desired height and simple mounting of the float switches on the edges of tanks.



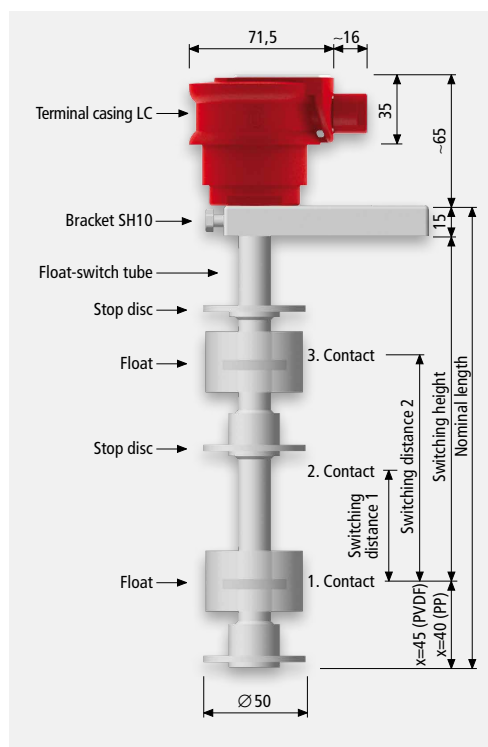
Controlling and Monitoring with Safety and Quality

BC version

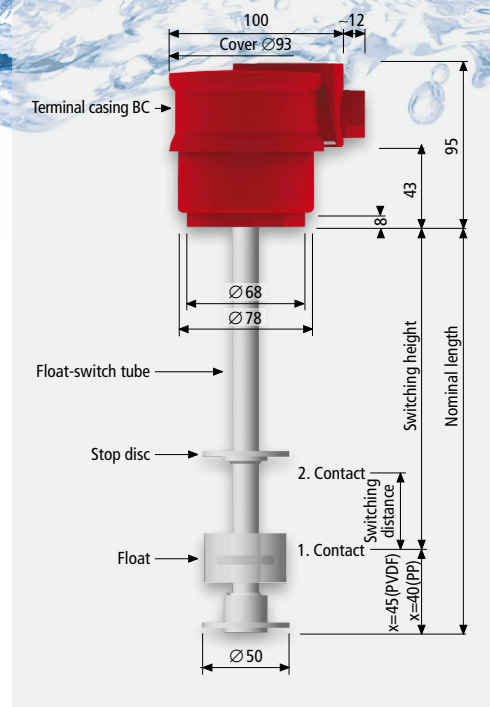
The terminal casing BC (Ø93mm), made of PP, permits connection of the cable and has the degree of protection IP 65 (jet waterproof) in accordance with EN 60529. If the switch is exposed to high temperatures (liquid temperature >80°C) or strongly oxidizing chemicals (such as chrome electrolyte or HNO₃ solutions), the PVDF terminal casing BC/L should be used. The cover can be unscrewed with the mounting wrench SB for access to cable terminals.

LC version

The small terminal casing LC, made of PP or LC/L, made of PVDF, permits cable connection and has the degree of protection IP 65 (jet waterproof) in accordance with EN 60529. The cover can be unscrewed with the mounting wrench SL.



Float switch with 3 contacts, LC version



Float switch with 2 contacts, BC version

Technical Data

	Float Switches			
	MTSu	MTSt	MTS2u	MTS3u
Number of contacts	1 changeover	1 changeover	2 changeover	3 changeover
Integrated temp. sensor	no	Pt100	no	no
Switching current	max. 1.0A	max. 1.0A	max. 1.0A	max. 1.0A
Switching voltage	1V AC/DC - 250V AC	1V AC/DC - 250V AC	1V AC/DC - 250V AC	1V AC/DC - 250V AC
Switching power	max. 60VA/60W	max. 60VA/60W	max. 60VA/60W	max. 60VA/60W
Switching delay	none	none	none	none
Switching hysteresis	5 mm	5 mm	5 mm	5 mm
Min. distance between contact 1 and 2	-	-	25 mm	40 mm
Min. distance between contact 1 and 3	-	-	-	110 mm
Min. nominal length	100 mm	100 mm	125 mm	210 mm
Versions	PG, LC, LC/L BC, BC/L	LC, LC/L BC, BC/L	PG, LC, LC/L BC, BC/L	PG, LC, LC/L BC, BC/L

Selection Table for Control and Monitoring Electronics

	Float Switches			
	MTSu	MTSt	MTS2u	MTS3u
Monitoring Devices				
Level monitor	ETS100	ETS100	ETS200	-
Temperature limiter	-	ETB100	-	-
Control Devices				
Level controller	-	-	ENR200	ENR300
Temperature controller	-	MTR	-	-

Switching points

The switching points are set in the factory and cannot be changed. For this reason, you must precisely specify the first switching point and the distances from this to any further contacts when ordering the float switches.

The nominal length of the float switch is easily determined on the basis of the drawing.

PG-/LC version (in cm) Nominal length = 1.5 cm (bracket) + switching height + dimension X

BC version (in cm) Nominal length = switching height + dimension X