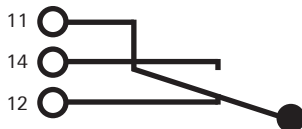


Top mounted level switches for level alarm or pump control applications

Nominal pressure	PN 16 max. 16 bar to 300°C
Operating temperature	0 to 300°C
Ambient temperature	0 to 70°C
Density of liquid	
- pump control	min. 0.45 kg/dm ³
- alarm	min. 0.30 kg/dm ³
Operating differential S	A 01 140: 12 to 1340 mm A 01 141: 12 to 2840 mm
Wetside material	stainless steel (316 equiv.)
Switch housing material	sea water resistant die cast aluminium
Flange dimensions	92 x 92 mm (P.C.D. 92 mm)
Counter flange	see overleaf
Switch element	microswitch changeover (SPDT) with silver contacts
Switch rating	5A/30 VDC
Cable gland	M20 x 1.5
Enclosure	IP65
Weight	A 01 140: approx. 2.5 kg A 01 141: approx. 2.7 kg
Approvals	ABS, BV, DNV, GL, LRS, PRS, RINA, MRS

Connection diagram



Setting the switching differential

1. For pump control (2 switch points)

The required differential is set by fixing the two stop collars in the appropriate positions on the rod. The counterweight has to be adjusted to compensate for the rod weight (without float), until the cross arm is balanced. The float slides up and down the rod with the liquid level and actuates the switch at the set position of the stop collars.

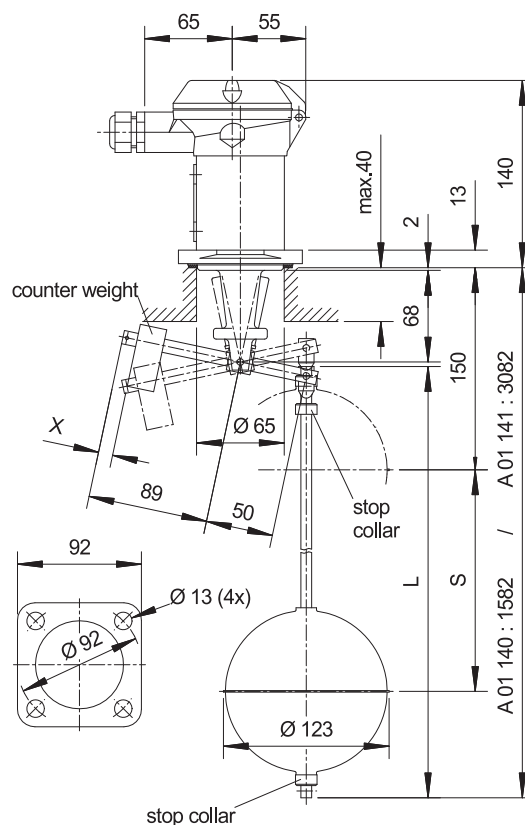
The switch remains latched between the two positions, which are for applications such as pump control where the contactor coil would need to remain energized throughout the pumping cycle.

2. For alarm operation (1 switch point)

Only the lower collar is fixed on the rod (below the float). Within the limit of the rod length, the height of the alarm point can be chosen as required. The counterweight has to be set, to outweigh the rod (without float). The alarm switching differential is 12 mm.

Adjustment at factory

The level switches are factory set for pump control. Distance X = 38 mm. If the rods have to be shortened or the switch has to be used for alarm purposes, the position of the counterweight has to be adjusted, as described on the back page.



Distance X for counterweight (see drawing on the front page)

Switch types ...140

rod length L in mm	pump control X in mm	alarm X in mm
	...140	...140
500	–	45
600	–	42
700	57	39
800	54	36
900	51	32
1000	47	30
1100	44	26
1200	41	23
1300	38	20
1400	35	17
1500	32	14

Switch types ...141

rod length L in mm	pump control X in mm	alarm X in mm
	...141	...141
1500	54	45
1600	53	43
1700	51	41
1800	49	40
1900	48	38
2000	46	36
2100	44	35
2200	43	33
2300	41	31
2400	39	30
2500	38	28
2600	36	27
2700	34	25
2800	33	23
2900	31	22
3000	29	20

Installation

Over open tanks or sumps on a bracket. On closed tanks on the manhole cover with the float mounted from the inside.

In the absence of a manhole, i.e. the float can not be mounted

from the inside, an intermediate flange with an inside diameter of min. 125 mm of flange modules acc. to DIN DN125 or ANSI DN5" should be used. If turbulence occurs, the rod should be guided loosely at the lower end.

Counterflanges

The simplest method of installing the Trimod Besta level switch types A 01 140 and A 01 141 is to use the Besta standard weld-on counterflanges.

These are available in carbon steel C22.8 (A105 equiv.) and in stainless steel 1.4401 (SS316 equiv.).

If the float can be mounted from the inside, the counterflange can be welded directly to the tank. Otherwise the counterflange has to be welded to an intermediate flange (I.D. min. 125 mm).

Temperature range:

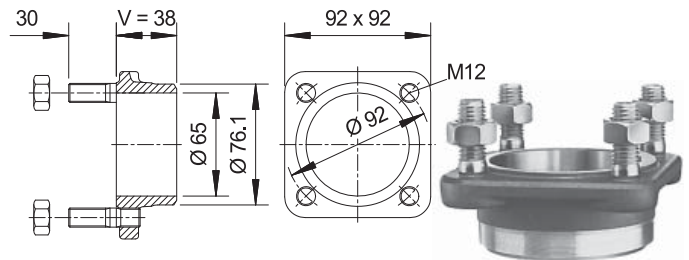
Material C22.8 -10 to +300°C

Material 1.4401: -196 to +400°C

Type	Specification	Flange-material	Stud-material
2829.1	Counterflange	C22.8	5.8
2831.3	Counterflange	1.4401	A2

Options

- Dual SPDT microswitches
- Microswitches with gold plated contacts
- Self checking proximity switches acc. to NAMUR
- Enclosure IP67, or IP68 for submersible applications
- 5A/380 VAC 0.3A/440 VDC (type: AE26)
- Explosion proof switches, PTB-approved
- Pneumatic switches ON/OFF
- High and low temperature versions
- Cable entry with 3/4" NPT internal thread
- Switch housing:
 - chromated
 - stainless steel (316 equiv.)
 - epoxy painted
- Flange modules:
 - acc. to ANSI, DIN, BS and JIS
- Float modules:
 - interface control



Certificates

- Material certificates acc. to EN 10204-2.2 and EN 10204 3.1
- Test records of hydraulic pressure tests and functional tests
- Test records of material tests: x-ray, ultra sonic, charpy, hardness etc.

Quality Assurance

- Besta AG is certified according to ISO 9001.