

MARKET INFORMATION SHIPBUILDING



Solutions for Shipbuilding and
the Marine Industry





Since 1967 the Shipbuilding industry trusts the unique Trimod Besta level switches. Today, hundreds of thousands are installed on cargo vessels, tankers, cruise ships, frigates, nuclear submarines, catamarans, crane- and container ships.



Electric and pneumatic level switches are available to the marine industry, in light, heavy duty and explosion proof versions.



The 3-modular concept offers an unlimited variety of switches

Modules

Standard range

Rod extensions

Switch modules

- Electric switch elements
- Electronic switch elements
- Pneumatic switch elements
- Explosion proof modules
- Housing in IP65, IP67 and IP68
- Aluminium and stainless steel housings



Flange modules

- Square flange, 92 x 92 mm
- Flanges to JIS, ANSI, DIN, BS
- Stainless steel, Hastelloy C and plastic
- Pressures up to ANSI cl. 2500, DIN 320



Float modules

- For low density liquids
- Stainless steel, Hastelloy C and plastic
- For high pressure applications
- For interface applications
- Horizontal and vertical use



4 typical Trimod Besta switches - robust, reliable and extremely user friendly



A 01 04 / A 01 041
For general purpose



A 01 051
For contaminated medias

Type		
Nominal pressure	PN 25	PN 25
Minimum density of liquid	min. 0.7 kg/dm ³	min. 0.75 kg/dm ³
Flange	92 x 92 mm, PCD 92 mm	92 x 92 mm, PCD 92 mm
Wetside material	Stainless steel (CrNiMo)	Stainless steel (CrNiMo)
Flange material	Stainless steel (1.4408)	Stainless steel (1.4408)
Housing material	Seawater resistant aluminium	Seawater resistant aluminium
Enclosure	IP65	IP65
Ambient temperature	0 to +70°C	0 to +70°C
Operating temperature	0 to +300°C	0 to +120°C
Bellow material		Perbunan/Buna
Switch element	Microswitch SPDT with silver contacts	Microswitch SPDT with silver contacts
Switch rating	250 VAC, 5 A / 30 VDC, 5 A	250 VAC, 5 A / 30 VDC, 5 A
Switching distance	12 mm, fixed	12 mm, fixed
Option of rod extension	Yes, with type A 01 04	Yes



U3A 01 04
For submersible applications



P 01 04
For pneumatic control applications

Type		
Nominal pressure	PN 25	PN 25
Minimum density of liquid	min. 0.7 kg/dm ³	min. 0.7 kg/dm ³
Flange	92 x 92 mm, PCD 92 mm	92 x 92 mm, PCD 92 mm
Wetside material	Stainless steel (CrNiMo)	Stainless steel (CrNiMo)
Flange material	Stainless steel (1.4408)	Stainless steel (1.4408)
Housing material	Seawater resistant aluminium	Seawater resistant aluminium
Enclosure	IP68	
Ambient temperature	-30 to +80°C	1 to +80°C
Operating temperature	-30 to +80°C	1 to +250°C
Switch element	Microswitch SPDT with silver contacts	3/2 way valve
Switch rating	250 VAC, 5 A / 30 VDC, 5 A	max. 10 bar
Switching distance	12 mm, fixed	12 mm, fixed
Option of rod extension	Yes	Yes

Counterflange

The simplest method of installing any Trimod Besta switches is to use our standard weld-on counterflanges.

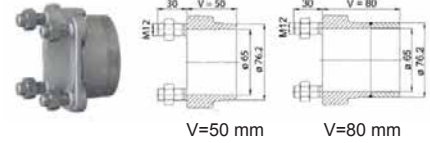
Type **Material** **O-ring**

V=50 mm

2835 C22.8
2838 1.4404

V=80 mm

2835V80 C22.8
2838V80 1.4404



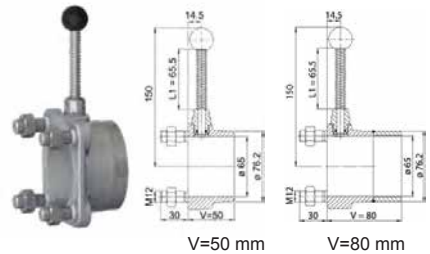
The test actuator allows a periodic manual function check of the level switch in operating status. The following functions can be tested; function of the switching element (micro-switch, proximity switch, pneumatic valve) and movement of the float.

V=50 mm, with test actuator

2865 C22.8 FPM
2866 C22.8 EPDM
2868 1.4404 FPM
2869 1.4404 EPDM

V=80 mm

2865V80 C22.8 FPM
2866V80 C22.8 EPDM
2868V80 1.4404 FPM
2869V80 1.4404 EPDM



Test actuator

The test actuators 2382 and 2383 can be used, if:

- a) the tank is already equipped with an older generation Trimod Switch counterflange, such as type 2829.2, 2831.4, 2829.2V80 or 2831.4V80
- b) the customer is manufacturing his own counterflanges

Type	Material	O-Ring	Temperature range	Operating pressure
2382	CrNiMo	FPM	0 to +150°C	-1 to 25 bar
2383	CrNiMo	EPDM	-30 to +150°C	-1 to 25 bar



Typical applications

- Fresh & waste water tanks
- Fuel oil tanks
- Bilge alarm
- Lubrication tanks
- Separation layer detection
- Balance tanks
- Inert gas production
- LPG tanks