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Level Switch for Shipping and Industry

Model: LSA... / LSA...-EExd



Brief description of the level switch LSA...

This level switch works according to the principle of magnetic transmission.

The use of this level switch is particularly varied in the areas of shipping and industry. The robust and reliable switch can be used wherever the level of liquids needs to be controlled or regulated.

It operates in open containers as well as in pressure tanks. Special forms for installation in special chambers functioning as container by-passes are possible.

Optical or acoustic signals are produced electrically by means of a very robust micro switch. These signals can then be used for further processing in the corresponding production/ controlling process. With an appropriate wiring of the micro switch it is also possible to forward control commands (level-dependent) specific to the installation to pumps, solenoid valves, or auxiliary contactors.

Features of the level switch LSA...

- signal transmission of the switch point by mutually repelling magnets
- switch is built very robustly, switch head (both wet and dry side) consists of one casting, material: gun metal LG5 and RG10
- use of the level switch is possible in various operational and environmental conditions, due to the materials it consists of
- the electric switch mechanism and the inserted mechanic switch-point transmission are long-lived and reliable
- easy installation and, therefore, easy replacement, for all basic unit assembly groups
- vibration and impact strength are high
- high protection degree included in standard package
- material approvals can be included in delivery on request
- all suppliers hold ISO certificates

Advantages of the level switch LSA...

- test knob for mechanic control of switching function integrated in the flange of the level switch body (see Figure 1)
- there is only one model of the level switch LSA..., which incorporates features of different types of level switches
- materials used for the level switch are gun metal LG5 and RG10 as well as type 1.4571 high-grade steel
- all parts made of high-grade steel have been pickled after welding to avoid potential corrosion
- because of the materials used, this level switch can be used in drinking water, according to the new regulations
- type IP68 or IP65 protection is part of the standard package
- there are material approvals available for all materials used (3.1B, etc.)
- self-securing screws for connecting the top of the casing and the level switch body prevent their falling out when they have been unscrewed
- every level switch body has an Ex approval according to ATEX Ex II 2G EEx d IIC T6 in the standard program
- level switch can be redesigned into an Ex - level switch under built-in conditions. It is not necessary to drain the tanks while the conversion. You only have to change the cable glands and the type plates
- the spare parts for the Ex - level switch are the same ones like for the standard level switch

Figure 1



Function and mode of operation of the level switch LSA...



A permanent magnet in the float unit changes its position, rising and falling with the changing level of the liquid in the tank/ container. In doing this, the magnet repels a counter magnet, situated in the switch head, accordingly. This causes a snap-action operation, which is then transmitted to the micro switch.

Choice of level switch LSA...

When choosing a certain **type** of level switch, the following parameters have to be stated, so that the chosen type can be adapted to the application in question:

- **place** of installation
- **position** of installation
- **type of installation** (with or without rods)
- **protection type**
- **specific weight** of liquid
- **type of liquid** (degree of dirtiness, degree of aggressiveness, chemical characteristics)
- **pressure inside** and outside the container
- **temperature** of liquid and temperature of environment
- **humidity**
- **with or without test knob**

Materials

level switch body:.....	gun metal LG5 or RG10
float unit:.....	type 1.4571 high-grade steel
switch body:.....	type 1.4571 high-grade steel
cable glands:.....	brass
smaller parts:.....	high-grade steel 1.4571
jointing material:.....	oil- and waterproof

Cable gland

Size:.....	M 20x1.5 or M 24x1.5
Design:.....	type w or z bolting are standard, other cable glands available on request

With type IP68 protection, the cable gland is glued into the switch using special glue, and additionally sealed with a self-adhesive shrinking tube.

Key to types of the level switch LSA... for shipbuilding

Pos	Article No. / Description
010	<p><i>UAD-LSA1</i> UAD Level Switch Type LSA1 with test knob for high and low level; without cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 56;</p> <p><i>UAD-LSA1-EEExd</i> UAD Level Switch Type LSA1-EEExd ~; cable gland EEx d IIC T6 for armoured/braided cable;</p>
020	<p><i>UAD-LSA1-g</i> UAD Level Switch Type LSA1 g with test knob for high and low level; without cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 56; bend float unit V= mm W= mm;</p> <p><i>UAD-LSA1-g-EEExd</i> UAD Level Switch Type LSA1-g-EEExd ~; cable gland FFx d IIC T6 for armoured/braided cable;</p>
030	<p><i>UAD-LSA2</i> UAD Schwimmerschalter Type LSA2 with test knob for high and low level; with cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 68;</p> <p><i>UAD-LSA2-EEExd</i> UAD Level Switch Type LSA2-EEExd ~; cable gland EEx d IIC T6 for armoured/braided cable;</p>
040	<p><i>UAD-LSA2-g</i> UAD Schwimmerschalter Type LSA2-g with test knob for high and low level; with cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 68; bend float unit V= mm W= mm;</p> <p><i>UAD-LSA2-g-EEExd</i> UAD Level Switch Type LSA2-g-EEExd ~; cable gland EEx d IIC T6 for armoured/braided cable;</p>

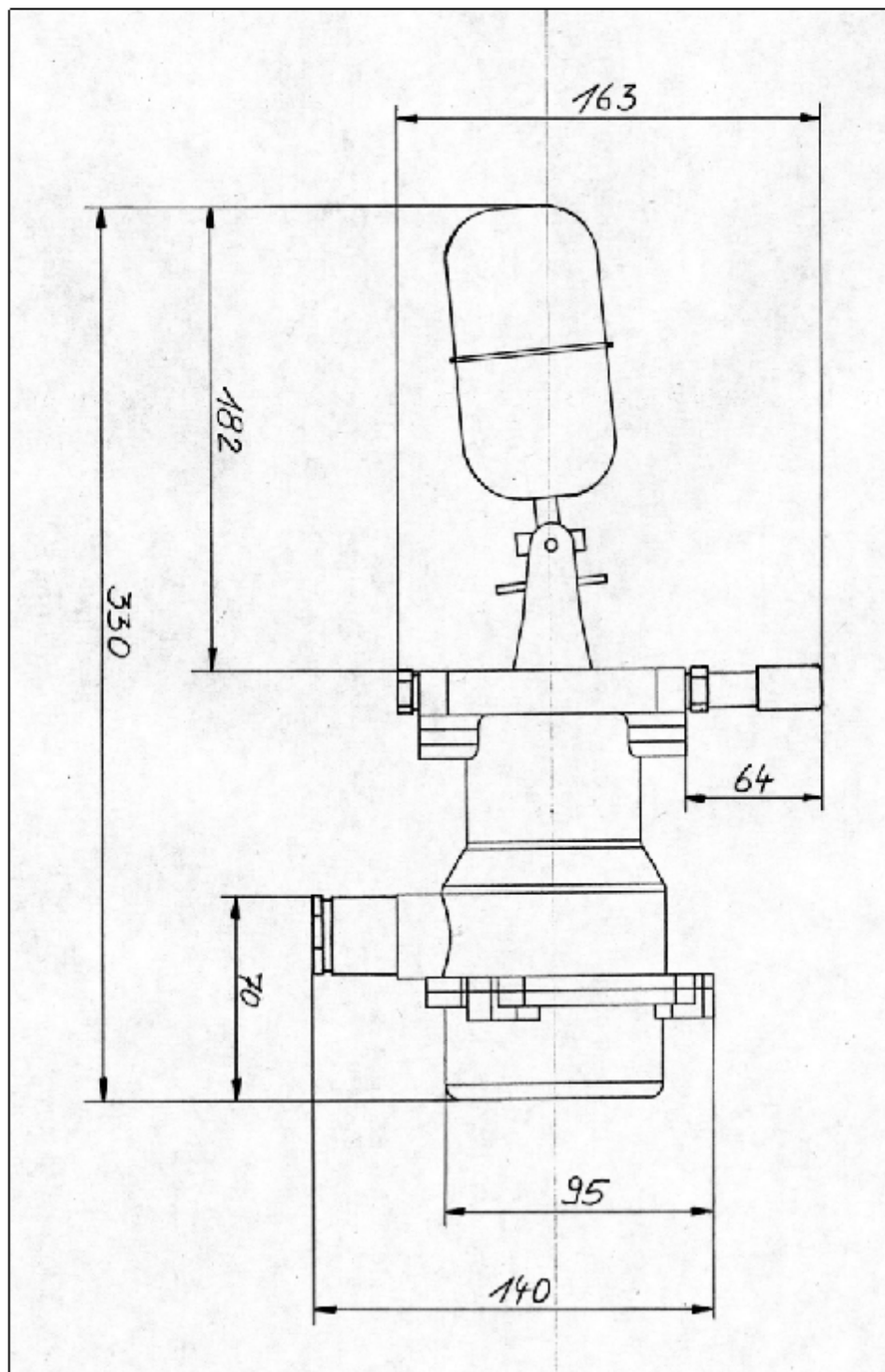
Key to types of the level switch LSA... for shipbuilding

Pos	Article No. / Description
050	<p><i>UAD-LSA3</i> UAD Schwimmerschalter Type LSA3 without test knob; without cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 56;</p> <p><i>UAD-LSA3-EExd</i> UAD Level Switch Type LSA3-EExd ~; cable gland EEx d IIC T6 for armoured/braided cable;</p>
060	<p><i>UAD-LSA3-g</i> UAD Schwimmerschalter Type LSA3-g without test knob; without cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 56; bend float unit V= mm W= mm;</p> <p><i>UAD-LSA3-g-EExd</i> UAD Level Switch Type LSA3-g-EExd ~; cable gland EEx d IIC T6 for armoured/braided cable;</p>
070	<p><i>UAD-LSA4</i> UAD Schwimmerschalter Type LSA4 without test knob; with cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 68;</p> <p><i>UAD-LSA4-EExd</i> UAD Level Switch Type LSA4-EExd ~; cable gland EEx d IIC T6 for armoured/braided cable;</p>
080	<p><i>UAD-LSA4-g</i> UAD Schwimmerschalter Type LSA4-g without test knob; with cable; cable gland M20x1,5; flange 92x92mm; floating ball made of stainless steel 1.4571; protection type IP 68; bend float unit V= mm W= mm;</p> <p><i>UAD-LSA4-g-EExd</i> UAD Level Switch Type LSA4-g-EExd ~; cable gland EEx d IIC T6 for armoured/braided cable;</p>

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Pos	Article No. / Description
090	<i>UAD-ASF</i> UAD Flange for Level Switch LSA... Flange 92x92mm ; incl. screws M12x25; incl. nuts M12;

Mechanical Construction



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UAD-LSA1 (high level)



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UAD-LSA3



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UAD-ASF



Techn Specs: Dimensions 92 x 92 mm
 4 x Bolts M12x13mm 92 mm
 Flange thickness 15mm
 Inside hole size 67mm
 Material ST37-2

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