

Manual

Level Switch

Type LSA... and LSA...-Exd



UAD Service + Vertriebs UG (hb) · Alter Hafen Nord 216 · D-18069 Rostock

Conformity to standards

The level switch type LSA...-Exd is in accordance with the standards:

DIN EN 60079-0:2013

DIN EN 60079-1:2008

Explosion protection code

⊕ II 2G Ex d IIC T6 Gb

Number of CONFORMITY to TYPE

IBExU13ATEX1069 X

Technical data

voltage (max):	250 V AC, 24 V DC
current (max):	6 A AC, 2 A DC
protection type nach EN 60529:2000:	min. IP 56
ambient temperature:	-20°C bis +60°C
strength class of the locking screw:	70
gap length:	13mm
gap width:	0,09mm
pressure (max):	16 bar

Storage / Handling

The level switches from UAD are switches with magnetic signal transmission in a very robust construction (wet and dry side consist of one casting), consisting of high-quality gun metal RG 5 or RG 10. Nevertheless, the switch should not be dropped or subjected to any mechanic abuse that could cause damage.

storage:	- dry / clean - temperatures between approx. 1°C and 60°C - humidity not above 68% relative humidity
packing:	- the packing should be removed immediately before installing the switch

Since the level switch contains magnets, it should not be stored in close proximity of other sources of magnetic fields. Improper storage can lead to malfunctions in the level switch.

These level switches contain no asbestos or other materials that are harmful or require controlled disposal.

Mounting / Installation

Remove all packing materials and make sure that all delivered parts, such as cable glands, gaskets, etc., are taken out of the box. All parts and accessories should be put down carefully. Make sure no parts are lost. Included gaskets must not be bent and should be handled with care. Before installation, check that the gasket is not damaged.

Make sure the switch does not come close to ferrous particles which can attach themselves to the magnet inside the switch and impair its functioning. Check that the switch is clean before final installation.

The switch is mounted on a backing flange. The backing flange meets international norms with the measures 90x92 mm and a bolthole circle of 92 mm. For shipbuilding, the backing flange comes with a welding phase. The backing flange is welded to the tank / container. There are stay bolts on the flange. During assembly, make sure that the included gasket is inserted between level switch and backing flange.

The level switch is fastened to the backing flange with nuts, screws need to be tightened crosswise. Stall torques comply with DIN norms for screws M12x35 and nuts M12.

During mounting and after installation of the level switch, make sure that the float unit inside the tank / container can move freely, without knocking into the sides, top or bottom of the tank/ container. When mounted the switch flange should be vertical within two degrees either way. Positions where strong turbulences can occur should be avoided.

Cable glands / Cable

⊕ II 2G Ex d IIC T6 Gb

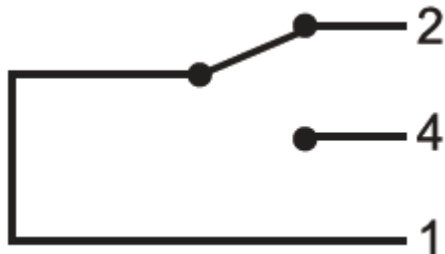
If the level switch type LSA...-Exd installed in areas with gases and vapors of Group IIC he must be installed with appropriate, verified and with confirmed cable glands. Cables installed in dangerous spaces and zones shall have metal armour or braid with additional insulation covering.

! You have to use the supplied cable gland !

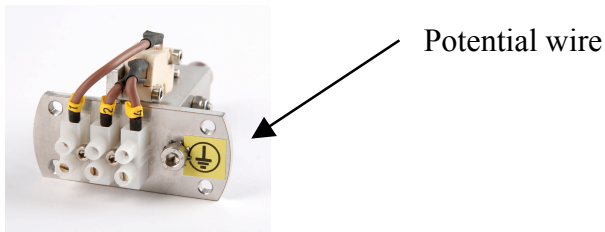
! The manual of the cable gland must be strictly observed !

The cable gland is screwed into the threaded bore of the level switch body and fixed with glue against itself loosen and turn secured.

Electrical connection DIN EN 50005



1. Loosen the cover screws, remove the protective plug and mount the cable gland.
2. Insert the cable and wire according to the wiring diagram (inside cover).
3. Potential wire connection inside the housing is done at the switch insert (see figure). This allows the connection of a conductor, which corresponds to the cross section of the phase conductor.
4. The level switch type LSA...-Exd has no external potential conductor connection. While installation the body of the level switch has to be connected constructively according to DIN EN 60079-14, section 6.3.



Maintenance

The level switch type LSA... is built for long-lived and trouble-free operation. Only very little maintenance work is needed.

Checking the wet side – float unit

The float unit of this level switch can be checked in mounted condition using the test button integrated in the flange. In case the test button was not ordered, the switch has to be uninstalled for checking. For this purpose it is necessary to drain the tank / container.

Switch off the electric supply before uninstillation.

After the switch has been removed from the tank / container, check the float unit for debris and ferrous particles on the magnet. All mechanic parts on the joint must move easily. Remove any ferrous particles on the magnet carefully. Check the float unit for damage and corrosion. Damaged or corroded parts must be replaced.

Checking the dry side – switch body

Remove top of casing. Check gasket. Check the inside of the switch for humidity and corrosion. Replace corroded parts. Check all screws and clamps for tightness and correct position. There is no need to uninstall magnet and micro switch. Check the test button (if one was ordered) for leakage and easy movement.

Mounting the switch after maintenance

See “Mounting/ Installation”. Make sure the gasket in the top of the casing is inserted properly into the spline. The gasket must not be jammed. Check proper positioning of the gasket between level switch and backing flange. Reconnect the wiring and check operation of the switch.

Uninstallation of electric switch mechanism and replacement of micro switch D43X

Switch off electric supply, open top of casing, disconnect cable. Unscrew the 4 hexagon socket head cap screws (metric thread) and remove the complete switch mechanism. Check the inside of the switch, clean if necessary. Check position and easy movement of the magnet. Loosen the cable on the micro switch. Unscrew screws on micro switch, replace micro switch, tighten screws. Please be careful not to damage the micro switch. Move the magnet to check mechanic switch function on the micro switch. The mechanic function can be heard as a soft click. Fasten the cable to the clamblock on the micro switch. Reinstall the switch in reverse order of uninstillation. Reconnect the wiring. Place gasket in spline and fasten the top of the casing securely. Check cable gland for sealing. Check operation of switch.

Warranty / Guaranty

Our scope of delivery and services is governed by the legal warranties and warranty periods.

We guaranty for function and material of the level switch under normal operating and maintenance conditions in accordance with the statutory provisions.

The agreed guaranty period will expire in case of:

- incorrect use
- incorrect installation
- incorrect handling or operation contrary to the provisions of these operating instructions

No liability is assumed for any damage resulting therefrom, or any consequential damage.

Attention

For repair of the flameproof joints must be made to the structural specifications of the manufacturer.

Repair to the values in Tables 1 and 2 of DIN EN 60079-1 is not permitted.