Liquid Level Control DSFC

The relay DSFC regulates the level of liquid in containers/tanks in combination with a connected pump engine. The level of liquid is always held between the electrodes attached in different heights. Over a conductance measurement the equipment recognizes whether the liquid is between the electrodes or not. Sensitivity is adjustable in a wide range.



- *Inexpensive all-electronic device*
- *level regulation and level monitoring possible*
- *Electrodes DC voltage-free*
- *No galvanic procedures in the medium*
- *Adjustable sensitivity and time delay*
- *Suitable for almost all liquid media e.g. water, beverages, jam, chocolate etc.*
- *Very compact design*

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Fill containers with pump

The pump is switched on by the relay contact 15-18, until the level of liquid reaches the upper electrode 7. The relay switches off the pump (15-16) until the level of liquid falls below the electrode 9 and then the pump is switched on again. Also the contacts 25-28 and/or 25-26 switch in the same manner.

Empty containers with pump

Like above, however the pump is now switched by relay contacts 15-16.

Level monitoring

For just the level monitoring only the connections 7-9 are used. Connection 9 must be attached alternatively to the (electrically leading) housing or to the lower electrode.

Sensitivity and time adjustment

At the upper potentiometer sensitivity can be adjusted depending upon the conductivity of the liquid between 5kOhm and approx. 300kOhm. The adjustment of the sensibility as small as possible is recommendable. Alternatively a variant with a sensitivity between 2kOhm and 10kOhm is available. The lower potentiometer (t) permits the adjustement of a time-delay of the switching contacts between approx. 0,2s and 2s. Thereby a reaction of the relay to a momentary exceeding/falling below the limit values is suppressed, for example at wave formation of the liquid.

Installation

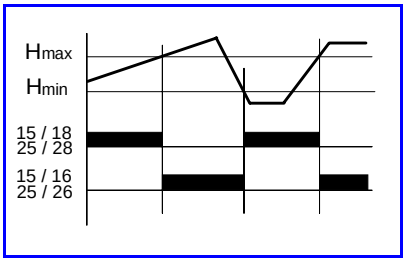
Because all electrodes have a pure alternating voltage, galvanic procedures in the liquid are avoided. This voltage is galvanically separated from the operating voltage of the equipment.

The mechanical construction of the electrodes is freely shapable depending upon conditions. Usually precious metal bars in appropriate lengths are used.

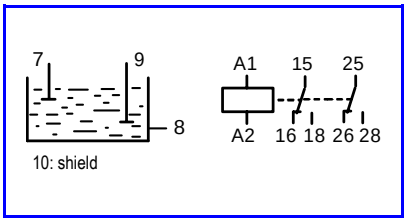
Connection 8 is connected with the electrically leading container or attached to an additional electrode mounted under the level of the electrode 9.

The electrode lines should be shielded, whereby the shield is put at terminal 10.

The devices provide two change-over contacts and are integrated into a standard 35mm DIN rail housing.



Contact configuration



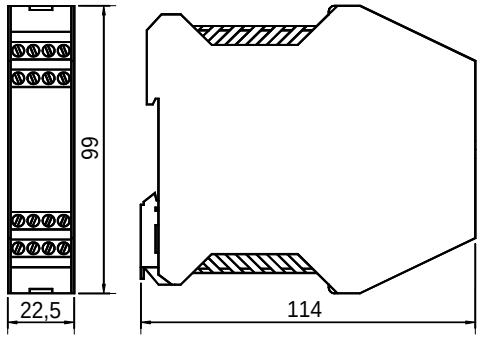
Order-Nr	Type
404801	DSFC AC230V, 5-300kOhm
404803	DSFC AC115V, 5-300kOhm
404805	DSFC AC230V, 2-10kOhm

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Specifications	
Operating voltage U_N	AC 230V, 50-60Hz AC 115V, 50-60Hz
Voltage tolerance	85..110% of U_N
Power consumption	approx. 1VA
LEDs	yelllow: stand by green: contacts 15-18 / 25-28 switched
Protection	IP20
Electrode input 7-9	max. AC12V DC voltage-free
Adjusting range	5-300kOhm; 2-10kOhm
Time delay	Approx. 0,2-2s
Repeat accuracy	+/- 1,0%
Switching capacity	AC 250V: max 8A, max 2000VA DC: 2A at DC 24V
Contact life	mechanical $2x10^7$ operations
Temperature range	-20^0 - + 60^0C (dew-free)
Dielectric strength	4kV DIN VDE 0110-1:1997-04
Weight	approx. 180g
Installation position	any
Mounting	DIN-rail DIN EN 50022-35



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