Overview and Selection Guide	Page
Contact rating guidelines	2

Type	Float / Pressure	Function	Media Temp.	Electric Data	Remarks	Page
010-5002	Buna N / max. 10bar	NC + NO	-20°C…+80°C	220V/3A/60VA/60W	with counter plug	3
010-5003	Buna N / max. 10bar	NC + NO	-20°C…+80°C	220V/3A/60VA/60W	without counter plug	4
010-5005	Buna N / max. 10bar	NC + NO	-20°C…+80°C	220V/3A/60VA/60W	Interface, with counter plug	5
010-5006	Buna N / max. 10bar	NC + NO	-20°C…+80°C	220V/3A/60VA/60W	Interface, without counter plug	6
010-5022	Buna N / max. 10bar	NC + NO	-20°C…+80°C	220V/3A/60VA/60W	LS-255E, coarse, w/o counter plug	7
010-5023	Buna N / max. 10bar	NC + NO	-20°C…+80°C	220V/3A/60VA/60W	LS-255E, fine, w/o counter plug	8
010-3433	Buna N / max. 10bar	NO	-20°C…+80°C	220V/3A/60VA/60W	cable connection, x metre	9
010-3434	Buna N / max. 10bar	NC	-20°C…+80°C	220V/3A/60VA/60W	cable connection, x metre	10

Remarks

The Level Switches LS-240E and LS-255E are in general maintenance free.
From time to time it is useful to check for dirt, which can have influence to the float movement.

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Contact rating guidelines for Level Switches LS-240E / LS-255E

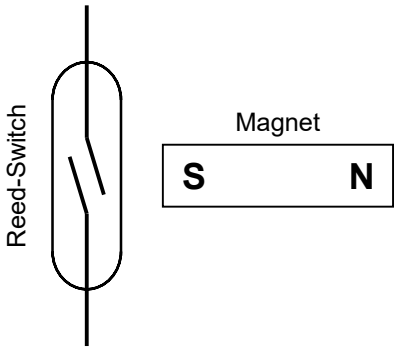
Information

Caution:
Read this information before installing level switches LS-240E or LS-255E.
Use of level switches with inappropriate contact ratings can result in damage to the level switches and malfunctioning of these switches.
For Ex rated level switches it is necessary to adhere to the specified limit values of electrical parameters of the circuit.

Construction:
The key element of a Weka level switch module or sub-assembly is a reed switch.
A reed switch consists of two pieces of special flattened wire (the reeds or "paddles") hermetically sealed in a glass capsule. The reed switch is actuated by the magnetic field of the float. The glass capsule is filled with an protective gas that ensures high electrical life expectancy of millions of switching cycles.

Contact rating (resistive loads):

	Typ	Contact rating
NO or NC switches	all LS-240E and LS-255E	max. 220V max. 3A max. 60VA max. 60W



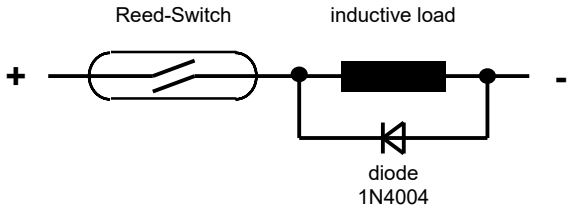
These values apply only for resistive loads.
For inductive loads, see below.

Note:
None of the specified values may be exceeded.

Caution:
For many resistive load applications, the electrical circuit can have inductance and / or capacitance. Voltage spikes of 6 to 7 times the normal values can occur when switching off inductive loads. This can sometimes result in the contacts getting welded together, destroying the switch.
Examples of inductive loads are transformers, solenoid operated devices (valves, contactors), some types of wound-filament lamps, etc.

Protecting level switches used with inductive loads:

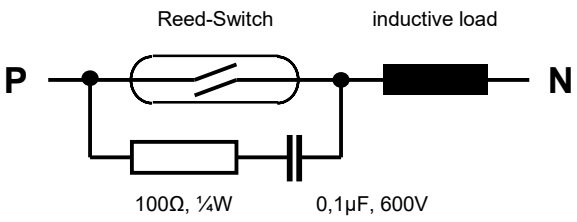
Figure 1 (D.C.)



For D.C. applications:

A diode connected across the load coil short circuits the reverse voltage spike that occurs when the supply is switched off, thus protecting the switch contacts.

Figure 2 (A.C.)



For A.C. applications:

A resistor and capacitor in series connected across the switch forms a high impedance path at normal A.C. frequencies. This impedance turns low at high frequencies, diverting spikes currents from the switch.

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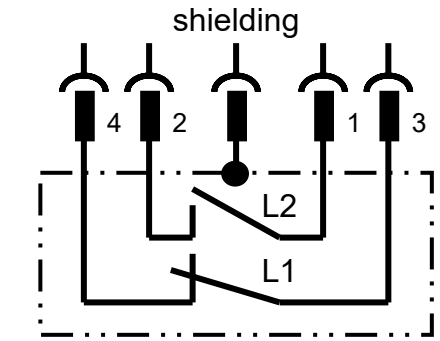
Level Switch, LS-240E
Buna N float, with connector and counter plug — Type 010-5002

www.weka-ag.ch

Electrical diagram



- Float in lowest position
- Cable exit upwards

Function **Level switch for high quality applications**

The level switch (LS) is designed to measure or detect fluids in rough environment like heavy industry or shipbuilding industry, i.e. nuclear power plants or bilges of military ships and submarines. Therefore the LS is made from stainless steel and with low magnetic stray field. The LS is easy to install and with mated connector watertight up to 10bar.
The LS is also available with other floats for higher pressures, interface measurements or with SS float.

Product code LS-240E

010-5002	**delivered with counter plug**
010-5003	delivered without counter plug

Material

Housing	Stainless steel 1.4571 (316Ti)
Float	Buna N
Connector	CuAl10Ni (seawater resistant)
Seal	Neoprene
Contact Ø	MIL-SPEC 1mm for AWG 18
Max. cable Ø	8mm (with or without shield)

Switching logic PFK On/Off 1 x NC (L1); 1 x NO (L2)

Contact rating

max.	220VAC/DC
max.	3A
max.	60VA
max.	60W

Enclosure	IP68 - 10bar (EN 60529)
Contact resistance	max. 10mΩ
Insulation resistance	> 1MΩ (with 500VDC)
High voltage test	1,5kV / 1min.
Mechanically shock tested	200g, acc. German BV 0430
Weight	approx. 730g
EMC	CE or MIL STD 461 B/C

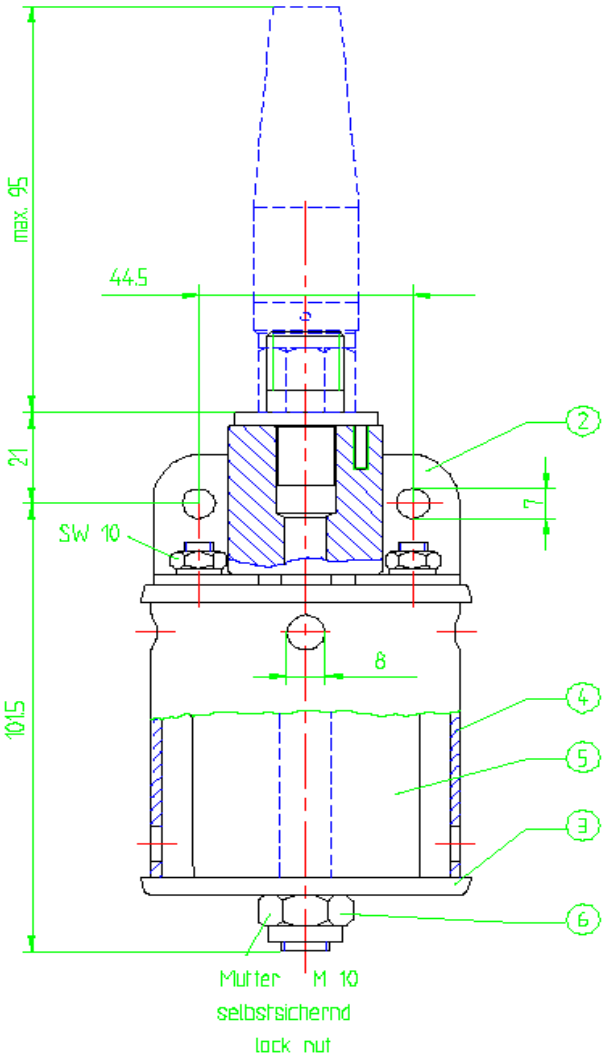
Inclinations

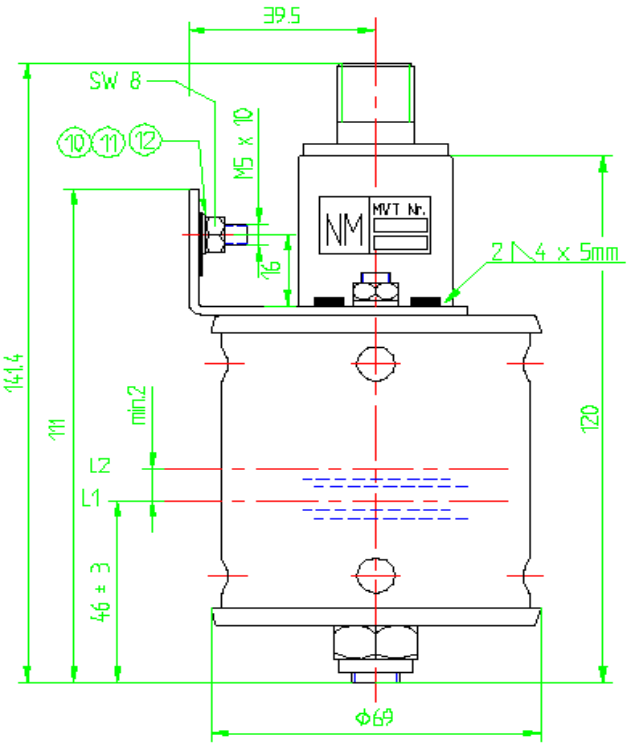
Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions





Remarks

The switch is maintenance free.
Acc. European Directive 94/9/EC (ATEX) and EN 50014 the LS works as a simple electrical apparatus and needs no type approval.

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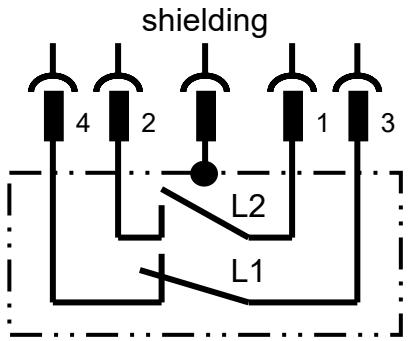
Level Switch, LS-240E

Buna N float, with connector without counter plug Type 010-5003

Electrical diagram



- Float in lowest position
- Cable exit upwards

Function **Level switch for high quality applications**

The level switch (LS) is designed to measure or detect fluids in rough environment like heavy industry or shipbuilding industry, i.e. nuclear power plants or bilges of military ships and submarines. Therefore the LS is made from stainless steel and with low magnetic stray field. The LS is easy to install and with mated connector watertight up to 10bar.
The LS is also available with other floats for higher pressures, interface measurements or with SS float.

Product code LS-240E

010-5003	**delivered without counter plug**
010-5002	delivered with counter plug

Switching logic PFK On/Off 1 x NC (L1); 1 x NO (L2)

Contact rating

max.	220VAC/DC
max.	3A
max.	60VA
max.	60W

Material

Housing	Stainless steel 1.4571 (316Ti)
Float	Buna N
Connector	CuAl10Ni (seawater resistant)
Seal	Neoprene
Contact Ø	MIL-SPEC 1mm for AWG 18
Max. cable Ø	8mm (with or without shield)

Enclosure	IP68 - 10bar (EN 60529)
Contact resistance	max. 10mΩ
Insulation resistance	> 1MΩ (with 500VDC)
High voltage test	1,5kV / 1min.
Mechanically shock tested	200g, acc. German BV 0430
Weight	approx. 730g
EMC	CE or MIL STD 461 B/C

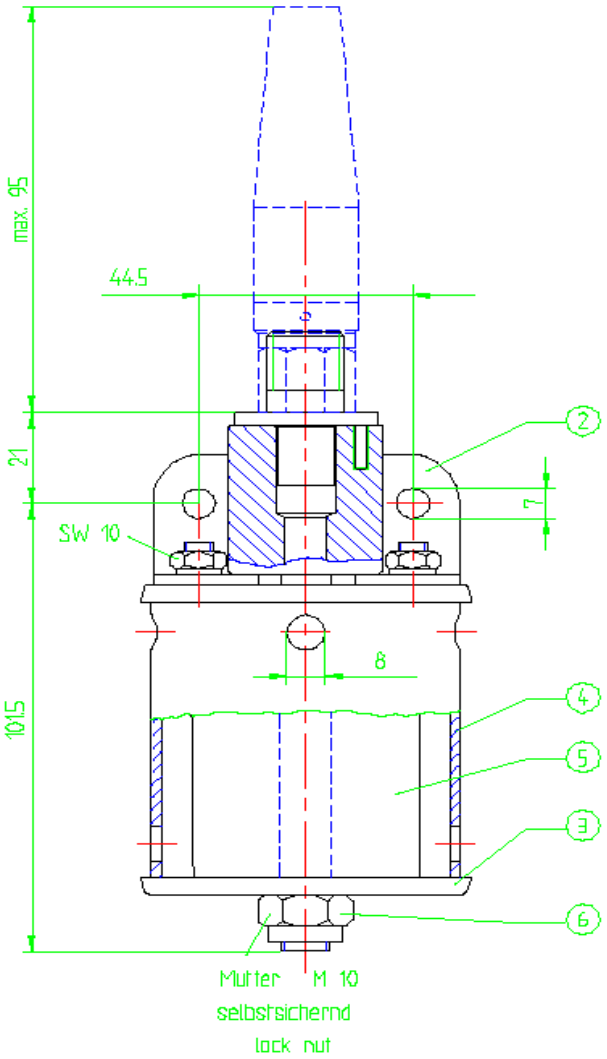
Inclinations

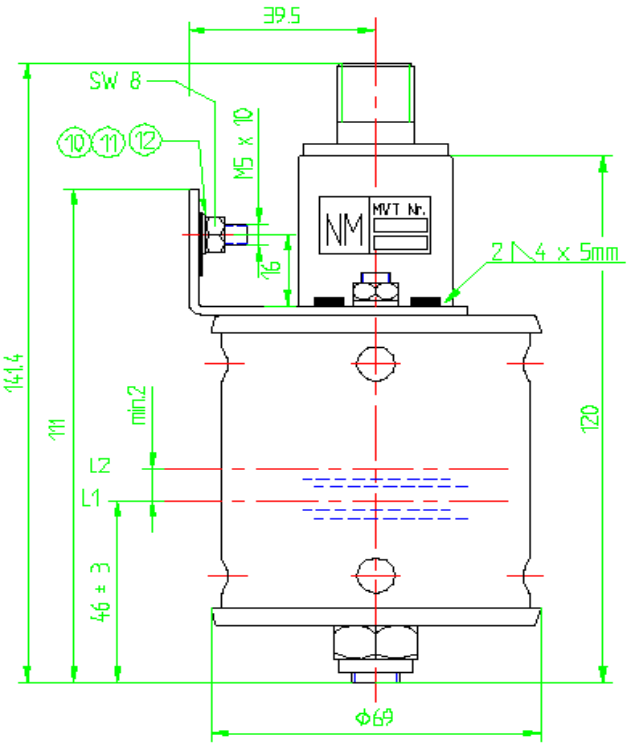
Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions





Remarks

The switch is maintenance free.
Acc. European Directive 94/9/EC (ATEX) and EN 50014 the LS works as a simple electrical apparatus and needs no type approval.

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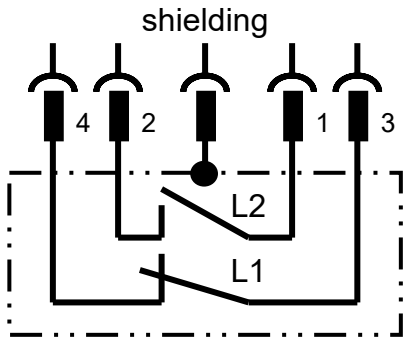
Level Switch, LS-240E, Interface
Buna N float, with connector without counter plug Type 010-5005

Electrical diagram



- Float in lowest position
- Cable exit upwards

Function **Level switch for high quality applications**

The level switch (LS) is designed to measure or detect fluids in rough environment like heavy industry or shipbuilding industry, i.e. nuclear power plants or bilges of military ships and submarines. Therefore the LS is made from stainless steel and with low magnetic stray field. The LS is easy to install and with mated connector watertight up to 10bar.
The LS is also available with other floats for higher pressures, interface measurements or with SS float.

Product code LS-240E

010-5006	**delivered without counter plug**
010-5005	delivered with counter plug

Material

Housing	Stainless steel 1.4571 (316Ti)
Float	Buna N - Interface (water /fuel oil)
Connector	CuAl10Ni (seawater resistant)
Seal	Neoprene
Contact Ø	MIL-SPEC 1mm for AWG 18
Max. cable Ø	8mm (with or without shield)

Switching logic PFK On/Off 1 x NC (L1); 1 x NO (L2)

Contact rating

max.	220VAC/DC
max.	3A
max.	60VA
max.	60W

Enclosure	IP68 - 10bar (EN 60529)
Contact resistance	max. 10mΩ
Insulation resistance	> 1MΩ (with 500VDC)
High voltage test	1,5kV / 1min.
Mechanically shock tested	200g, acc. German BV 0430
Weight	approx. 730g
EMC	CE or MIL STD 461 B/C

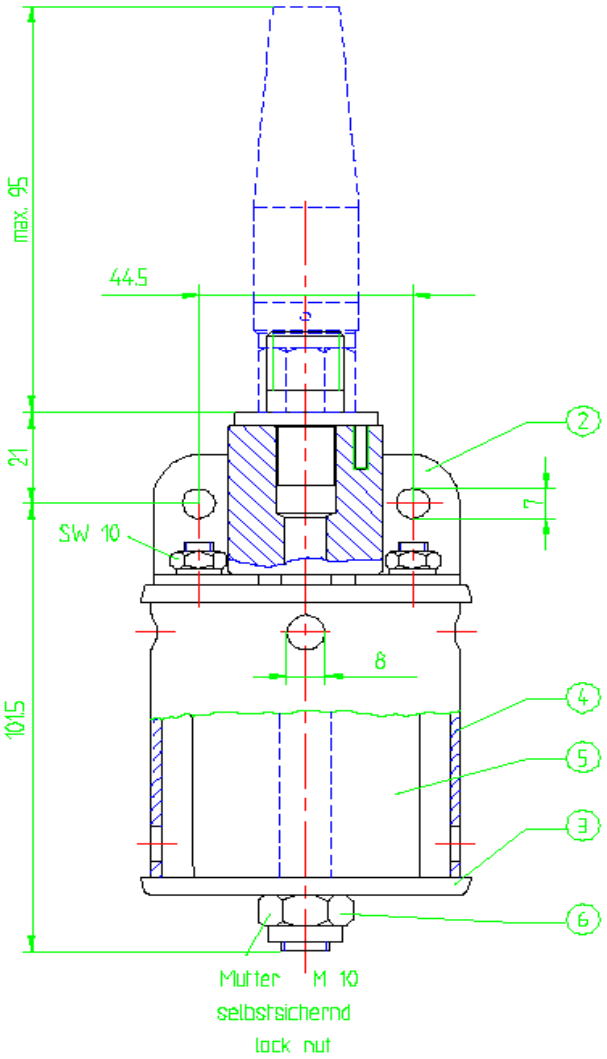
Inclinations

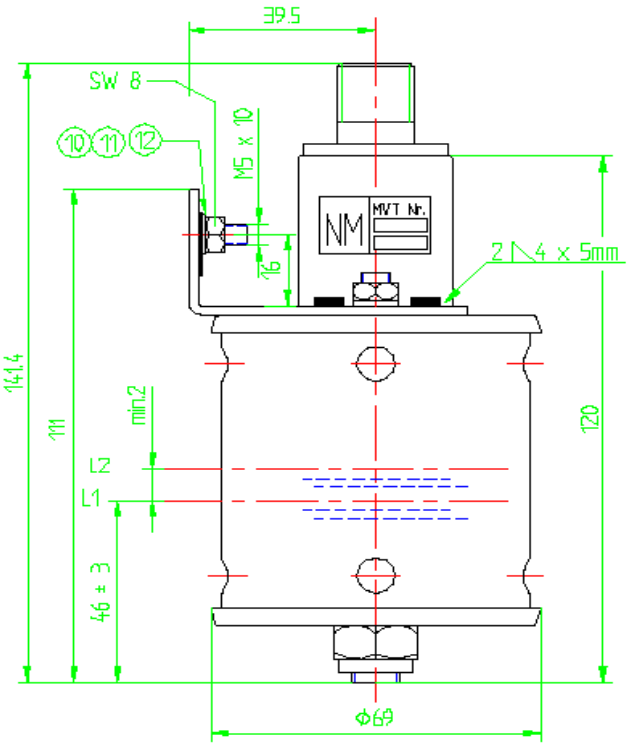
Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions





Remarks

The switch is maintenance free.
Acc. European Directive 94/9/EC (ATEX) and EN 50014 the LS works as a simple electrical apparatus and needs no type approval.

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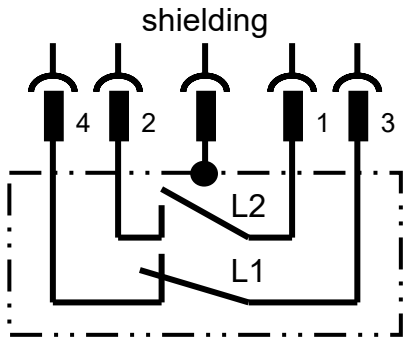
Level Switch, LS-240E, Interface
Buna N float, with connector without counter plug Type 010-5006

Electrical diagram



- Float in lowest position
- Cable exit upwards

Function **Level switch for high quality applications**

The level switch (LS) is designed to measure or detect fluids in rough environment like heavy industry or shipbuilding industry, i.e. nuclear power plants or bilges of military ships and submarines. Therefore the LS is made from stainless steel and with low magnetic stray field. The LS is easy to install and with mated connector watertight up to 10bar.
The LS is also available with other floats for higher pressures, interface measurements or with SS float.

Product code LS-240E	**010-5006**	**delivered without counter plug**
	010-5005	delivered with counter plug

Switching logic	PFK On/Off	1 x NC (L1); 1 x NO (L2)

Contact rating	max.	220VAC/DC
	max.	3A
	max.	60VA
	max.	60W

Material Housing	Stainless steel 1.4571 (316Ti)
Float	Buna N - Interface (water /fuel oil)
Connector	CuAl10Ni (seawater resistant)
Seal	Neoprene
Contact Ø	MIL-SPEC 1mm for AWG 18
Max. cable Ø	8mm (with or without shield)

Enclosure	IP68 - 10bar (EN 60529)
Contact resistance	max. 10mΩ
Insulation resistance	> 1MΩ (with 500VDC)
High voltage test	1,5kV / 1min.
Mechanically shock tested	200g, acc. German BV 0430
Weight	approx. 730g
EMC	CE or MIL STD 461 B/C

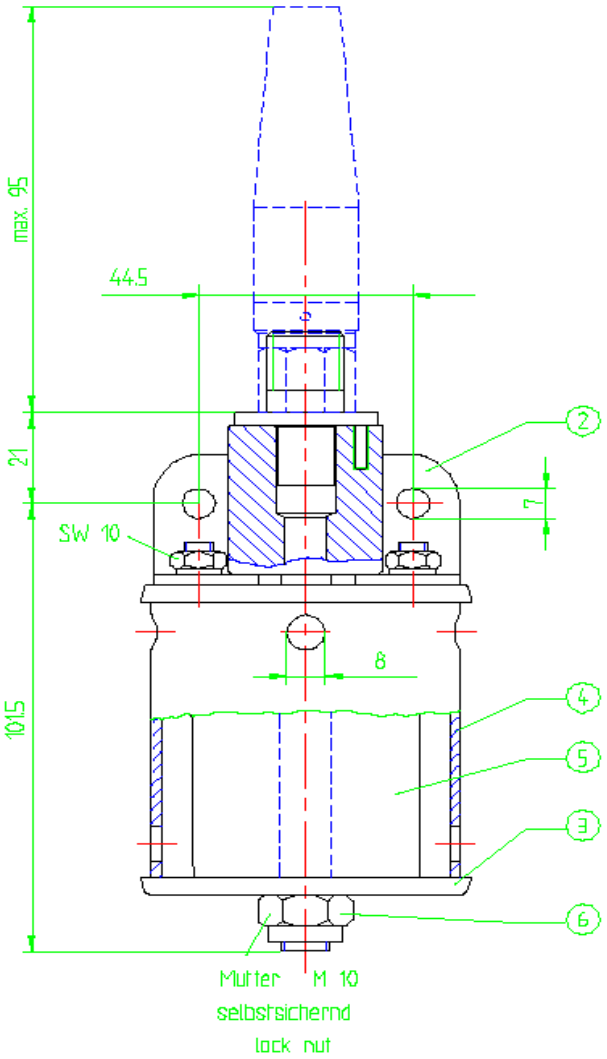
Inclinations

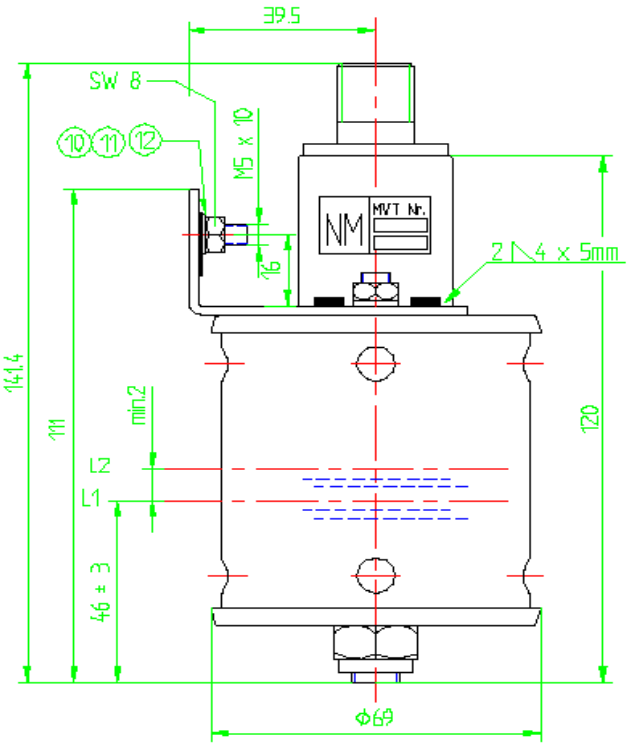
Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions





Remarks

The switch is maintenance free.
Acc. European Directive 2014/34/EU (ATEX) and IECEx the LS works as a simple electrical apparatus and needs no type approval.

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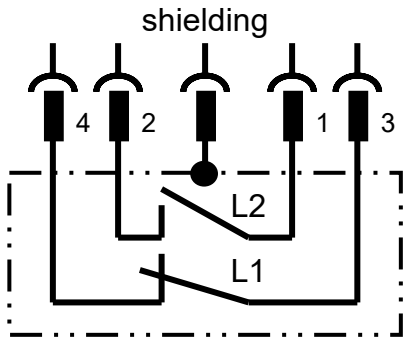
Level Switch, LS-255E, coarse
Buna N float, with connector without counter plug Type 010-5022

Electrical diagram



- Float in lowest position
- Cable exit upwards

Function **Level switch for high quality applications**

The level switch (LS-255E) is designed to measure or detect fluids in rough environment like heavy industry or shipbuilding industry, i.e. nuclear power plants or bilges of military ships and submarines. Therefore the LS-255E is made from stainless steel and with low magnetic stray field. The LS-255E is easy to install and with mated connector watertight up to 10bar.
The LS-255E is also available for interface measurements.

Product code LS-255E **010-5022** **delivered without counter plug**

Material	Housing	Stainless steel 1.4571 (316Ti)
	Float	Buna N (water /fuel oil)
	Connector	CuAl10Ni (seawater resistant)
	Seal	Neoprene
	Contact Ø	MIL-SPEC 1mm for AWG 18
	Max. cable Ø	8mm (with or without shield)

Switching logic	PFK On/Off	1 x NC (L1); 1 x NO (L2)
Contact rating	max.	220VAC/DC
	max.	3A
	max.	60VA
	max.	60W
Enclosure		IP68 - 10bar (EN 60529)
Contact resistance		max. 10mΩ
Insulation resistance		> 1MΩ (with 500VDC)
High voltage test		1,5kV / 1min.
Mechanically shock tested		not tested
Weight		approx. 360g
EMC		CE or MIL STD 461 B/C

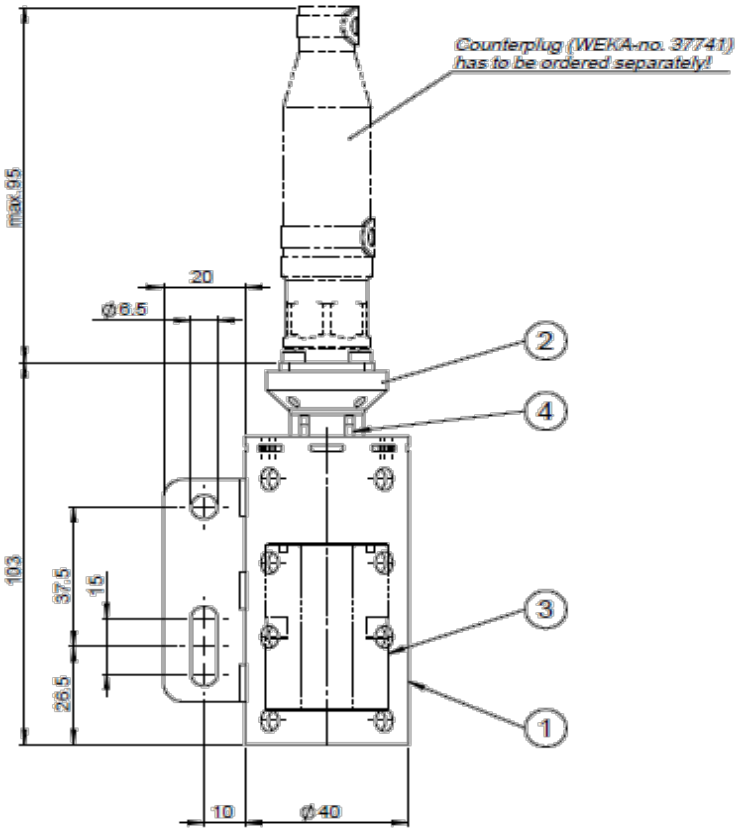
Inclinations

Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions



Remarks

The switch is maintenance free.
Acc. European Directive 2014/34/EU (ATEX) and IECEx the LS works as a simple electrical apparatus and needs no type approval.

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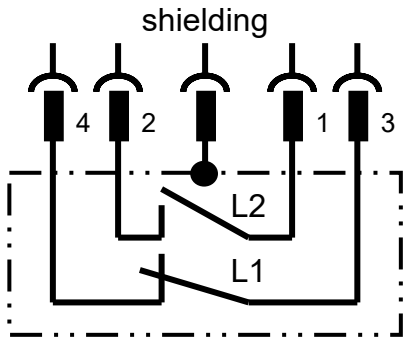
Level Switch, LS-255E, fine
Buna N float, with connector without counter plug Type 010-5023

Electrical diagram



- Float in lowest position
- Cable exit upwards

Function **Level switch for high quality applications**

The level switch (LS-255E) is designed to measure or detect fluids in rough environment like heavy industry or shipbuilding industry, i.e. nuclear power plants or bilges of military ships and submarines. Therefore the LS-255E is made from stainless steel and with low magnetic stray field. The LS-255E is easy to install and with mated connector watertight up to 10bar.
The LS-255E is also available for interface measurements.

Product code LS-255E **010-5023** **delivered without counter plug**

Material	Housing	Stainless steel 1.4571 (316Ti)
	Float	Buna N (water /fuel oil)
	Connector	CuAl10Ni (seawater resistant)
	Seal	Neoprene
	Contact Ø	MIL-SPEC 1mm for AWG 18
	Max. cable Ø	8mm (with or without shield)

Switching logic	PFK On/Off	1 x NC (L1); 1 x NO (L2)
Contact rating	max.	220VAC/DC
	max.	3A
	max.	60VA
	max.	60W
Enclosure		IP68 - 10bar (EN 60529)
Contact resistance		max. 10mΩ
Insulation resistance		> 1MΩ (with 500VDC)
High voltage test		1,5kV / 1min.
Mechanically shock tested		not tested
Weight		approx. 360g
EMC		CE or MIL STD 461 B/C

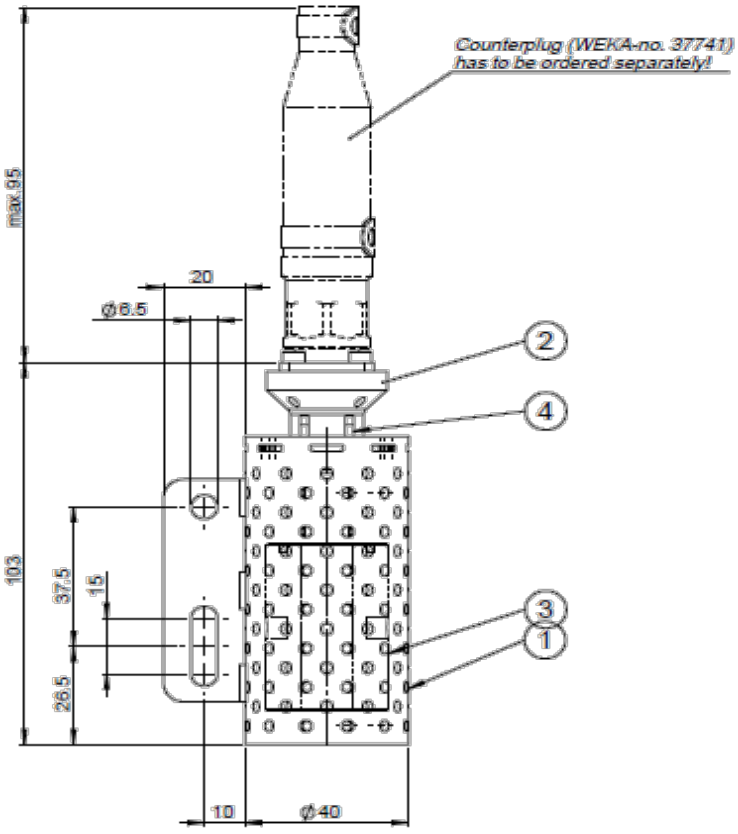
Inclinations

Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions



Remarks

The switch is maintenance free.
Acc. European Directive 2014/34/EU (ATEX) and IECEx the LS works as a simple electrical apparatus and needs no type approval.

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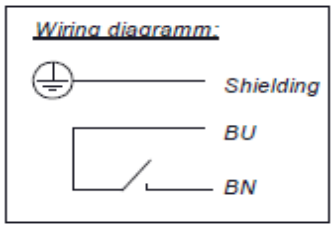
Level Switch, LS-240E-3E/NO
Buna N float, with cable
Type 010-3433

Electrical diagram



Function **Level switch for high quality applications**

The level switch (LS) is designed to measure or detect fluids in rough environment like heavy industry or shipbuilding industry, i.e. nuclear power plants or bilges of military ships and submarines. Therefore the LS is made from stainless steel. The LS is easy to install and watertight up to 10bar. The LS is available with different cable length.

Product code LS-240E **010-3433** **delivered with x m cable**
Please specify cable length with order.

- Float in lowest position
- Cable exit upwards

Switching logic	PFK On/Off	1 x NO
Contact rating		max. 220VAC/DC
		max. 3A
		max. 60VA
		max. 60W
Material	Housing	Stainless steel 1.4571 (316Ti)
	Float	Buna N for density > 0.6g/cm^3
	Cable	LMGSGO 2 x 1.5mm^2
Enclosure		IP68 - 10bar (EN 60529)
Contact resistance		max. 10mΩ
Insulation resistance		> 1MΩ (with 500VDC)
High voltage test		1,5kV / 1min.
Mechanically shock tested		20g, acc. German BV 0430
Weight		approx.1kg (3m cable)
EMC		CE or MIL STD 461 B/C

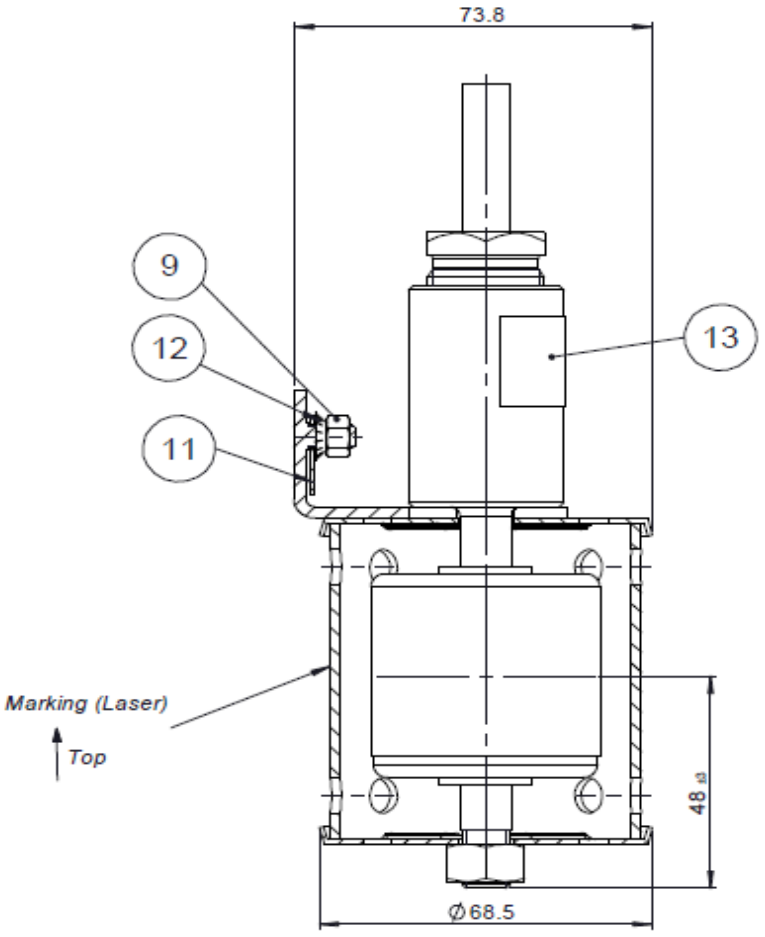
Inclinations

Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions



Remarks

The switch is maintenance free.
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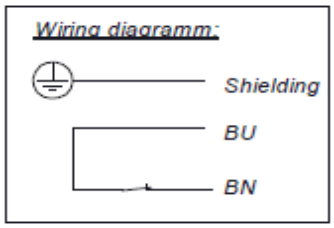
Level Switch, LS-240E-3E/NC
Buna N float, with cable
Type 010-3434

Electrical diagram



Function **Level switch for high quality applications**

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Product code LS-240E **010-3434** **delivered with x m cable**
Please specify cable length with order.

- Float in lowest position
- Cable exit upwards

Switching logic	PFK On/Off	1 x NC
Contact rating	max.	220VAC/DC
	max.	3A
	max.	60VA
	max.	60W
Material	Housing	Stainless steel 1.4571 (316Ti)
	Float	Buna N for density > 0.6g/cm^3
	Cable	LMGSGO 2 x 1.5mm^2
Enclosure		IP68 - 10bar (EN 60529)
Contact resistance		max. 10mΩ
Insulation resistance		> 1MΩ (with 500VDC)
High voltage test		1,5kV / 1min.
Mechanically shock tested		20g, acc. German BV 0430
Weight		approx.1kg (3m cable)
EMC		CE or MIL STD 461 B/C

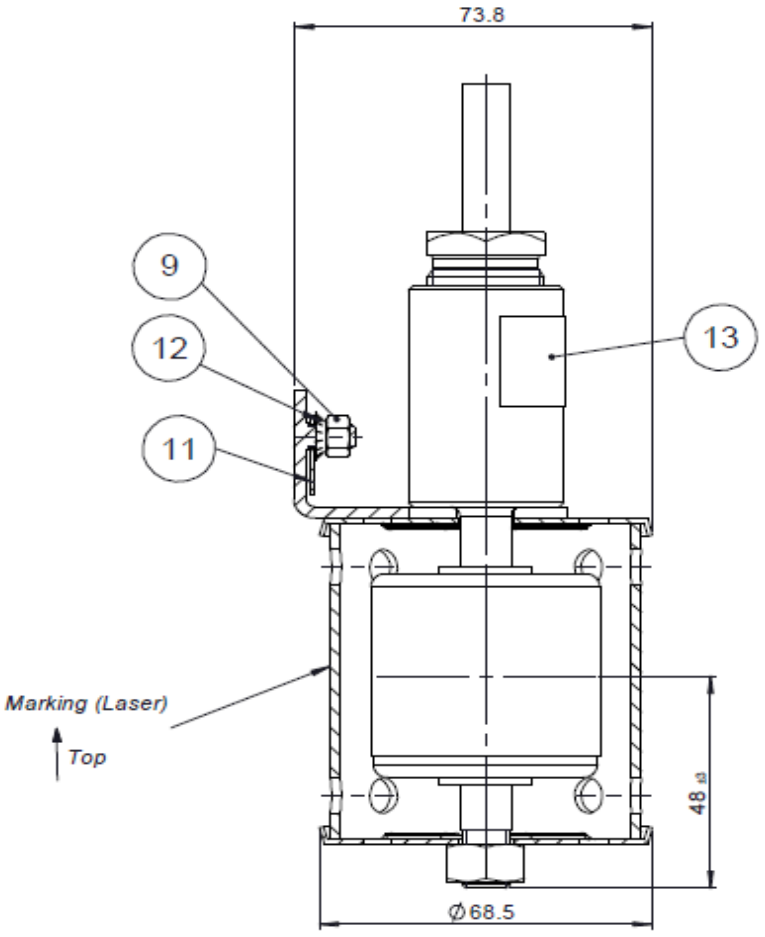
Inclinations

Continuous while operation	<= 20°
Short time (dynamic angles)	<= 45°

Operating conditions

Media temperature	-20°C…+80°C
Ambient temperature	-20°C…+80°C

Dimensions



Remarks

The switch is maintenance free.
Acc. European Directive 2014/34/EU (ATEX) and IECEx the LS works as a simple electrical apparatus and needs no type approval.

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