Ex floating switches and Ex immersion probes

Controlling devices with ball-operated microswitch, for signalling or regulation of liquid levels

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The units described in this documentation may only be installed, connected and started up by suitably qualified personnel!

Subject to deviations from the diagrams and technical data.

The details in this brochure are product specification descriptions and do not constitute assured properties in the legal sense.

Contents

Floating switches :

SI/SSP/NL/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIB T6 Gb floating switches

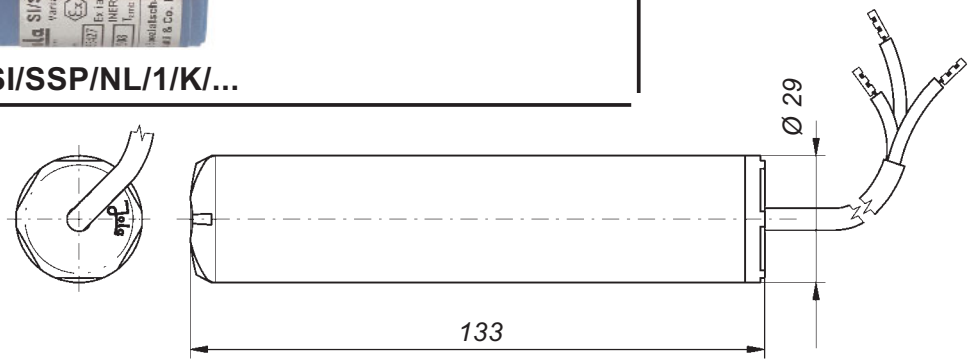
For mounting **from the side or from the top.**

To ensure a correct switching the cable must be fixed at the required height:
• using a stuffing gland, for example, in the case of mounting from the side or
• using a fixing weight, for example, in the case of mounting from the top.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	**SI/SSP/NL/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G ...**
Application	for use in intrinsically safe circuits in mines susceptible to firedamp or in potentially explosive atmospheres zone 1 and 2; EC type examination certificate INERIS 03ATEX0149
Operating principle	ball-operated microswitch, potential-free changeover contact
Options for safety appl.	diodes (= variant 1) or resistors (= variant 2), see page 1-2-17
Recommended appl.	via Jola Ex protection relay
Float material	PP
Seal material	FPM; on request: EPDM
Float protection class	IP68
Max. immersion depth of the float	max. 10 metres head of water at + 20°C
Connecting cable / application range / temperature range	**• black PVC cable, 3 x 0.75 (SI/SSP/NL/1/K/PVC/...):** for use in: water / used water / slightly aggressive liquids / oils without aromatic additives / fuel oil and diesel fuel, specific gravity: ≥ 0.82 g/cm³, T: between + 8°C and + 60°C **• grey A05RN-F cable, 3 x 0.75 (SI/SSP/NL/1/K/RN/...):** for use in: water / used water / slightly aggressive liquids, specific gravity: ≥ 0.82 g/cm³, T: between 0°C and + 60°C **• red-brown silicone cable** (with low mechanical strength), **3 x 0.75 (SI/SSP/NL/1/K/SIL/...):** for use in: water / certain other liquids, specific gravity: ≥ 0.82 g/cm³, T: between 0°C and + 60°C **• green halogen-free PUR cable, 3 x 0.5 (SI/SSP/NL/1/K/PUR/...):** for use in: water / used water / slightly aggressive liquids / some oils without aromatic additives, specific gravity: ≥ 0.82 g/cm³, T: between 0°C and + 60°C **• black CM cable, 3 x 0.75 (SI/SSP/NL/1/K/CM/...):** for use in: water / certain acids / certain lyes, specific gravity: ≥ 1 g/cm³, T: between 0°C and + 60°C
Connecting cable length	1 metre, other cable lengths on request **When ordering, please state cable type and length.**

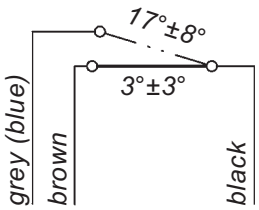
SI/SSP/NL/1/K/...

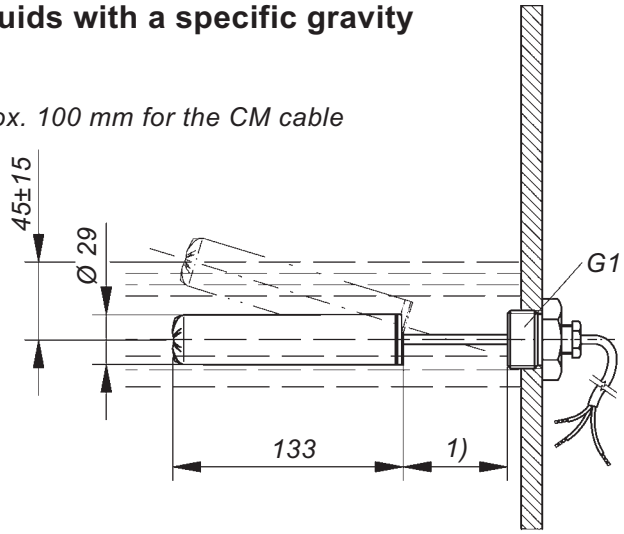


Switching action in liquids with a specific gravity of 1 g/cm³

1) approx. 60 mm, but approx. 100 mm for the CM cable

Contact switches over at





Mounting accessories (option)

Stuffing gland <u>without</u> potential equalisation terminal

Mounting possible only **from the inside of a tank**:
• G1/2 stuffing gland made of PP

Mounting possible **from the outside of a tank**:
• G1 stuffing gland made of PP

Stuffing gland <u>with</u> potential equalisation terminal

Mounting possible only **from the inside of a tank**:
• G1/2 stuffing gland made of stainless steel 316 Ti

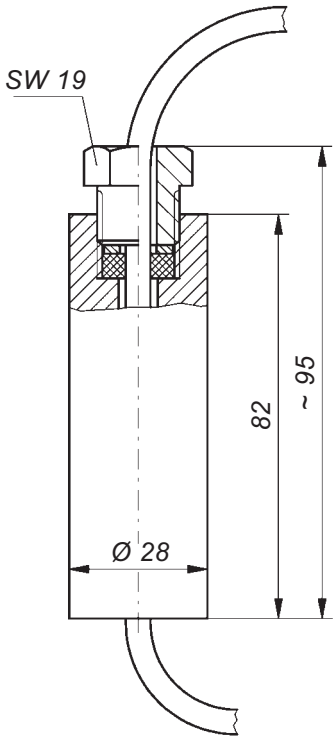
Mounting possible **from the outside of a tank**:
• G1 stuffing gland made of stainless steel 316 Ti

Stuffing gland G1 made of

PP

stainless steel

FG 28x82/Ex or FG 28x82/PP/Ex fixing weight made of PP, only for use in the potentially explosive atmospheres zone 1 and 2 with gases of groups IIA and IIB, without potential equalisation terminal



SI/SPH/NL/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIB T6 Gb floating switches

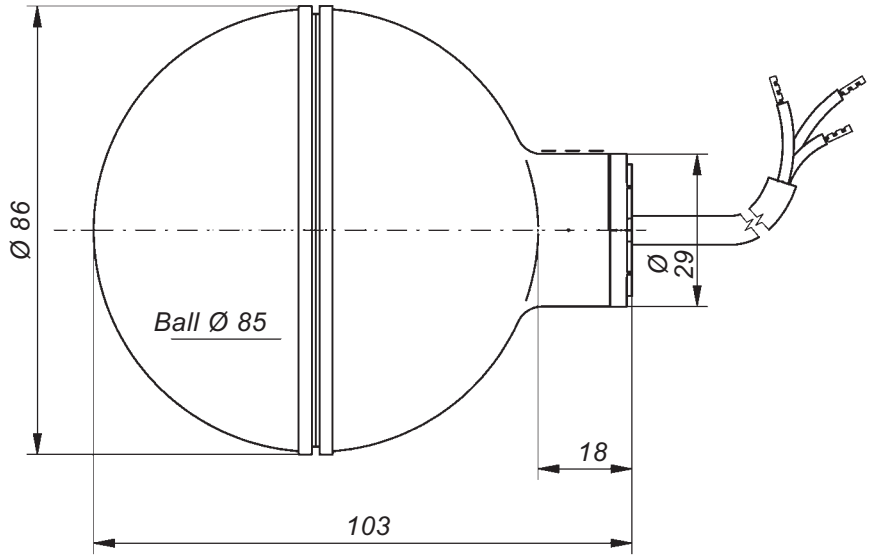
For mounting **from the side or from the top.**

To ensure a correct switching the cable must be fixed at the required height:
- using a stuffing gland, for example, in the case of mounting from the side or
- using a fixing weight, for example, in the case of mounting from the top.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

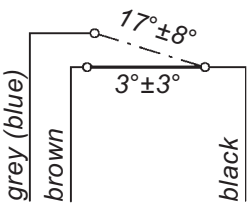
Technical data	SI/SPH/NL/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G ...
Application	for use in intrinsically safe circuits in mines susceptible to firedamp or in potentially explosive atmospheres zone 1 and 2; EC type examination certificate INERIS 03ATEX0149
Operating principle	ball-operated microswitch, potential-free changeover contact
Options for safety appl.	diodes (= variant 1) or resistors (= variant 2), see page 1-2-17
Recommended appl.	via Jola Ex protection relay
Float material	PP
Seal material	FPM; on request: EPDM
Float protection class	IP68
Max. immersion depth of the float	max. 10 metres head of water at + 20°C
Connecting cable / application range / temperature range	• **black PVC cable, 3 x 0.75 (SI/SPH/NL/1/K/PVC/...):** for use in: water / used water / slightly aggressive liquids / oils without aromatic additives / fuel oil and diesel fuel, specific gravity: ≥ 0.7 g/cm³, T: between + 8°C and + 60°C • **grey A05RN-F cable, 3 x 0.75 (SI/SPH/NL/1/K/RN/...):** for use in: water / used water / slightly aggressive liquids, specific gravity: ≥ 0.7 g/cm³, T: between 0°C and + 60°C • **red-brown silicone cable** (with low mechanical strength), **3 x 0.75 SI/SPH/NL/1/K/SIL/...):** for use in: water / certain other liquids, specific gravity: ≥ 0.7 g/cm³, T: between 0°C and + 60°C • **green halogen-free PUR cable, 3 x 0.5 (SI/SPH/NL/1/K/PUR/...):** for use in: water / used water / slightly aggressive liquids / certaines oils without aromatic additives, specific gravity: ≥ 0.7 g/cm³, T: between 0°C and + 60°C • **black CM cable, 3 x 0.75 (SI/SPH/NL/1/K/CM/...):** for use in: water / certain acids / certain lyes, specific gravity: ≥ 0.8 g/cm³, T: between 0°C and + 60°C • **white PTFE cable, 3 x 0.75 (SI/SPH/NL/1/K/PTFE/...):** for use in: suitable for all liquids in which the float material PP and the seal material FPM or EPDM are also resistant, specific gravity: ≥ 0.8 g/cm³, T: between 0°C and + 60°C
Connecting cable length	1 metre, other cable lengths on request **When ordering, please state cable type and length.**

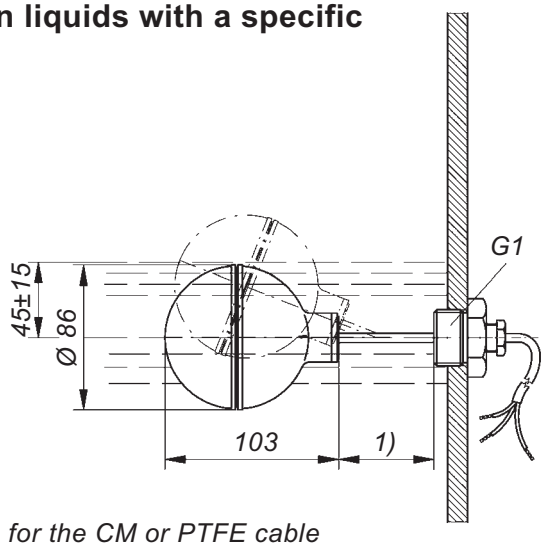
SI/SPH/NL/1/K/...



Switching action in liquids with a specific gravity of 1 g/cm³

Contact switches over at

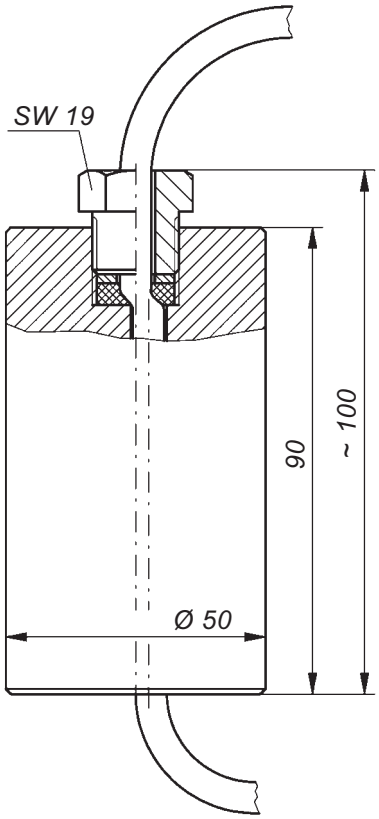




1) approx. 60 mm, but approx. 100 mm for the CM or PTFE cable

Mounting accessory part (option):

FG 50x90/Ex or FG 50x90/PP/Ex fixing weight made of PP, only for use in the potentially explosive atmospheres zone 1 and 2 with gases of group IIA, without potential equalisation terminal



SI/SSX/LF/20/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb floating switches

For mounting **from the side or from the top.**

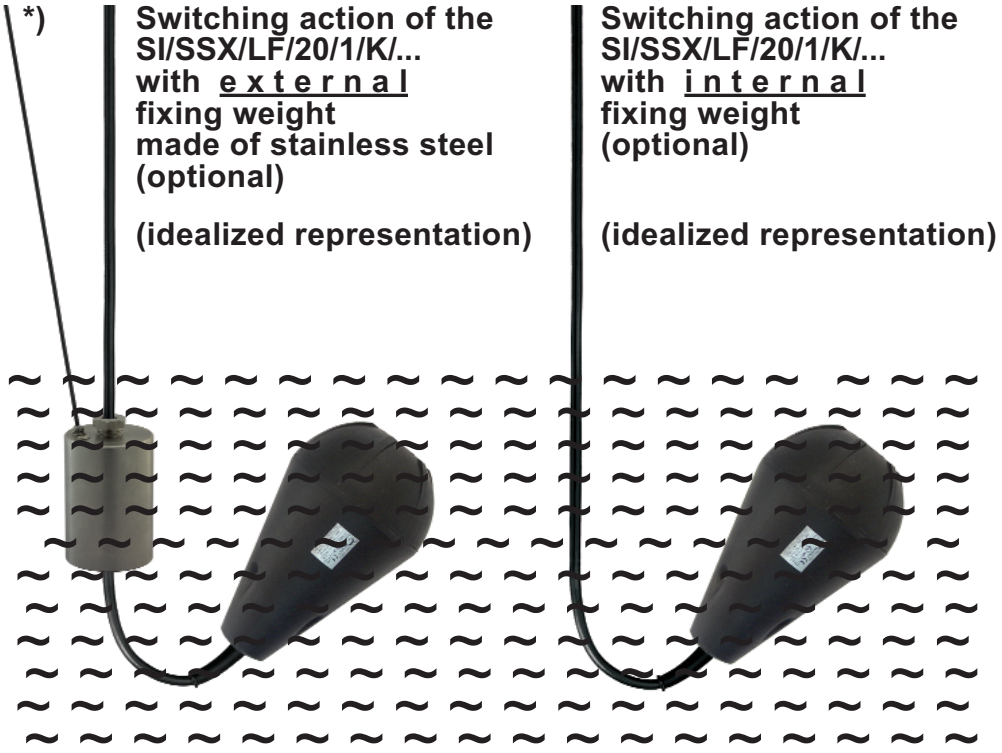
To ensure a correct switching the cable must be fixed at the required height:
• using a stuffing gland, for example, in the case of mounting from the side or
• using a fixing weight, for example, in the case of mounting from the top.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

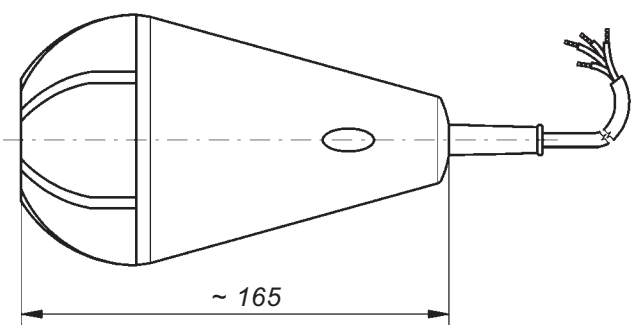
Technical data	**SI/SSX/LF/20/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G ...**
Application	for use in intrinsically safe circuits in mines susceptible to firedamp or in potentially explosive atmospheres zone 1 and 2; EC type examination certificate INERIS 03ATEX0149
Operating principle	ball-operated microswitch, potential-free changeover contact
Options for safety appl.	diodes (= variant 1) or resistors (= variant 2), see page 1-2-17
Recommended appl.	via Jola Ex protection relay
Float material	antistatic (conductive) PP
Seal material	FPM; on request: EPDM
Float protection class	IP68
Max. immersion depth of the float	max. 10 metres head of water at + 20°C
Connecting cable / application range / temperature range	**• black TPK cable, 4 G 0.75 (SI/SSX/LF/20/1/K/TPK/...):** for use in: water / used water / slightly aggressive liquids, specific gravity: ≥ 0.7 g/cm³, T: between 0°C and + 60°C **• black CM cable, 4 G 0.75 (SI/SSX/LF/20/1/K/CM/...):** for use in: water / certain acids / certain lyes, specific gravity: ≥ 0.8 g/cm³, T: between 0°C and + 60°C **• white PTFE cable, 4 G 0.75 (SI/SSX/LF/20/1/K/PTFE/...):** for use in: all liquids in which the float material PP and the seal material FPM or EPDM are also resistant, specific gravity: ≥ 0.8 g/cm³, T: between 0°C and + 60°C
Connecting cable length	2 metres, other cable lengths on request **When ordering, please state cable type and length.**
Mounting accessories (option)	**• external fixing weights** for liquids with a specific gravity ≥ 0.7 g/cm³: see page 1-2-8 **• IG internal fixing weight (integrated in the float)** for liquids with a specific gravity between 0.95 and 1.05 g/cm³

Mounting accessories (option)

1. **FG 55x80/Ex or FG 55x80/E/Ex external fixing weight made of stainless steel 316 Ti, for use in the potentially explosive atmospheres zone 1 and 2 with gases of groups IIA, IIB and IIC, with potential equalisation terminal**
2. **FG 71x104/PP/Ex external fixing weight made of PP, only for use in the potentially explosive atmospheres zone 1 and 2 with gases of group IIA, without potential equalisation terminal**

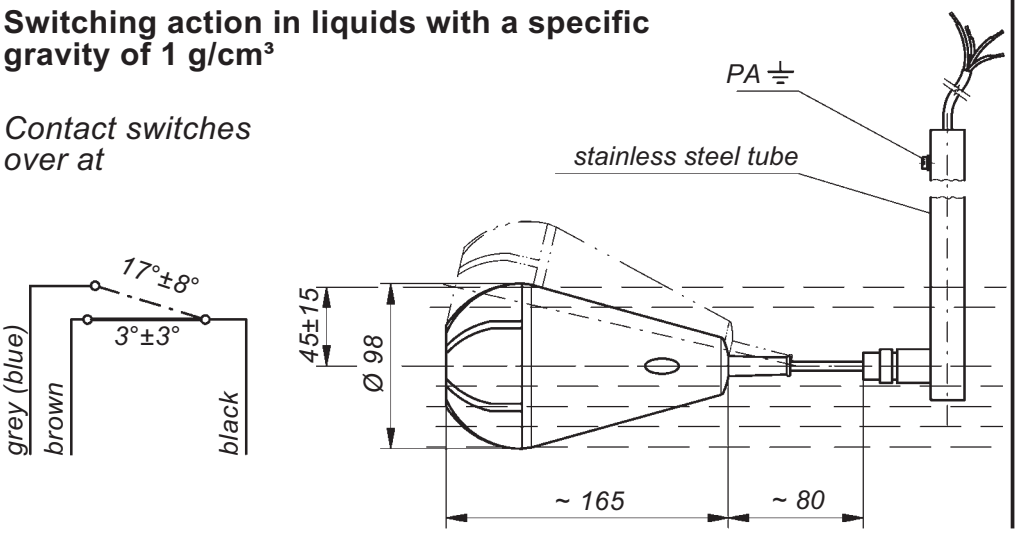


***) potential equalisation cable**

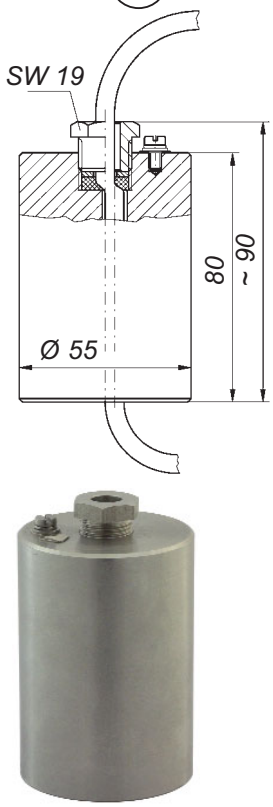


Switching action in liquids with a specific gravity of 1 g/cm³

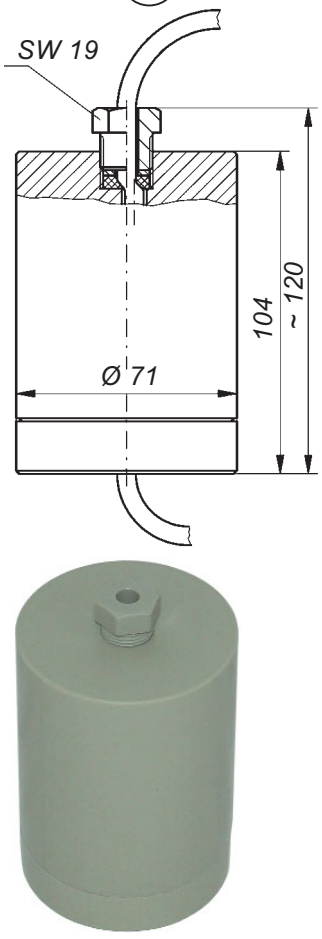
Contact switches over at



1



2



SI/SSX/LF/4/1/K/PURLF/Variant 0 ⟨Ex⟩ I M2 / II 1 G Ex ia I Mb / Ex ia IIC T6 Ga floating switch

For mounting **from the side or from the top.**

To ensure a correct switching the cable must be fixed at the required height:
- using a stuffing gland, for example, in the case of mounting from the side or
- using a fixing weight, for example, in the case of mounting from the top.

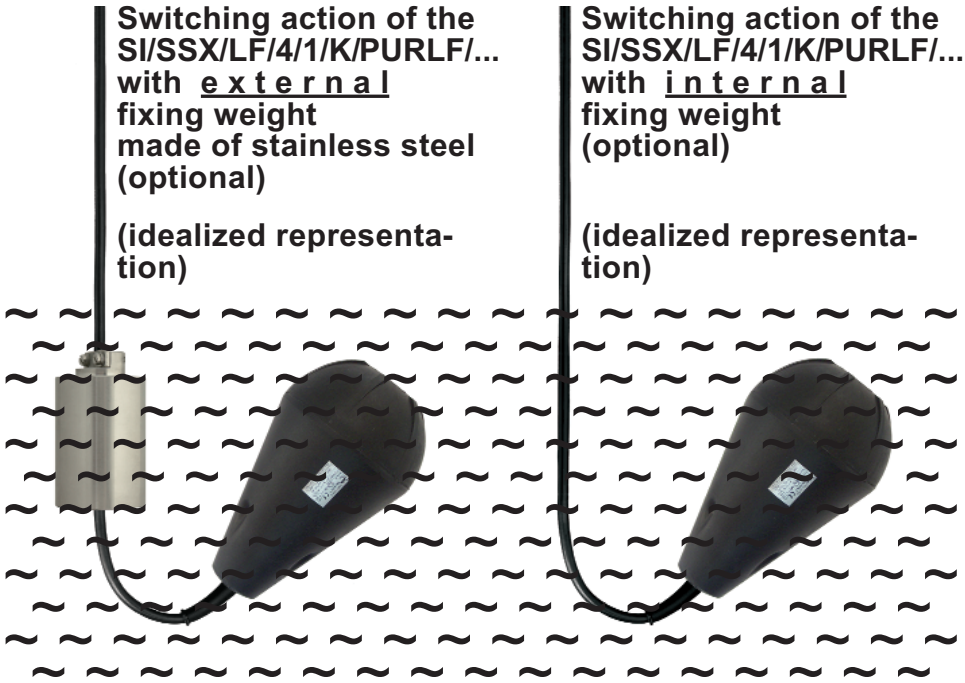
These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

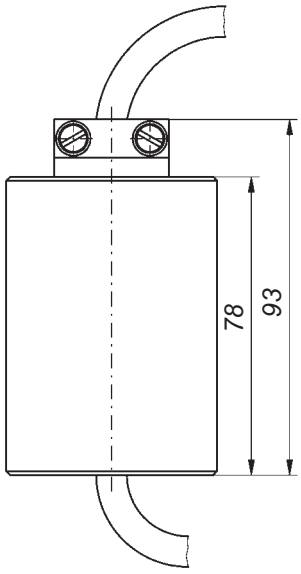
Technical data	**SI/SSX/LF/4/1/K/PURLF/Variant 0 ⟨Ex⟩ I M2 / II 1 G ...**
Application	for use in intrinsically safe circuits in mines susceptible to firedamp or in potentially explosive atmospheres zone 0, 1 and 2; EC type examination certificate INERIS 03ATEX0149
Operating principle	ball-operated microswitch, potential-free changeover contact
Options for safety appl.	diodes (= variant 1) or resistors (= variant 2), see page 1-2-17
Recommended appl.	via Jola Ex protection relay
Float material	antistatic (conductive) PP
Seal material	FPM; on request: EPDM
Float protection class	IP68
Max. immersion depth of the float	max. 10 metres head of water at + 20°C
Connecting cable / application range / temperature range	**• black antistatic PURLF cable (with external conductive PUR sheath) 4 G 0.75 (with 3 wires for the changeover contact and 3 drain wires which are twisted together for use as potential equalisation cable):** for use in: water / used water / slightly aggressive liquids, specific gravity: ≥ 0.7 g/cm³, T: between 0°C and + 60°C
Connecting cable length	2 metres, other cable lengths on request **When ordering, please state the desired length.**
Mounting accessories (option)	**• FG 55x93/Ex/KLF or FG 55x93/E/KLF/Ex external fixing weight made of stainless steel 316 Ti** for liquids with a specific gravity ≥ 0.7 g/cm³ **• IG internal fixing weight (integrated in the float)** for liquids with a specific gravity between 0.95 and 1.05 g/cm³

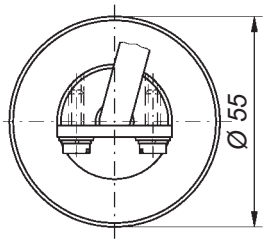
Mounting accessory part (option):
FG 55x93/Ex/KLF or FG 55x93/E/KLF/Ex external fixing weight made of stainless steel 316 Ti, for use in the potentially explosive atmospheres zone 0, 1 and 2 with gases of groups IIA, IIB and IIC, without potential equalisation terminal

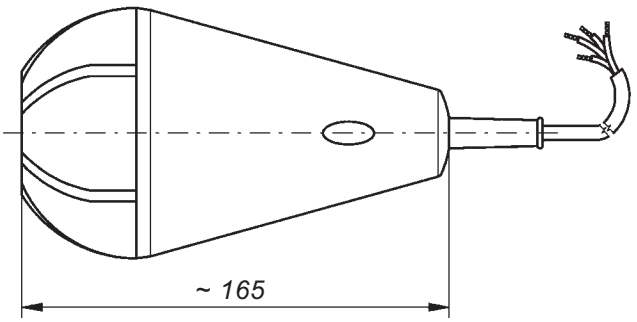
When using the SI/SSX/LF/4/1/K/PURLF/... floating switch fitted with antistatic cable (with external conductive sheath) with a FG 55x93/Ex/KLF or FG 55x93/E/KLF/Ex fixing weight, the antistatic cable is sufficient to shunt the electrostatic charge.

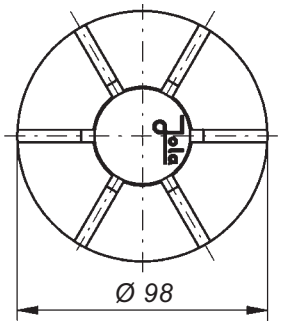
The fixing element of the FG 55x93/Ex/KLF or FG 55x93/E/KLF/Ex fixing weight which is specially designed to be used with a SI/SSX/LF/4/1/K/PURLF/... floating switch with antistatic cable (with external conductive sheath) must be set using the two screws in such a way that the fixing weight keeps perfectly its position.



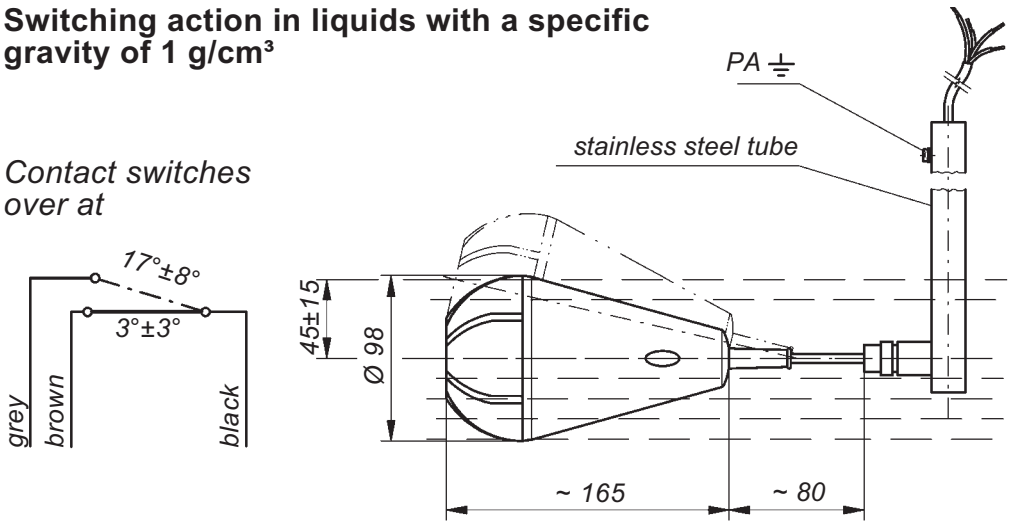








Switching action in liquids with a specific gravity of 1 g/cm³



SI/FS/NL/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIA T6 Gb floating switches

with built-in weight for fixing of switching point

These floating switches are designed for mounting **from the top.**

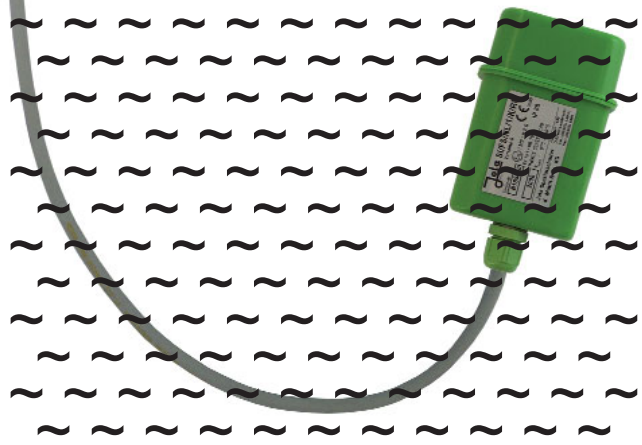
They are fitted with a **built-in weight for fixing the switching point** at the desired height; this renders **additional fastening** of the switch at the height of the switching point **unnecessary**. This weight is dimensioned in such a way that the switch tilts around its own axis when the liquid level rises and then follows the rising liquid level (see function diagram on page 1-2-12). This tilting action of the float activates the switching process.

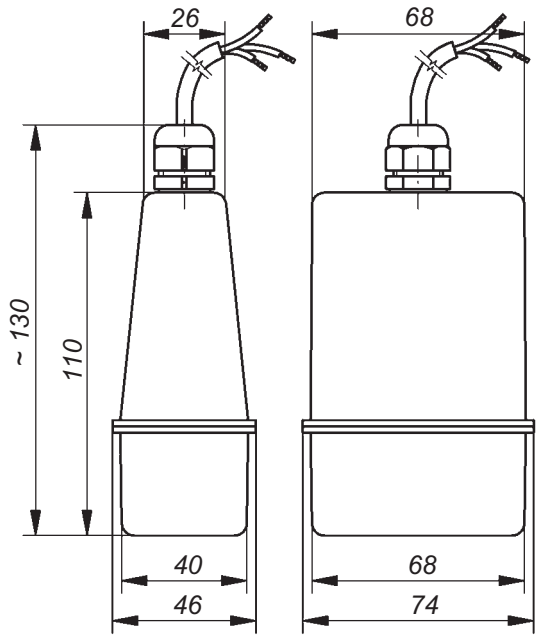
These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SI/FS/NL/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G ...
Application	for use in intrinsically safe circuits in mines susceptible to firedamp or in potentially explosive atmospheres zone 1 and 2; EC type examination certificate INERIS 03ATEX0149
Operating principle	ball-operated microswitch, potential-free changeover contact
Options for safety appl.	diodes (= variant 1) or resistors (= variant 2), see page 1-2-17
Recommended appl.	via Jola Ex protection relay
Float material	PP
Seal material	FPM; on request: EPDM
Float protection class	IP68
Max. immersion depth of the float	max. 10 metres head of water at + 20°C
Application range	in liquids with a specific gravity between 0.95 and 1.05 g/cm³
Connecting cable / application range / temperature range	• **black PVC cable, 3 x 0.75 (SI/FS/NL/1/K/PVC/...):** for use in: water / used water / slightly aggressive liquids, T: between + 8°C and + 60°C • **grey A05RN-F cable 3 x 0.75 (SI/FS/NL/1/K/RN/...):** for use in: water / used water / slightly aggressive liquids, T: between 0°C and + 60°C • **red-brown silicone cable** (with low mechanical strength), **3 x 0.75 (SI/FS/NL/1/K/SIL/...):** for use in: water / certain other liquids, T: between 0°C and + 60°C • **green halogen-free PUR cable, 3 x 0.5 (SI/FS/NL/1/K/PUR/...):** for use in: water / used water / slightly aggressive liquids, T: between 0°C and + 60°C • **black CM cable, 3 x 0.75 (SI/FS/NL/1/K/CM/...):** for use in: water / certain acids / certain lyes, T: between 0°C and + 60°C
Connecting cable length	1 metre, other cable lengths on request **When ordering, please state cable type and length.**

SI/FS/NL/1/K/...
floating switch

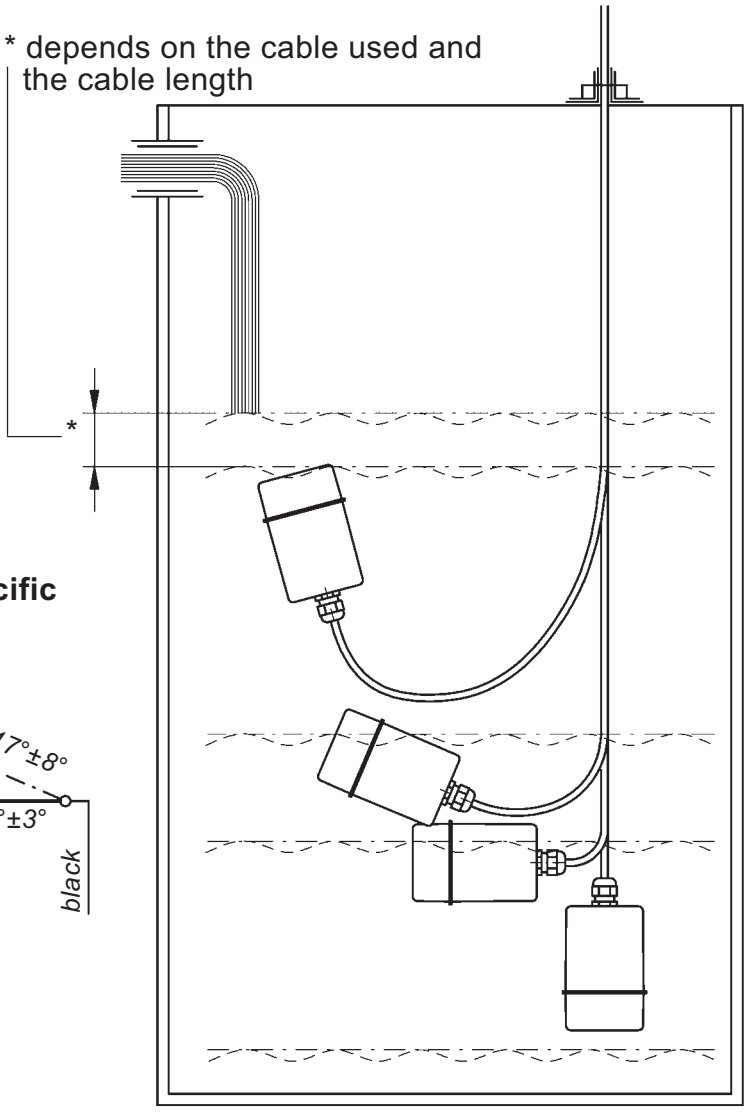
(idealized representation)





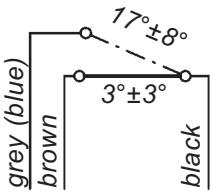
Function diagram of the SI/FS/NL/1/K/... floating switch

(idealized representation)



Switching action in liquids with a specific gravity of 1 g/cm³

Contact switches over at



SI/SSR/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb floating switches

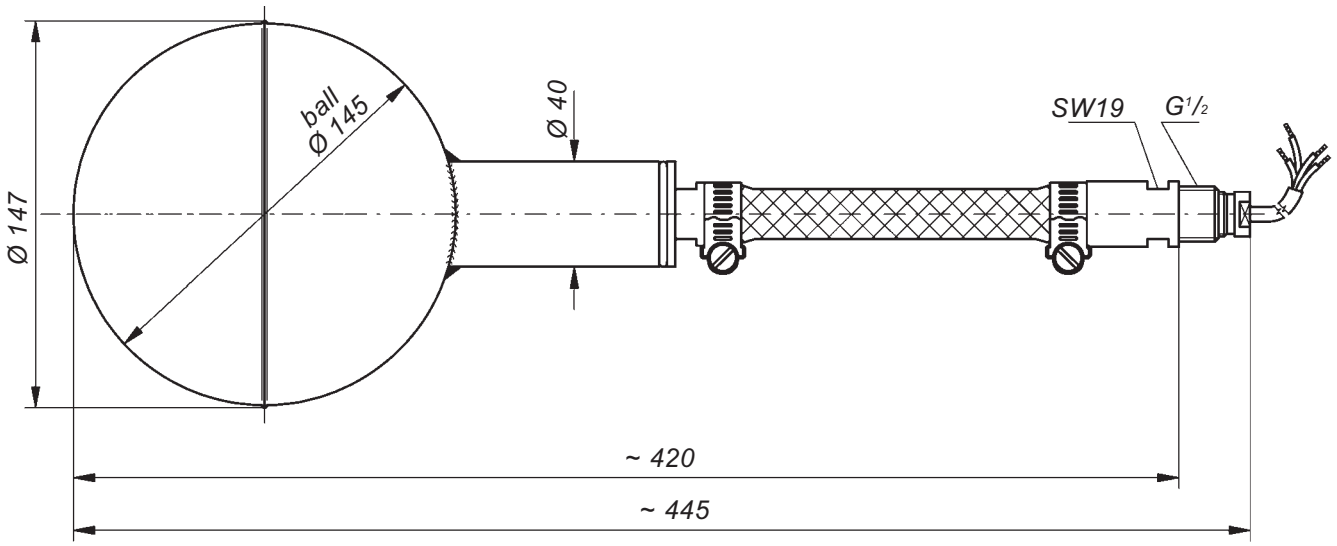
These floating switches are designed for mounting **from the side.**

To ensure a correct switching the G½ screw-in nipple must be screwed in a horizontal G½ sleeve.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

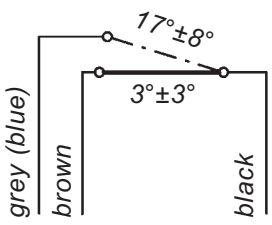
Technical data	**SI/SSR/1/K/.../Variant 0 ⟨Ex⟩ I M2 / II 2 G ...**
Application	for use in intrinsically safe circuits in mines susceptible to firedamp or in potentially explosive atmospheres zone 1 and 2; EC type examination certificate INERIS 03ATEX0149
Operating principle	ball-operated microswitch, potential-free changeover contact
Options for safety appl.	diodes (= variant 1) or resistors (= variant 2), see page 1-2-17
Recommended appl.	via Jola Ex protection relay
Float material	stainless steel 316 Ti
Seal material	PTFE
Appliance protection class	in installed condition inside the tank: IP68, on the stuffing gland screw fitting outside the tank: IP54
Max. immersion depth of the float	max. 30 metres head of water at + 20°C
Application range	in liquids with a specific gravity ≥ 0.7 g/cm³
Connecting cable / temperature range	• **black H05RN-F cable, 4 G 0.75 (SI/SSR/1/K/RN/...):** T: between 0°C and + 60°C • **red-brown silicone cable, 4 G 0.75 (SI/SSR/1/K/SIL/...):** T: between 0°C and + 60°C **The connecting cable is routed through a protective bellows made of stainless steel 316 L to which a G 1/2 screw-in nipple is fastened.**
Connecting cable length	2 metres from screw-in nipple, other cable lengths on request **When ordering, please state cable type and length.**
Option	**stainless steel 316 Ti stirrup to limit the movement of the float**

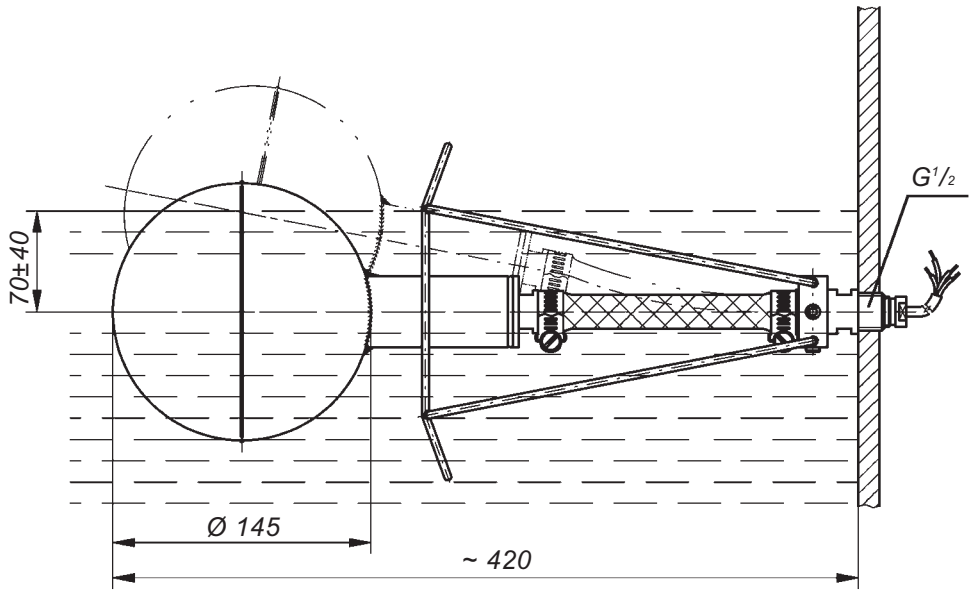
SI/SSR/1/K/...



Switching action in liquids with a specific gravity of 1 g/cm³ – Diagram of SI/SSR/1/K/... with stainless steel stirrup (optional)

Contact switches over at



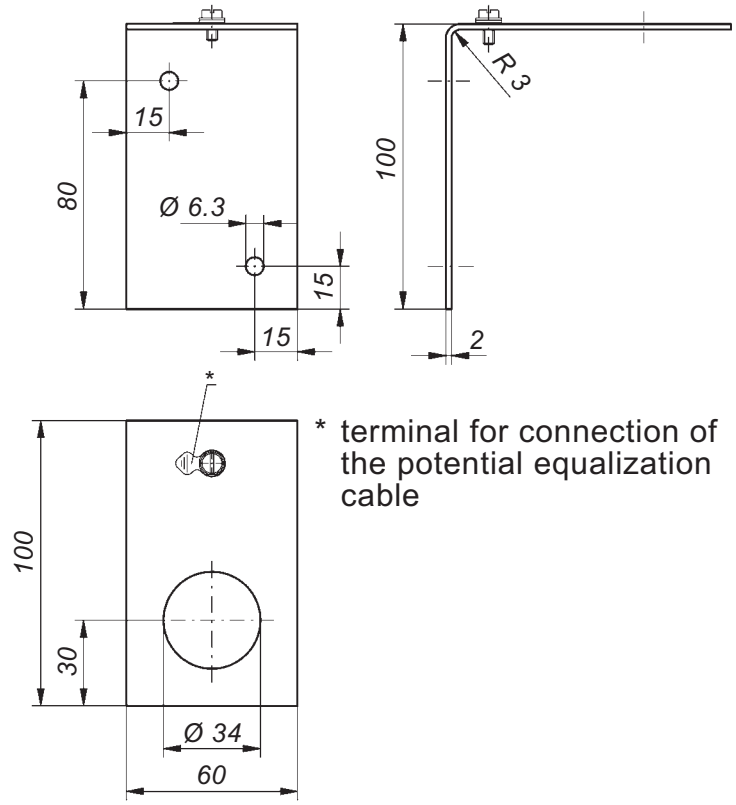


Mounting bracket

made of stainless steel 316 Ti

with lateral hole

- **MW 100x100x60/G1/B/Ex**
  for G1 stuffing gland
  (fixing of the stuffing gland via G1 counternut)



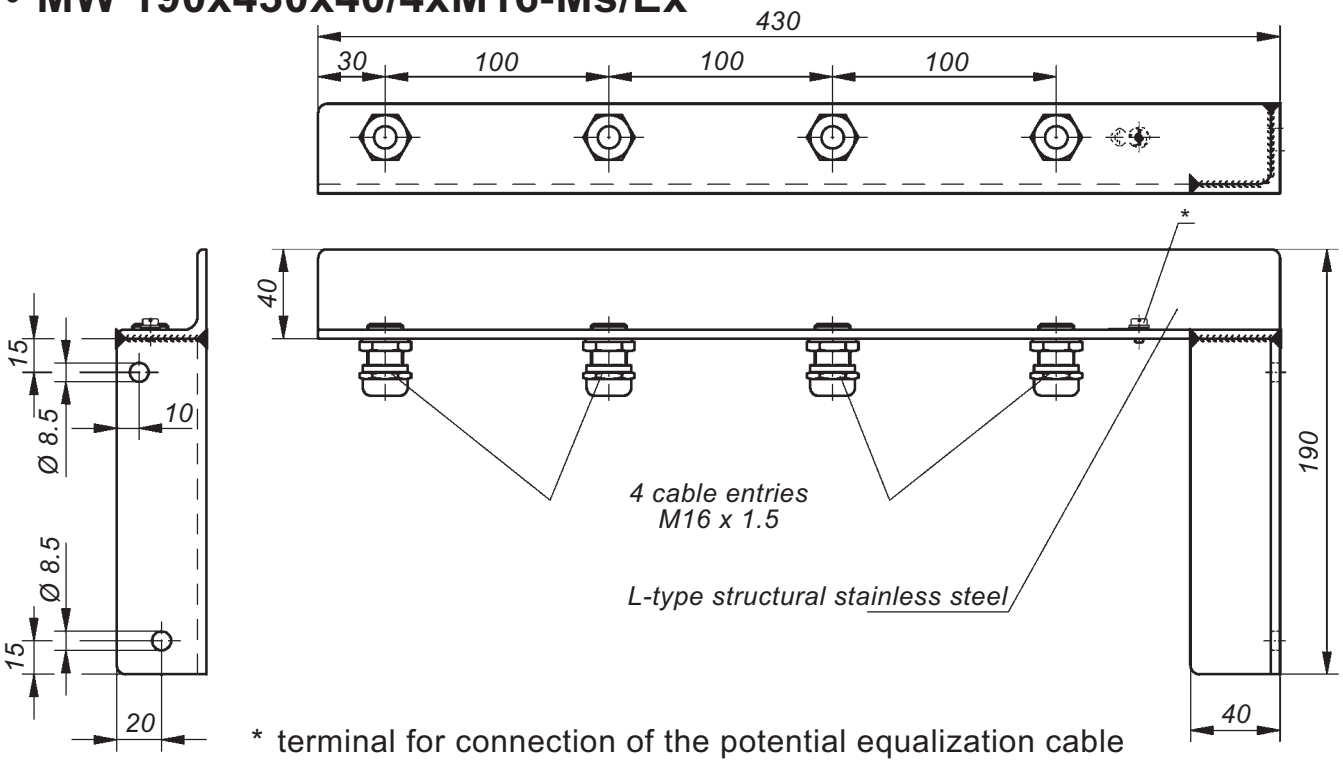
* terminal for connection of the potential equalization cable

Mounting bracket

made of stainless steel 316 Ti

with 4 cable entries made of nickel-plated brass (on request made of stainless steel) suitable for 4 floating switches

- **MW 190x430x40/4xM16-Ms/Ex**



* terminal for connection of the potential equalization cable

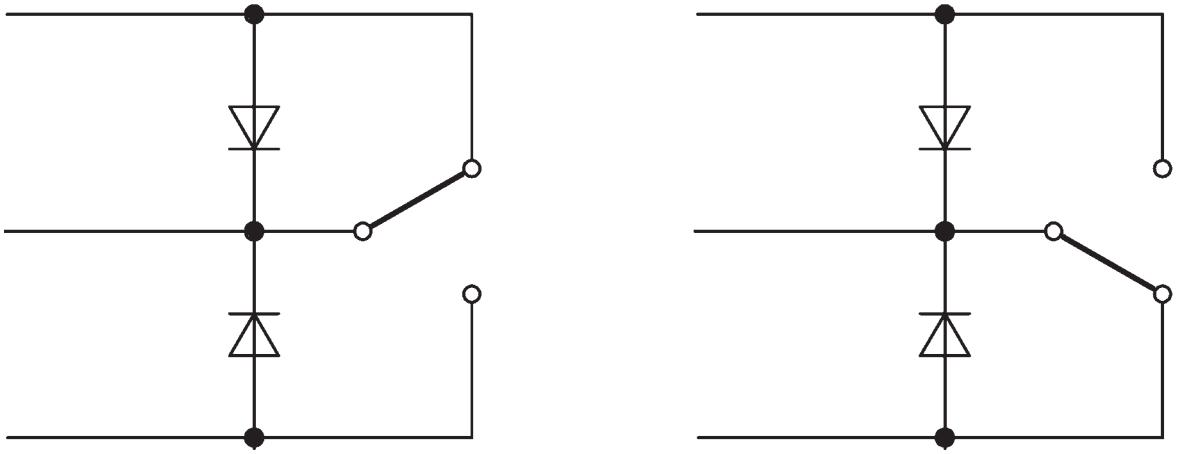
Application example:

MW 190x430x40/4xM16-Ms/Ex
mounting bracket
fitted with 4
SI/SSX/LF/4/1/K/PURLF/Variante 0/IG
floating switches
(with internal fixing weight)

Options for SI/... 1/K/... floating switches:

Variant 1:

Two (2) diodes of the type 1N4004 or equivalent

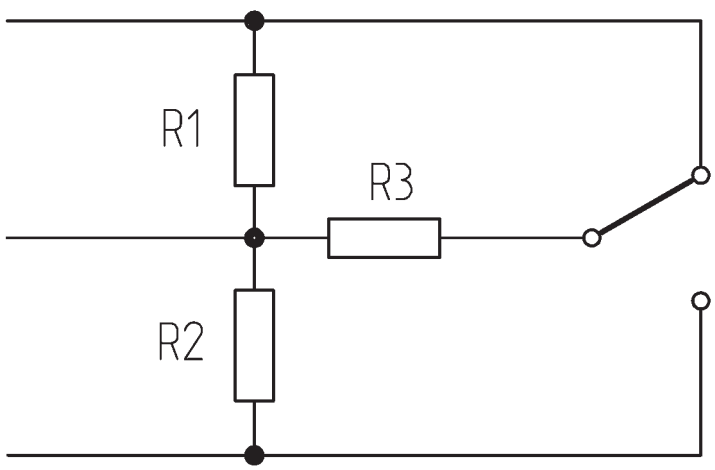


Variant 2:

Two (2) metal film resistors or carbon film resistors R 1, R 2,
each greater than or equal to 2 kOhm,
each P greater than or equal to 1/4 W

and

one (1) metal film resistor or carbon film resistor R 3
greater than or equal to 330 Ohm,
P greater than or equal to 1 W.



• TS/E../. x SI/SSP/NL/1/K/.../Variant 0 Ⓔx I M2 / II 2 G Ex ia I Mb / Ex ia IIB T6 Gb
• TS/E../. x SI/SSX/LF/20/1/K/.../Variant 0 Ⓔx I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb
• TS/E../. x SI/SSR/1/K/.../Variant 0 Ⓔx I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb
immersion probes

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	**TS/E../. x SI/SSP/NL/1/K/.../ Variant 0 Ⓔx I M2 / II 2 G Ex ia I Mb / Ex ia IIB T6 Gb**	**TS/E../. x SI/SSX/LF/20/1/K/.../ Variant 0 Ⓔx I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb**	**TS/E../. x SI/SSR/1/K/.../ Variant 0 Ⓔx I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb**
Application	for use in intrinsically safe circuits in mines susceptible to firedamp or in potentially explosive atmospheres zone 1 and 2; EC type examination certificate INERIS 03ATEX0149		
Probe tube material	stainless steel 316 Ti		
Probe tube diameter	see chart on page 1-2-19		
Probe tune length	according to customer's specifications, but max. 6,000 mm		
Screw-in nipple	without		
	for the type TS/E20/. x SI/SSP/NL/1/K/... : G2 on request	—	—
Flange	without, flange made of stainless steel 316 Ti on request		
Terminal box	see chart on page 1-2-19, material: glass fibre and graphite reinforced polyester, IP65 protection class, dimensions: A 301: 110 x 75 x 55 mm, A 120: 160 x 75 x 55 mm, A 113a: 160 x 160 x 90 mm		
Mounting orientation	vertical		
Temperature range	see technical data of the Ex floating switches used		
Pressure resistance	for pressureless applications only		
Mounted Ex floating switches	**SI/SSP/NL/1/K/•••/ Variant 0 ...**	**SI/SSX/LF/20/1/K/•••/ Variant 0 ...**	**SI/SSR/1/K/•••/ Variant 0 ...**
	(••• = to be specified, see chart on page 1-2-3, 1-2-7 or 1-2-13)		
Technical data of the mounted Ex floating swit.	see pages 1-2-3 ...	see pages 1-2-7 ...	see pages 1-2-13 ...
Option	diodes (= variant 1) or resistors (= variant 2), see page 1-2-17		

For enquiries or orders, please complete the questionnaire on page 1-2-21 or 1-2-22.

Model overview and technical data

Type designation	No of mounted Ex floating switches	Type of mounted Ex floating switches	Probe tube dia.	Terminal box	Design example see page 1-2-20
TS/E../. x SI/SSP/NL/1/K/.../ Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIB T6 Gb		SI/SSP/NL/1/K/ •••/Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb/ Ex ia IIB T6 Gb			(1)
TS/E20/1 x SI/SSP/...	1		20 mm	A 301	
TS/E20/2 x SI/SSP/...	2			A 301	
TS/E20/3 x SI/SSP/...	3			A 120	
TS/E../. x SI/SSP/NL/1/K/.../ Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIB T6 Gb		SI/SSP/NL/1/K/ •••/Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb/ Ex ia IIB T6 Gb			as (1), but probe tube dia. 28 mm Ø instead of 20 mm Ø
TS/E28/1 x SI/SSP/...	1		28 mm	A 301	
TS/E28/2 x SI/SSP/...	2			A 301	
TS/E28/3 x SI/SSP/...	3			A 120	
TS/E28/4 x SI/SSP/...	4			A 120	
TS/E28/5 x SI/SSP/...	5			A 113a	
TS/E28/6 x SI/SSP/...	6			A 113a	
TS/E../. x SI/SSX/LF/20/1/K/.../ Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb		SI/SSX/LF/20/1/K/ •••/Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb/ Ex ia IIC T6 Gb			(2)
TS/E28/1 x SI/SSX/...	1		28 mm	A 301	
TS/E28/2 x SI/SSX/...	2		28 mm	A 301	
TS/E34/3 x SI/SSX/...	3		34 mm	A 120	
TS/E34/4 x SI/SSX/...	4		34 mm	A 120	
TS/E34/5 x SI/SSX/...	5		34 mm	A 113a	
TS/E34/6 x SI/SSX/...	6		34 mm	A 113a	
TS/E../. x SI/SSR/1/K/.../ Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb / Ex ia IIC T6 Gb		SI/SSR/1/K/ •••/Variant 0 ⟨Ex⟩ I M2 / II 2 G Ex ia I Mb/ Ex ia IIC T6 Gb, each with stirrup			(3)
TS/E28/1 x SI/SSR/...	1		28 mm	A 301	
TS/E28/2 x SI/SSR/...	2		28 mm	A 301	
TS/E34/3 x SI/SSR/...	3		34 mm	A 120	
TS/E34/4 x SI/SSR/...	4		34 mm	A 120	
TS/E34/5 x SI/SSR/...	5		34 mm	A 113a	
TS/E34/6 x SI/SSR/...	6		34 mm	A 113a	

••• = to be specified according to the list of cable types on page 1-2-3 or 1-2-7 or 1-2-13

Design examples

1

TS/E20/3 x SI/SSP/NL/1/K/...
with G2 screw-in nipple (optional) and with A 120 terminal box

2

TS/E34/4 x SI/SSX/LF/20/1/K/...
with mounting flange (optional) and with A 113 a terminal box instead of A 120 (optional)

3

TS/E28/2 x SI/SSR/1/K/...
with A 301 terminal box

Questionnaire for enquiries and orders
for immersion probes <u>with</u> screw-in nipple or flange

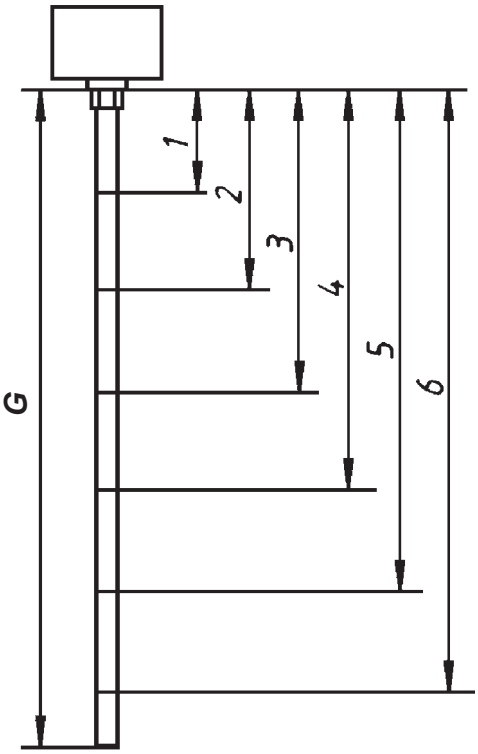
Desired switching functions
(indication max., min., pump or valve
ON – OFF, filling or emptying,
dry-run or overflow protection): _____

Tank dimensions and installation
conditions (sketch if applicable): _____

Type of liquid: _____ Specific gravity: _____

Viscosity: _____ Temperature: _____ Operating pressure: _____

Desired immersion probe type: TS/...



When planning the design of the immersion probes, please consider that **when the liquid level rises,** the contact of the floating switches is not activated when the floating switches reach the horizontal position, but is activated as depicted in the diagrams of the various floating switches on pages 1-2-3 and following.
When the liquid level sinks, the contact of the floating switches is activated **shortly below their horizontal position.**

	Desired Ex floating switch type	*Distance from sealing surface of screw-in nipple or flange in mm*	*Switching function (e.g. high alarm, pump ON, pump OFF etc.)*	*Working direction of the float: rising = ↑ falling = ↓*
1				
2				
3				
4				
5				
6				

Desired options:

Questionnaire for enquiries and orders
for immersion probes <u>without</u> screw-in nipple or flange

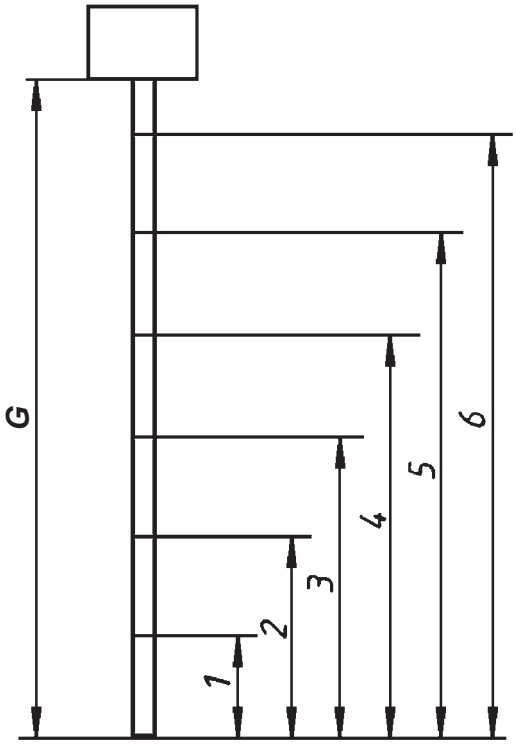
Desired switching functions (indication max., min., pump or valve ON – OFF, filling or emptying, dry-run or overflow protection): _____

Tank dimensions and installation conditions (sketch if applicable): _____

Type of liquid: _____ Specific gravity: _____

Viscosity: _____ Temperature: _____ Operating pressure: _____

Desired immersion probe type: TS/...



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When the liquid level sinks, the contact of the floating switches is activated **shortly below their horizontal position.**

	Desired Ex floating switch type	*Distance from end of probe tube in mm*	*Switching function (e.g. high alarm, pump ON, pump OFF etc.)*	*Working direction of the float: rising = ↑ falling = ↓*
1				
2				
3				
4				
5				
6				

Desired options: