

Реле компактные. Серия 1710. Описание.

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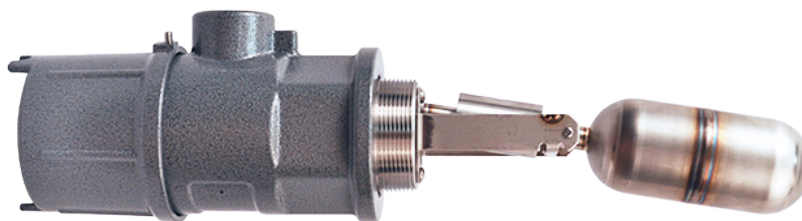
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1710 Side Mounted Level Switch

1710 is a horizontally oriented, float-operated level switch suitable for plant and OEM applications where open or closed contacts are required to signal the presence or absence of liquid at a discrete level. The float extension arm moves a magnet which actuates (de-actuates) an electromechanical switching element.



The 1710 may be used on a wider variety of applications and process conditions than any other single model of mechanical level switch currently offered by SOR®. The flexibility in this design is critical to customers all over the world in a wide variety of industries.

The 1710 side mounted level switch is suitable for most point level applications.

- boilers
- storage vessels
- high or low alarm

Features and Benefits

- Five-year warranty
- Low maintenance costs
- Compact design
- Worldwide approvals & certifications
- Withstands temperatures up to 700°F (371°C)
- Withstands pressures up to 1799 psig (124 bar)
- External chambers available
- ASME Section IX and AWS D2.1 qualified welding system
- Designed to ANSI/ASME B31.1 and B31.3 guidelines
- Stainless steel switching mechanisms
- All stainless steel wetted parts
- Quick worldwide delivery
- Only ASTM grade materials with certified mill test reports used
- FM, ATEX and IECEx certified for hazardous locations in US and Canada
- **Safety Certified to IEC 61508 (SIL)**
SOR products are certified to IEC 61508 for non-redundant use in SIL1 and SIL2 Safety Instrumented Systems for most models. For more details or values applicable to a specific product, see the Safety Integrity Level Quick Guide (Form 1528).

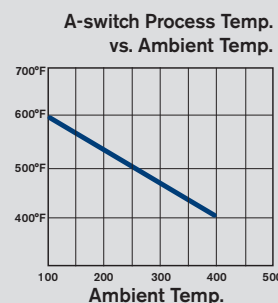
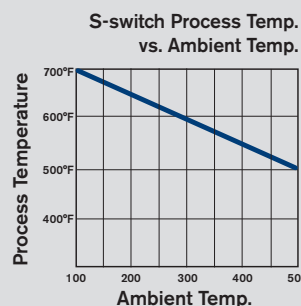
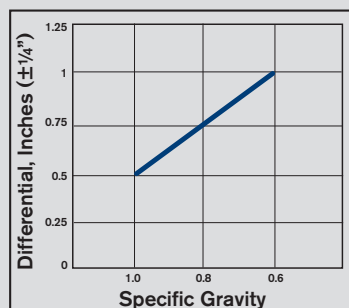
1710 Side Mounted Level Switch

Specifications

Product Specifications

Mounting	
Orientation	Horizontal mount only
Float Material	Stainless Steel
Maximum Process Pressure	at 100°F (38°C) 1799 psi (124 bar)
Process Temperature Range	-40 to 700°F (-40 to 371°C)
Electrical	
Switch type	SPDT or DPDT snap switch
Housing material	Aluminum
Conduit connection size	1" NPT
Minimum Specific Gravity	0.60 SG
Chamber Design Code	ANSI B31.1 or ANSI B31.3 Certificate available
*Standard Approvals	CSA (US & Canada) ATEX/IECEX
Weight	
Standard	7.3 lbs. (3.2 kg)
With Chamber	22 lbs. (10 kg)

Differential (Dead Band)



Note: For other variations please consult factory.

*See page 3 for details

Maximum Operating Pressure Ratings*

Process Connection	Description	Pressure at Listed Temperature in psig (bar)						
		100°F (38°C)	200°F (93°C)	300°F (149°C)	400°F (204°C)	500°F (260°C)	600°F (316°C)	700°F (371°C)
G2A	2" NPT(M)	1500 (103)	1500 (103)	1500 (103)	1500 (103)	1500 (103)	1500 (103)	1500 (103)
G3C	3" 150# RF Flange (316SS)	275 (19)	235 (16)	215 (15)	195 (13)	170 (12)	140 (10)	110 (8)
G3D	3" 300# RF Flange (316SS)	720 (50)	620 (42)	560 (39)	515 (36)	480 (33)	450 (31)	435 (30)
G4C	4" 150# RF Flange (316SS)	275 (19)	235 (16)	215 (15)	195 (13)	170 (12)	140 (10)	110 (8)
G4D	4" 300# RF Flange (316SS)	720 (50)	620 (42)	560 (39)	515 (36)	480 (33)	450 (31)	430 (30)

With External Chamber

Chamber Designator	Description	Pressure at Listed Temperature in psig (bar)						
		100°F (38°C)	200°F (93°C)	300°F (149°C)	400°F (204°C)	500°F (260°C)	600°F (316°C)	700°F (371°C)
EE	4" S40 316/316L SS	1799 (103)	1550 (101)	1397 (96)	1282 (88)	1196 (82)	1129 (78)	1081 (75)
EG	4" S40 Carbon Steel	1435 (99)	1435 (99)	1435 (99)	1435 (99)	1435 (99)	1435 (99)	1398 (95)

* Maximum operating pressure is limited by the float or chamber, depending on the temperature.

For exact material description, see page 3.

1710 Side Mounted Level Switch

How to Order

Model Number System

1710 A - G2A - C - A1 - H1 - ZZ PP C1

Switch Type		3	4 Agency Approvals	
SPDT		1	00	No Agency Approval
DPDT		4	ZZ	CSA, ATEX, IECEx Approved***
Switch Mechanism		2	5 Accessories	
Dry Contact Snap Switch, -40 to 600°F (-40 to 316°C), 0.1A-6A at 250 VAC		A	CN	Conduit Reducer M20 x 1.5
Hermetically Sealed/Gold Contact -40 to 700°F (-40 to 371°C), 0.5A at 28VDC		S	CP	Conduit Reducer 1/2" NPT
			CR	Conduit Reducer 3/4" NPT
			EE	External Chamber Stainless Steel**
			EG	External Chamber Carbon Steel**
			MR	Mill Test Report
			PP	Fiber Tag
			RR	Oversized Namplate for customer tagging
Process Connection		1	Certificates	
Threaded 2" NPT(M) Standard (316SS)	G2A		C1	Calibration
3" 150# RF Flange (316SS)	G3C		C2	Hydrostatic Pressure Test
3" 300# RF Flange (316SS)	G3D		C3	Inspection Report
4" 150# RF Flange (316SS)	G4C		C4	Compliance/Conformance
4" 300# RF Flange (316SS)	G4D		C5	Dielectric Test
For Chambered Units Only:			C6	Insulation Resistance
1"NPT Top/Bottom	E1A*		C7	QA Test Report
1"SW Top/Bottom	E1B*			
1710	A	G2A	C	A
		1	H1	ZZ
			PP	C1
				← Model Number

Notes:

- "X" in model number indicates a special requirement.
- For other variations please consult factory.

* Requires use of EE or EG options

** See page 2 for chamber details.

*** Special conditions for safe use: When the equipment is installed, particular precautions shall be taken to ensure, taking into account the effect of the process temperature, that the ambient temperature of the overall liquid level control switch assembly is between -40°C to +80°C.

1710 Side Mounted Level Switch

Specifications

Agency Approvals

Agency	Approved Model	Protection	Area Classification
ATEX/IECEX 	1710X-GXX-X-XX-XX-ZZ	Flameproof	Ex d IIC T5 Gb; Ex tb IIIC T90°C Db (-40°C ≤ Tamb ≤ +80°C)
	1710X-EXX-X-XX-XX-ZZ		Ex d IIB +Hydrogen T5 Gb; Ex tb IIIC T90°C Db (-40°C ≤ Tamb ≤ +80°C)
CSA 	1710X-GXX-X-XX-XX-ZZ	Explosion Proof	Class I, II, III; Groups B,C,D,E,F,G; Type 4X Class I, Zone 1, AEx/Ex d IIC T5 Gb Zone 21, AEx/Ex tb IIIC T90°C Db; IP66
	1710X-EXX-X-XX-XX-ZZ		Class I, II, III; Groups B,C,D,E,F,G; Type 4X Class I, Zone 1, AEx/Ex d IIB +Hydrogen T5 Gb Zone 21, AEx/Ex tb IIIC T90°C Db; IP66
GOST R 	Certificate available upon request. Contact customer service for custom model number configuration.	Flameproof	Ex d IIC T5 (-40°C ≤ Tamb ≤ +80°C)
KOSHA 	Certificate available upon request.	Flameproof	Ex d IIC T5 (-40°C ≤ Tamb ≤ +80°C)
Safety Integrity Level 	Certificate available upon request.	Type A Component with HFT0 Low Demand Mode	SIL2

1710 Side Mounted Level Switch

Dimensions

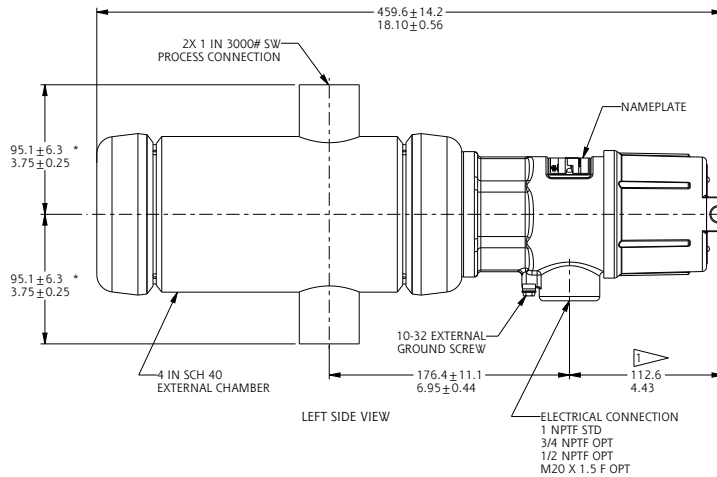
The 1710 unit allows for a smaller installation foot print, making it more compact and economical than most traditional vertical chambers. Although the 1710 is more compact, it provides the rugged reliability customers have come to expect from SOR.

The design starts with a high pressure float counter-weighted with a magnet. The magnet is coupled with another magnet inside the housing which is attached to the switching mechanism. The key is that the two magnets are separated by a pressure retaining wall of non-magnetic material. The magnets interact with each other as the float goes up and down, providing a safe and reliable system you can depend on for the most critical of applications.

1710 Assembly with chamber

Linear = $\frac{\text{mm}}{\text{in.}}$

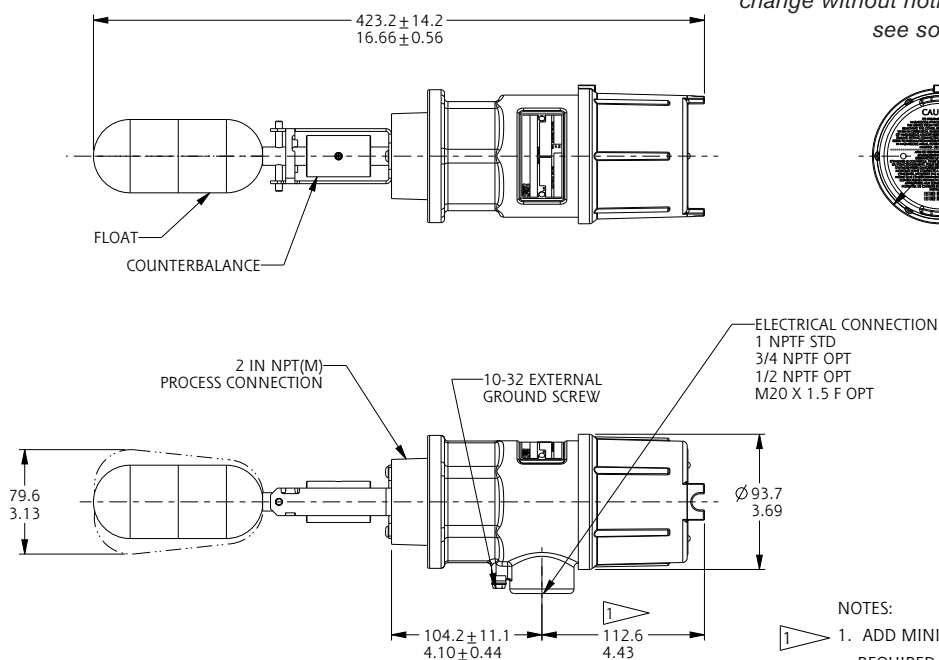
Drawing 0390698



NOTES:
1. ADD MINIMUM 112.8
4.44 CLEARANCE
REQUIRED TO REMOVE HOUSING COVER

1710 Assembly without chamber

Design and specifications are subject to change without notice. For latest revision, see sorinc.com.



NOTES:
1. ADD MINIMUM 112.8
4.44 CLEARANCE
REQUIRED TO REMOVE HOUSING COVER

Drawing 0390777



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