

Tuning-Fork Level Switch

8110 / 8111

G 3/4", G 1" and clamp 2"

- For universal use as overflow or dry run protection system
- Hygienic surface finish
- Extension tubes available



Level switch for liquids with a tuning fork as a sensor element. Simple setup without adjustment makes this perfect for deployment into process environments. This device provides peace of mind from overflow or run dry

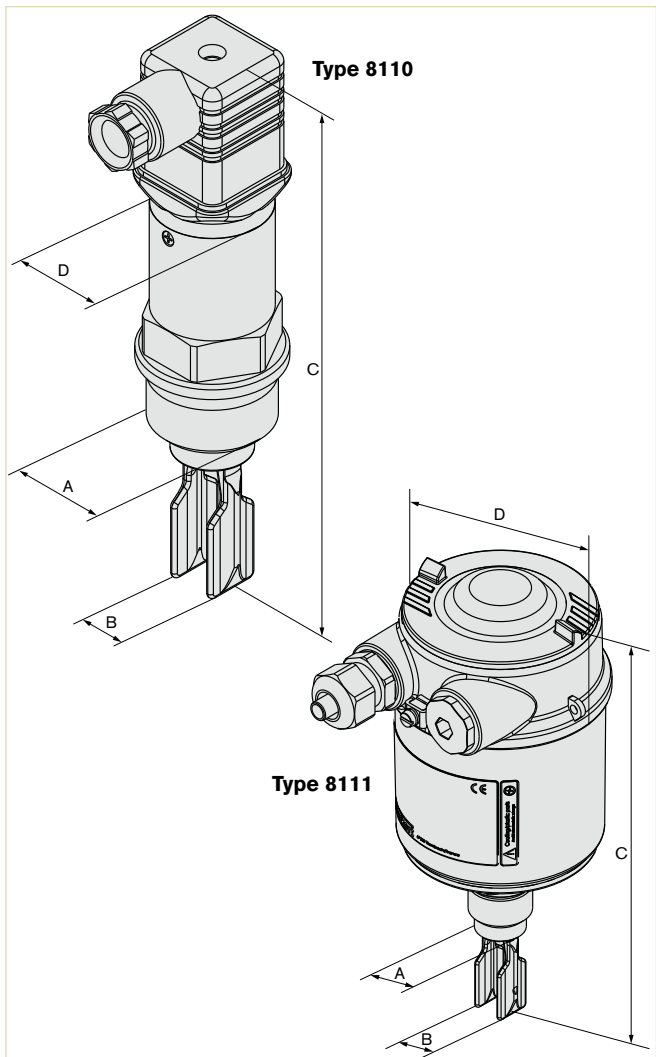
Type 8110 - The small tuning fork (40 mm length) can be used in vessels, tanks or pipes.

Type 8111 - SuperBRIGHT visual output lets the user know the status from a distance.

Technical Data



Type	8110	8111
Process connection	G 3/4", G 1" or Clamp 2"	G 3/4", G 1" or Clamp 2"
Max. fluid temperature	+100 °C G +150 °C Clamp	+150 °C G +150 °C Clamp
Materials	Stainless / PEI housing Stainless steel forks Klingersil® seal	Stainless / PBT housing Stainless steel forks Klingersil® seal
Max. fluid pressure	64 bar	64 bar
Voltage supply	10-55V DC / max. 0.5W	20-253V AC (5 A), 50-60 Hz, or 20-72V DC
Electrical connections	M12	M20 cable glands
Outputs	Transistor output PNP, 250 mA	Relay (DPDT), 2 floating SPDTs
Ingress protection	IP66 and 67	IP66 and 67
Surface finishing quality	Ra < 3.2 µm (thread) Ra < 0.8 µm (clamp)	Ra < 3.2 µm (thread) Ra < 0.8 µm (clamp)
Dynamic viscosity	0.1 to 10000 mPa.s / 0.7 to 2.5 g/cm³	0.1 to 10000 mPa.s / 0.7 to 2.5 g/cm³
Medium temperature	-40 °C to 100 °C (150 °C for Clamp process connection)	-50 °C to 150 °C
Medium pressure	-1 to 64 bar	-1 to 64 bar
Accuracy		
Hysteresis	Approx. 2 mm with vertical installation	Approx. 2 mm with vertical installation
Delay time/ Frequency	Approx. 500 ms / Approx. 1200 Hz	Approx. 500 ms / Approx. 1200 Hz
Voltage loss	Max. 1 V DC	
Turn-on voltage	Max. 55 V DC	min.: 10 mV; max.: 253 VAC, 253 V DC
Switching current		min.: 10 mA; max.: 5 A (AC), 1 A (DC)

Envelope Dimensions [mm] (see datasheet for details)



Type	A	B	C	D
8110	3/4" G	21.3	158	31.7
	1" G	21.3	161	31.7
	2" clamp	21.3	165	31.7
8111	3/4" G	16	210	91
	1" G	16	213	91
	2" clamp	16	213	91

Technical Data (continued)

Type	8110	8111
Power consumption		1 to 8 VA (AC); approx. 1.3 W (DC)
Breaking capacitance		max. 1250 VA, 50 W
Delay time		when immersed: 0.5 s when laid bare: 1 s
Blocking current	< 10 µA	
Mode	Min./max changeover by electrical connection Max.: overfill protection - Min.: dry run protection LED indication: green and red	Min./max changeover by electrical connection Max.: overfill protection - Min.: dry run protection
Ambient temperature		
Operating	-40 °C to +70 °C	
Storage	-40 °C to +80 °C	
Standard		
EMC	EN 61326	EN61326
Security	EN 61010-1	EN61010-1, ATEX ¹⁾ EN50014; EN50020; EN50284
Specifications Ex		
 - Protection		Categories 1/2G, 2 G
 - Certification		Ex ia IIC T6
Conformity specifications¹⁾		
Power supply Ui		20 V
Short circuit rating Ii		103 mA
Power limitation Pi		516 mW
Ambient temperature		-40 °C to +85 °C (depend on categories)
Internal capacity Ci		negligible
Internal inductivity Li		negligible

¹⁾ homologation certificate PTB 07 ATEX 2004X

Options

8110

- DIN 11851, Flange, SMS
- Higher temperatures on request

8111

- ATEX approvals
- DIN 11851, Flange, SMS
- ECTFE, enamel, Hastelloy C4 or PFA
- Higher temperatures on request

Ordering Chart

Process connection	Electrical connection	Item no.
8110		
G 3/4" ISO 228	Multipin M12	555 290
G 1" ISO 228	Multipin M12	555 292
Clamp 2"	Multipin M12	555 294

Process connection	Electrical connection	Item no.
8111		
G 3/4" ISO 228	2 x M20 glands	558 110
G 1" ISO 228	2 x M20 glands	558 112
Clamp 2"	2 x M20 glands	558 114

Extension tubes are available (see datasheet Type 8112).