



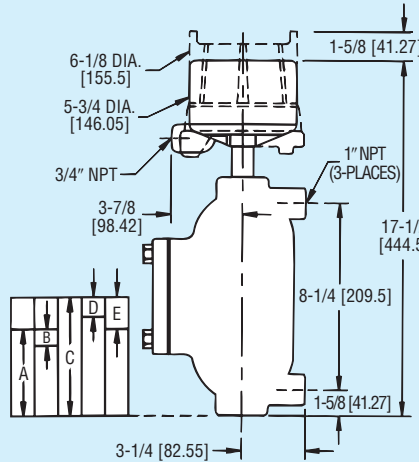
Series
102/1102

Flanged Chamber

Pressure to 400 psig (28 bar), Temperature to 425°F (218°C),
Hermetically Sealed Switches, Series 102: Minimum Specific
Gravity: 0.60. Series 1102: Minimum Specific Gravity: 0.40



Series 102 is side mounted with two horizontal and one vertical 1" NPT pipe thread connection.



"A" is the level at which single (or lower stage) operates on level rise.

"B" is the operating differential single (or lower stage) – drop in level to restore switch to original position.

"C" is the level at which the upper stage operates on level rise.

"D" is the operating differential of upper stage – drop in level to restore switch to position.

"E" – the increase in level above "A" to operate upper stage.

Repeatability ± 1/4" (6.4 mm)

Single Stage

	SP GR	A	B
102 SERIES	1.0	5 1/16" (129 mm)	3/4" (19 mm)
	0.6	5 13/16" (148 mm)	1" (25.4 mm)
1102 SERIES	0.4	5 1/4" (133 mm)	1 3/4" (44 mm)

SERIES 102: "A" is adjustable ± 1".
SERIES 1102: "A" is not adjustable.

Two-Stage

	SP GR	A	B	C	D	E
SERIES 102	1.0	4 1/8" (105 mm)	3/4" (19 mm)	5 5/8" (143 mm)	1" (25.4 mm)	1 1/2" (38 mm)
	0.6	4 7/8" (124 mm)	1" (25.4 mm)	6 7/8" (175 mm)	1 3/4" (44 mm)	2" (51 mm)
SERIES 1102	0.4	4 7/8" (124 mm)	1" (25.4 mm)	6 1/4" (159 mm)	7/8" (22 mm)	1 3/8" (35 mm)

"A" is not adjustable.

Level

By unique design, you can remove just four bolts from the inspection plate to examine the float and chamber for cleaning or wear without disconnecting the piping or electrical circuitry. The sturdy 102 Series operates at pressures to 400 psi (28 bar) and temperatures to 425°F (218°C). The 102 Series will operate to a minimum specific gravity of 0.60. The 1102 Series will operate to a specific gravity of 0.40 under the same operating pressure and temperature. The 102 and 1102 Series contain a stainless steel float and offer a choice of cast iron, cast steel, or inexpensive cast 316SS float chamber. These series are well suited for applications where ease of accessibility is desired for pressure or vacuum vessels. Electrical circuits using hermetically sealed snap action or mercury contacts are available in a variety of actions including SPST, SPDT, DPDT and DPST combinations. Optional circuits are available for low current, low voltage direct circuits; high direct current or high temperature applications. Electrical enclosures provide general purpose; weather proof, explosion proof or explosion proof - vapor proof capability. The 102 design also features three 1" NPT process connections for side/side or side/bottom piping. When using the side/side process connection, the bottom 1" NPT connection can be used as a drain

APPLICATIONS

Oil refineries, chemical plants, power generating stations, pumping stations, heat transfer systems, sanitary/waste water facilities, drip legs, hydraulic systems, boilers.

SPECIFICATIONS

Minimum Specific Gravity: 102 Series S.G. 0.60
1102 Series S.G. 0.40

Switch Type: Snap switch or mercury. See charts A and B (102 Series). See charts C and D (1102 Series).

Electrical Rating: See charts A and B, C and D.

Wiring Connections: G, WT or E enclosure, terminal block. EV enclosure, 18" (460 mm) leads.

Process Connections: 1" NPT.

Enclosures: G, painted steel and aluminum. WT, painted steel, aluminum and neoprene. E, aluminum. EV, aluminum and neoprene.

Wetted Parts: C construction, cast iron 303SS, 304SS, 316SS, 430SS. C1 construction, cast steel 303SS, 304SS, 316SS, 430SS. C216 construction, cast 316SS, 316SS, 430SS.

Weight: 35 lb (16 kg).

Suggested Specifications

Liquid level control shall be Mercoid 102 (1102) Series with side, side/bottom 1" NPT process connections. Chamber shall have inspection plate removable without disconnecting electrical wiring or piping. Control shall be suitable for operation at 400 psi (28 bar) and 425°F (218°C) with a minimum specific gravity of 0.60 (0.40). Electrical switch mechanism shall be gravity return and shall be activated by a stainless steel float.

MODEL CHART – SERIES 102/1102

EXAMPLE	102	WT	7810	10	C1	60	12	102-WT-7810-C1-60. Liquid level control with flanged chamber enclosure. SPDT snap action switch, fixed deadband, automatic reset. Operating pressure 400 psig (28 bar) at 425°F (218°C). Side/bottom, side/side mounting standard with 1" NPT connections. Minimum specific gravity 0.60.	
	1102	WT	7810	10	C1	40		Same as 102 series, except minimum specific gravity is 0.40.	
ENCLOSURES		G WT E EV						General purpose, NEMA-1. Water tight, NEMA-4, 4X. Explosion proof, Class I Groups B, C, D. Class II Groups E, F, G. NEMA-7, 9. Explosion proof, vapor proof, Class I Groups B, C, D. Class II Groups E, F, G. NEMA-7, 9.	UL UL UL UL
CIRCUITS (For Electrical Circuits see charts below.)			48XX 48XX 78XX 78XX 78XXHM 98XX 98XX	XX XX XX				Single stage. Mercury switch. See Chart A or C. Two stage. Mercury switch. See Chart A or C. Single stage. Snap switch. See Chart B or D. Two stage. Snap switch. See Chart B or D. Hermetically sealed snap switch. See Chart B. Single stage. High capacity DC snap switch. Use heat fins (HF) if process temperature exceeds 350°F (177°C). Do not exceed 450°F (232°C). See Chart B or D. Two stage. High capacity DC snap switch. Use heat fins (HF) if process temperature exceeds 350°F (177°C). Do not exceed 450°F (232°C). See Chart B or D.	
CHAMBER CONSTRUCTION					C C1 C216	60 40		Cast iron chamber. Pressure rating 300 psig (22 bar) at 425°F (218°C). Cast steel chamber. Pressure rating 400 psig (28 bar) at 425°F (218°C). Cast 316SS chamber. Float and rod, armature 430SS. Pressure rating 400 psig (28 bar) at 425°F (218°C). Minimum specific gravity 0.60. Minimum specific gravity 0.40	UL UL UL UL
OPTIONS							12	Breather and drain for E type enclosure. Recommended for high humidity or outdoor service.	

CHARTS A & B - ELECTRICAL CIRCUITS AND RATINGS – SERIES 102

SWITCH TYPE	SWITCH ACTION	ELECTRICAL RATINGS IN AMPS						ORDERING CODE			
		AC			DC			SINGLE STAGE	TWO STAGE		
		120V	240V	440V	30V	125V	250V		LOWER	UPPER	
CHART A Mercury Contacts	SP-ST Open on level FALL	10	5	3†		10	5	-4821	-4821	-21	UL
	SP-ST Open on level RISE	10	5	3†		10	5	-4820	-4820	-20	UL
	SP-DT One Switch	4	2	1†		4	2	-4810	-4810	-10	UL
	SP-DT Two switches E.I.*	10	5	3†		10	5	-4815	-4815	-15	UL
	DP-ST Two switches E.I.* Open on level FALL	10	5	3†		10	5	-4813	-4813	-13	UL
	DP-ST Two switches E.I.* Open on level RISE	10	5	3†		10	5	-4814	-4814	-14	UL
	DP-DT Two SP-DT switches	4	2	1†		4	2	-4806	-4806	-06	UL
CHART B Snap Action Contacts	SP-DT One switch	12	5	3†		0.5**	0.25**	-7810	-7810	-10	UL
	DP-DT Two SP-DT switches	12	5	3†		0.5**	0.25**	-7806	-7806	-06	UL
	SP-DT One hermetically sealed switch	5	5		5**			-7810HM	-7810HM	-10HM	
	DP-DT Two hermetically sealed SP-DT switches	5	5		5**			-7806HM	-7806HM	-06HM	
	DP-DT Two SP-DT switches	10	3			10‡	3‡	-9806	-9806	-06	
	SP-DT One switch	10	3			10‡	3‡	-9810	-9810	-10	

*Electrically Independent †Available on special order. Change 1st digit in Ordering Code from 4 to 5 or 7 to 8
‡10 Amp inductive (Polarized) at 125 VDC i.e. -4820 becomes -5820, -7810 becomes -8810, etc.
**Resistive

CHARTS C & D - ELECTRICAL CIRCUITS AND RATINGS – SERIES 1102

SWITCH TYPE	SWITCH ACTION	ELECTRICAL RATINGS IN AMPS						ORDERING CODE			
		AC			DC			SINGLE STAGE	TWO STAGE		
		120V	240V	440V	30V	125V	250V		LOWER	UPPER	
CHART C Mercury Contacts	SP-ST Open on level FALL	10	5	3†		10	5	-4820	-4820	-21	
	SP-ST Open on level RISE	10	5	3†		10	5	-4821	-4821	-20	
	SP-DT One Switch	4	2	1†		4	2	-4810	-4810	-10	
	SP-DT Two switches E.I.*	10	5	3†		10	5	-4815	-4815	-15	
	DP-ST Two switches E.I.* Open on level FALL	10	5	3†		10	5	-4814	-4814	-13	
	DP-ST Two switches E.I.* Open on level RISE	10	5	3†		10	5	-4813	-4813	-14	
	DP-DT Two SP-DT switches	4	2	1†		4	2	-4806	-4806	-06	
CHART D Snap Action Contacts	SP-DT One switch	12	5	3†		0.5**	0.25**	-7810	-7810	-10	
	DP-DT Two SP-DT switches	12	5	3†		0.5**	0.25**	-7806	-7806	-06	
	SP-DT One hermetically sealed switch	5	5		5**			-7810HM	-7810HM	-10HM	
	DP-DT Two hermetically sealed SP-DT switches	5	5		5**			-7806HM	-7806HM	-06HM	
	DP-DT Two SP-DT switches	10	3			10‡	3‡	-9806	-9806	-06	
	SP-DT One switch	10	3			10‡	3‡	-9810	-9810	-10	

*Electrically Independent †Available on special order. Change 1st digit in Ordering Code from 4 to 5 or 7 to 8
‡10 Amp inductive (Polarized) at 125 VDC i.e. -4820 becomes -5820, -7810 becomes -8810, etc.
**Resistive

