




Series 215


# Flanged Chamber

Adjustable Deadband 12" to 24", Pressure to 450 psig (31 bar), Temperature to 500°F (260°C), Hermetically Sealed Switches

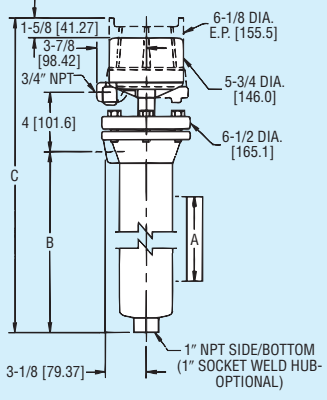




Series 217 has one vertical and one horizontal flanged connection (1" RF forged steel - ANSI specifications). Flange centerline 27-1/4" (L12) - 692 mm. Other centerlines available.



Series 215 is connected with one vertical and one horizontal 1" NPT connection. 1" socket weld optional.



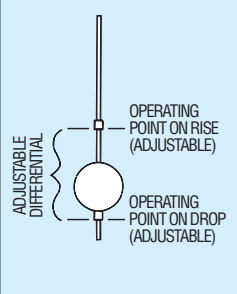
Dimensions:  
 1-5/8 [41.27]  
 3-7/8 [98.42]  
 3/4" NPT  
 4 [101.6]  
 6-1/8 DIA. E.P. [155.5]  
 5-3/4 DIA. [146.0]  
 6-1/2 DIA. [165.1]  
 3-1/8 [79.37]  
 1" NPT SIDE/BOTTOM (1" SOCKET WELD HUB- OPTIONAL)

**Operation Section**

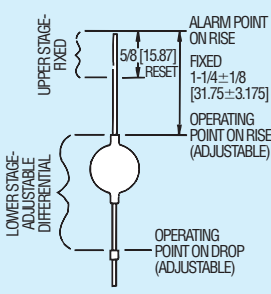
TYPE NO.	*SUFFIX NUMBER	ADJUSTABLE LEVEL CHANGE DIMENSION "A"		CHAMBER DIMENSION "B"	OVERALL CONTROL DIMENSION "C"
215---- G, WT	L12	12" max (305 mm)	1 1/2" min. (38 mm)	24 7/16" (621 mm)	32 7/8" (835 mm)
	L24	24" max (610 mm)	1 1/2" min. (38 mm)	36 7/16" (926 mm)	44 7/8" (1140 mm)
215---- E, EV	L12	12" max (305 mm)	1 1/2" min. (38 mm)	24 7/16" (621 mm)	34 9/16" (878 mm)
	L24	24" max (610 mm)	1 1/2" min. (38 mm)	36 7/16" (926 mm)	46 9/16" (1184 mm)

\* Consult factory for longer lengths. Adjustable 12" differential is standard.  
 Minimum differential is based on a specific gravity of 1.0 and may vary by type of control and specific gravity of liquid used.

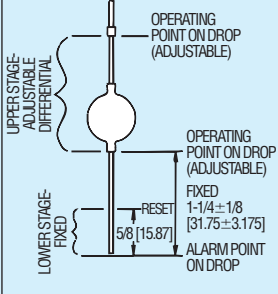
**Operation Section**



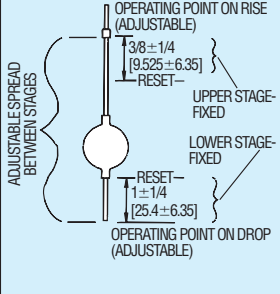
215-1  
ADJUSTABLE DIFFERENTIAL  
OPERATING POINT ON RISE (ADJUSTABLE)  
OPERATING POINT ON DROP (ADJUSTABLE)



215-2  
UPPER STAGE- ADJUSTABLE DIFFERENTIAL  
LOWER STAGE- ADJUSTABLE DIFFERENTIAL  
ALARM POINT ON RISE (ADJUSTABLE)  
FIXED 1-1/4 ± 1/8 [31.75 ± 3.175]  
OPERATING POINT ON RISE (ADJUSTABLE)  
OPERATING POINT ON DROP (ADJUSTABLE)



215-3  
UPPER STAGE- ADJUSTABLE DIFFERENTIAL  
LOWER STAGE- FIXED  
OPERATING POINT ON DROP (ADJUSTABLE)  
FIXED 1-1/4 ± 1/8 [31.75 ± 3.175]  
ALARM POINT ON DROP



215-4  
ADJUSTABLE SPREAD BETWEEN STAGES  
UPPER STAGE- FIXED  
LOWER STAGE- FIXED  
OPERATING POINT ON RISE (ADJUSTABLE)  
3/8 ± 1/4 [9.525 ± 6.35]  
RESET  
OPERATING POINT ON DROP (ADJUSTABLE)  
RESET  
1 ± 1/4 [25.4 ± 6.35]

**Adjustable deadband, flanged chamber and side mount** are featured in the heavy duty reliable 215 series. A choice of four operating styles are offered: 1. Single stage adjustable deadband suitable for pump operation; 2. Two stage operation with adjustable lower stage, fixed upper stage for pump and high alarm; 3. Fixed lower stage and adjustable upper stage for pump and low alarm; 4. Fixed upper and lower stage for high and low alarm. Alarm stages can also be used for shutdown. Adjustable level changes are available in increments of 12", 24", 36", or 48".

**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:** 0.60.
- Switch Type:** Snap action or mercury. See charts A and B.
- Electrical Ratings:** See charts A and B.
- Wiring Connections:** G, WT or E enclosure, terminal block. EV enclosure, 18" (460 mm) leads.
- Process Connections:** 1" NPT standard (1" socket weld hubs or flanges optional).
- Enclosures:** G, painted steel and aluminum. WT, painted steel, aluminum, neoprene. E, aluminum. EV, aluminum and neoprene.
- Wetted Parts:** C1 construction. Chamber, carbon steel. Float and trim 303SS, 304SS, 430SS.
- Weight:** 215, 50 lb (22.7 kg); 217, 60 lb (27 kg); 218, 67 lb (30.4 kg).

**Suggested Specifications**

Liquid level control shall be 215 (217) (218) Series with adjustable deadband of (12") (24") (36") (48"). Unit shall be external side mount type. Process connections shall be 1" NPT (socket weld hub) (flanged). Suitable for operation at 450 psig (31 bar) and 100°F (38°C); 300 psig (21 bar) at 500°F (260°C) with a minimum specific gravity of 0.60. Switch mechanism shall be gravity return and shall be activated by a stainless steel float.

**MODEL CHART – SERIES 215**

<b>EXAMPLE</b>	215-2	WT	7810	10	C1	60	L12	215-2-WT-7810-10-C1-60-L12 Liquid level control, flanged carbon steel chamber. Weather proof enclosure. 2 single pole double throw snap action switches. Lower stage adjustable deadband to operate pump or other devices, upper stage fixed to operate alarm or shutdown. Operating pressure 450 psig (31 bar) at 100°F (38°C) 300 psi (21 bar) at 500°F (260°C). Side/bottom process connection, 1" NPT. Minimum specific gravity 0.60.		
<b>OPERATION</b>	215-1		XXXX					Single stage operation with an adjustable deadband. Suitable for pump operation.	UL	CSA
	215-2		XXXX	XX				Two stage operation. Lower stage has adjustable deadband. Upper stage has fixed deadband. Suitable for pump and high alarm.	UL	CSA
	215-3		XXXX	XX				Two stage operation. Lower stage fixed deadband. Upper stage has adjustable deadband. Suitable for pump and low alarm.	UL	CSA
	215-4		XXXX	XX				Two stage operation. Both stages have fixed deadband with adjustable spread between stages. Suitable for high and low alarm or shutdown.	UL	CSA
<b>ENCLOSURES</b>		G						General purpose, NEMA-1.	UL	CSA
		WT						Weather proof NEMA-3R, 4, 4X.	UL	CSA
		E						Explosion proof NEMA-7, 9. Class I Groups B, C, D. Class II Groups E, F, G. (CSA approved Groups C, D, E, F, G only).	UL	CSA
		EV						Explosion proof, vapor proof NEMA-7, 9. Class I Groups B, C, D. Class II Groups E, F, G. (CSA approved Groups C, D, E, F, G only).	UL	CSA
<b>CIRCUITS</b>  (For Electrical Circuits see charts A & B below.)			48XX					Single stage. Mercury switch. See Chart A.		
			48XX	XX				Two stage. Mercury switch. See Chart A.		
			78XX					Single stage. Snap switch. See Chart B.		
			78XX	XX				Two stage. Snap switch. See Chart B.		
			78XXHM					Hermetically sealed snap switch. See Chart B.		
			98XX					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.		
<b>OPTIONS</b>			98XX	XX				Two stage. High capacity DC snap switch. Use heat fins (HF) if process temperature exceeds 350°F (177°C). Not to exceed 450°F (232°C). See Chart B.		
	215				C1	60		Maximum pressure rating 450 psi (31 bar) at 100°F (38°C), and 300 psi (21 bar) at 500°F (260°C).	UL	CSA
							L12 L24	Adjustable level change. 1 1/2" (38mm) minimum, 12" (305mm) maximum. Adjustable level change 1 1/2" (38mm) minimum, 24" (610mm) maximum. 36" (91cm) and 48" (1.22m) available. Consult factory.	UL	CSA
<b>CONSTRUCTION</b>	217				C1	160		1" 150# flanges side/bottom process connection. Pressure rating 275 psi (19 bar) at 100°F (38°C), 150 psi (10 bar) at 500°F (260°C). Minimum specific gravity 0.60.	UL	CSA
	217				C1	360		1" 300# flanges side/bottom process connection. Pressure rating 450 psi (31 bar) at 100°F (38°C), 300 psi (21 bar) at 500°F (260°C). Minimum specific gravity 0.60.	UL	CSA
	217				C1	660		1" 600# flanges side/bottom process connection. Pressure rating 450 psi (31 bar) at 100°F (38°C), 300 psi (21 bar) at 500°F (260°C). Minimum specific gravity 0.60.	UL	CSA
	218				C1	160		1" 150# flanges side/side process connection. Pressure rating 275 psi (19 bar) at 100°F (38°C), 150 psi (10 bar) at 500°F (260°C). Minimum specific gravity 0.60.	UL	CSA
	218				C1	360		1" 300# flanges side/side process connection. Pressure rating 450 psi (31 bar) at 100°F (38°C), 300 psi (21 bar) at 500°F (260°C). Minimum specific gravity 0.60.	UL	CSA
	218				C1	660		1" 600# flanges side/side process connection. Pressure rating 450 psi (31 bar) at 100°F (38°C), 300 psi (21 bar) at 500°F (260°C). Minimum specific gravity 0.60.	UL	CSA
							H2	1" socket weld hub instead of 1" NPT.		

Level

**CHARTS A & B - ELECTRICAL CIRCUITS AND RATINGS**

SWITCH TYPE	SWITCH ACTION	ELECTRICAL RATINGS IN AMPS					ORDERING CODE			UL	CSA	
		AC			DC		SINGLE STAGE	TWO STAGE				
		120V	240V	440V	30V	125V		250V	LOWER			UPPER
<b>CHART A</b> 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		
<b>CHART B</b> 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