

# Float Switches

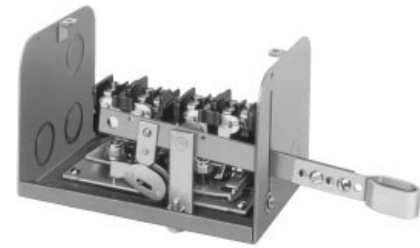
Class 9038 – Types A, B, C – Mechanical Alternators



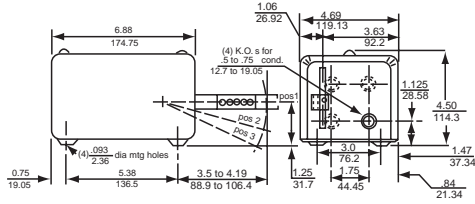
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FOR CURRENT INFORMATION

**Type A Open Tank** – Alternators are designed to provide motor alternation in the operation of two motors.



**Type AG1**  
Mechanical Alternator, Float Operated



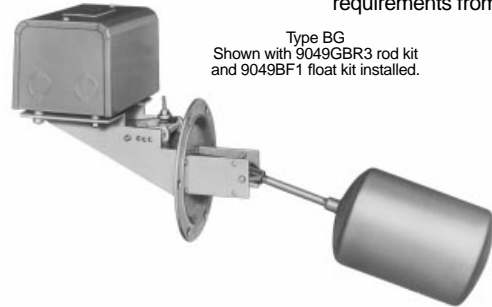
Class 9038 Type A							
Application	Description	NEMA Type 1		NEMA Type 4		NEMA Type 7 and 9	
		Type	Price	Type	Price	Type	Price
For Open Tank or Sump Systems Using Duplex Pumps	Mechanical Alternator Float Operated	AG1	\$124.	AW1	\$438.	AR1	\$428.

For use with Class 9049 Float Accessories listed on Page 18-8. Type AW AR alternators MUST use center hole floats.

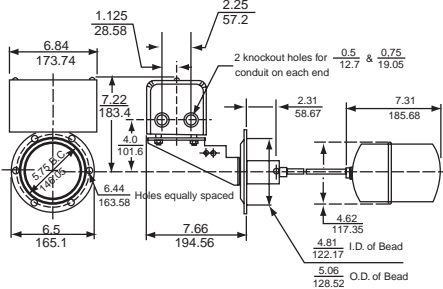
Type	Without Comp. Spring (No Form C)		Maximum Weight of Rod and Stops That Can Be Supported By Compensating Spring (Form C) Note: AW1 and AR1 have compensating spring standard.	Length of Rod Which Can Be Supported with Compensating Spring at Max. Adjust.		
	Force Up▲	Force Down		Brass ■	Stainless Steel ■	Aluminum ■
	AG1 (Min. Lever Ext.)	18 oz.		20 oz.	47 oz.	10 ft.
AG1 (Max. Lever Ext.)	16	17	41	8	10	21
AG1 Form R (Min. Lever Ext.)	14	16	33	7	8	17
AG1 Form R (Max. Lever Ext.)	11	12	30	6	7	15
AR1, AW1 (Standard Lever)	-	-	74	16	20	41
AR1, Form R, AW1 Form R (Std. Lever)	-	-	85	19	23	47

■ Rod length has been determined using weight of rod material furnished on Class 9049 accessories (1/8" O.D. tubing). Other types of rod should be weighed and compared to "weight of rod—above."  
▲ Add 2 oz. for Form N5 High Water alarm.

**Types B, C Closed Tank** – Flange mounted with bellows seal for control of liquid level within a closed tank. Build up the switch to meet your requirements from the basic switch, rod kit, and float kit groups below.



**Type BG**  
Shown with 9049GBR3 rod kit and 9049BF1 float kit installed.



Class 9038 Basic Switch Float Rod Lever Figure No.	NEMA Type 1		NEMA Type 4		NEMA Type 7 & 9	
	Type	Price	Type	Price	Type	Price
1	BG21	\$483.	BW21	\$806.	BR21	\$797.
2	BG22	483.	BW22	806.	BR22	797.
3	BG23	483.	BW23	806.	BR23	797.

**Class 9049 Rod Kits For Use With 9038 Type B**

Length of Rod (Inches) "R"	Brass		#316 Stainless Steel	
	9049 Type	Price	9049 Type	Price
3"	GBR3	\$ 8.10	GSR3	\$21.00
5"	GBR5	8.10	GSR5	21.00
7"	GBR7	8.10	GSR7	21.00
9"	GBR9	8.10	GSR9	21.00
11"	GBR11	8.10	GSR11	21.00
13"	GBR13	8.10	GSR13	21.00
★Special Lengths	GBR99	32.30	GSR99	89.00

★ Recommended maximum length is 36 inches.

**Class 9049 Float Kits For Use With 9038 Type B**

Description		Price
#304 S.S.	Class 9049 Type BF1	\$ 58.
#316 S.S.	Class 9049 Type BF2	117.

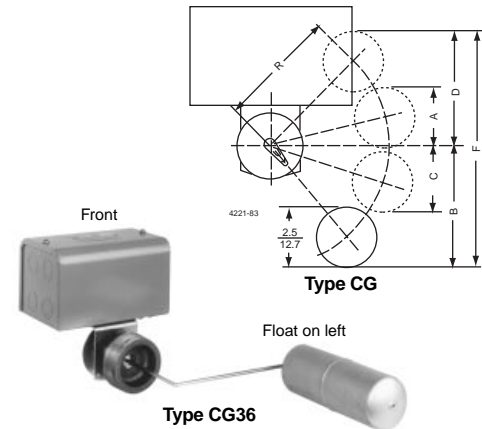
Type C switches are attached to the tank by means of a 2 1/2 inch screw-in connection. An external pointer indicates the float position within the tank when the unit is mounted. Switches come complete with screw-in connector, stainless steel float and rod.

**Class 9038 Type C**

Float Position Viewed from Front of Switch Facing Indicator Scale	"R"	Approx. Water Level Change		NEMA Type 1		NEMA Type 4		NEMA Type 7, 9	
		Min	Max	Type	Price	Type	Price	Type	Price
		Right	7"	6 1/2"	13"	CG31	\$264.	CW31	\$608.
Left	7"	6 1/2"	13"	CG32	264.	CW32	608.	CR32	598.
Right	4 1/4"	4"	7 1/4"	CG33	264.	CW33	608.	CR33	598.
Left	4 1/4"	4"	7 1/4"	CG34	264.	CW34	608.	CR34	598.
Right	5"	4 1/4"	9 1/4"	CG35	264.	CW35	608.	CR35	598.
Left	5"	4 1/4"	9 1/4"	CG36	264.	CW36	608.	CR36	598.

**Float Travel Adjustments For Class 9038 Type C**

"R"	Minimum						Maximum					
	A	B	C	D	F	A	B	C	D	F		
4 1/4"	2"	3 1/2"	2 1/2"	3 1/2"	7"	3 1/2"	4 1/4"	3 1/4"	4 1/4"	9 1/2"		
5"	2 1/4"	4"	2 3/4"	4"	8"	3 3/4"	5 1/4"	3"	5 1/4"	10 1/2"		
7"	2 1/2"	5"	2"	5"	10"	5"	7"	4"	7"	14"		

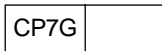


**Type CG**

**Type CG36**

For Replacement Float, see Type 9049 HF .....Page 20-8

For additional information, reference catalog number 9034CT9701 or D-Fax™ number 1571, 1572, 1573.



Discount Schedule



# Electrical Ratings

Class 9012, 9013, 9016, 9025, 9035, 9036, 9037, and 9038

## Control Duty Circuit Ratings

Contacts	AC – 50 or 60 Hz						DC			AC or DC Continuous Carrying Amperes	
	Volts	Inductive 35% Power Factor				Resistive 75% Power Factor	Volts	Inductive and Resistive			
		Make		Break				Make and Break Amperes	Single Throw		Double Throw
		Amps.	VA	Amps.	VA						
SPDT	120	60	7200	6	720	6	120	0.55	0.22	10	
	240	30	7200	3	720	3	250	0.27	0.11	10	
	480	15	7200	1.5	720	1.5	600	0.10	.....	10	
	600	12	7200	1.2	720	1.2	.....	.....	.....	.....	
DPDT	120	60	7200	6	720	6	125	0.22	0.22	10	
	240	30	7200	3	720	3	250	0.11	0.11	10	
	480	15	7200	1.5	720	1.5	600	.....	.....	10	
	600	12	7200	1.2	720	1.2	.....	.....	.....	.....	

## Type G Industrial

Contact Arrangement ★	Contact Symbol
1 N.O. – 1 N.C.	

★ 600 volt DC rating does not apply.  
Contacts are single pole, double throw — one circuit normally open and one circuit normally closed. These circuits are not electrically separate and can not be used on opposite polarities.

## Temperature Ratings

Ambient	Actuator	Minimum	Maximum
Media	All	-23°C (-10°F)	+85°C (+185°F)
	Diaphragm	-40°C (-40°F)	+120°C (+250°F)
Piston	-26°C (-15°F)		
	All with Forms Q4 and Q14	-26°C (-15°F)	

## Temperature Limitations For All 9013 F\* And G Switches

Media	Ambient
Min. -30°C (-22°F) Max. +125°C (+257°F)	Min. -30°C (-22°F) Max. +70°C (+158°F)

\* FSG and FYG 32°F min. (0°C)

## Maximum Allowable Pressure For All 9013 Switches

Type	Pressure
FHG, FSG, FYG, FSW, FYW	220 PSIG
FRG, GHB, GHG, GSB, GSG	300 PSIG
GMG, GSR, GSW	100 PSIG
GHR, GHW	250 PSIG

## Electrical Ratings For All 9013 Switches

Switch Type	Voltage	Single Phase AC	Polyphase AC ▲	DC	Control Circuit Rating
FHG2, 9, 12, 13, 44, 49 FSG, FSW	115 230 460/575	1 ½ HP 2 HP —	2 HP 3 HP 1 HP	½ HP■ ½ HP■ —	A600
FHG22, 29, 32, 53, 54, 59 FYG, FYW	115 230 460/575	2 HP 3 HP —	3 HP 5 HP 1 HP	½ HP★ ½ HP★ —	A600
FRG One Pole All Form H	32 115 230	— 1 HP 1 HP	— — —	— ¼ HP ¼ HP	A300
FRG Two Pole	32 115 230	— 1 HP 1 HP	— 1 HP 1 HP	— ¼ HP ¼ HP	A300
All 9013G Form H	115 230 460/575	1 HP 2 HP 2 HP	— — —	½ HP — —	A600
All 9013G Except Form H	115 230 460/575	2 HP 3 HP 5 HP	3 HP 5 HP 5 HP	1 HP 1 HP —	A600

■ DC Rating does not apply to Form M4.

★ ½ HP with Form M1.

▲ See 1993 NEC Article 430-84

## Type G Machine Tool, Temperature & Vacuum (except GVG)

Type	Contact Arrangement	Contact Symbol
Single Pole Double Throw	1 N.O. – 1 N.C.	

Snap switch contains two (2) double break contact elements (1 N.O. – and 1 N.C.) that must be used on circuits of same polarity.

Type	Contact Arrangement	Contact Symbol
Double Pole Double Throw	2 N.O. – 2 N.C.	

Snap switch contains two electrically separated sets of contact elements allowing use on circuits of opposite polarity. Each set contains two double break contact elements (1 N.O. and 1 N.C.) that must be used on circuits of same polarity.

## Electrical Ratings - 9016 GVG Types

Voltage	Single Phase AC	Polyphase AC	DC
110 V	2 HP	3 HP	1 HP
220 V	3 HP	5 HP	1 HP
440-550V	5 HP	5 HP	—
32 V	—	—	½ HP

CONTROL CIRCUIT RATING: A600

## Electrical Ratings:

Applies to Class and Type	Single Phase AC		Polyphase AC ▲		DC			Control Circuit		
	115V	230V	115V	230V	460/575V	32V	115V		230V	
9035DG30, DR30, DW30 (2 pole)	2 hp	3 hp	—	3 hp	5 hp	1 hp	¼ hp	½ hp	½ hp	A600
9035DG31, DR31, DW31 (1 NO, 1 NC)	1 hp	1 hp	—	—	—	—	—	¼ hp	¼ hp	A300
9036DG, DR, DW (2 pole), FG	2 hp	3 hp	—	3 hp	5 hp	1 hp	¼ hp	½ hp	½ hp	A600
9036GG, GR, GW (2 pole)	2 hp	3 hp	5 hp	3 hp	5 hp	5 hp	½ hp	1 hp	1 hp	A600
9036G Form H (1 NO, 1 NC)	1 hp	2 hp	2 hp	—	—	—	—	½ hp	½ hp	A300
9037DG, DR, DW; EG, ER, EW; HG, HR, HW (2 pole)	2 hp	3 hp	—	3 hp	5 hp	1 hp	¼ hp	½ hp	½ hp	A600
9037GG, GR, GW (2 pole)	2 hp	3 hp	5 hp	3 hp	5 hp	5 hp	½ hp	1 hp	1 hp	A600
9037G Form H (1 NO, 1 NC)	1 hp	2 hp	2 hp	—	—	—	—	½ hp	½ hp	A300
9038 All Devices (2 pole)	2 hp	3 hp	—	3 hp	5 hp	1 hp	¼ hp	½ hp	½ hp	A600

▲ See 1993 NEC Article 430-84

## Temperature Limitations For All Float Switches:

Ambient Min. -30°C (-22°F)  
Max. 121°C (250°F)

For additional information, reference catalog number 9012CT9701, 9013CT9701R8/98, 9034CT9701 or D-Fax™ number 1567-1573.

