

## F59 Series Liquid Level Switch For Sump Operation

### Application

These weight operated switches control the liquid level in sumps. Switches are factory adjusted to operate with weights to close the contacts on liquid rise. Note: Switches can be rotated 180° and adjusted to open contacts on liquid rise for "open tank" (tank filling) operation if desired. The F59D is suitable for replacement on submersible pumps.

Weights can be used in mild acids, alkalies, oils and water.

All F59 Series switches are designed for use *only* as operating controls. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add devices (safety, limit controls) or systems (alarm, supervisory systems) that protect against, or warn of, control failure.



Fig. 1 -- F59A-2 for universal mounting.

### Specifications

<b>Product</b>	<b>F59A-1 with Weight Kit*</b>	DPST, Fixed Mounting Bracket, Two 1/2" (13 mm) Holes in Case with 3/8" (10 mm) I.D. Grommets for Drop Cord Wiring
	<b>F59A-4 Less Weight Kit</b>	
	<b>F59A-2 with Weight Kit*</b>	DPST, Universal Mounting Two 1/2" (13 mm) Holes in Case with 3/8" (10 mm) I.D. Grommets for Drop Cord Wiring
	<b>F59A-5 Less Weight Kit</b>	
	<b>F59B-1 Less Weight Kit</b>	DPST, Drop Cord Wiring, Fixed Mounting Bracket, Arkles Terminals
	<b>F59D-5 with Weight Kit*</b>	SPST, Mounting Clamp for Pedestal or Discharge Pipe Mounting, Switched Power Cord and 3-Prong Power Plug
<b>Product</b>	<b>F59H-1 with Weight Kit*</b>	DPST, Fixed Mounting Bracket, Conduit Wiring 7/8" (22 mm) Conduit Openings
	<b>F59H-6 Less Weight Kit</b>	
<b>Case</b>		NEMA Type 1, .0375" (.95 mm) Cold Drawn Stainless Steel
<b>Cover</b>		.025" (.6 mm) Cold Drawn Steel
<b>Electrical Ratings</b>	<b>F59A, F59B and F59H</b>	1 hp at 120, 240 VAC, 1, 2, 3 Phase, 1/4 hp at 32 VDC
	<b>F59D</b>	1/2 hp at 120 VAC Only
<b>Finish</b>	<b>Case</b>	Stainless
	<b>Cover</b>	Gray Baked Enamel
<b>Material</b>	<b>Weights</b>	Phenolic with Epoxy Seal — Will Not Waterlog or Deteriorate
	<b>Cable</b>	High Density Polyethylene, 3 ft (.9 m) Standard. Longer Lengths are Monel
<b>Maximum Ambient Temperature</b>	<b>Switch</b>	140°F (60°C)
	<b>Weights and Cable</b>	150°F (66°C)
<b>Replacement Weight Kits</b>	<b>WGT11A-600R</b>	3 ft (.9 m) Polyethylene Cable
	<b>WGT11A-601R</b>	3 ft (.9 m) Monel Cable
	<b>WGT11A-604R</b>	4 ft (1.2 m) Monel Cable

\*Includes 3 ft (.9 m) polyethylene cable and two weights.

### Features

- Universal mounting.
- Stainless steel case.
- Phenolic weights with non-corrosive cable.
- Dependable precision contact block.

### General Description

The contact block has been proven on thousands of Johnson Controls pump switches. High contact force is maintained right up to the contact break point. The F59A, F59B and F59H switches have two-pole contact units rated at 1 hp, 120/240 VAC. The F59D switches have one-pole contact units rated at 1/2 hp, 120 VAC only. The switch block is factory set and sealed. No field adjustment of this unit is necessary. A universal mounting bracket or fixed mounting bracket is attached to the case for mounting. The fixed mounting bracket can be reversed in the field and remounted on the opposite side of the case in the holes provided. Weights and 36 in. non-corrosive cable are normally supplied but the switch can be ordered less weight assembly.

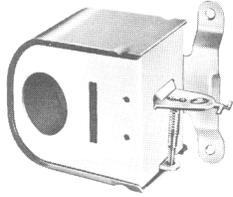


Fig. 2 -- F59H-1 with fixed mounting bracket for conduit wiring.

### Optional Constructions (Quantity Orders Only)

Switches may be supplied for sump, open tank or float operation. Unless otherwise specified, sump operation is provided. Choice of mounting and wiring is available.

#### Cover Screw

Provided at additional cost, if required.

### Repairs and Replacement

The weights and cable can be replaced in the field. Other repairs must not be made. The weight kit includes two weights and cable.

Replacement kits are available with the cable lengths shown in the Specifications table.

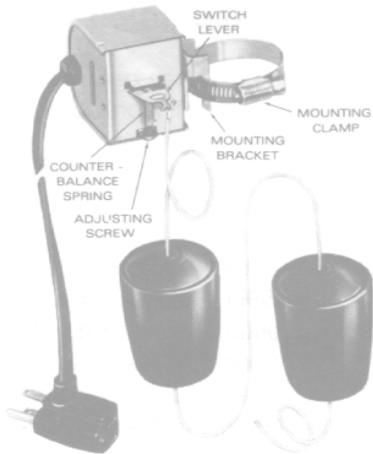


Fig. 3 -- F59D-5 liquid level switch with weight kit.

### Shipping Weight (Approx.)

Switch Type Number and Description	Ind. Pack		Overpack			Bulk Pack		
	lb	kg	Qty.	lb	kg	Qty.	lb	kg
F59A with Weight Kit	1.4	.63	25	37	16.8	—	—	—
F59A Less Weight Kit, Fixed Bracket	.6	.27	50	32	14.5	50	27	12.2
F59A Less Weight Kit, Universal Bracket	.6	.27	50	32	14.5	40	22	10.0
F59D with Weight Kit	1.8	.86	18	36.2	16.4	—	—	—
F59H with Weight Kit	1.4	.63	25	37	16.8	—	—	—
F59H Less Weight Kit, Fixed Bracket	.6	.27	50	32	14.5	50	27	12.2
WGT11A-( ) Weight Kit Only in Carton	.9	.4	22	21.8	9.9	—	—	—
WGT11A-( ) Weight Kit Only in Bag	—	—	—	—	—	40	34	15.4
	—	—	—	—	—	50	42	19.1

Replacement switches and weight kits may be obtained from your nearest Johnson Controls wholesaler. When ordering a replacement switch or kit, give complete Product Number found on the switch or weight Kit Number from the table.

### Ordering Information

Product Numbers shown in the Specifications table are assigned for ordering convenience. No other specification required. Switches listed in table are adjusted for sump operation.

If switch only is needed or other than the 36 in. cable (quantity orders only), specify:

1. Product Number (see table).
2. "Sump" or "Open Tank" operation.
3. Weights and wire cable by Part Number if other than Part Number WGT11A-601R.
4. Individual or bulk packaging.

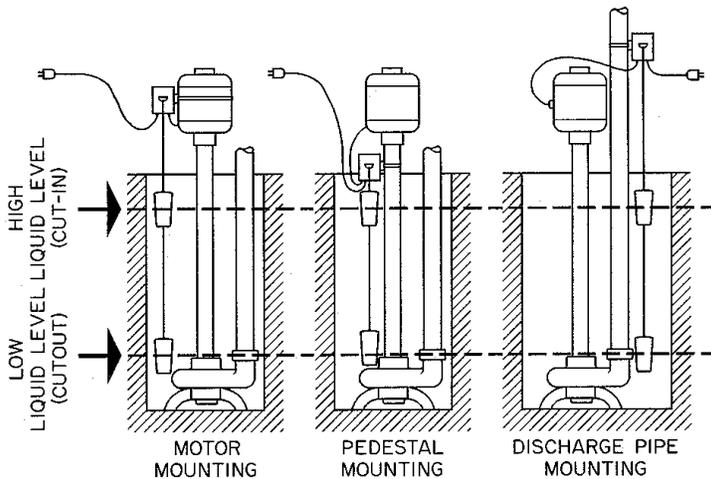
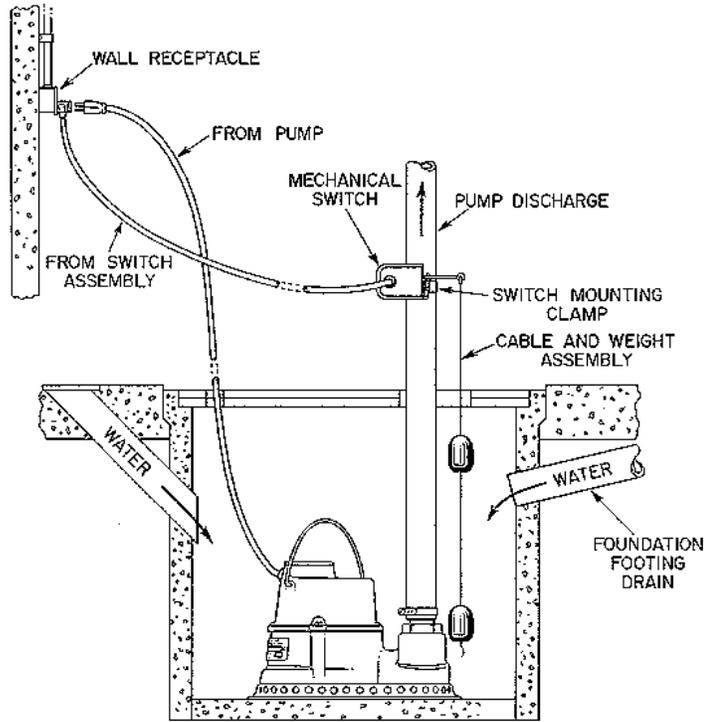
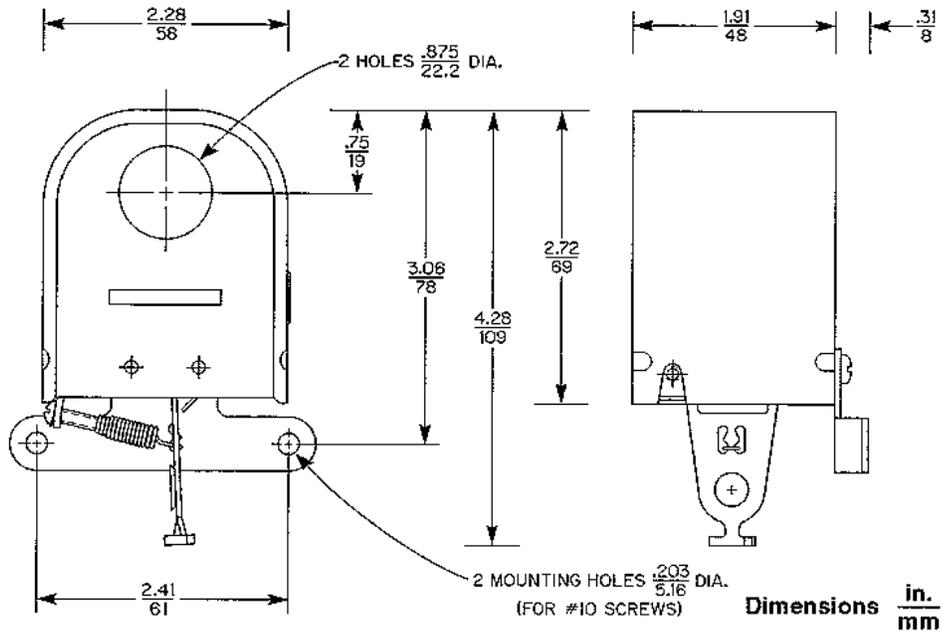


Fig. 4 — F59A-2 switch with universal mounting mounted on motor, pedestal or discharge pipe.



**Fig. 5 — Typical installation of the F59D-5 on a submersible pump.**



**NOTE: Dimensions are for the F59H with fixed mounting bracket for conduit wiring. Principal dimensions for all types are identical.**

*Performance specifications appearing herein are nominal and are subject to accepted manufacturing tolerances and application variables.*

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## Notes

F59A: UL Guide No. NKPZ2  
File E29374

F59D, F59H: UL Guide No. NPKZ  
File E29374

F59H: CSA Class No. 3211 06  
File LR948

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