

# PAR™

ELECTRONIC LIQUID SENSOR  
DRY TANK SWITCH

MODEL 18670-0000 12vDC  
18670-0001 24vDC  
18670-0002 32vDC

PRODUCT DATA



## APPLICATIONS

Install in suction line to pump, will shut-off pump when supply runs dry. Protects water pressure system from dry running and discharging batteries or damaging the pump or motor. Install low in a supply tank to shut down pump or disengage an electric clutch.

Not recommended, for use with highly conductive or viscous liquids.

## GENERAL INFORMATION

The PAR Electronic Liquid Sensor is a device made up of a 10 AMP relay controlled by a solid state sensing circuit that is triggered by the conductivity of the liquid in which the probes are submerged. Most liquids are conductive. Some are not, such as distilled water, gasoline and pure oil. Generally the mineral or salt content, even when only trace amounts are present, will be sufficient to operate the conductivity circuit. Requires installation of momentary reset switch (Jabsco Model 96070-0637).

## INSTALLATION

Plumbing: Locate a convenient spot along the supply line from tank to pump. If an in-line strainer is fitted, install the sensor between the strainer and pump.

## FEATURES

- Solid State Sensor Integrated Circuit
- Built-in Relay
- 10 Amp Service-DC Only
- Senses Presence of Fresh Water
- Splash Proof
- Meet USCG Electrical Standards

## SPECIFICATIONS

Model	v DC	Working Voltage	Amps
18670-0000	12	9 to 16 v DC	10
18670-0001	24	19 to 33 v DC	10
18670-0002	32	27 to 40 v DC	10

Maximum current draw: 0.1 amp @ 12v  
0.05 amp @ 24v  
0.03 amp @ 32v

**Switch Type:** SPST, Normally open

**Material:** Sensors, Monel 400

Housing, Celcon

**Leads:** 24" Long #16 AWG

**Mounting:** 1/4" NPT, tapered pipe threads,  
5/8" hex head

**Color Code:** Red, Power in (+)  
Black, Relay Ground (-)  
Brown, Power to Pump 12v  
Blue, Power to Pump 24v  
Yellow, Power to Pump 32v

Cut supply line and install a plumbing tee in the line. Size the tee for minimum restriction. The inside diameter should be at least equal to that of the hose or piping. For 1/2" plumbing use a 1/2 x 1/2 x 1/4 tee and for 3/4" plumbing, use a 3/4 x 3/4 x 1/4 tee.

See Figure 1. A bushing may be used to attain the 1/4" NPT connection. Use Teflon tape to seal threads. Do not use oil base pipe dope with plastic fittings.

MODEL 18670-0000 12V DC  
18670-0001 24V DC  
18670-0002 32V DC

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Form 43000-0383

## INSTALLATION

FIGURE 1.

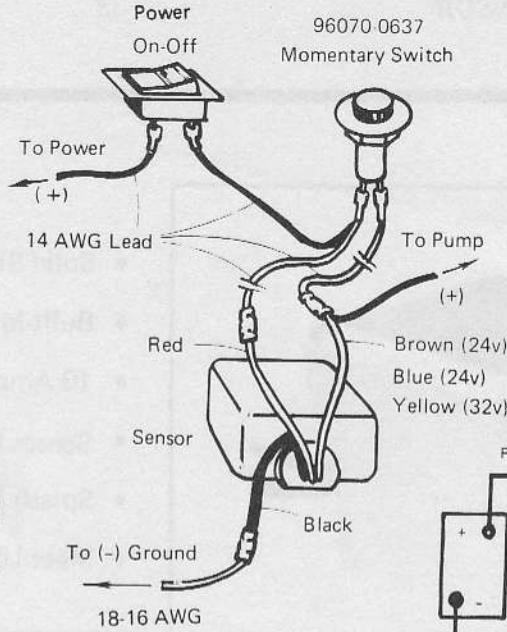
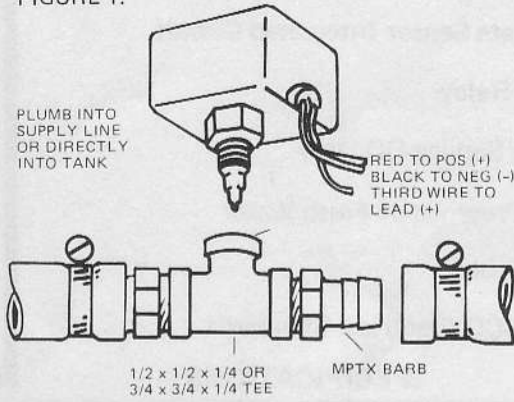
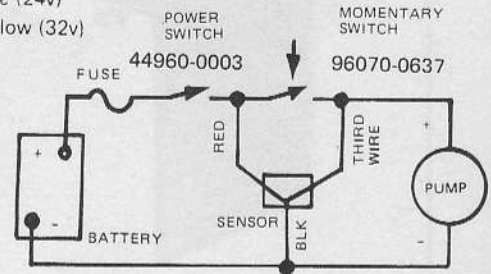


FIGURE 2



**IMPORTANT:** Any residual water in a "dry" system must drain away from sensor probe. Best results may be obtained when sensor is mounted up right or nearly up right (within 90°).

**ELECTRICAL:** Wire the sensor into the positive circuit between the power on-off switch and the load (pump). A momentary switch must also be added to prime a dry system. A high quality 10 AMP momentary switch such as the Cole Hersee M485 or 492 is recommended (Jabsco P/N 96070-0637).

The momentary switch should be installed next to the power on-off switch and two (2) runs of 14 AWG wire should be used between the momentary switch and the sensor. Connect one run to the red lead and the other to the brown (12v), blue (24v) or yellow (32v) lead. If power on-off switch is at the distribution panel, it may be more convenient to locate the momentary switch in the galley, near a fresh water faucet; or near the pump.

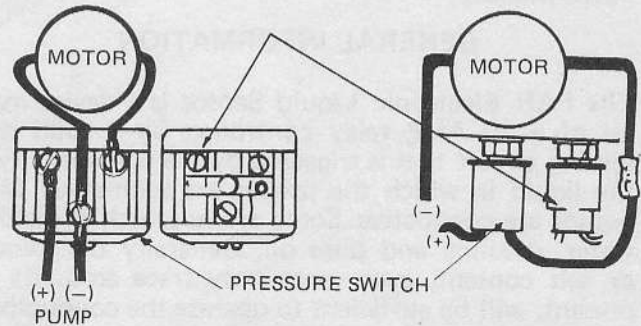
Next connect the red sensor wire to the positive (+) lead from the power on-off switch. Connect the brown (12v), blue (24v) or yellow (32v) run to the positive lead of the pump. Wire the black sensor lead to battery ground. See Figure 2.

**NOTE:** Electrical connections exposed to marine environment should be sprayed with a corrosion preventative or moisture protectant.

### PAR™ Retrofit of Liquid Sensor on PAR Pump with Built-In Dry Tank Switch:

1. Do not remove old switch.
2. Remove wires from old dry tank switch.
3. Re-wire PAR pump as shown below.
4. Refer to figure 2 above and connect new liquid sensor brown-12v (blue 24v or yellow 32v) wire to pump (+) wire.
5. Plumbing to be done as described in balance of this instruction sheet.

(REMOVE WIRES FROM OLD DRY TANK SWITCH)



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