

SHURflo

INDUSTRIAL PRODUCTS LIMITED WARRANTY

SHURflo Industrial series pumps and products are warranted to be free of defects in material and workmanship under normal use, for a period of one (1) year from the date of manufacture or one (1) year of use, with proof of purchase. This limited warranty will not exceed two (2) years, in any event.

The limited warranty will not apply to pumps/products that were improperly installed, misapplied, damaged, altered, incompatible with fluids or components not manufactured by SHURflo.

All Industrial pumps/products **must** be flushed of **any** chemicals before shipping*. All warranty considerations are governed by SHURflo's written Return Policy.

Returns are to be shipped postage prepaid to either service center; SHURflo Garden Grove, CA or Elkhart, IN. SHURflo shall not be liable for freight damage incurred during shipping. Package returns carefully.

SHURflo's obligation under this warranty policy is limited to the repair or replacement of the pump/ product. All returns will be tested per SHURflo factory criteria. Products found not defective (under the terms of this limited warranty) are subject to charges paid by the returnee for the testing and packaging of "tested good" non-warranty returns.

No credit or labor allowances will be given for pumps or products returned as defective. Warranty replacements will be shipped on a freight allowed basis. SHURflo reserves the right to choose the method of transportation.

This limited warranty is in lieu of all other warranties, expressed or implied, and no other person is authorized to give any other warranty or assume obligation or liability on SHURflo's behalf. SHURflo shall not be liable for any labor, damage or other expense, nor shall SHURflo be liable for any indirect, incidental or consequential damages of any kind incurred by the reason of the use or sale of any defective product or part. This limited warranty covers industrial products distributed within the United States of America. Other world market areas should consult with the actual distributor for any deviation from this document.

RETURN POLICY

All industrial pumps/products **must** be flushed of **any** chemical (ref. OSHA Section 1910.1200(d)(a)(f)(g)(h)) and hazardous chemicals **must** be labeled / tagged before being shipped* to SHURflo for service or warranty consideration. SHURflo reserves the right to request a Material Safety Data Sheet from the returnee for any pump/product it deems necessary. SHURflo reserves the right to "disposition as scrap" pumps/products returned which contain unknown fluids. SHURflo reserves the right to charge the returnee for any and all costs incurred for chemical testing, and proper disposal of components containing unknown fluids.

SHURflo request this in order to protect the environment and personnel from the hazards of handling unknown fluids. * Carriers, including U.S.P.S., airlines, UPS, ground freight, etc., require specific identification of any hazardous materials to be shipped. Failure to do so may result in a substantial fine and/or prison term. Check with your shipping company for specific instructions.



SHURflo

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SHURflo reserves the right to update specifications, prices, or make substitution.

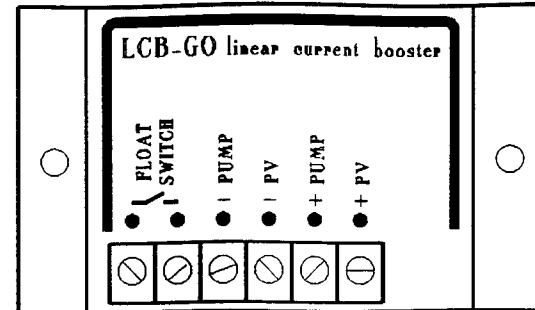
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91-193 ReC 1/98

Installation Manual for the SHURflo 902-100 LCB - GO Pump Controller



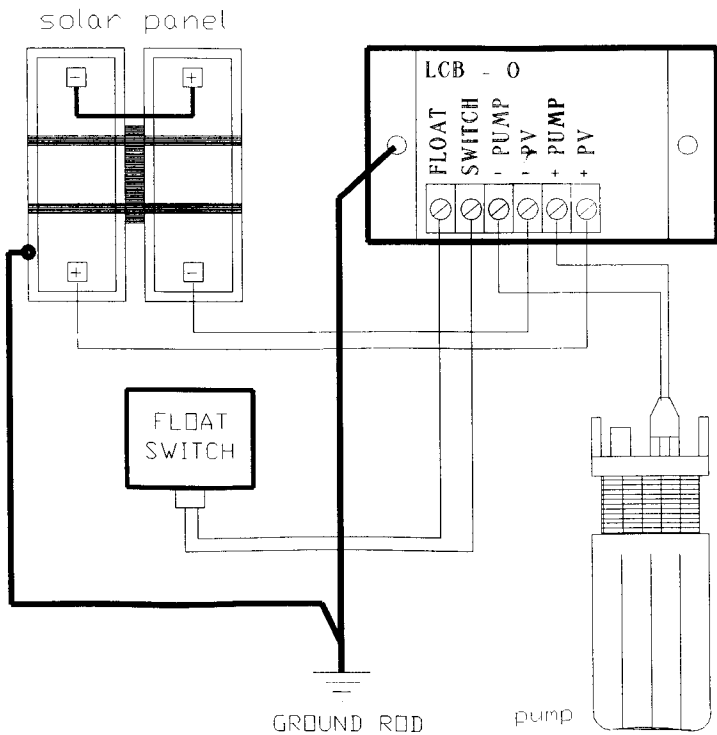
The SHURflo "LCB - GO" pump controller is a DC power converter designed as an interface between a DC (Solar)-Pump (e.g. SHURflo 9300 series) and a DC power source, like solar panels, wind generators,.. The main function of this controller is to maximise the daily water output while providing protection for the pump.

The solid state controller will protect the pump system and give trouble free service for many years. When used in a solar pumping system, directly connected to the solar power, it will protect the pump from over voltage and over current conditions as well as will provide current boosting in low sunshine (radiation) conditions.

The manual will show you how to make the connection for your particular system configuration and the wiring diagram is given.

WIRING DIAGRAM

LCB-GO



Installation

(see diagram on next page)

- 1) Mount the LCB using two screws. If necessary (high ambient temperature > 100°F) and for better heat derivation use metal plates surfaces for installation (heatsink extension).
- 2) Connect the PV-panel cable, while covering the solar panels against sunshine (radiation).
- 3) Connect the solar pump cable. Tighten carefully!
- 4) If required, connect the float switch to the terminals. "Bridged", stops the pump

IMPORTANT

Do not ground hot wire (+, -) but unit housing

Power Matching of the Controller

For use on panel direct systems, the LCB Pump Controller is set to keep the voltage constant around the maximum power point of the panels, and matching the electric requirements of the pump. The purpose for the matching is to maximise the daily water output of the solar pumping system.

Wiring the LCB Pump Controller

- a. Float switch (remote) ON/OFF Circuit is used to turn the pump on and off from a remote location, e.g. a float switch in a reservoir. (Short the two terminals to turn the pump off.)
- b. PV- (IN) Negative wire from the PV array.
- c. PV+ (IN) Positive wire from the PV array.
- d. PUMP- (OUT) Negative wire from the pump (load).
- e. PUMP+ (OUT) Positive wire from the pump (load).

*** Note:**

**IMPORTANT = Watch for the correct electric connection =
IMPORTANT**
("+ / -" cable connection)

**INSTALL INDOORS ONLY, UNLESS CONTROLLER IS BEING
INSTALLED IN A WATERTIGHT CASING**

**== DO NOT EXPOSE THE CONTROLLER ==
INTO DIRECT SUNLIGHT**

LCB - GO Specification

* Maximum input voltage	45 VDC (Open Circuit) (Two Panels 12 V nom. in series max.)
* Start up voltage with	25,0 V +/- 2% two modules 17,5 V mpp in series
* Output voltage limiting	28 volt
* Maximum power consumption of the PV-pump-system	150 watts
* Maximum output current	5 amps
* Power consumption	25 ma
* Ambient temperature	14°F - 113°F (-10...+45°C)
* Short-circuit protection	20 sec.

Features

- 1) Current boosting for the matching the load requirements of the pump motor.
- 2) Voltage limiting for pump protection
- 3) Remote float switch circuit.
- 4) One year limited warranty