



## INSTALLATION INSTRUCTIONS FOR SYMCOM UNITS

# 112 & 232 INSIDERS FOR GRUNDFOS CONTROL BOXES

### **DANGER!**



**HAZARDOUS VOLTAGES MAY BE PRESENT DURING INSTALLATION.**  
Electrical shock can cause death or serious injury.



Installation should be done by qualified personnel following all national, state and local electrical codes.

The Model 112 Insider single phase PumpSaver® fits inside 1/3 and 1/2 hp 115 VAC control boxes. The Model 232 Insider single phase PumpSaver® fits inside 1/3, 1/2, 3/4, and 1 hp 230V control boxes. PumpSaver® Models are designed to protect single-phase pumps from dry well, dead head, jammed impeller, and over / under voltage conditions. Typical applications include residential waterwells, commercial waterwells, irrigation wells, and golf course and other sprinkler systems.

### **CONNECTIONS**

1. Open the front cover of the three-wire control box. Remove upper plastic cover.
2. Remove the *yellow* wire from the terminal strip at L2 and remove the black wire from L1 (see Figure No. 1).
3. Move the yellow jumper L2 connection to rear terminal.
4. Press the PumpSaver® onto the L1 and L2 terminals (see Figure No. 2).
5. Connect the *yellow* wire to the bottom terminal on the PumpSaver® and the black wire on the upper terminal (see Figure No. 2).
6. If the control box had a knockout on the black plastic upper cover, remove knockout and replace cover.

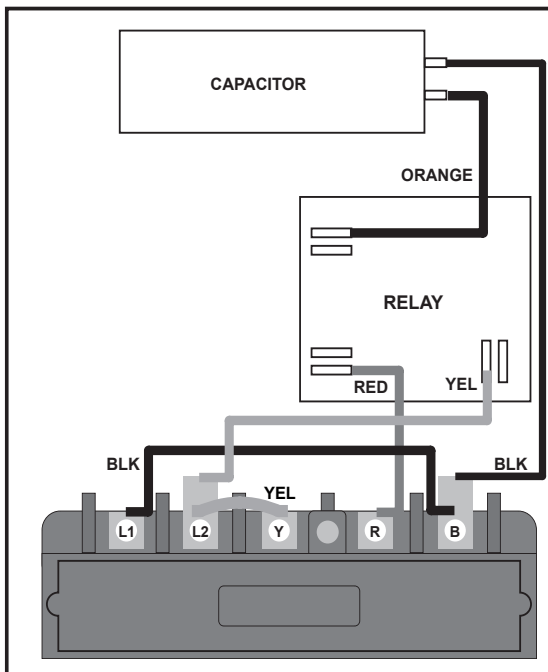
### **CALIBRATION / SETTINGS**

1. Set the RESTART/CALIBRATION pot in the "CAL." position and close the box cover.
2. Apply power to the system. The pump should run for approximately 10 seconds and then shut off. After the pump shuts off, the PumpSaver® has calibrated itself for this particular pump installation.
3. Remove power from the system. Open the control box and set the appropriate drywell recovery time on the "RESTART DELAY" timer.
4. Shut the control box and reapply power to the system.

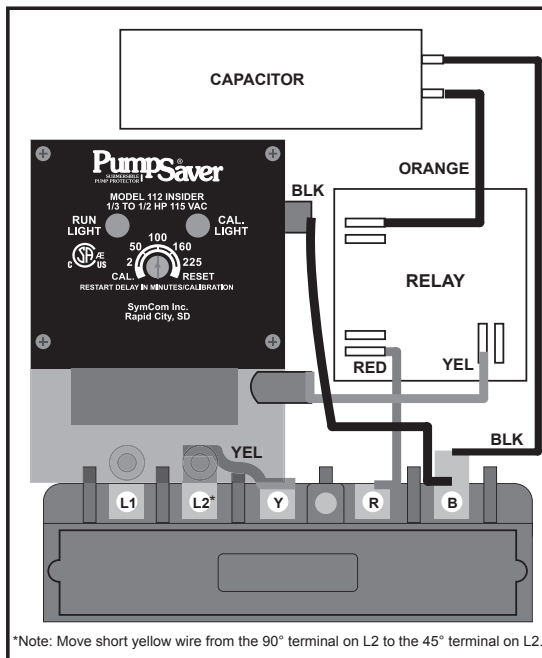


**SymCom**<sup>Inc</sup>  
Motor Protection & Controls Since 1974

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**FIGURE NO. 1: CONTROL BOX WITHOUT PUMPSAVER® INSTALLED**



**FIGURE NO. 2: CONTROL BOX WITH PUMPSAVER® INSTALLED**

## DIAGNOSTIC INDICATOR TABLE

<b>RUN LIGHT</b>	<b>CAL. LIGHT</b>	<b>PROBLEM or FUNCTION</b>	<b>CORRECTIVE ACTION</b>
On Steady	Off	<b>RUN:</b> Pump is running, no problems in operation.	None
On Steady	On Steady	<b>CAL:</b> The PumpSaver® is in the calibration process.	None
Off	On Steady	<b>CAL COMPLETE:</b> The PumpSaver® is calibrated, RESTART DELAY / CALIBRATION pot was left in "CAL." position. Pump is off.	Pump will restart as soon as the RESTART DELAY / CALIBRATION pot is rotated out of the "CAL." position.
Off	Off	<b>OFF / MANUAL RESTART:</b> The pump is not running. Either the PumpSaver® has tripped on dry run, dead head, or overload while the RESTART DELAY / CALIBRATION pot was in the "RESET" position or source power is not present.	If pot is in the "RESET" position, rotate out of that position. If the "CAL" light blinks, check for an overload condition. If the "RUN" light blinks, look for a dry run or dead head condition. If no lights come on, check incoming power for adequate voltage.
Blinking	Off	<b>DRY RUN / DEAD HEAD:</b> The PumpSaver® has shut the pump off due to a dry run or dead head condition. The unit is timing through the restart delay and will try to restart.	Check for restricted flow or inadequate supply of liquid.
Off	Blinking	<b>OVERLOAD:</b> The PumpSaver® has shut the pump off due to an overload condition. The unit is timing through the restart delay and will try to restart if line voltage is at an acceptable level.	Check for low or high voltage or jammed pump impellers. If these condition do not exist, recalibrate the unit while it is drawing higher amps (Amps should not exceed SFA).
Blinking alternately with the CAL. Light	Blinking alternately with the RUN Light	<b>VOLTAGE FAULT:</b> The PumpSaver® is preventing the pump from starting due to voltage problems. The voltage is being interrogated and the unit will remain in this mode until the voltage is at an acceptable level.	If the unit remains in this state for more than 5 seconds, check for high or low voltage.

**CONGRATULATIONS!!**  
**YOU HAVE JUST INSTALLED THE FINEST**  
**PUMP PROTECTION AVAILABLE!!**

**Any questions or comments call SymCom at 1-800-843-8848 or**  
**1-605-348-5580**

## SPECIFICATIONS

	<b>Model 112 Insider</b>	<b>Model 232 Insider</b>
<b>1-Phase Line Voltage</b>	115 VAC	230 VAC
<b>Load Range</b>	1/3 to 1/2 hp	1/3 to 1 hp
<b>Frequency</b>	50 or 60 Hz	
<i>Note: 50 Hz will increase all delay timers by 20%</i>		
<b>Operating Points</b>		
<b>Overload</b>	125% of Calibration Point	
<b>Underload (Dry Well)<sup>1</sup></b>	Aproximately 80% of Calibration Point	
<b>Overvoltage Trip Point</b>	132.5 VAC	265 VAC
<b>Undervoltage Trip Point</b>	95 VAC	190 VAC
<b>Trip Delay Time (Overload)</b>	5 Seconds	
<b>Trip Delay Time (Dry Well)</b>	2 Seconds	
<b>Restart Delay Time</b>		
Over / Undervoltage	5 Seconds	
All Other Faults	Manual, 2-225 Minutes	
<b>Output Contact Rating-SPST</b>	1/2 hp, 120 VAC (17 amps max)	1 hp, 240 VAC (17 amps max)
<b>Electrostatic Discharge (ESD)</b>	IEC 1000-4-2, Level 2, 4kv Contact, 6 kv Air	
<b>Power Consumption</b>	5 Watts (maximum)	
<b>Weight</b>	10 ounces	
<b>Operating Temperature</b>	-40° to +70° C	
<b>CSA</b>	LR 46510-12	

<sup>1</sup>High Sensitivity Mode increases Dry Well Trip to approximately 87% of Calibrated Amperage. Call Factory at (800) 843-8848 or (605) 348-5580 for details.

**Visit our website at [www.symcominc.com](http://www.symcominc.com)  
for our complete catalog and new product  
listings!**

SymCom warrants its 112 AND 232 Insider's against defects in material or workmanship for a period of five (5) years\* from the date of manufacture. For complete information on warranty, liability, terms, and conditions, please refer to the SymCom Terms and Conditions of Sale document.



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