



# Cycle Sensor

## Model CS3PH1-500 HP

### Installation Instructions

**Risk of electrocution is possible when installing this product. Disconnect power source before installation!**

**Step 1: Mount the Cycle Sensor in the desired location** and wire the unit according to the appropriate wiring diagram on the following pages. Make sure all local, state, and national electrical codes are followed. Apply power to the unit as per diagram. After power is energized, when installing and setting a sensor, do not make contact with wiring terminals or electric components. Touch the control buttons only.

**Step 2: To View the Current Transformer Ratio**, press and hold the "Manual Reset./CT Ratio" button. Momentarily press the "Up" button to view the present programmed CT ratio. Follow the chart below to determine the CT (current transformer) ratio, the number of wire passes through the center of the CT, and the number to program for the CT ratio setting.

<u>Motor Amp Range</u>	<u>CT Ratio</u>	<u>No. of Wire Passes</u>	<u>Program Setting</u>
1 to 7.5 Amps	50:5	10	"5"
7.5 to 25 Amps	50:5	2	"25"
25 to 75 Amps	50:5	1	"50"
75 to 250 Amps	250:5	1	"250"
250 to 500 Amps	500:5	1	"500"

**To Change the CT Ratio Setting**, continue to press and hold the "Manual Reset" button while pressing either the "Up" or "Down" until the display matches the appropriate Program Setting for your application. The update time on this setting is slower. You will need to hold the "Up" or "Down" button for several seconds to change to the next number.

**Step 3: To Determine the Current Adjustment Setting**, turn the Hand-Off-Auto (HOA) switch to off and energize the Cycle Sensor so the display lights come on. Press and hold "Current Adjust" button and push down button until Cycle Sensor shows the lowest number possible. Insure that all water valves are closed, so that the pump will be pressurizing only the tank. In a tankless system or in the case of a pump start relay, be sure only the smallest demand or zone is open. Turn on the pump. The number displayed on the Cycle Sensor while the pump is running at this low flow represents the lowest acceptable amp-draw for your system. Multiply this number by .95 to determine the set point of the current adjust.

**Step 4: To set the Current Adjustment Setting**, press and hold the "Current Adjust" button. The display will be displaying the lowest available Current Adjust setting. Modify this number to match the above calculated set point by pressing the "Up" button, while still holding the "Current Adjust" button. Release all of the buttons when set.

**Step 5: To Set the Dry Run Restart Delay Setting**, push and hold the "Restart Delay" button. The number displayed represents the number of minutes that the pump will remain turned off before automatically restarting after a dry run condition. Change this number by holding "Restart Delay" button while you press either the "Up" or "Down" button until the display matches the desired restart delay setting. Release all buttons. A Setting of "000" disables the automatic reset for a manual reset only.

**Step 6: To Set the Rapid Cycle Setting**, push and hold the "Rapid Cycle" button. The display will show the number of seconds the pump is required to run without locking out on a rapid cycle condition. Change this number by holding the "Rapid Cycle" button and pressing either the "Up" or "Down" button until the display matches the desired rapid cycle setting. Release all buttons. To disable the rapid cycle protection, use the "000" setting.

**Step 7: Observe the operation of the system**, insuring that the Cycle Sensor is set correctly. If settings are too sensitive or not sensitive enough, repeat appropriate step and reset.