

## **Lx820 EMERGENCY SHUT-OFF CONTROL SYSTEM**

### Installation & Operating Instructions

07/24/06 Rev. C

9410853



**Pentair Water**  
Pool and Spa®

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## Safety Notice

### Important Safety Instructions

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

- **READ AND FOLLOW ALL INSTRUCTIONS.**
- **WARNING** - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- **WARNING** - Water in excess of 100 degrees Fahrenheit may be hazardous to your health.
- A green colored terminal (marked “G”) is located inside the high voltage compartment of the LX-820 Power Center. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electrical supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying this equipment.
- **SAVE THESE INSTRUCTIONS.**

## Introduction

The LX820 Control System offers economy and ease of installation for commercial spas which require an emergency shut-off switch. It is applicable to both new and existing installations.

In the event of an emergency, the spa can be shut off by pushing the red emergency button. This action interrupts power to the filter pump, jet pump, and optional auxiliary pump or air blower. Pulling the emergency button back out will return the pumps to normal operation, and shut off the alarm.

## Package Contents

The LX8202 Emergency Shut-Off System includes the following components:

LX820 Power Center with 2 qty. 2HP pump relays.

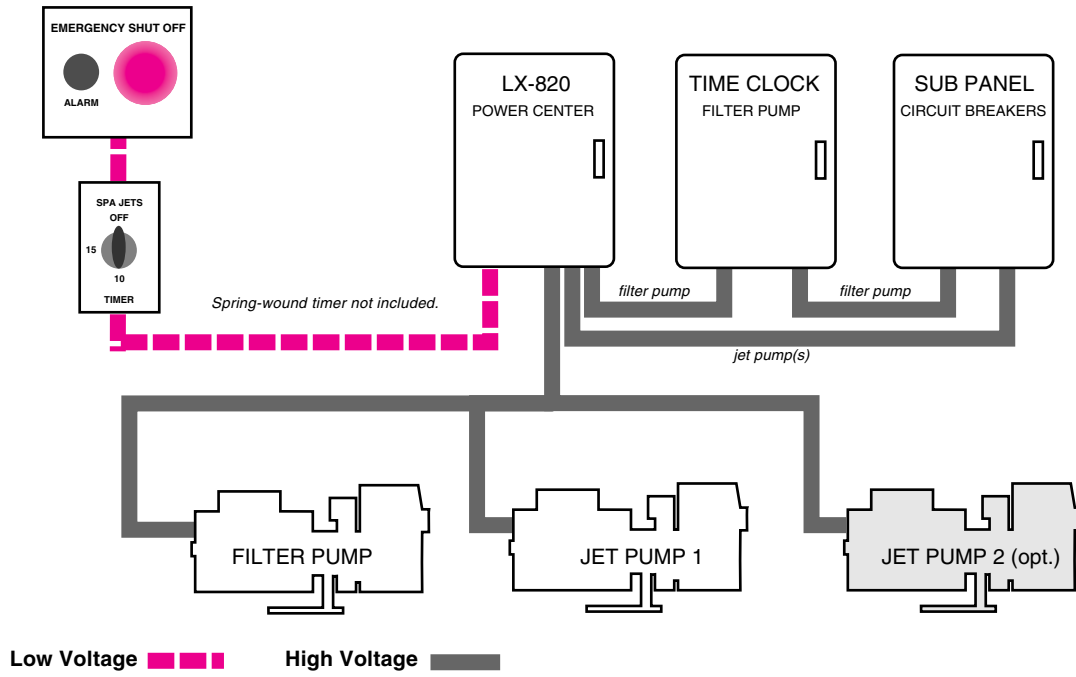
For 3HP pumps, order 3HP relay RLYSC3HP.



ESO-2 Emergency Shut-Off Switch with Alarm



### Electrical Schematic



## Installation Instructions

### Equipment Location



Select a convenient location to mount the LX820 Power Center, making sure that the location is greater than 5 feet from the Pool or Spa. Wall-mount the Control, using appropriate screws through the three external mounting points located on the side of the enclosure.



Select a convenient location to mount the ESO-2 Emergency Shut-Off Switch. Provide a double-gang electrical box. The electrical box must be rated for outdoor use if Emergency Shut-Off is located outside.

Provide and install a standard spring-wound timer for the Jet Pump and a mechanical time clock for the Filter Pump.

**Note:** For retrofit applications, the existing spring-wound timer and mechanical time clock can be rewired to the LX820.

## Low Voltage Cables

A separate 2-conductor 22AWG cable is required between the LX820 and each of the following:

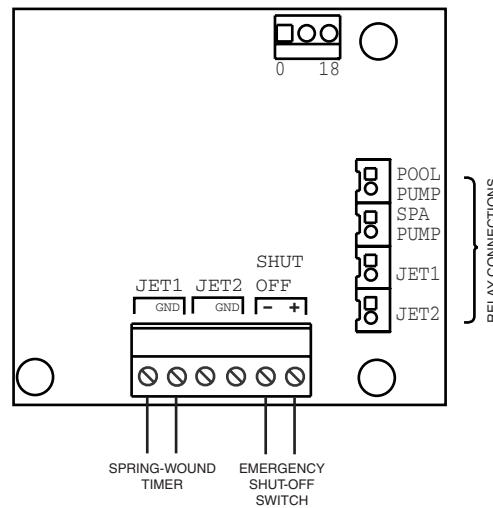
1. Emergency Shut-off Switch.
2. Spring-wound Timer for Jet Pump.
3. Optional second Spring-wound Timer.

Install cable, using plastic or metallic conduit where cables run underground.

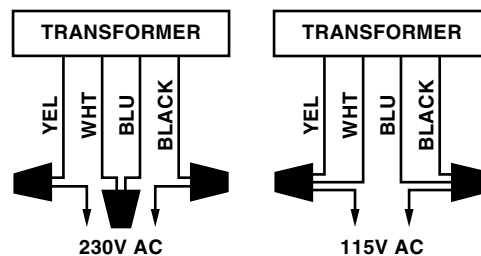
## Lx820 Power Center

Loosen LOCK SCREW on service panel of LX820, and swing open to expose the high and low voltage wiring compartments.

Pull low voltage cables through hole on bottom left side of LX820. Strip wires 1/4", and connect to circuit board at appropriate screw terminals.



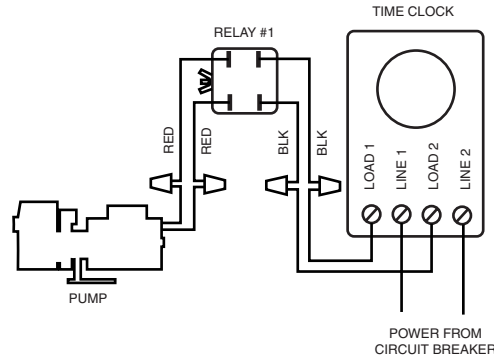
## High Voltage Wiring



The high voltage wiring section is located behind the service panel in the lower right side compartment. Holes are provided on bottom of enclosure for conduit mounting. The Control can be connected either to 115VAC or 230VAC.



### Spa Filter Pump

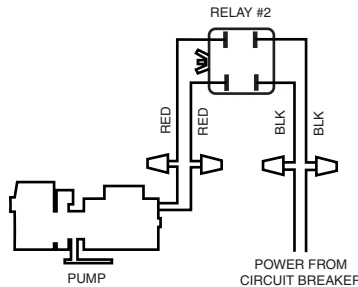


RELAY #1 (plugged into circuit board at **SPA PUMP socket**).

Provide conduit and run the appropriate high voltage wires from Filter Pump Time Clock to the LX820, and from Filter Pump to the LX820.

At the LX820, use wire nuts to make the necessary connections to RELAY #1. Connect **black wires** to LOAD terminals of Time Clock, and **red wires** to Filter Pump.

### Jet Pump



RELAY #2 (plugged into circuit board at **JET1 socket**).

Provide conduit and run the appropriate high voltage wires from Jet Pump Circuit Breaker to the LX820, and from Jet Pump to the LX820.

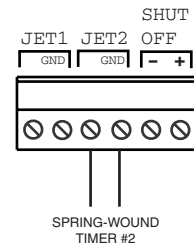
At the LX820, use wire nuts to make necessary connections to RELAY #2. Connect **black wires** to LOAD terminals to Circuit Breaker, and **red wires** to Jet Pump.

### Additional Jet Pump Control

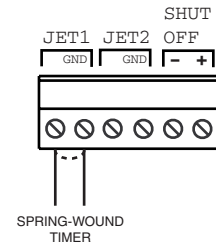
For systems which utilize a second jet pump or air blower, it is possible to add a power relay so that this equipment can also be activated by the Emergency Shut-off Switch. Install model RLYSC Relay Kit in the high voltage compartment in accordance with instructions provided, and plug onto circuit board at **JETS2 socket**.

For 3HP Jet Pump, use 3HP Relay RLYSC3HP.

If a separate Spring-wound Timer is being added to control this equipment, provide 2-conductor cable between Spring-wound Timer #2 and low voltage compartment of LX820, and connect to circuit board at **JET2 screw terminals**.



If only one Spring-wound Timer is being used to control all the equipment, provide a jumper wire between screw terminals #1 and #3 on LX820 circuit board.



### Pool Filter Pump Control

It is possible to add a power relay so that the Pool Filter Pump will be inactivated by the emergency Shut-off Switch. Install model RLY-SC Relay Kit in the high voltage compartment of the LX820 in accordance with instructions provided, and plug onto circuit board at **POOL PUMP socket**.

For 3HP Jet Pump, use 3HP Relay RLYSC3HP.

## **Front Panel Indicators**

### **Power On**

When lit, indicates there is power to the control system.

### **Emergency Shut-off**

When lit, indicates the Emergency Shut-off switch has been pressed.

### **Filter Pump**

When lit, indicates the Filter Pump circuit(s) are enabled.

### **Jet Pump 1**

When lit, indicates Jet Pump #1 is ON.

### **Jet Pump 2**

When lit, indicates Jet Pump #2 is ON.

### **Push To Reset Power**

An internal circuit breaker protects the LX820 transformer from electrical overload situations. A tripped breaker is indicated by a white tab. Check for short circuit conditions before resetting. Push to reset.

**Caution:** Do not attempt to pry out tab.



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