INSTALLATION AND OPERATION INSTRUCTIONS

Polaris

Personalized Automated Control System

Table of Contents

Important Information

WARNING: RISK OF ELECTRICAL SHOCK.

- **Read and follow all installation instructions carefully.**
- Electrical work should be performed by a licensed electrician and conform to all national, state and local codes.
- Install all electrical equipment at least 5 feet (1.5 m) from inside wall of pool or spa using nonmetallic plumbing. Canadian installations must be at least 3 meters from the water.
- A ground-fault circuit interrupter (GFCI) must be utilized if this device is used to control underwater light fixtures. The conductor on the load side of the GFCI should not occupy conduits, boxes or enclosures containing other conductors unless the other conductors are also protected by a GFCI. All GFCIs and ground-fault circuit breakers (GFCBs) should be tested daily before pool or spa use. Refer to local codes for complete details.
- A GROUND bar terminal is located on the panelboard in the Command Center. Per National Electrical Code (NEC) Article 250-122, this terminal must be connected to the ground means on the electric service or supply panel with a continuous copper (minimum 8 AWG (8.4 mm^2) insulated wire.
- Use an insulated or bare copper conductor no smaller than No. 8 AWG (US) or No. 6 AWG (Canada) to connect the local common bonding grid in the area of the pool or spa to the bonding lugs at the bottom right corner of the command center. Bond all field-installed metal components (rails, ladders, drains, etc.) located within 5 feet (1.5 m) of the pool or spa.
- Eos Command Center (Model E3) output circuits evaluated for one level of protection for circuits accessible to tub occupant.
- Polaris relays are Certified/NRTL for both Canada and the US to ensure one level of protection.
- Use only Polaris equipment (or equivalent) for the 24 VAC and 24 VDC external circuits.
- For continued protection against fire, replace transformer fuses (primary and secondary) only with fuses of like type and rating.
- Do not install or service this equipment if precipitation is present or imminent.
- Always keep command center door closed when not performing setup or service.
- Do not allow children to handle this product.

The Eos Wireless Remote requires a fully charged battery at startup. **Charge battery for at least 5 hours before use**. An inadequate charge can permanently damage the battery.

US

FCC Statement

This equipment has been tested and complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the pool filtration equipment and the receiver.
- Connect the equipment to an outlet on a different circuit from the one to which the receiver is connected.

This equipment has been certified to comply with the limits of a Class B computing device, pursuant to FCC rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference with radio and television reception. The user is cautioned that changes and modifications made to this equipment without the approval of the manufacturer could void the user's authority to operate this equipment.

FCC ID: PFU-E3

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

Introduction

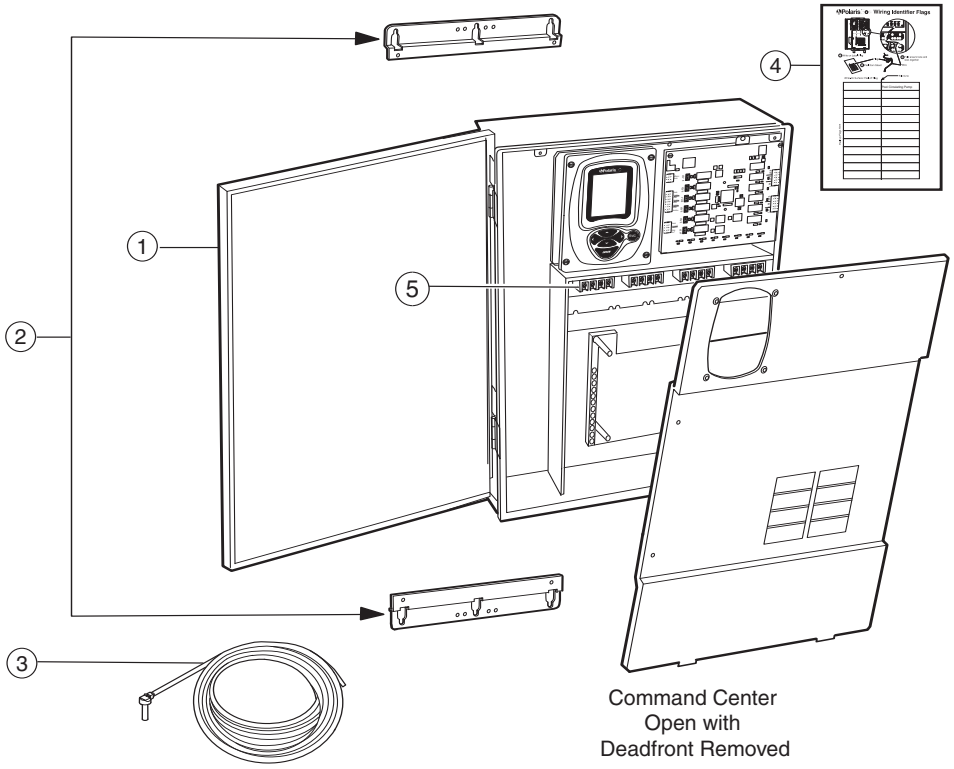
Designed to provide easy and convenient control of most pool and spa functions, the Polaris Eos Command Center:

- Controls pool and spa equipment, waterfalls, fountains, and lighting.
- Schedules regular pool and spa routines such as cleaning and circulation.
- Can be programmed to operate multiple devices with the touch of a single button.
- Components, options and functions can be added after installation is complete.
- Can be expanded, interfacing with multiple command centers to provide up to 32 high power relays, 24 low power connections and 24 actuator connections.
- Operates independently or can be remotely controlled from optional in-house wired remotes, wireless remotes or a spa-side remote.
- Can remotely operate electric devices, including household appliances, with the optional PLC (Power Line Carrier) Kit.
- Can control optional sanitation equipment including traditional chemical or salt chlorination systems.

Command Center Components

1. Command Center
2. Mounting Brackets
3. Temperature Sensor (2)
4. Wiring Identifier Labels
5. High Power Relay (4)

   Circuit breakers, GFCIs and 3-way valves not included.



Command Center Open with Deadfront Removed

Command Center Specifications

Dimensions: 22.5" H x 17" W x 4.75" D

Weight: 30 lbs. (without packaging materials)

Input: 115 VAC, 50/60 Hz, 1.5 AMP

Output: 24 AC, 4A

High Power Relays: 4 standard (4 optional on base unit)

Contact Rating (High Voltage): 25A;
3 HP at 240VAC,
1.5 HP at 120VAC

Low Power Relays: 6 standard

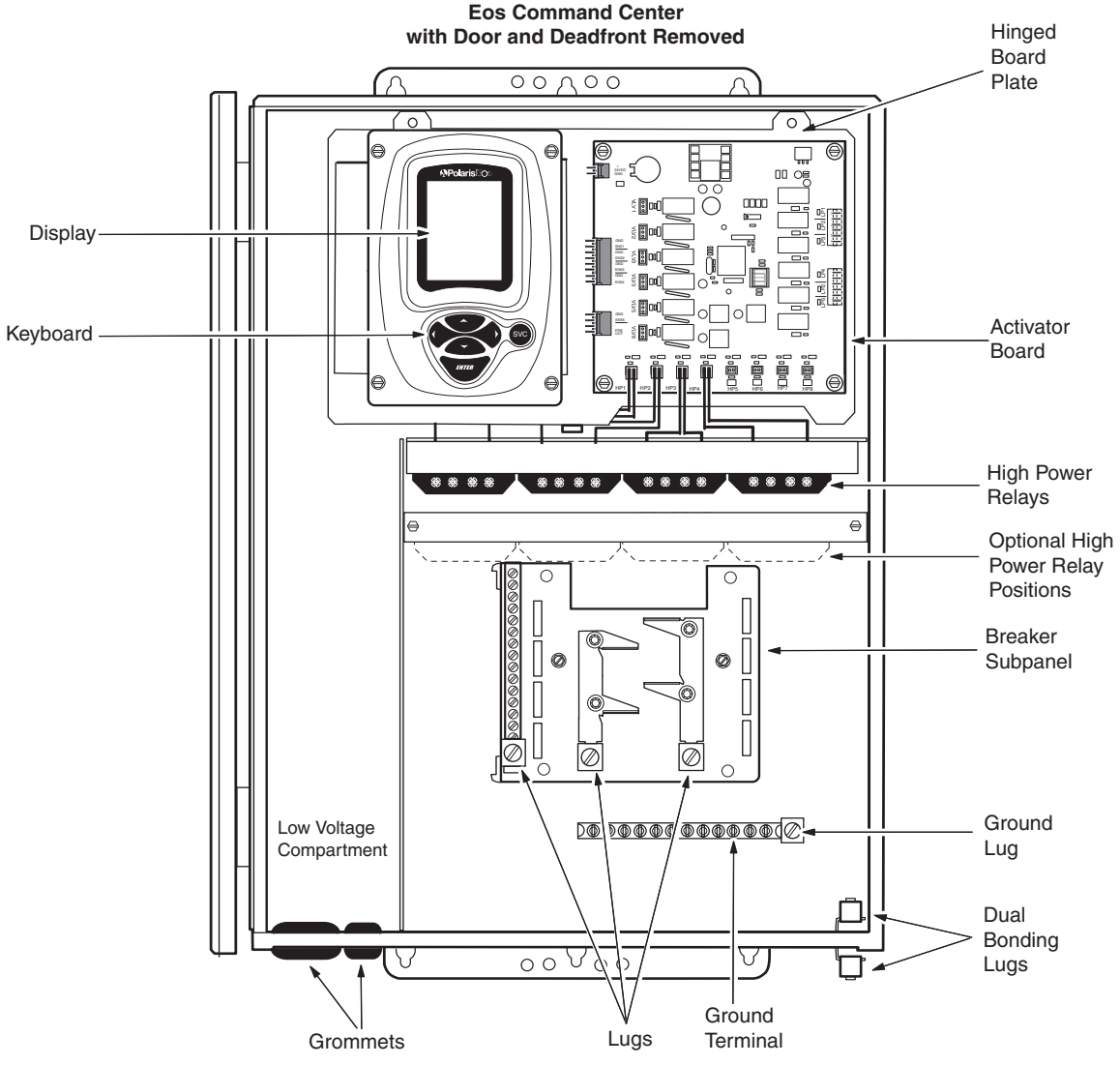
Contact Rating (Low Voltage): 8A at 120VAC isolated

Valve Connections: 6 standard

Sensor Connections: 6 standard

Display: Graphic, LCD, menu-driven

Eos Command Center
with Door and Deadfront Removed



Command Center Features

The Eos can be utilized with any pool/spa configuration:

Combo	-	Pool and Spa combination
Pool Only	-	One Pool
Spa Only	-	One Spa
Separate	-	Pool and spa plumbed separately.
None	-	Used for auxiliary equipment such as landscape lighting, etc.

The Eos controls:

Blowers

Chemical or Salt Chlorinators

Dimmers

Heaters

- Pool
- Spa

Lighting

- Pool, Spa and Perimeter
- Fiber Optics
- Color Wheel
- Low-voltage Landscape

Pool Chillers

Pumps

- Pool Circulation
- Pool Heat
- Automatic Pool Cleaner
- Spa Circulation
- Spa Heat
- Spa Jet
- Solar Heat
- Auxiliary (Water Feature, etc.)
- Two Speed (requires 2-speed relay)

Power Line Carrier (PLC) Devices

- Signal transmission for X-10 type devices such as household lights, appliances, stereos, etc.

Sensors

- Air Temperature
- Water Temperature
- Pressure Sensor

Valve Actuators

- Circulation for pool/spa combination
- Spa drain, fill and spillover
- Solar Systems
- Automatic Pool Cleaners
- In-Floor Cleaning Systems
- Water Features

Any other 120/240V device under 3 HP or 1500 watts.

Application Checklist

What will the Eos unit control? Use this checklist to determine the equipment requirements for the application and if additional equipment will be needed.

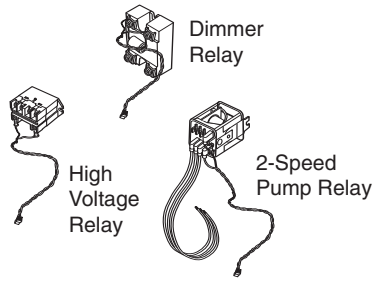
Equipment	Yes?	Relays Required	Valve Actuators Required
Automatic Valves Pool/Spa Combination	☐	-	2 (1 for suction, 1 for return)
Pressure Side Cleaner Controlled with Automatic Valve	☐	-	1
Solar Using Automatic Valve*	☐	-	1
Water Feature Using Automatic Valve	☐	-	1 Each
Controllers			
Polaris Watermatic C2100 ORP/pH Controller	☐	0 Use CPC connection	-
Polaris AutoClearPLUS Salt Chlorinator	☐	0 Use RS-485 connector	-
Heaters			
Heater (Gas or Propane)	☐	0 Use heater connection	-
Heater (Electric)	☐	0 If thermostat is low voltage 1 If thermostat is high voltage	- -
High-Voltage Accessories	☐	1 Each	-
Lighting			
Pool Light	☐	1	-
Spa Light	☐	1	-
Dimmer	☐	1 (Dimmer Relay required)	
Fiber Optic Lighting	☐	1 For on/off control only 2 For on/off plus color wheel control	- -
Low-Voltage Accessory Landscape Lights, etc.	☐	0 Use low-voltage connection	-
Pumps			
Cleaner Booster Pump	☐	1	-
Filter Pump – 1 Speed	☐	1	-
Filter Pump – 2 Speed	☐	2 (1 regular, 1 2-speed)	-
Solar Using Booster Pump*	☐	1	-
Spa Jet Pump	☐	1	-
Water Feature Using Separate Pump	☐	1 Each	-
Spa Blower	☐	1	-
	Totals	___ (4 included, 8 max.)	___ (6 max.)

If more relays or valve positions are needed, the Eos Expansion Panel (part #E9) provides 4 additional HP Relays (expandable to 8), 6 LP connections and 6 Valve connections.

* Solar Temperature Sensor required.

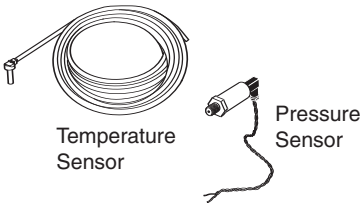
Command Center Accessories

To expand the command center's functionality, component accessories (sold separately) can be incorporated into the initial installation or added later as needs change.



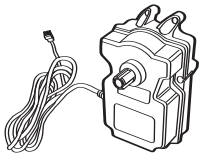
Relays

Part #	Description
S30	• High Power Relay
S80	• Two-Speed Pump Relay
E75	• Dimmer Relay (2000 Watt Max.)



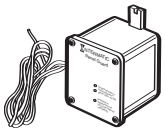
Sensors

Part #	Description
S20	• Temperature Sensor, 15 Ft. Cable
S22	• Solar Temp Sensor, 50 Ft. Cable
S25	• Solar Temp Sensor, 100 Ft. Cable
E71	• Pressure Sensor, 20 Ft. Cable



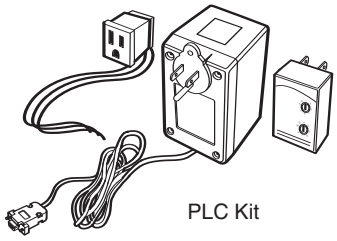
Valve Actuator

Part #	Description
S10	• Automatic Valve Actuator



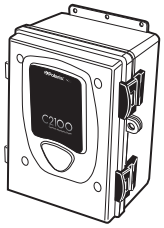
Surge Protection

Part #	Description
S50	• Surge Protection Module (Lightning Protection)

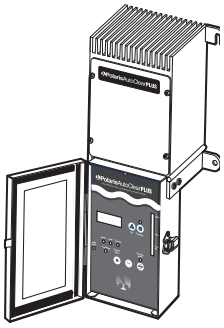


PLC

Part #	Description
E40	• PLC Kit (Transmitter, Outlet and E41) **Required for PLC Control**
E41	• PLC Dimmer Module (Lighting Only)
E43	• PLC Appliance Module
E44	• PLC Screw-In Dimmer Module (Lighting Only)
E45	• PLC Phase Coupler, 3-Wire Plug-In
E46	• PLC Phase Coupler, Hardwired



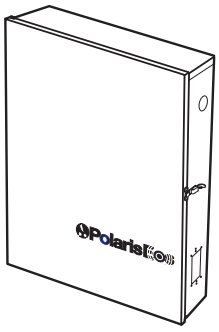
Watermatic
C2100
Controller



AutoClearPLUS

Controllers

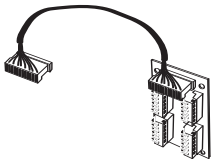
Part #	Description
C2100	• Polaris Watermatic C2100 ORP/pH Controller
E69	• CPC Extension Kit
85-600	• Polaris AutorClearPLUS Salt Chlorinator



Expansion
Panel

Expansion Panel

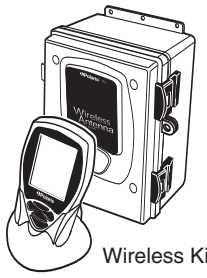
Part #	Description
E9	• Expansion Panel Provides additional device hookups: 4 HP (4 more optional, max. 8) 6 LP and 6 Valve
E69	• CPC Extension Kit



RBC
Hub Card

RBC

Part #	Description
E34	• RBC Cable, 250 Ft.
E35	• RBC Cable, 500 Ft.
E36	• RBC Hub Card



Wireless Kit

In-House
Panel

Shortcut

Remotes

Part #	Description
E20	• Wireless Remote Kit (Antenna, Remote and Charging Base) **Required for wireless control.**
E21	• In-House Panel (Wired Remote) with 125 Ft. Cable
E22	• Shortcut Remote with 125 Ft. Cable
E23	• Shortcut Remote with 250 Ft. Cable
E24	• Shortcut Remote with 500 Ft. Cable
E29	• Wireless Remote with Charging Base
E30	• Wireless Remote Only
E31	• Wireless Remote Charging Base Only
E32	• Wireless Antenna Only
E33	• Wireless Remote Battery

Eos PC Access

Part #	Description
E82	• Eos PC Access and Datalogger Applications

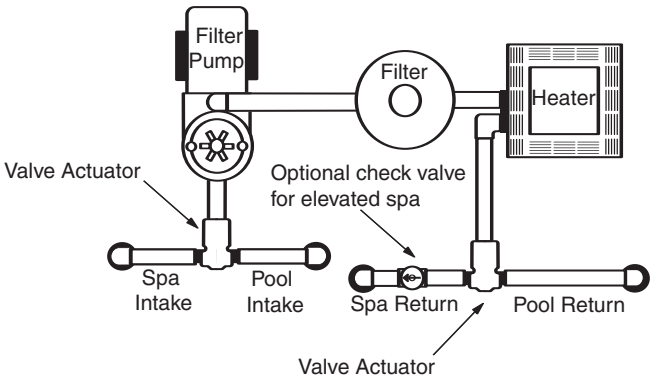
Installation

System Plumbing Guidelines

Pool and Spa Combination

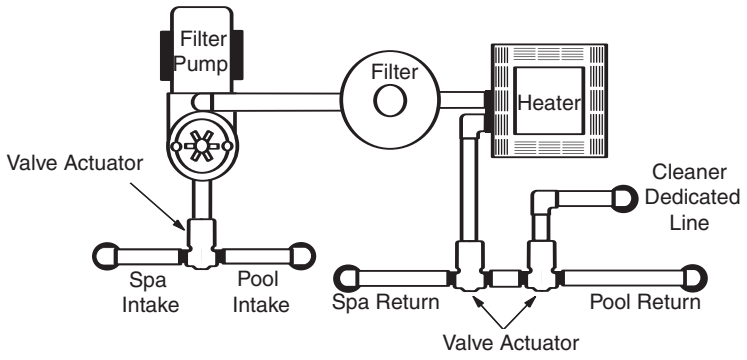
Plumb the system in accordance with the standard configuration of a pool and spa that share the same filter pump, filter and heater. The suction and return actuators will turn at the same time to switch between the pool, spa and spillover modes.

- Position the spa at or above the level of the pool. If the spa is attached to the pool, utilize an overflow dam between the two bodies of water. If the spa is not attached, install an equalizer line that can carry full pump-flow between the spa and pool.
- Plumb a 3-port valve on the suction side of the pool filter pump with the center valve port connected to the filter pump. Connect the spa suction to one side and the pool suction to the other.
- Plumb a 3-port valve on the heater output with the center valve port connected downstream of the heater. Connect the spa return to one side and the pool return to the other.
- Plumb a check valve on the spa return line if the pool/spa combination has an elevated spa.



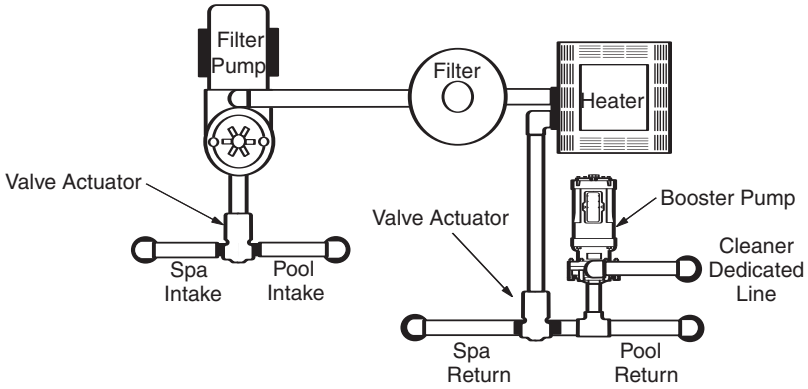
Non-Booster Pump Cleaner

Plumb a 3-port valve on the pool return line after the spa and pool return valve. Connect the pool return to one port and the cleaner dedicated line to the other port.



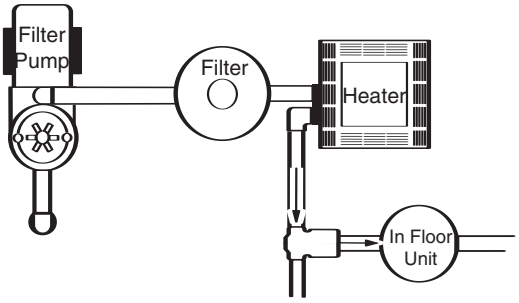
Booster Pump Cleaner

Plumb the booster pump so the suction side is connected downstream of the heater and 3-port valve on the pool return side, as near to the ground as possible.



In-floor System

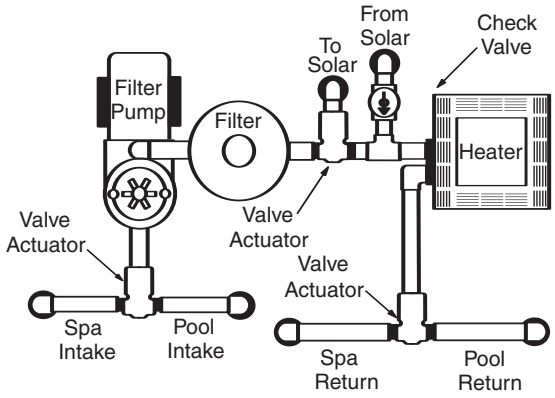
Plumb the valve after the heater and before the in-floor unit.



Solar System

Plumb the solar feed and return lines before the heater.

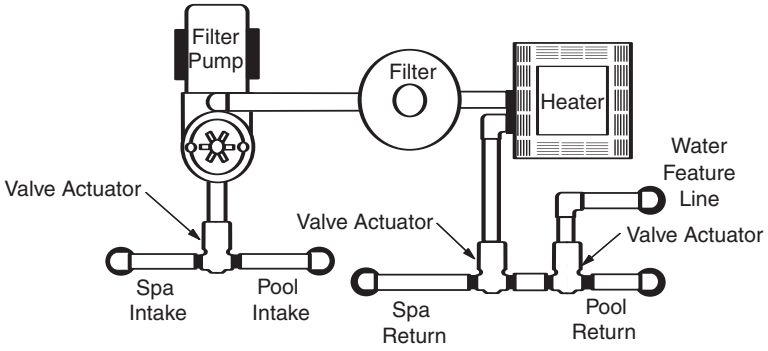
- Install a 3-port solar valve and actuator at the feed line.
- A solar temperature sensor (50 ft or 100 ft) will be needed and should be mounted on or near the solar panels.



Waterfall/Water Features

Plumb the water feature line with a 3-port valve and actuator.

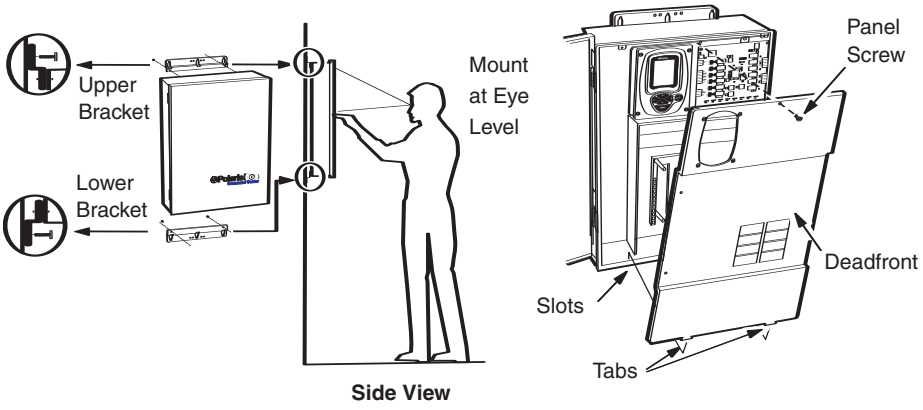
- Use a separate pump if the water feature has its own suction supply and requires a large volume of water.



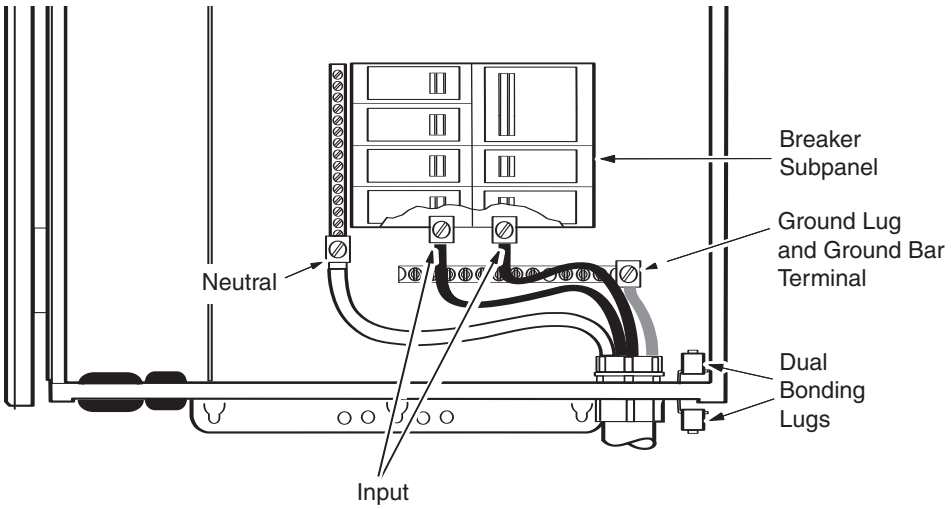
Command Center Installation

CAUTION: Verify that power is disconnected before performing any installation or modification.

1. Attach the mounting brackets (shipped inside the controller) to the command center so that the brackets extend for hanging. To facilitate function setup and adjustments, mount the command center at eye level, at least 5 ft. (1.5 m) from the pool or spa.
2. Open the command center door and remove the deadfront to gain access to the electrical components.



3. Run conduit from the power supply panel to the command center. The number of pieces of equipment to be controlled will dictate the size of the conduit.
4. Run wire from service panel to the Eos Command Center using minimum wire specifications listed on the wiring diagram on the command center door.
5. Connect input to lugs on the breaker subpanel.
6. Install circuit breakers per table on wiring diagram on command center door.
7. Connect transformer wires to a 120V circuit breaker.
8. A GROUND bar terminal is located on the panelboard in the Command Center. Per National Electrical Code (NEC) Article 250-122, this terminal must be connected to the ground means on the electric service or supply panel with a continuous copper (minimum 8 AWG (8.4 mm^2) insulated wire.



9. Use an insulated or bare copper conductor no smaller than No. 8 AWG (US) or No. 6 AWG (Canada) to connect the local common bonding grid in the area of the pool or spa to the bonding lugs at the bottom right corner of the command center. Bond all field-installed metal components (rails, ladders, drains, etc.) located within 5 feet (1.5 m) of the pool or spa.
10. Pull wire, sized appropriately for each piece of equipment, from the equipment to the command center enclosure. Feeder wires should be No.14 AWG to No. 3 AWG, copper, rated for 750° F or better.

Important Information Before Continuing

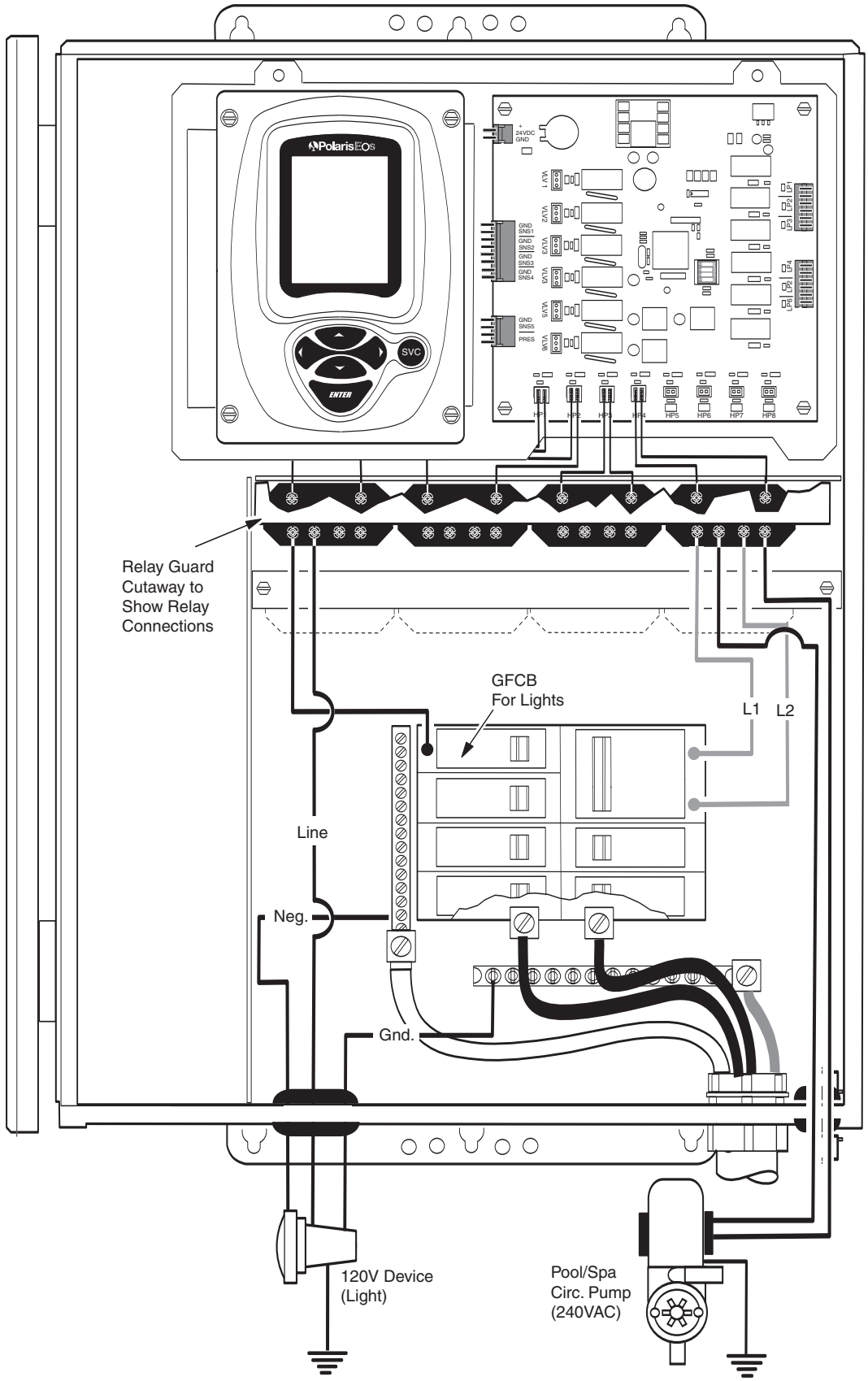
- Each piece of equipment normally requires its own high-voltage relay. If one relay is used for more than one device, verify that the total current draw (all equipment) does not exceed the current rating of the circuit.
- Ensure that all equipment motors have built-in thermal protection.
- Use the ground bar terminal in the command center for equipment grounding.
- Install an external surge suppression device (Surge Protection Module, part #S50) in areas where lightning strikes are common.
- Use the rectangular knockout on the side of the command center enclosure to mount an approved GFCB or GFCI if direct connection of underwater lights is planned. If installed outdoors, an approved rain cover must be installed over the device. Refer to NEC 680-21 (b) or CEC 687-060, 062, and 066 for further details.
- If installing a **Wireless Remote Kit:**

  Plan for antenna installation at a location where reception is best, generally in the center of the coverage area. Test for signal reception from various locations in the coverage area before permanently installing antenna.

  Be aware of factors that inhibit/prevent communications, such as:

Aluminum siding	Mylar protected windows and doors
Cyclone Fences	Gas filled windows and doors
Wrought iron	Microwave ovens
Steel framing	Other 5.6 GHz frequency devices
Leaded glass	

  Ensure that the battery in the handheld remote is fully charged i.e., charged on charging base, for at least five (5) hours.


Relay Guard
Cutaway to
Show Relay
Connections
GFCB
For Lights
L1
L2
Line
Neg.
Gnd.
120V Device
(Light)
Pool/Spa
Circ. Pump
(240VAC)

HP (High Power) Devices

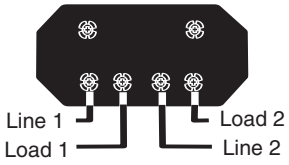
High power devices include pumps, lights, blowers, electric heaters and any other 120/240V device under 3HP or 1500 watts.

Four HP Relays (HP1-HP4) are prewired to the Eos activator board. Four additional HP Relays (part #S30) can be added if needed.

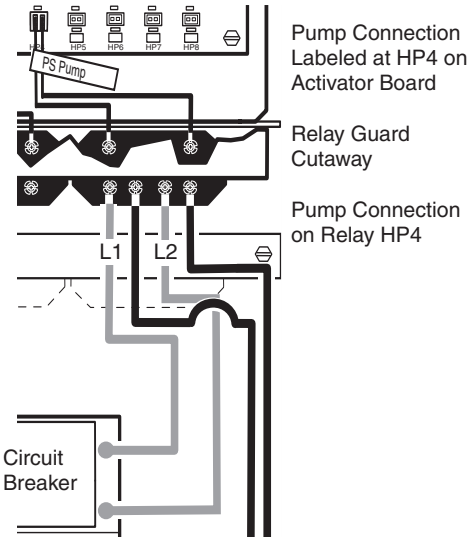
CAUTION: Verify that power is disconnected before performing any installation.

1. Pull equipment wiring through knockouts on the bottom of the command center box.

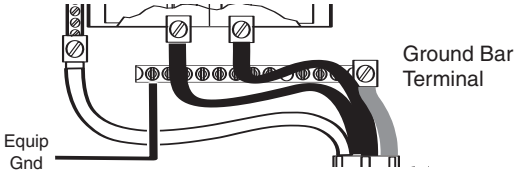
2. Using any HP Relay, connect the device to the Eos relay panel.



3. Use a relay identifier label to mark the relay connection at the activator board.



4. Connect equipment grounds to ground bar terminal.



5. When all connections are complete, all HP Devices will be defined and assigned to the associated relays as part of System Setup.

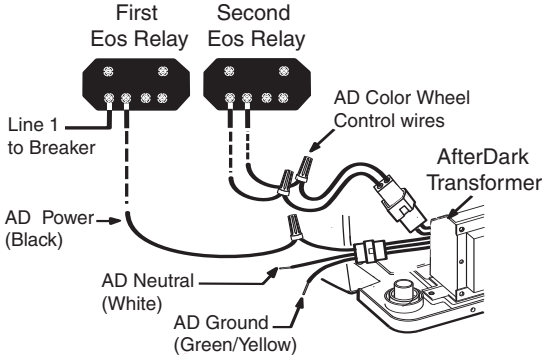
To connect a fiber optic light driver like Polaris AfterDark®:

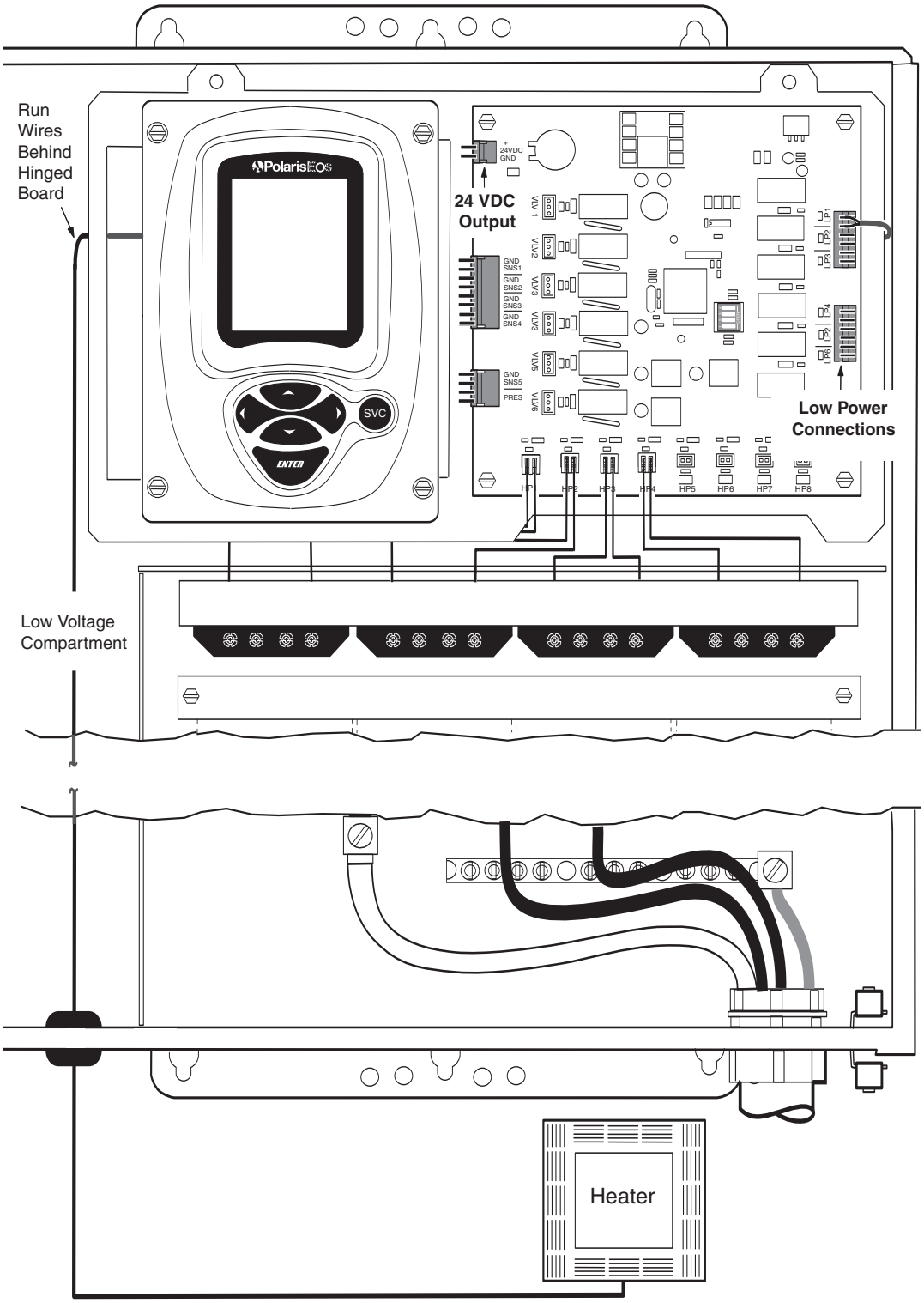
Use two relays, one for the light driver power and one for color wheel control.

First relay:
- Line 1 to the circuit breaker.
- Load 1 to light driver power wire.

Second relay:
- Line 1 and Load 1 to the color wheel control wires.

Light driver neutral to Eos neutral bar
Light driver ground to Eos ground bar.




Run
Wires
Behind
Hinged
Board
24 VDC
Output
Low Power
Connections
Low Voltage
Compartment
SVC
ENTER
Heater

LP (Low Power) Devices

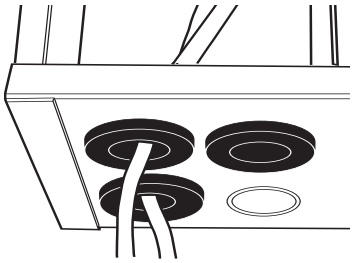
The six low power terminal connections are for heater control circuits, heat pump control circuits, self-powered landscape lighting, etc. **These connections are "switch only," with no power provided.**

The Low Power connections are labeled LP1-LP6 on the Eos activator board.

CAUTION: Verify that power is disconnected before performing any installation or modification.

1. Run equipment wires up through low voltage compartment and behind hinged board plate.

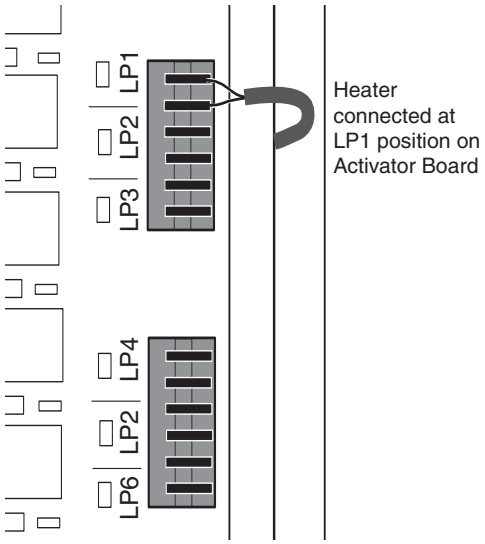
   If connecting a heater, use 18 AWG wire suitable for use in hot environments. For heater specific wiring instructions, refer to the manufacturer's manual.



Wiring run through grommets at low voltage compartment

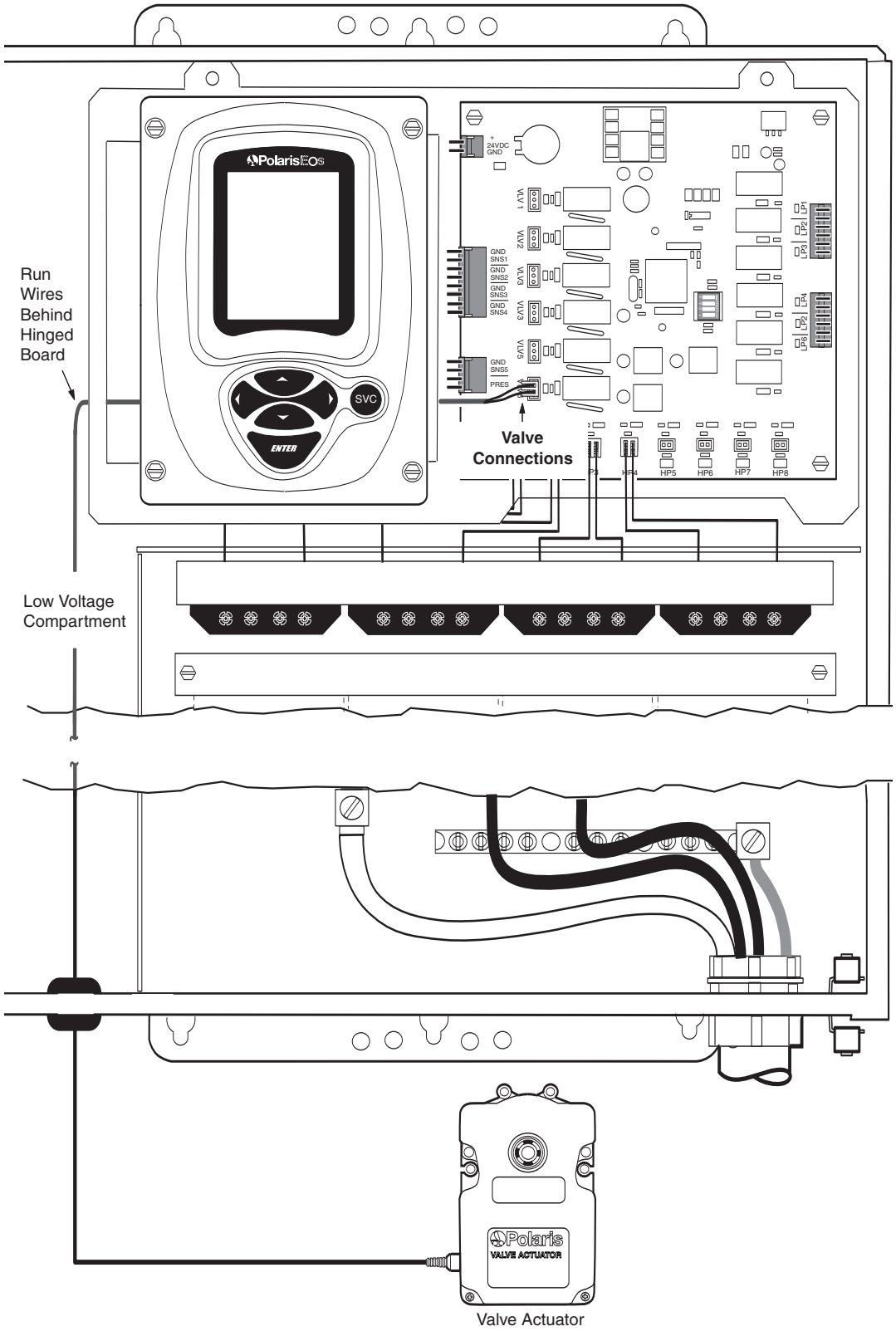
2. Connect the device to any LP terminal, positions LP1-LP6, on the Eos activator board.

   A 24 VDC output (.5A max.) is provided for powering low voltage triggers on equipment. This output can be run through a LP relay so it is switched manually or scheduled. This output is not for use with heater connections.



Heater connected at LP1 position on Activator Board

3. When all connections are complete, all LP Devices will be defined and assigned to their associated terminal positions as part of System Setup.


Run
Wires
Behind
Hinged
Board
Low Voltage
Compartment
Valve
Connections
SVC
ENTER
Polaris
VALVE ACTUATOR
Valve Actuator

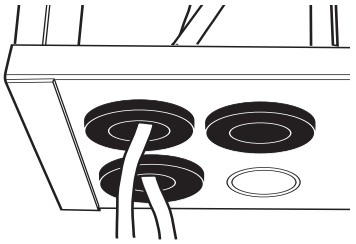
Valve Actuators

The Eos can control up to six Valve Actuators (part #S10). These can be used to control the suction and return valves for the pool or spa, spa-dependent valves, waterfall, water feature and cleaner valves, and in-floor system valves.

The Valve connections are labeled VLV1-VLV6 on the Eos activator board.

CAUTION: Verify that power is disconnected before performing any installation or modification.

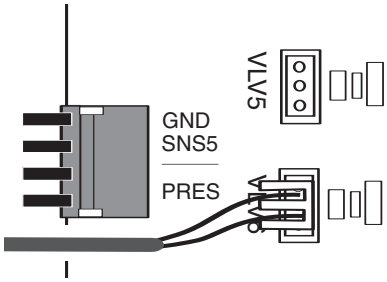
1. Run actuator wires up through low voltage compartment and behind hinged board plate. **Do not coil actuator cable inside the command center**.



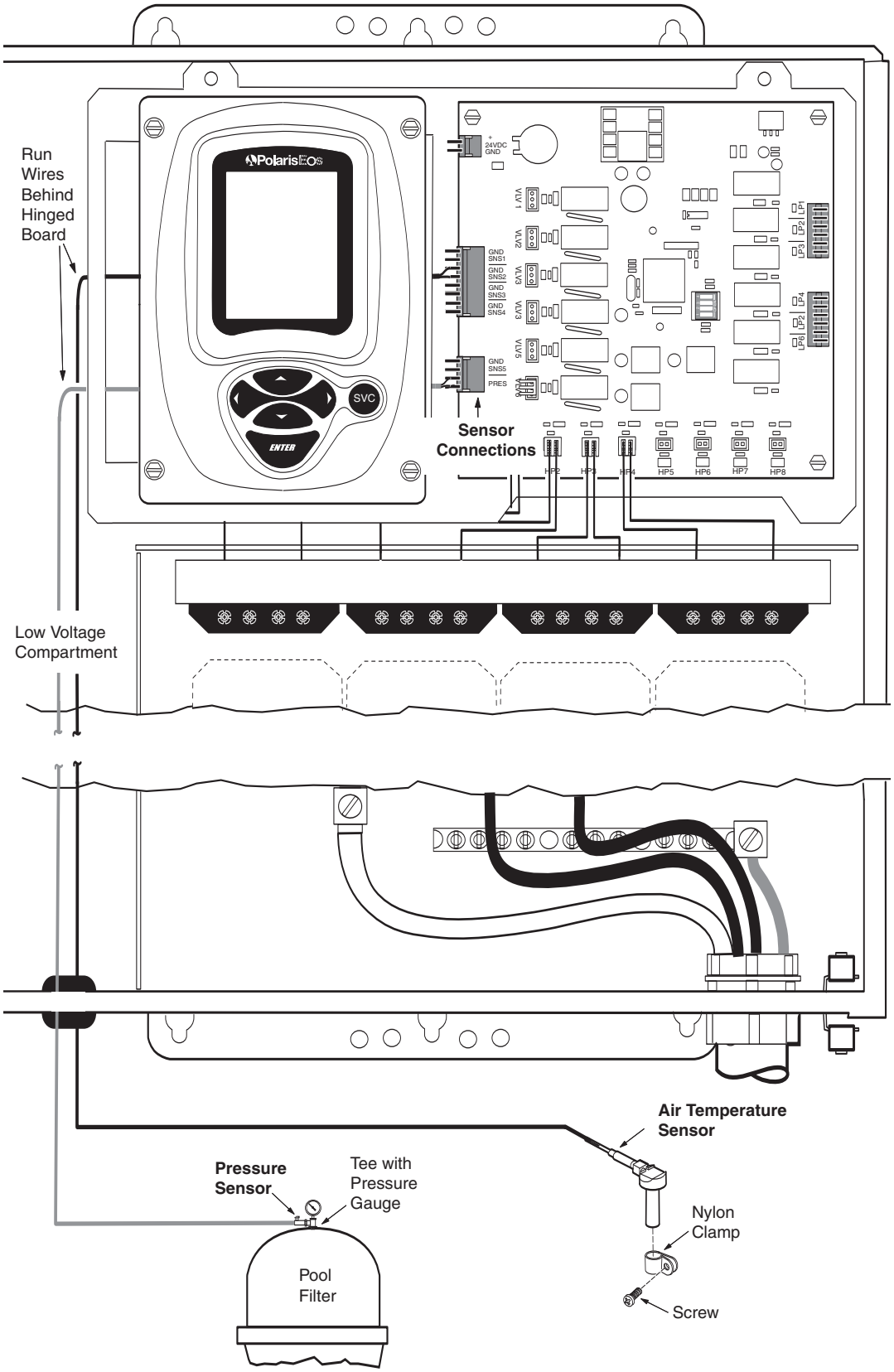
Wiring run through grommets at low voltage compartment

2. Connect the valve wires to any VLV terminal block on the Eos activator board.

3. When all connections are complete, all valve actuators will be defined and assigned to the associated valve terminals as part of System Setup.



Valve Actuator connected to VLV6


Run
Wires
Behind
Hinged
Board
Sensor
Connections
Low Voltage
Compartment
Air Temperature
Sensor
Pressure
Sensor
Tee with
Pressure
Gauge
Nylon
Clamp
Pool
Filter
Screw

Sensors

Two standard sensors are included with the Eos system, typically one water and one air temperature sensor. There are four additional terminal positions available, three for optional temperature sensors and one for an optional filter Pressure Sensor (part #E71).

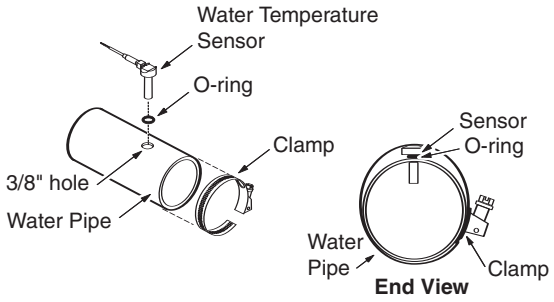
The Sensor terminal on the Eos activator board is labeled SNS1-SNS5 and PRES.

Water Temperature Sensor

Drill a 3/8" hole in the pipe between the filter pump and the filter.

Insert the sensor using the clamp provided to hold it in place.

Verify that the o-ring is securely around the sensor to ensure a watertight seal.

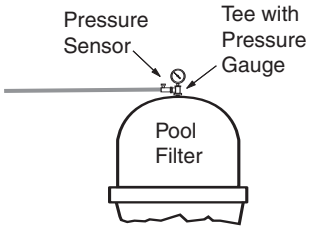


Freeze/Ambient Air Temperature Sensor

Install the sensor outside of the command center in an area where it is subjected to shaded air temperature, not to direct sunlight.

Filter Pressure Sensor

Install on the filter at the pressure gauge, either using the gauge connection or using a tee.



CAUTION: Verify that power is disconnected before performing any installation or modification.

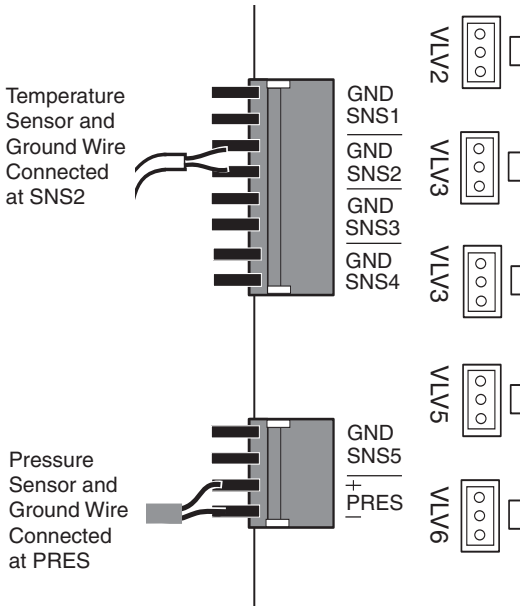
1. Run sensor wires up through low voltage compartment and behind hinged board plate.

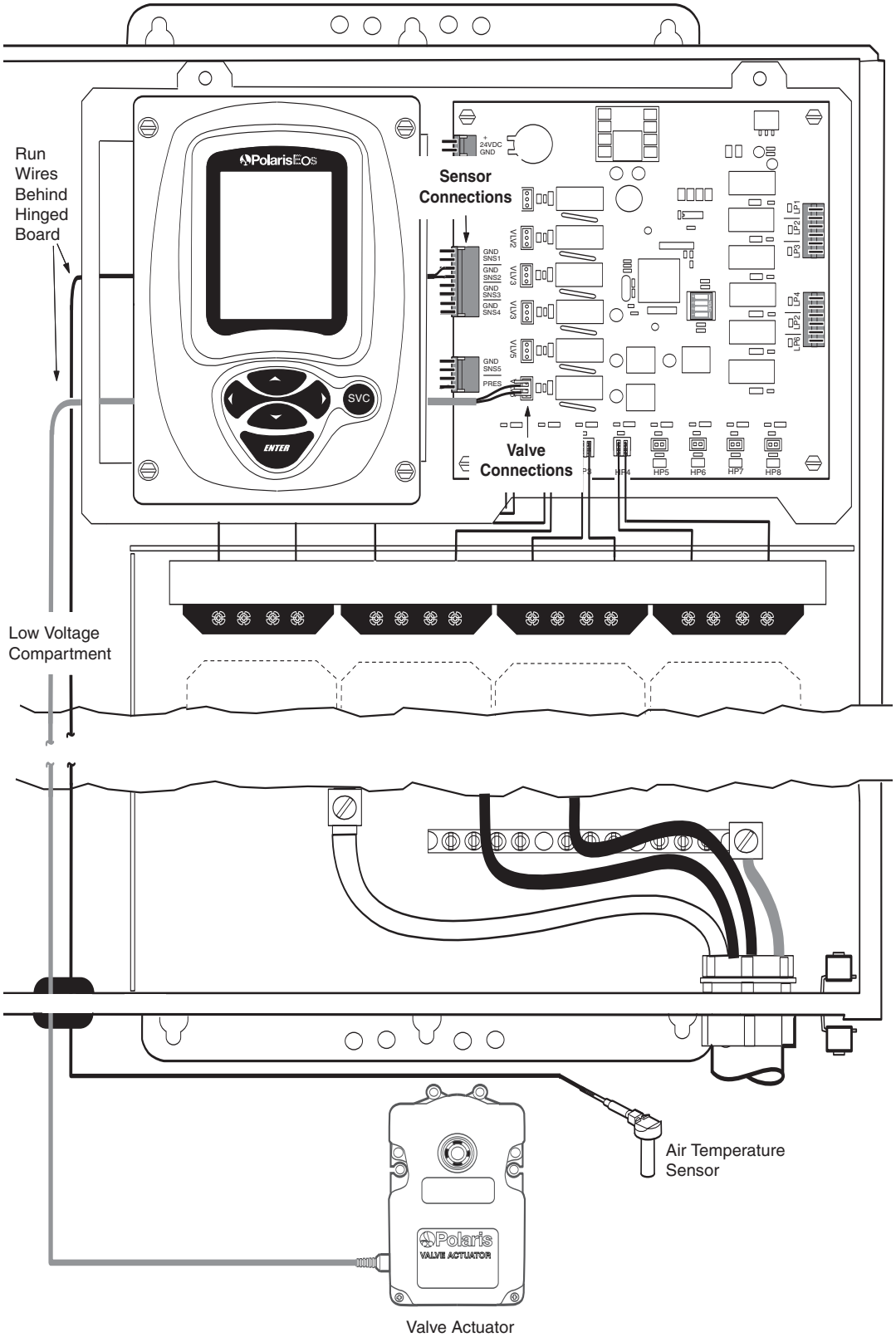
2. Strip insulation back 1/4" from end of wires. **Do not cut wires**.

3. Connect the temperature sensor and ground wires to any position (SNS1- SNS5) on the removable terminal block on the activator board.

   Connect the pressure sensor wires, red to positive and black to negative, to the PRES terminal position.

4. When all connections are complete, the sensors will be defined and assigned to the associated terminal positions as part of System Setup.



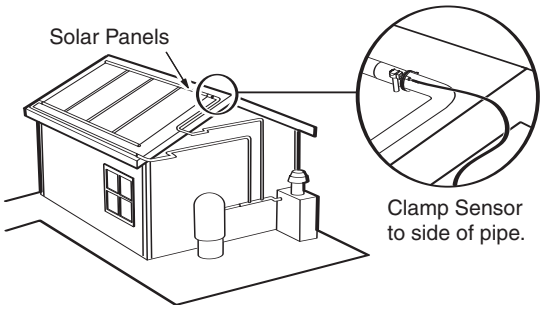

Run
Wires
Behind
Hinged
Board
Sensor
Connections
Valve
Connections
Low Voltage
Compartment
Air Temperature
Sensor
Valve Actuator
SVC
ENTER
Polaris
VALVE ACTUATOR

Solar Temperature Sensor

If the application includes a solar system, a separate solar temperature sensor must be installed.

The solar heating feature will operate only if the solar sensor reads at least 5 degrees warmer than the pool water.

Position the solar sensor in the sun adjacent to the solar panels.



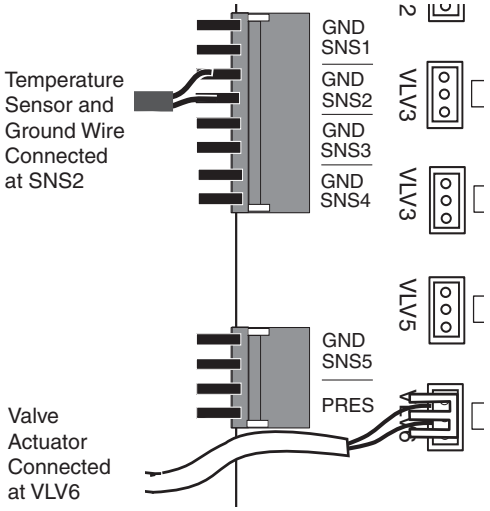
CAUTION: Verify that power is disconnected before performing any installation or modification.

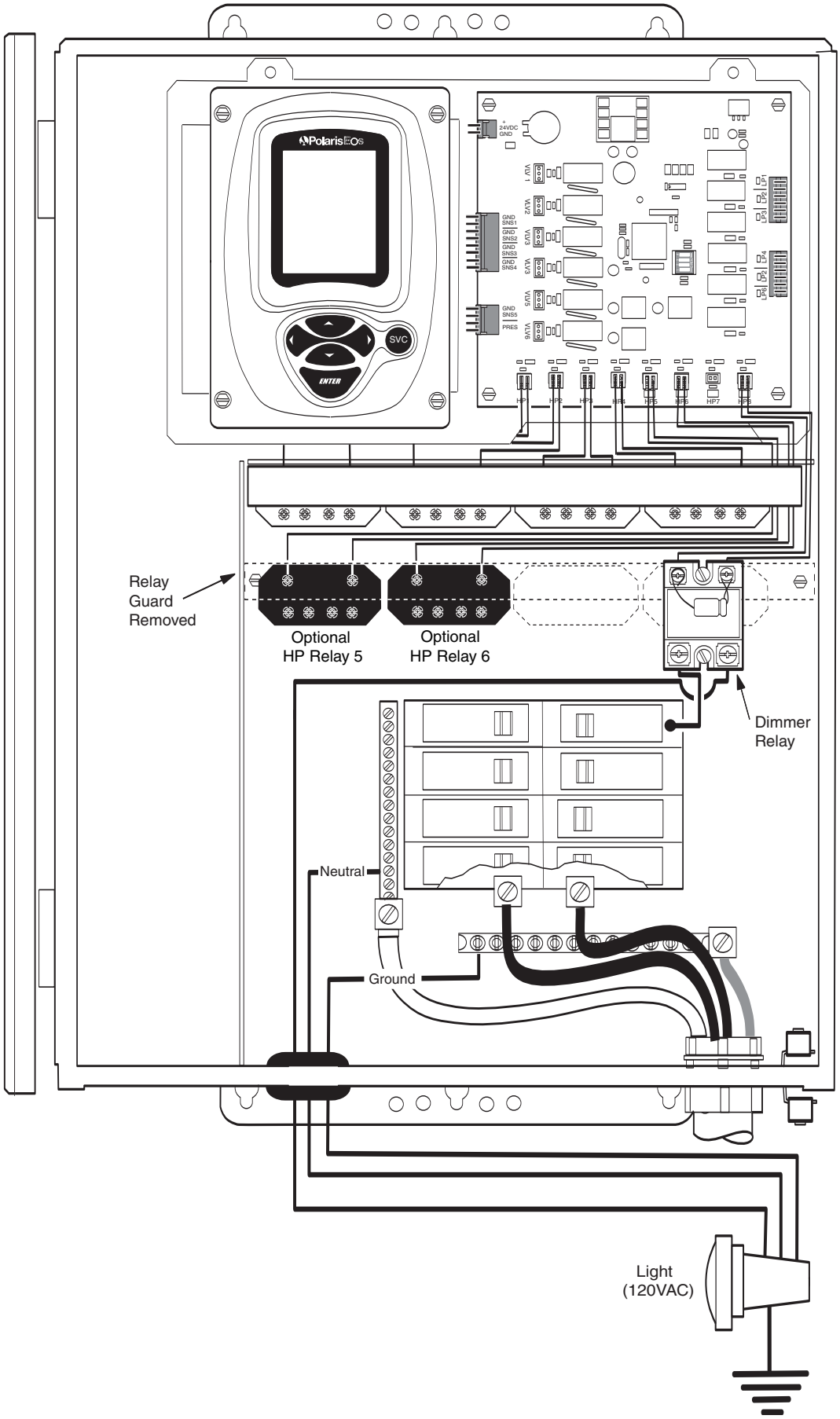
1. Run actuator and sensor wires up through low voltage compartment and behind hinged board plate.

2. Connect the sensor to the SNS terminal block and the valve to the VLV terminal block on the Eos activator board.

3. If there is a booster pump on the solar system, connect the pump to any available HP relay.

4. When all connections are complete, the solar sensor, valve actuator, and pump if applicable, will be defined and assigned to the associated terminal positions as part of System Setup.




Relay
Guard
Removed
Optional
HP Relay 5
Optional
HP Relay 6
Dimmer
Relay
Neutral
Ground
Light
(120VAC)

Command Center Options

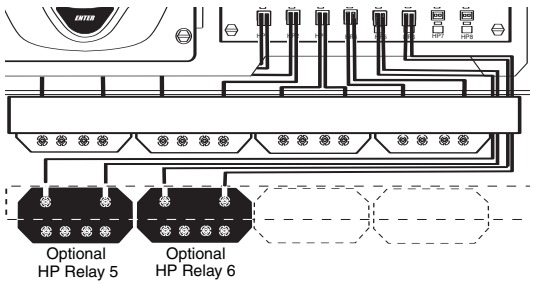
Optional Relays

Additional HP Relays (part #S30)

Up to four additional high power relays can be added to the command center relay panel.

CAUTION: Verify that power is disconnected before performing any installation.

1. Connect the relay to any open position on the lower portion of the relay panel.
2. Connect the relay wires to any open relay socket (HP5-8) on the command center activator board.

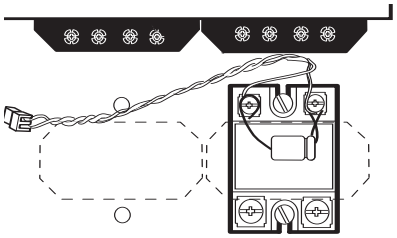


Dimmer Relay (part #E75)

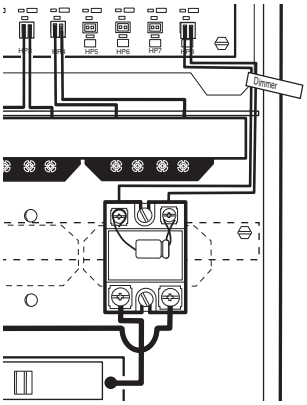
The Dimmer can be installed on either the HP7 or HP8 relay position on the lower portion of the command center relay panel.

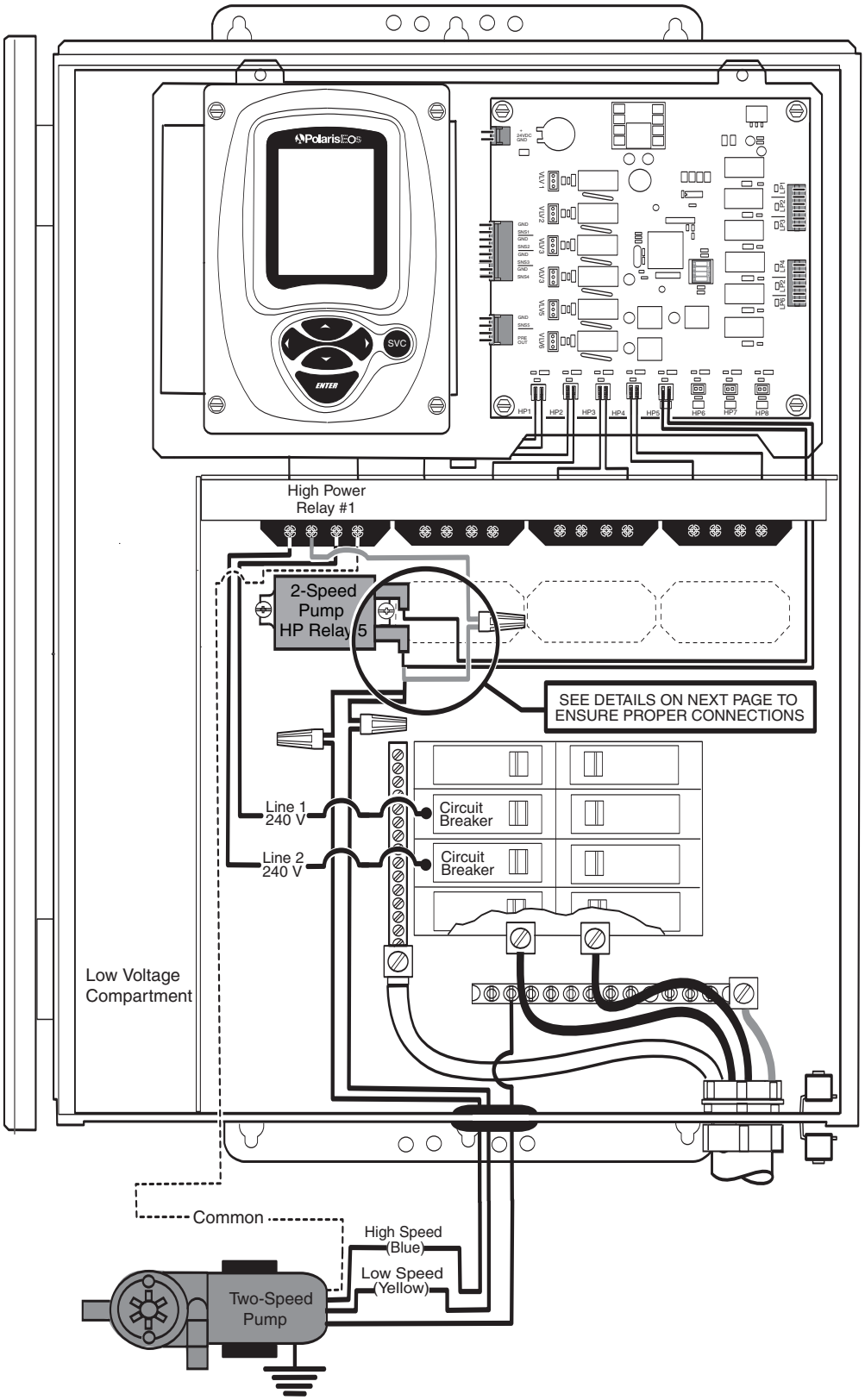
CAUTION: Verify that power is disconnected before performing any installation.

1. Apply the thermal conductive compound (included) to the back of the dimmer.
2. Mount the unit vertically, with wire connections at top, using the predrilled holes. Connect the relay wires to any open relay socket (HP5-8) on the command center activator board.



3. Use a wiring identifier label to mark the connection at the activator board.
4. Connect one side of the dimmer to the transformer and the other side to the load line of the light.
5. When all connections are complete, the dimmer will be defined and assigned to the associated relay as part of System Setup.




High Power
Relay #1
2-Speed
Pump
HP Relay 5
SEE DETAILS ON NEXT PAGE TO
ENSURE PROPER CONNECTIONS
Line 1
240 V
Line 2
240 V
Circuit
Breaker
Circuit
Breaker
Low Voltage
Compartment
Common
High Speed
(Blue)
Low Speed
(Yellow)
Two-Speed
Pump
SVC
ENTER
HP1
HP2
HP3
HP4
HP5
HP6
HP7
HP8

2-Speed Pump Relay (part #S80)

CAUTION: Verify that power is disconnected before performing any installation or modification.

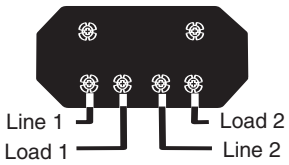
1. Mount the 2-speed pump relay in any open high power relay position on the lower portion of the command center relay panel, HP5-HP8 positions.

2. Connect the relay wires to any open relay socket (HP5-8) on the command center activator board.

3. Use a wiring identifier label to mark the connection at the activator board.

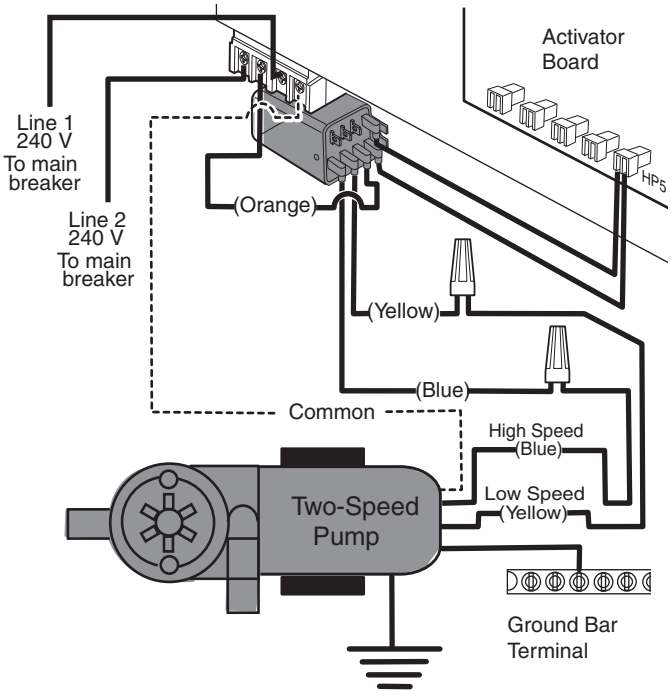
4. Connect the motor and 2-speed relay load and line wires:

   Pump Motor

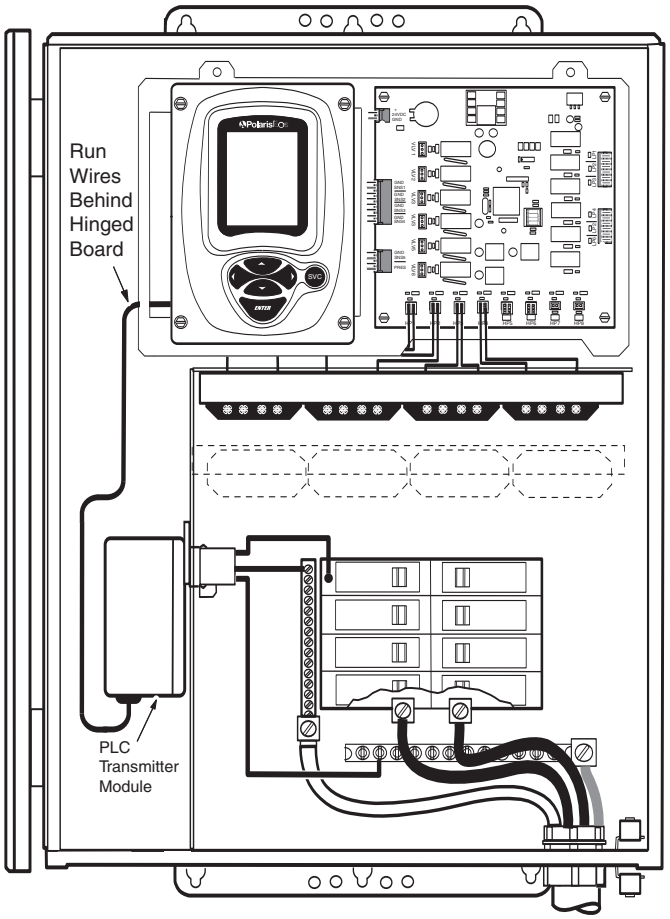


   2-Speed Relay

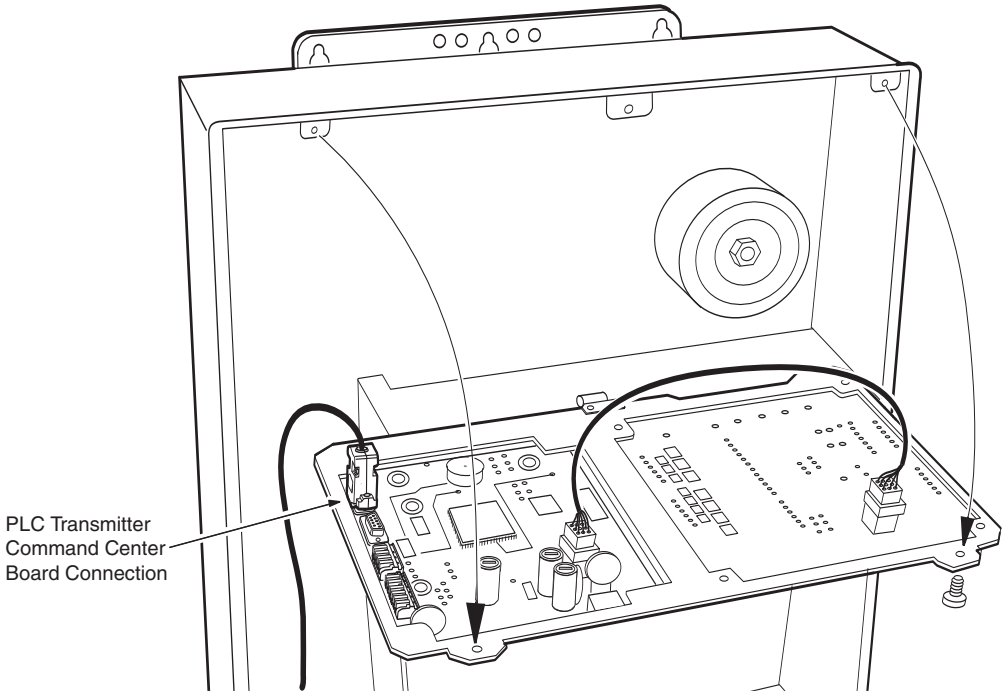
   - Low speed wire to Yellow wire
   - High speed wire to Blue wire
   - Common wire to one Load side of the filter pump relay
   - Orange wire to other Load side of the filter pump relay



5. When all connections are complete, the standard relay for high speed and the 2-speed relay for low speed will be defined and assigned to their associated relays as part of System Setup.



Eos Command Center
with hinged board plate down



Optional PLC (X-10) Kit (part #E40)

The PLC (Power Line Carrier) Kit provides a convenient, alternative method for controlling high power devices such as lights, stereos, fans and other appliances.

Devices plug into a small PLC Receiver Module that plugs into a regular wall outlet inside the house. **A separate receiver is required for each device.**

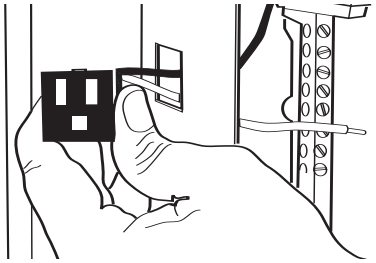
The receiver communicates with a transmitter module connected to the Eos Command Center. Once set up, the device can be toggled on or off as if it were wired directly to the Eos controller. Lamp dimmer modules also provide a percentage setting to produce bright or dim lighting. Up to 64 receiver modules can be assigned on the system.

PLC Kit includes:

- Transmitter
- Dimmer Module (Lighting only)
- Outlet

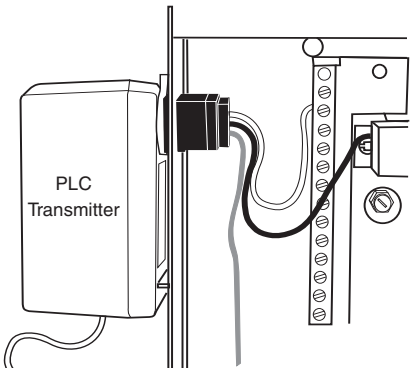
CAUTION: Verify that power is disconnected before performing any installation or modification.

1. Slide PLC Outlet wires through square cutout on inside wall of low voltage compartment. Ensure ground hole is at the bottom.



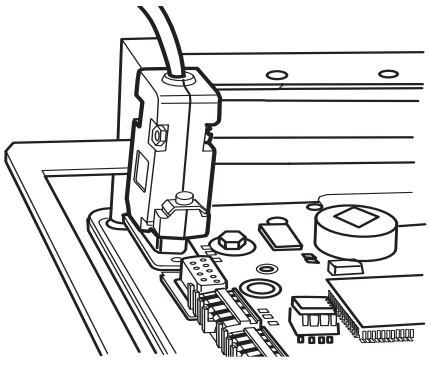
2. Snap outlet into place

3. Connect the outlet wires:
   - Green to ground bar
   - White to neutral
   - Black to a 120V circuit breaker



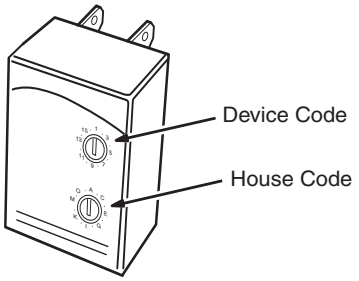
4. Plug the PLC Transmitter into the outlet. The cable should hang from the bottom.

5. Unscrew and swing down the hinged board plate. Plug the transmitter cable into the X-10 socket on the command center board.



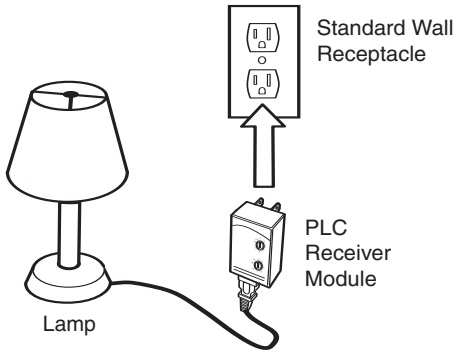
6. **A separate receiver module is required for each device.**

   Use the dials on the front of the PLC receiver to set the house code (A-D) and device code (1-16). Make note of the codes for each device for use during System Setup.



7. Plug the receiver module into any wall plug and the device into the receiver.

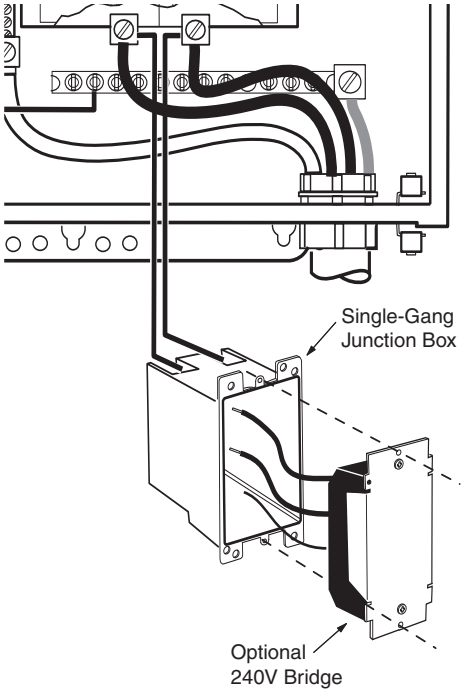
8. When all connections are complete, PLC devices will be defined as part of System Setup.



Optional 240V Bridge

When house circuits are not linked to the Eos via the circuit breaker box, it may be necessary to add a bridge or phase coupler (part #E46) at the breaker box or directly onto the command center breaker subpanel.

If a 240V outlet, typical electric stove or dryer outlet, is available, the 3-prong, plug-in phase coupler (part #E45) can also be used.



Optional Expansion Panel (part #E9)

The Expansion Panel provides 8 additional high power connections (4 relays are included), 6 low power connections, 6 valve connections and 6 sensor (5 temperature and 1 pressure) connections.

The Eos system can accommodate up to three Expansion Panels to provide up to 32 high power, 24 low power and 24 valve connections.

Mount the Expansion Panel within 12 feet of Eos Command Center to accommodate the CPC Cable connection. If a longer CPC cable is needed, order the CPC Extension Kit (part #E69).

CAUTION: Verify that power is disconnected before performing any installation or modification.

1. Open expansion panel door and remove deadfront to access electrical panel.

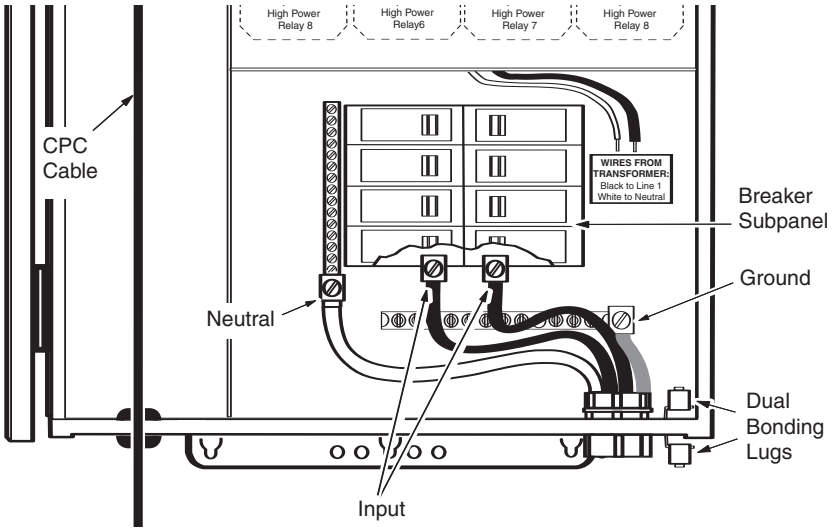
2. Run appropriately sized conduit and wire from the main power supply to the panel.

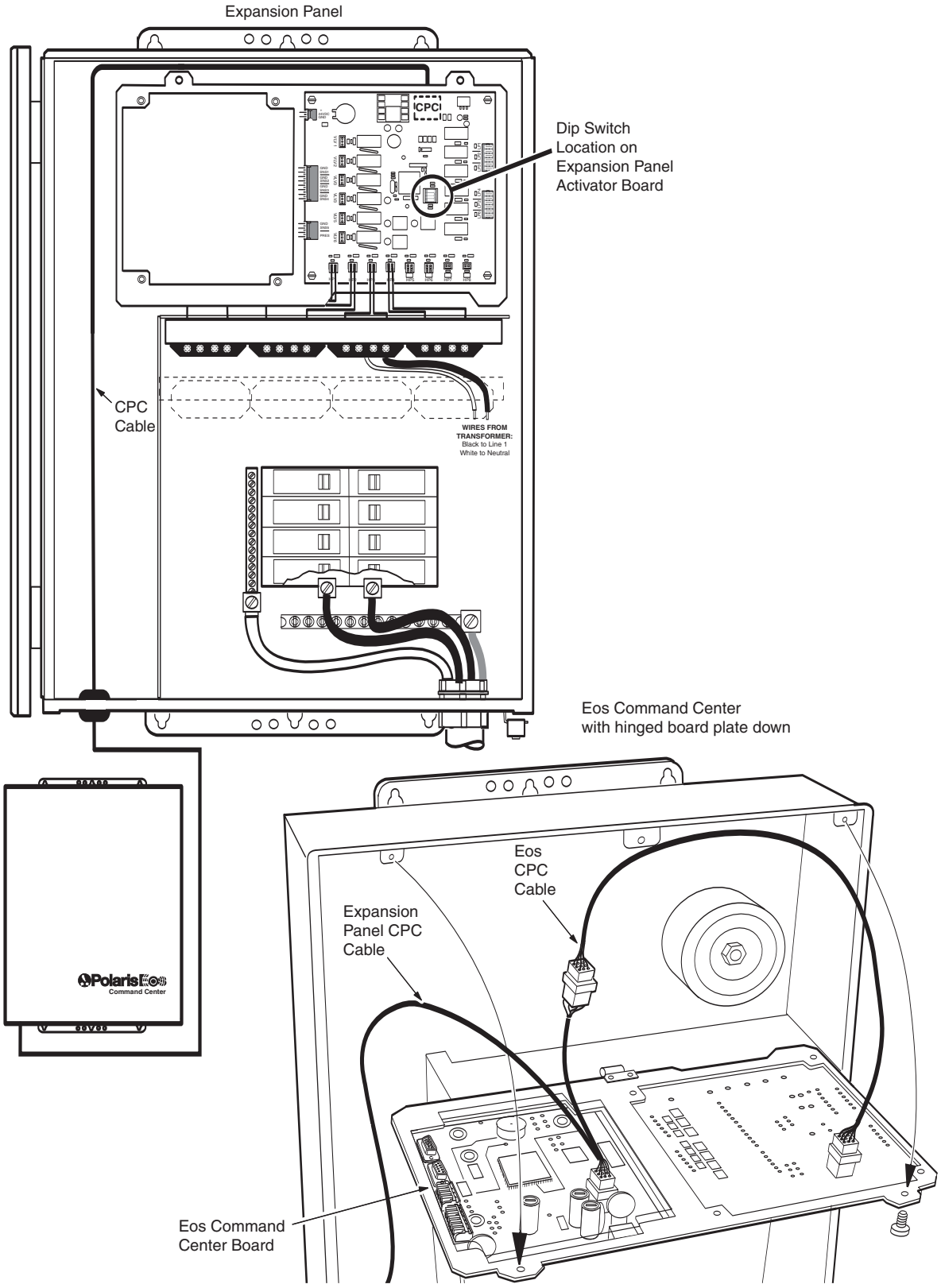
3. Connect input to lugs on the breaker subpanel and install circuit breakers.

4. Connect white transformer wire to a120V circuit breaker.

5. Connect ground means on the electric supply service panel to the lug on the GROUND bar terminal on the expansion panelboard using continuous copper (minimum No. 8 AWG) bare, covered or insulated wire.

6. Use insulated or bare copper conductor, no smaller than No. 8 AWG (No. 6 AWG for Canada), to connect the local common bonding grid in the area of the pool or spa to the bonding lugs on the expansion panel box.

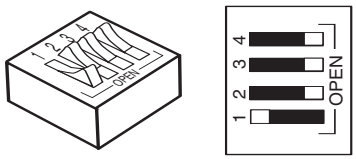



Expansion Panel
CPC
Dip Switch
Location on
Expansion Panel
Activator Board
CPC
Cable
WIRES FROM
TRANSFORMER:
Black to Line 1
White to Neutral
Eos Command Center
with hinged board plate down
Eos
CPC
Cable
Expansion
Panel CPC
Cable
Eos Command
Center Board

7. Locate the dip switches on the expansion panel activator board and verify that they are set appropriately.

   The panel is shipped as Activator #2, so subsequent panels will need to be adjusted.

Dip Switch Positions for First Expansion Panel



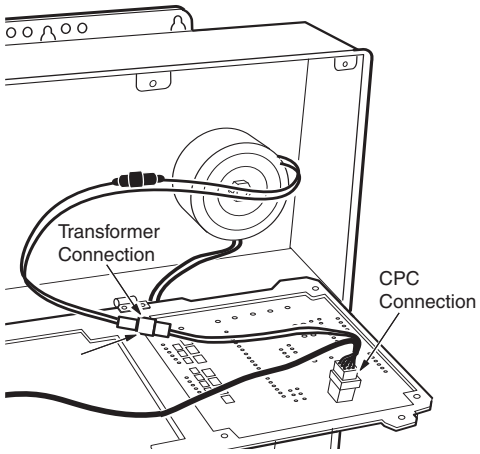
Unit	Activator	Dip Switch Settings
Command Center	#1	All dip switches open
First Expansion Panel	#2	Close position #1
Second Expansion Panel	#3	Close position #2
Third Expansion Panel	#4	Close position #1 and #2

8. Unscrew and swing down the hinged board plate to access the circuit board.

9. Route the expansion CPC cable up through the low voltage compartment.

10. Connect the 9-pin CPC connector to the activator board and the 2-pin connector to the transformer connector.

At Expansion Panel



At the Eos Command Center:

1. Route the expansion panel CPC cable through the low voltage compartment.

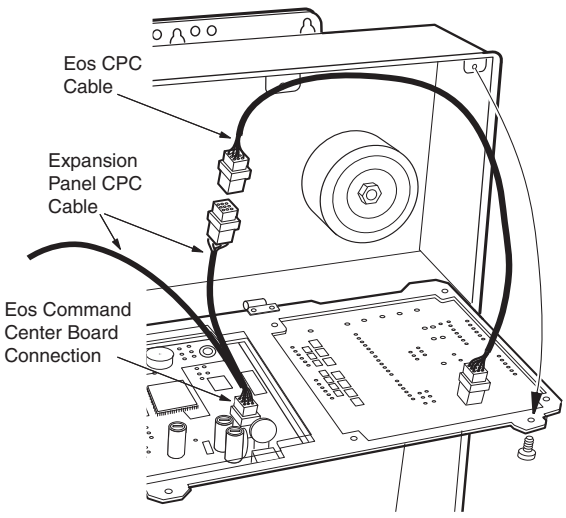
2. Unplug the Eos CPC cable from the command center board.

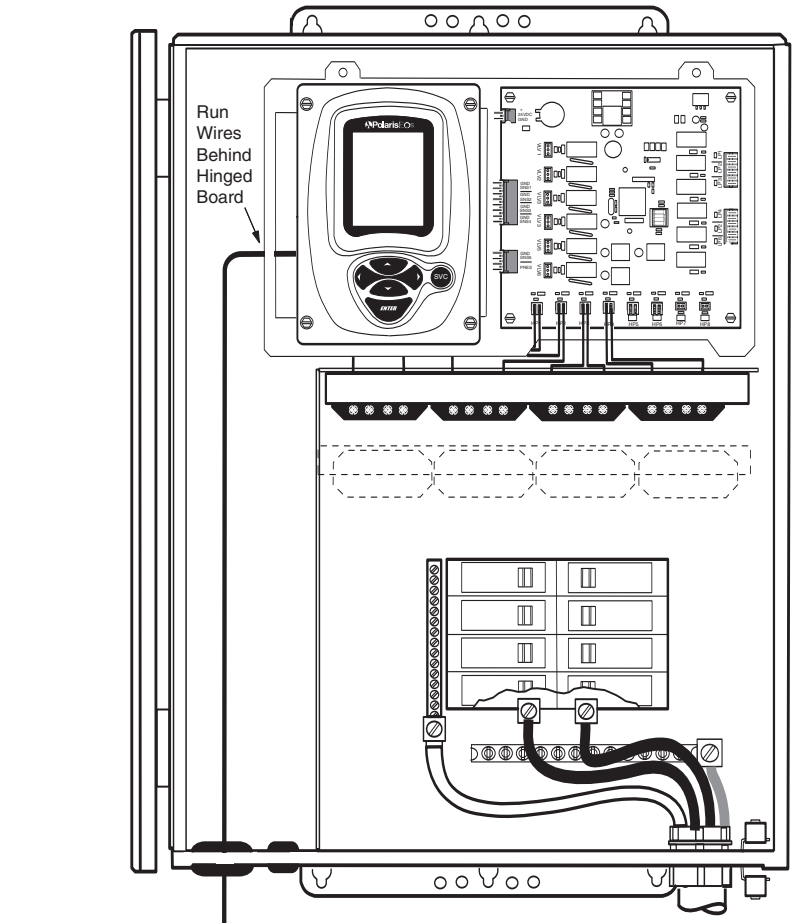
3. Plug one end of the expansion CPC cable into the command center board and the other end into the CPC cable connected to the activator board.

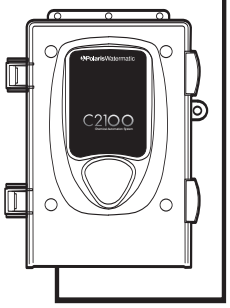
   If multiple expansion panels and/or a Watermatic C2100 is being installed, daisy chain the command center connection to accommodate all the units.

4. Follow the instructions specified in this manual to connect and set up equipment on the expansion panel.

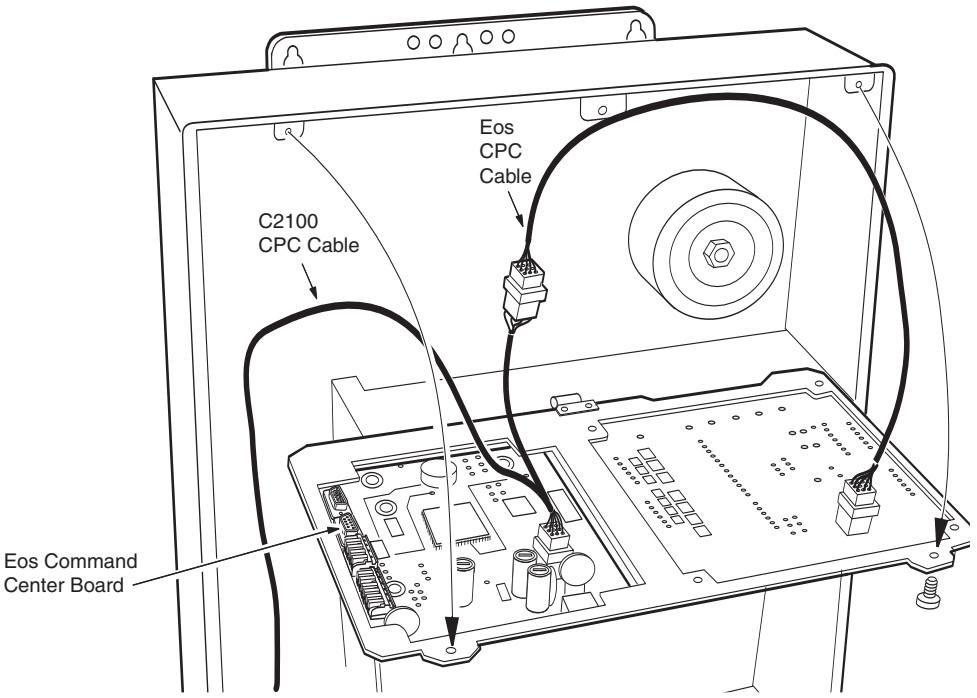
At Eos Command Center







Eos Command Center
with hinged board plate down



Optional Controllers

Polaris Watermatic C2100 ORP/pH Controller (part #C2100)

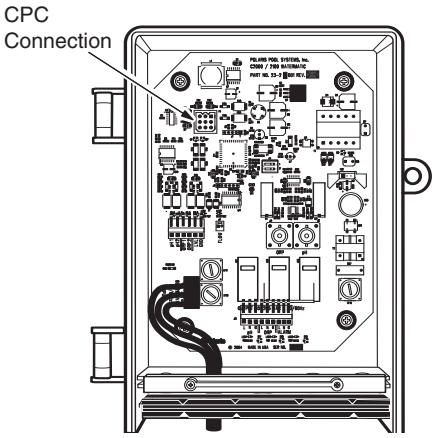
ORP and pH level monitoring and control are available with the Eos when the Polaris Watermatic C2100 controller is installed on the system. Eos can accommodate two Watermatic controllers.

Refer to the controller owner's manual for complete installation instructions. Mount the controller within 12 feet of the Eos Command Center to accommodate the CPC Cable connection. If a longer CPC cable is needed, order the CPC Extension Kit (part #E69).

CAUTION: Verify that power is disconnected before performing any installation.

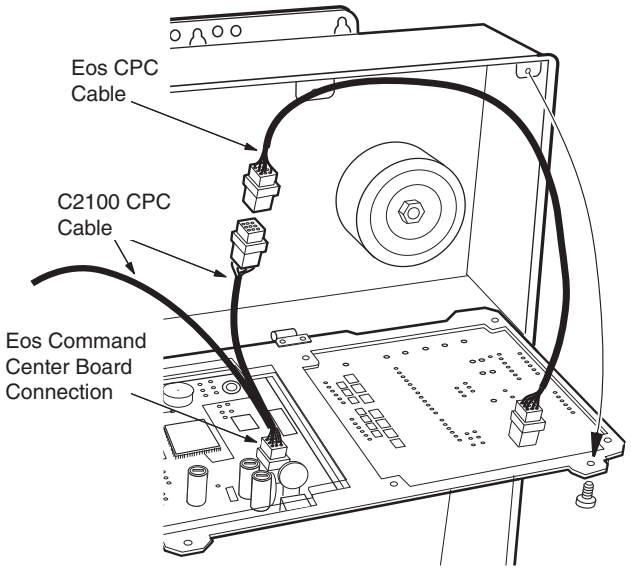
At the C2100 controller:

1. Open the door to the controller.
2. Connect the CPC cable to the controller circuit board.
3. Remove wire clamp, route the CPC cable through the housing grommets. Replace wire clamp and close door.
4. Run CPC cable to the command center.

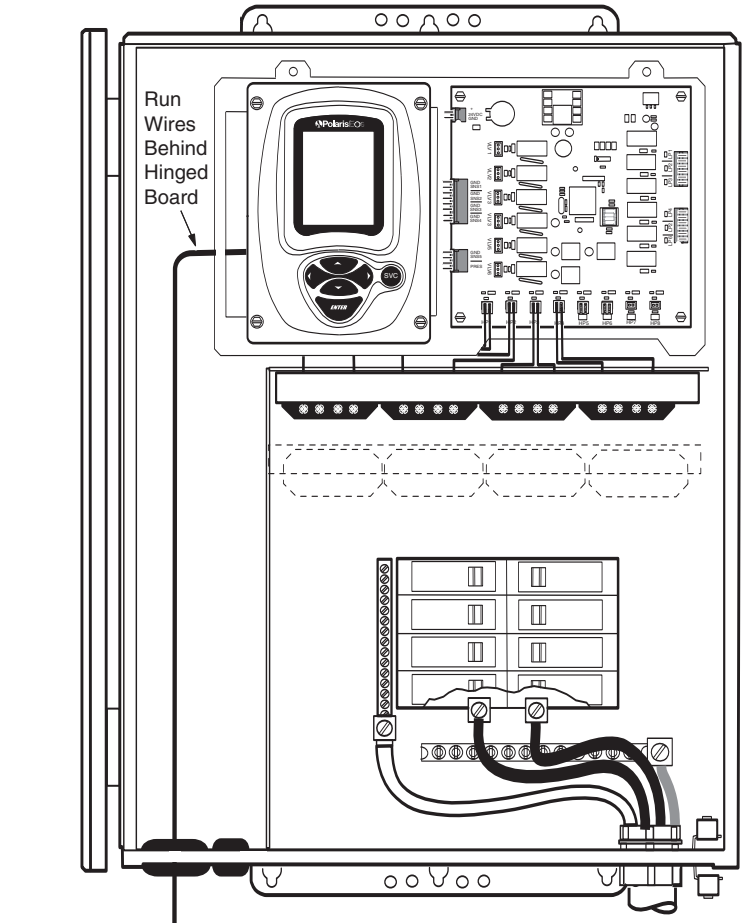


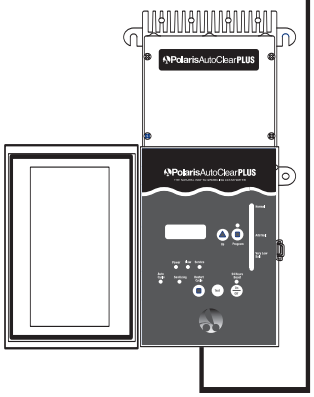
At the Eos Command Center:

1. Unscrew and swing down the hinged board plate to access the command center circuit boards.
2. Route the C2100 CPC cable through the low voltage compartment.
3. Unplug the Eos CPC cable from the command center board.
4. Plug one end of the C2100 CPC cable into the command center board and the other end into the Eos CPC cable connected to the Eos Activator Board.

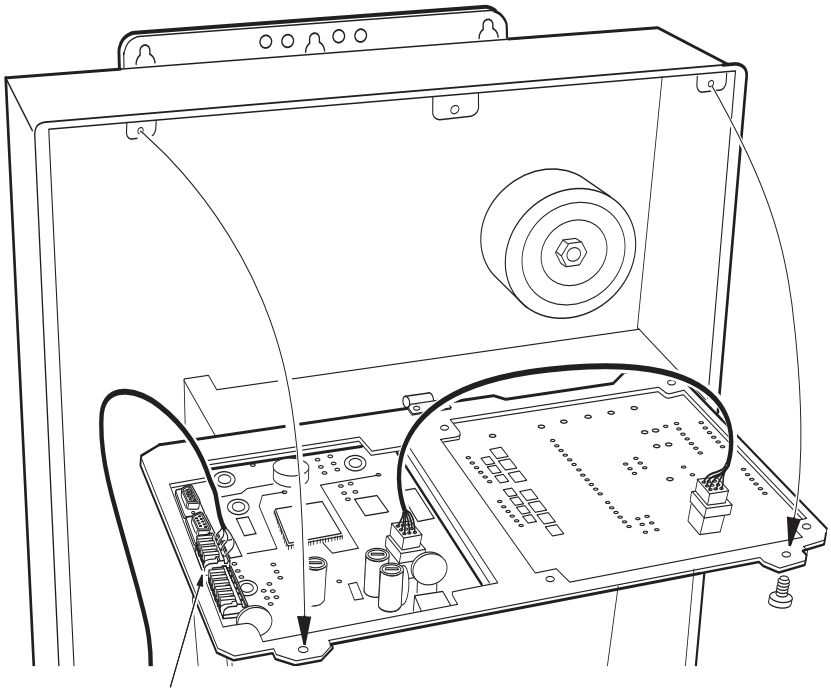


If the Watermatic will control a Polaris AutoClearPLUS for chlorination, refer to the installation instructions in the Salt Chlorinator section.





Eos Command Center
with hinged board plate down



Chlorinator Connection on
Command Center Board

AutoClearPLUS Salt Chlorinator (part #85-600)

In addition to the AutoClearPLUS, the Eos is compatible with Goldline AquaRite and Auto Pilot. Refer to the chlorinator owner's manual for complete installation instructions.

The AutoClearPLUS can be connected directly to Eos **or** be connected through a Polaris Watermatic C2100. Connecting directly provides remote control monitoring of the salinity levels. For automated monitoring and control of chlorination production, as well as pH control, connect the chlorinator to a C2100 that is connected to Eos.

To connect the AutoClearPLUS directly to Eos:

CAUTION: Verify that power is disconnected before performing any installation.

At the AutoClearPLUS controller:

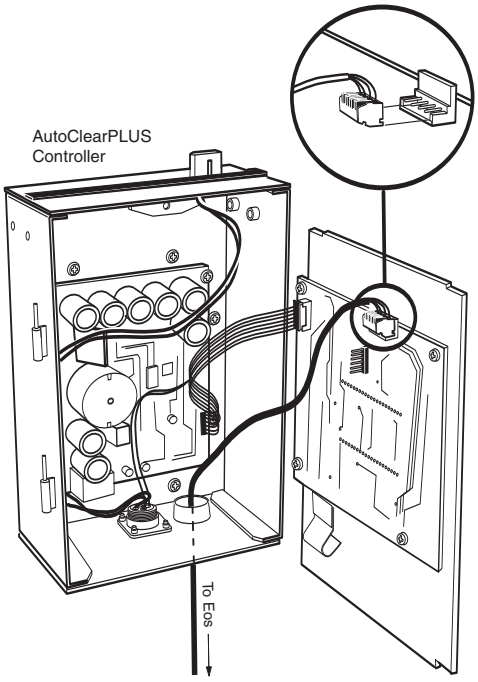
1. Remove the face plate from the controller.

2. Slide the 4-wire connector cable (sold separately) through the grommet in the base of the controller.

   Connect the cable to the block on the back of the face plate with the pin/wire color sequence:

Pin #	Wire Color
1	Red
2	Black
3	Yellow (White)
4	Green

3. Verify that all connections are secure, then reattach the face plate.



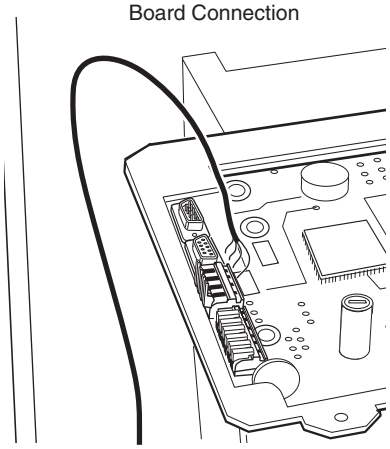
At the Eos command center:

1. Unscrew and swing down the hinged board plate to access the command center board.

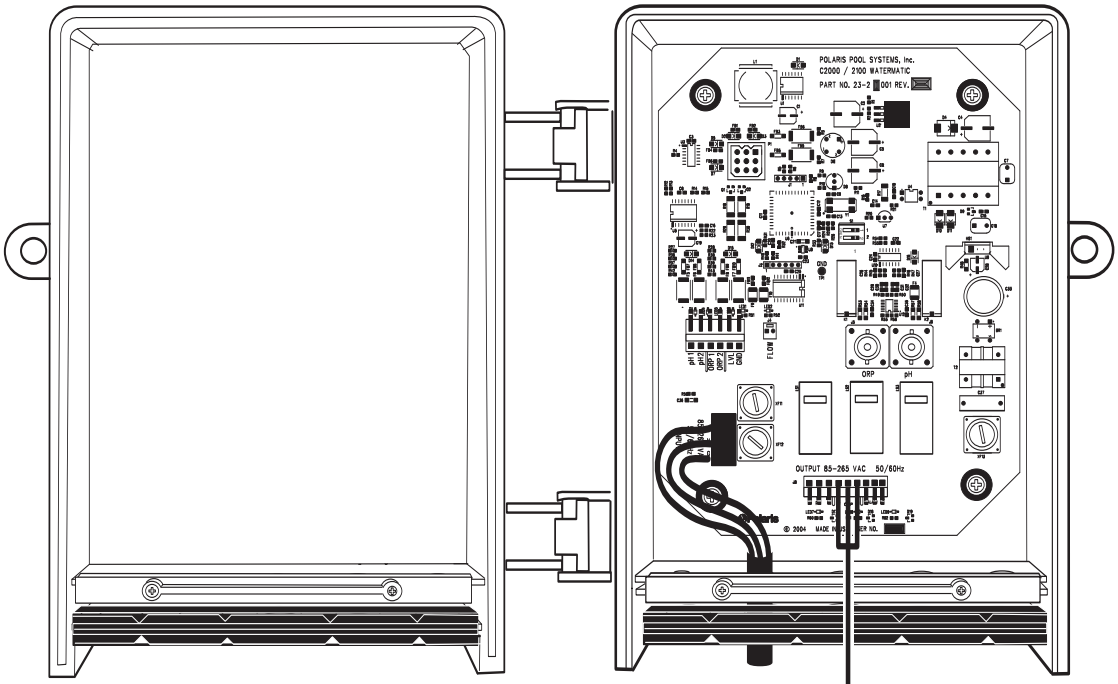
2. Route the chlorinator cable through the low voltage compartment. Attach the wires to the 4-pin removable connector using the pin/wire color sequence:

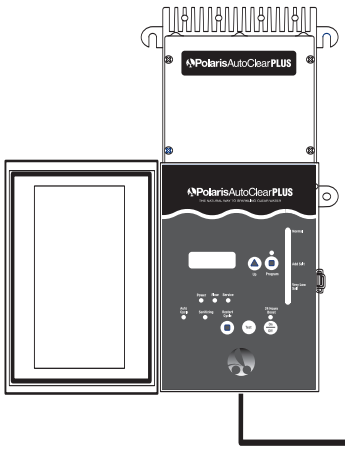
Pin #	Wire Color
1	Black
2	Yellow (White)
3	Green
4	Red

Eos Command Center
Board Connection



Watermatic C2100
with door open





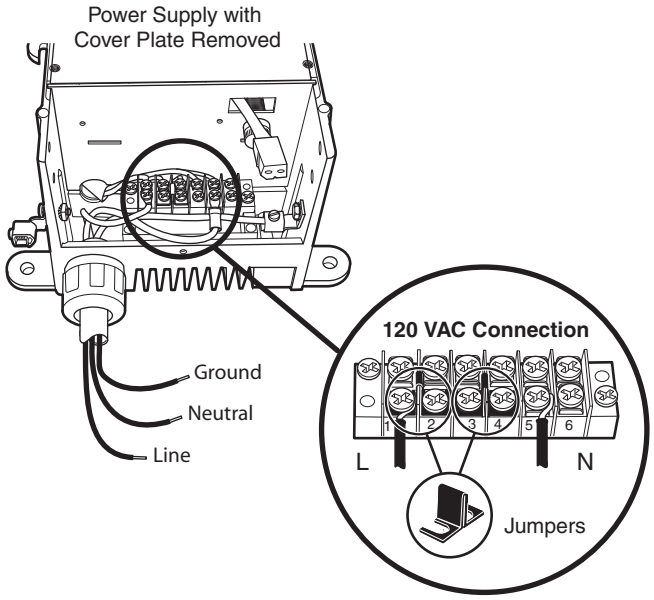
To connect the AutoClearPLUS to a Watermatic C2100:

CAUTION: Verify that power is disconnected before performing any installation.

The AutoClearPLUS is shipped for 240 VAC power. In order to connect it to the C2100, it must be rewired for 120 VAC.

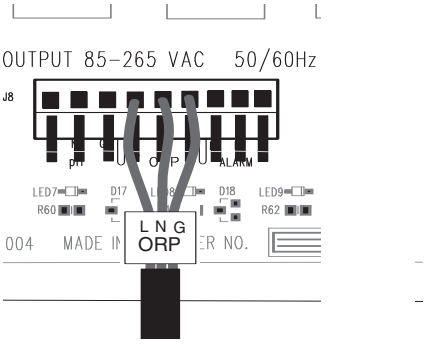
To rewire for 120 VAC:

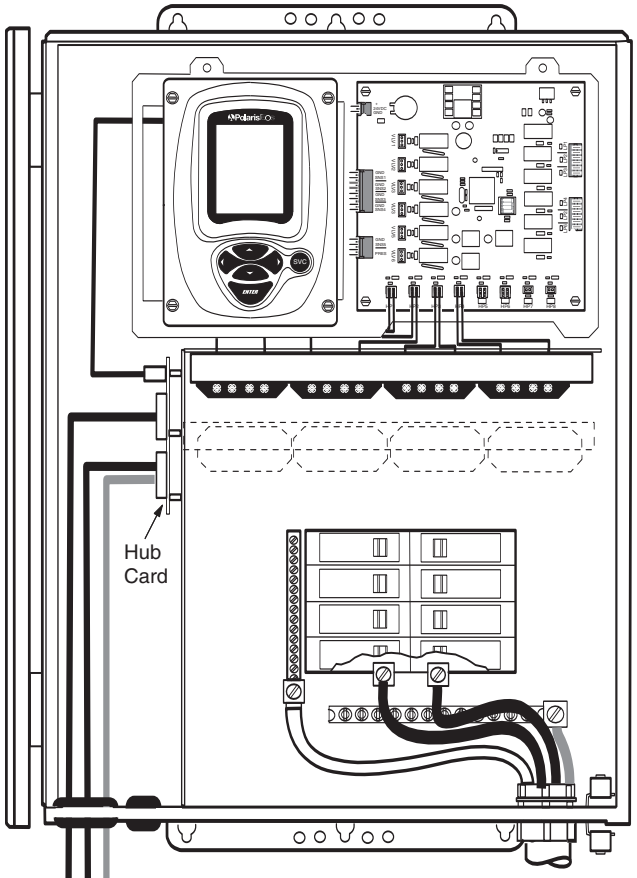
1. Remove cover plate from AutoClearPLUS power supply to access the AC terminal connections.
2. Add a jumper between terminals 3 and 4.
3. Replace the 1.5 Amp fuse installed with the 3 Amp fuse included in the chlorinator spare parts bag.
4. Reinstall the plate cover.



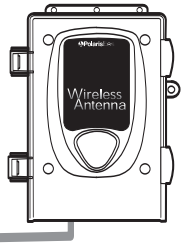
To connect to the C2100:

1. Run the AC wiring from the chlorinator to the Watermatic controller.
2. Open the controller door and connect the wiring to the ORP terminal at the bottom of the C2100 board.
3. Close and secure the door.





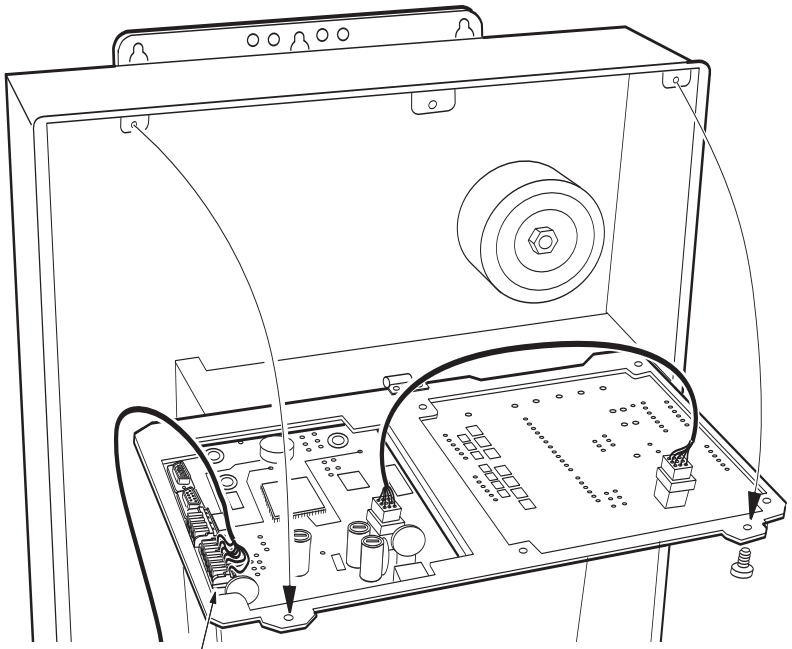
Wireless Antenna



Shortcut Remote

In-House Panel

Eos Command Center
with hinged board plate down



Hub Card Connection on
Command Center Board

Remote Control Options

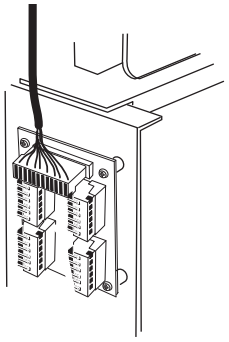
RBC Hub Card (part #E36)

The hub card expansion connector allows four RBC devices (In-House Panel, Wireless Antenna, Shortcut) to be connected to the Eos Command Center simultaneously. An RBC Hub Card is required when two or more remote devices are connected.

CAUTION: Verify that power is disconnected before performing any installation or modification.

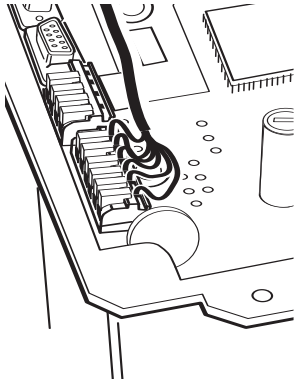
1. Attach the hub card to the wall of the low voltage compartment in the command center using the pre-drilled holes to hold the card standoffs.

   The red connector should be attached to the top of the card.

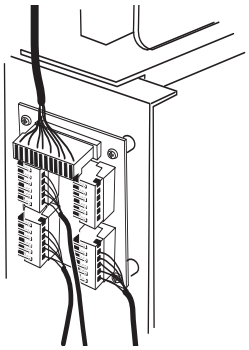


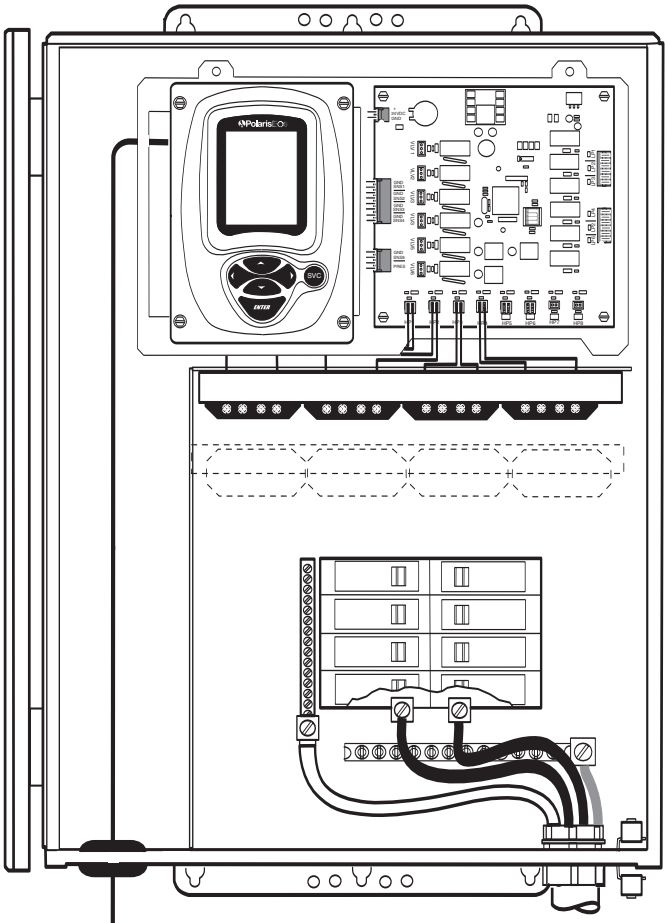
2. Connect the hub card to the 6-pin removable terminal block on the command center board.

Pin #	Wire Color
1	Green
2	Yellow
3	Orange
4	Red
5	Blue + Brown
6	Black + Purple

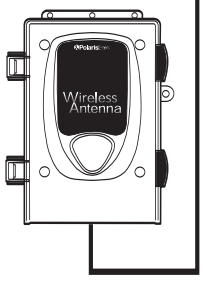


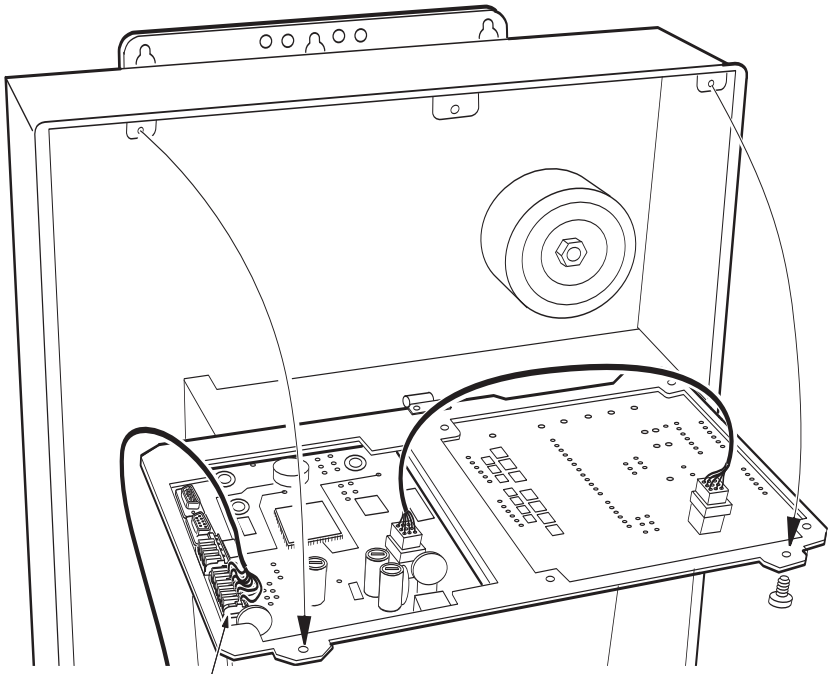
3. Wire the remote devices to the removable terminal blocks on the hub card following the pin/wire color sequence for the specific device.





Eos Command Center
with hinged board plate down





Antenna Connection on
Command Center Board

Wireless Remote Kit (part #E20)

Wireless Antenna

Up to three remotes can be used with one antenna.

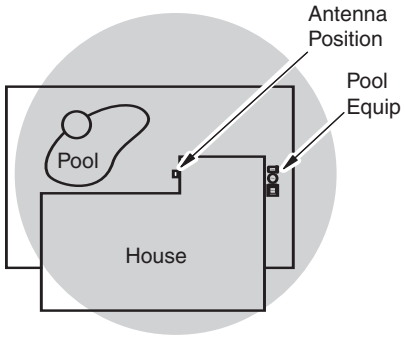
To ensure clear, strong communication between the command center and the Wireless Remote, determine optimum positioning for the antenna before permanently installing it.

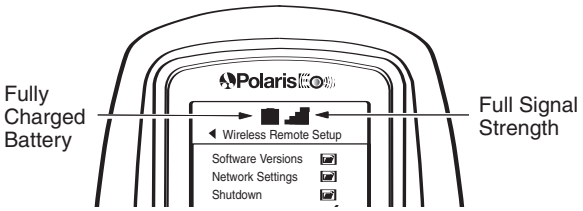
1. Position the antenna in the center of the coverage area (shown here in gray).

2. Temporarily connect antenna to command center to test for reception.

3. Power up command center and the remote (must be fully charged). If the Setup screen displays on the remote, communication is established.

4. Walk around the coverage area, checking the remote display signal level indicator to ensure communication is present in all locations. Move antenna if necessary.





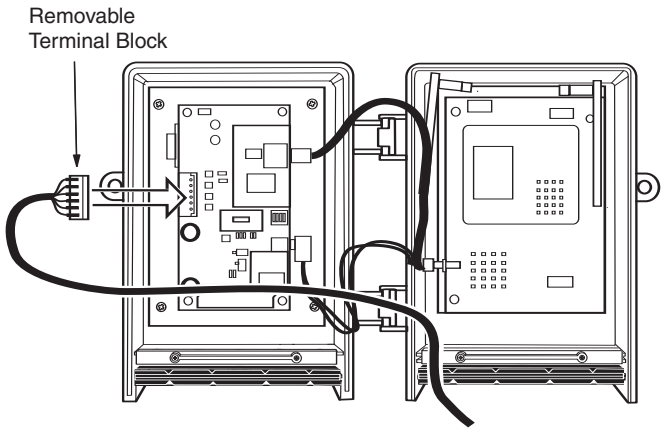
Once the optimum position is determined, the antenna should be mounted:

- In an elevated location, at least 5 feet off the ground.
- At least 6 feet away from the command center and pool equipment.
- In line-of-sight of where the wireless remote will most often be used.
- In or near the center of the coverage area.
- Away from areas where the radio signal must pass through fencing, stucco walls, reinforced block walls, etc.

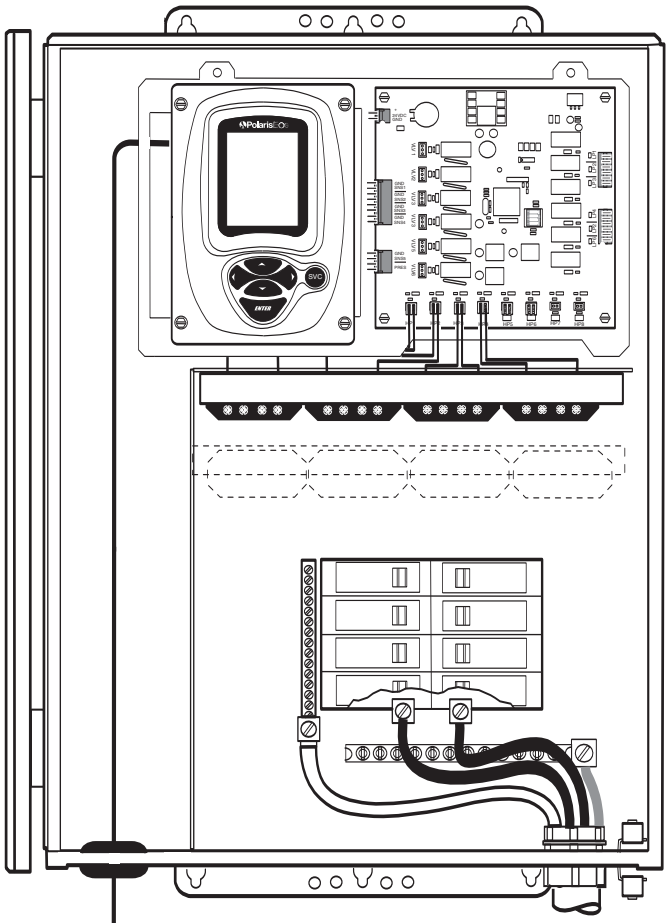
CAUTION: Verify that power is disconnected before performing any installation.

1. Open the antenna door and connect cable wires (additional cable lengths are available, contact Polaris) to the removable terminal block using the pin/wire color sequence:

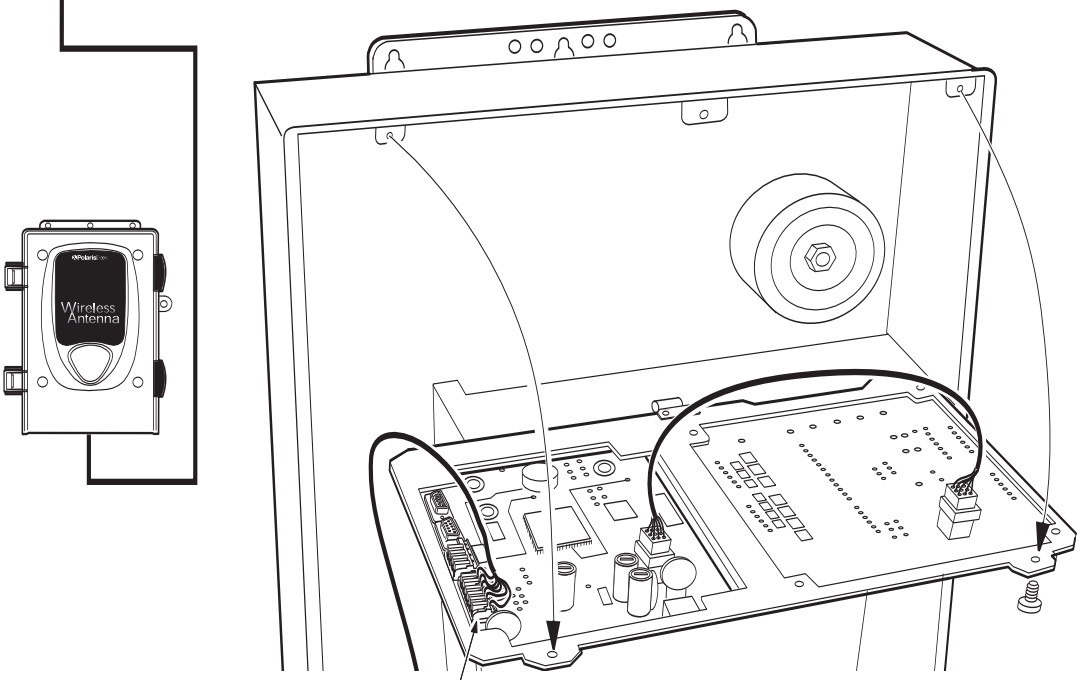
Pin #	Wire Color
1	Green
2	Yellow
3	Orange
4	Red
5	Blue + Brown
6	Black + Purple



Open Antenna Box

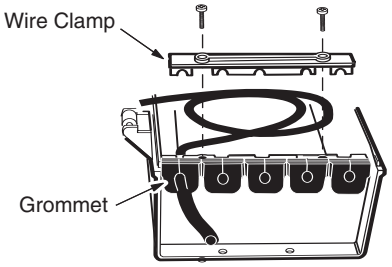


Eos Command Center
with hinged board plate down



Antenna Connection on
Command Center Board

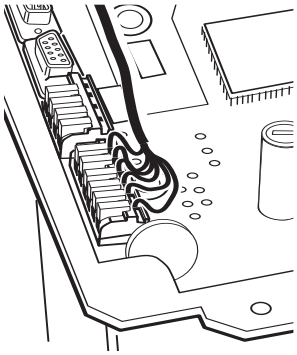
2. Remove the wire clamp and feed the wire into the left-most position, leaving about 12" of extra cable in the box.



3. Push the wire into the rubber grommet seal. Reinstall the clamp and close the box.

4. Route the antenna cable to the command center, **do not damage the cable if securing with staples or fasteners**, and up through the low voltage compartment.

5. Connect the antenna wires to the RBC Hub Card or swing down the hinged board plate and connect to the 6-pin removable terminal on the command center board using the same pin/color sequence.



Pin #	Wire Color
1	Green
2	Yellow
3	Orange
4	Red
5	Blue + Brown
6	Black + Purple

Wireless Remote

The wireless remote uses the Polaris rechargeable Lithium ion battery (part #E33). **The battery must be charged for at least five (5) hours before use**.

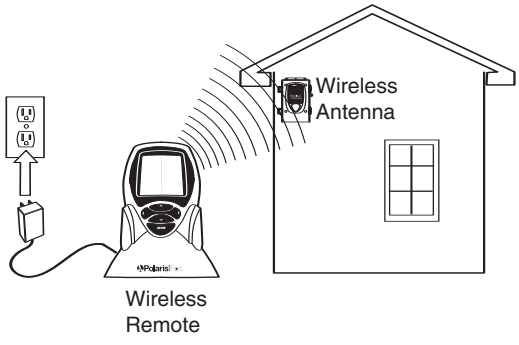
- A good connection between the remote and charger is indicated by an audible chirp as the remote connects.
- An animated scrolling of the battery symbol on the remote display indicates charging.

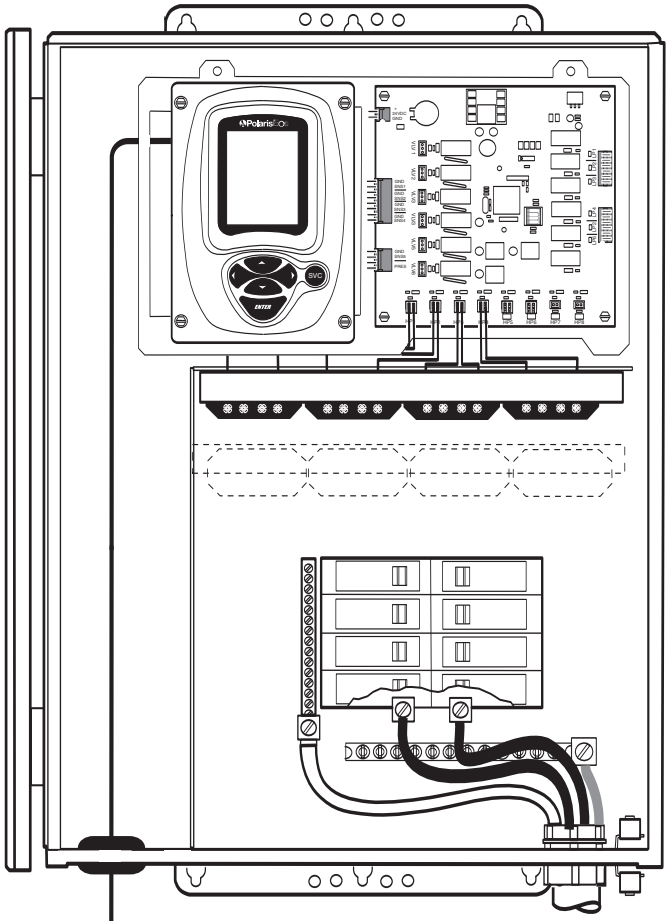
With a full charge, the remote can operate for up to two days, depending on usage. It is normal for the battery to discharge when not in use. To ensure a full charge, always store remote on the charging base when not in use. **Battery replacement should be done by authorized Polaris service personnel only.**

Position the remote and charging base in a weather protected location, away from prolonged direct sunlight, where a strong consistent signal is received from the antenna.

1. Plug in the charging base.

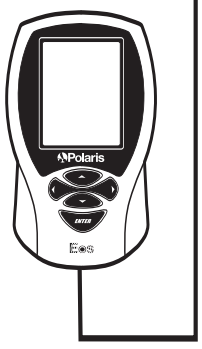
2. Insert remote into base.

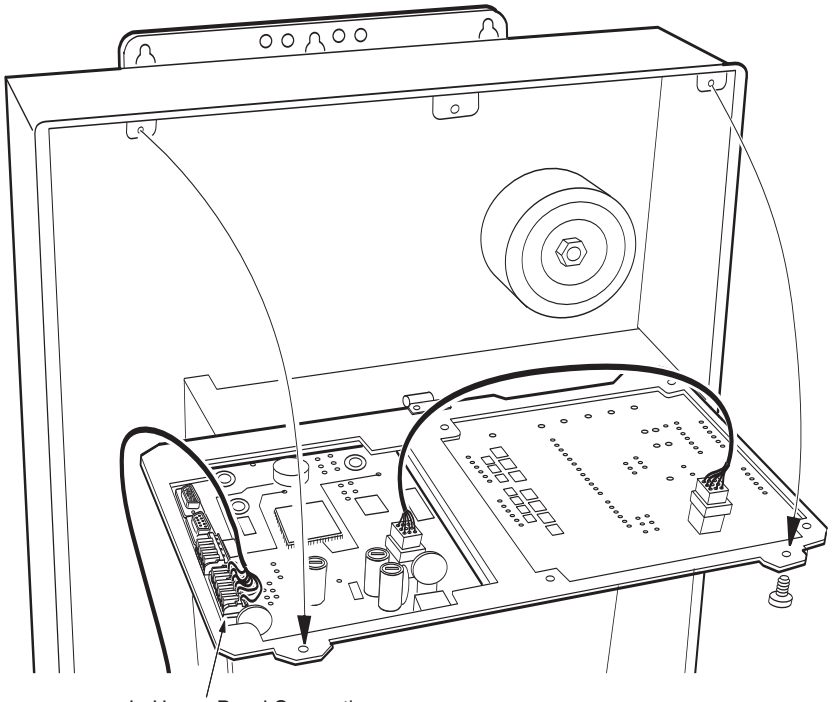




Eos Command Center
with hinged board plate down

In-House Panel





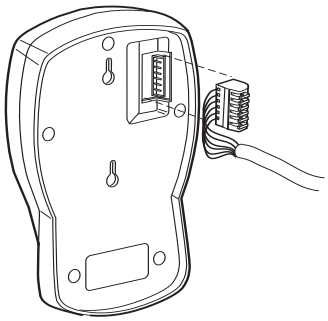
In-House Panel Connection
on Command Center Board

In-House Panel (Wired) Remote (part #E21)

Install the wired remote in a convenient location, away from prolonged direct sunlight. To connect multiple remotes, install a RBC Hub Card (part #E36).

CAUTION: Verify that power is disconnected before performing any installation or modification.

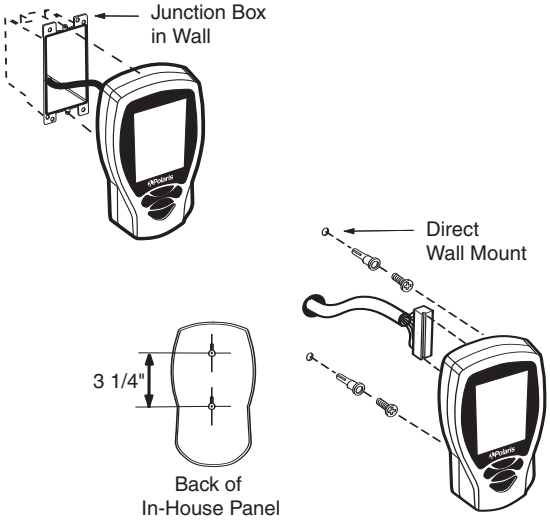
1. Pull the 8-wire cable through the wall and connect the wires to the 6-pin connector on the back of the wired remote using the pin/wire color sequence:



Pin #	Wire Color
1	Green
2	Yellow
3	Orange
4	Red
5	Blue + Brown
6	Black + Purple

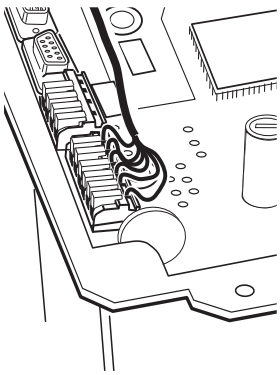
2. **If using a junction box**, install mounting screws (not included) into the center holes of the junction box. Slide wired remote onto screws.

   If using a direct wall mount, use a level and template to measure, then drill two pilot holes into the wall. Install wall anchors and screws. Slide wired remote onto screws.

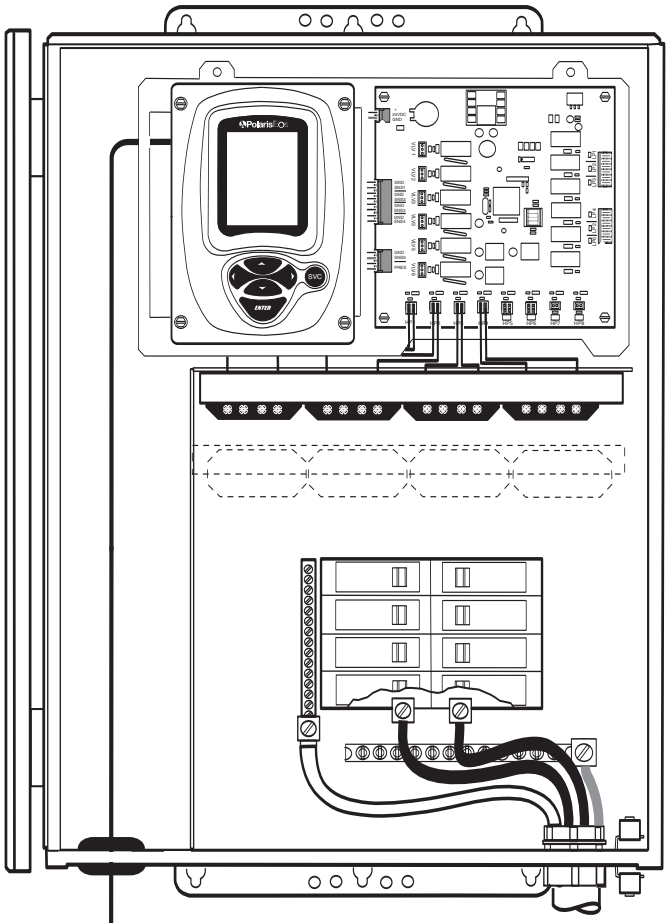


3. Pull the remote cable to the Eos Command Center and route it up through the low voltage compartment.

4. Connect the remote wires to the RBC Hub Card or swing down the hinged board plate and connect to the removable terminal on the command center board using the same pin/color sequence.

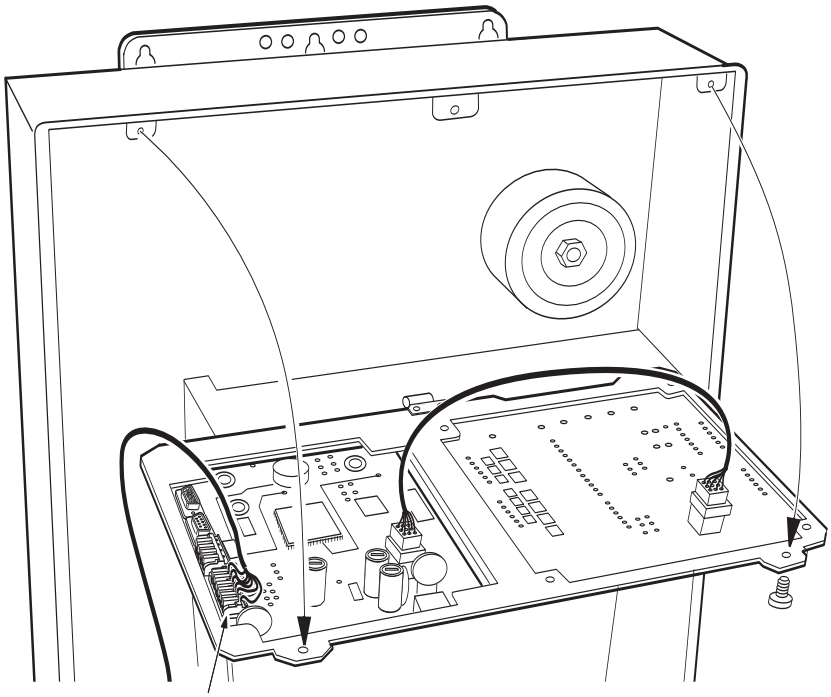


Pin #	Wire Color
1	Green
2	Yellow
3	Orange
4	Red
5	Blue + Brown
6	Black + Purple



Eos Command Center
with hinged board plate down

Shortcut Remote



Remote Connection on
Command Center Board

Shortcut Remote (Part #E22, E23, E24)

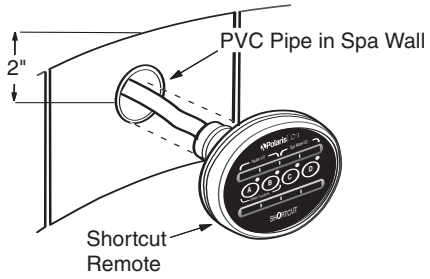
The 10-function Shortcut can be installed as an in-house panel or as a spa-side remote. To connect multiple remotes, install a RBC Hub Card (part #E36).

CAUTION: Verify that power is disconnected before performing any installation.

1. **When mounting as a spa-side remote**, plumb a 1" or 1-1/2" dia. Sch. 40 PVC pipe to the spa wall, at least 2" below the deck level but above water level.

   Install adapter bushing if 1-1/2" PVC is used.

   Apply silicone sealant to all mating surfaces, including washer if used, and push remote securely into pipe.

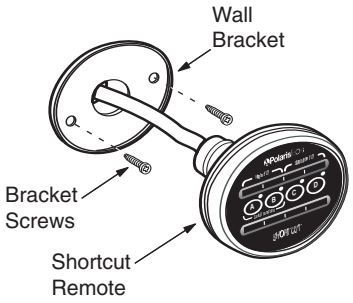


   When mounting as an in-house remote, use the mounting bracket as a template to measure and mark holes.

   Drill holes for mounting.

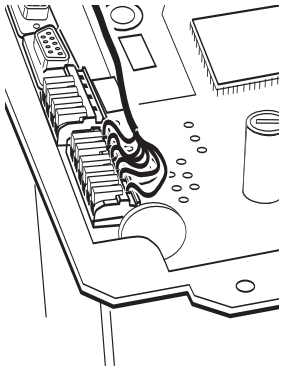
   Pull the remote cable through the mounting bracket and secure the bracket to the wall.

   Push remote securely onto bracket.



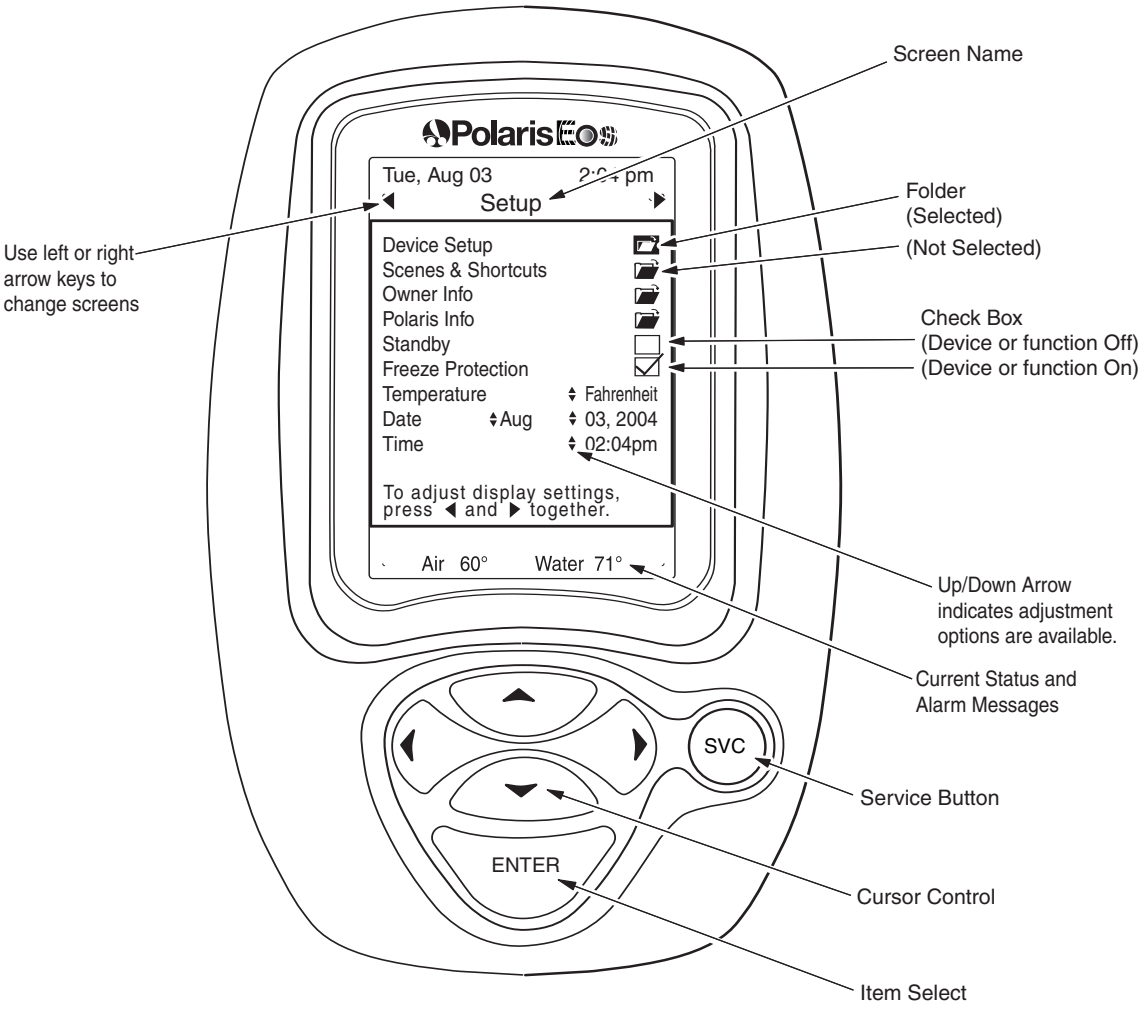
2. Pull the remote cable to the Eos Command Center and route it up through the low voltage compartment. Cut off excess cable, do not coil it inside the command center.

3. Connect the remote wires to the RBC Hub Card or swing down the hinged board plate and connect to the removable terminal on the command center board using the same pin/color sequence.



Pin #	Wire Color
1	Green
2	Yellow
3	Orange
4	Red
5	Blue
6	Black

4. When the connection is complete and all equipment has been setup in the system, the remote button functions will be assigned as part of System Setup.


Screen Name
Folder
(Selected)
(Not Selected)
Use left or right arrow keys to change screens
Check Box
(Device or function Off)
(Device or function On)
Up/Down Arrow indicates adjustment options are available.
Current Status and Alarm Messages
Service Button
Cursor Control
Item Select
PolarisEOS
Tue, Aug 03
Setup
Device Setup
Scenes & Shortcuts
Owner Info
Polaris Info
Standby
Freeze Protection
Temperature
Fahrenheit
Date
Aug
03, 2004
Time
02:04pm
To adjust display settings, press ◀ and ▶ together.
Air 60°
Water 71°
SVC
ENTER

System Setup

To establish controls and equipment schedules, at the initial startup of the Eos system:

- Get familiar with screen displays and navigation of the system
- Set the date and time
- Complete Device Setup to define and configure all equipment controlled by Eos

1

Starting the Eos Command Center

To activate: Turn on circuit breaker to power up command center.

To disable or put in "Standby Mode": Press and hold the Enter key for five seconds. Press any key to reactivate.

To shut down: Turn off main power source to command center.

Command Center Display Overview

At start up, the Setup screen will appear on the command center display screen. (If a Watermatic controller or salt chlorinator is installed, the associated control screens will be displayed but they are not active until setup is complete. Use the left or right arrow keys on the keypad to move to the Setup screen.)

Display Symbols


Folders indicate that additional screens, menus or setup options are available for an item.


Check Boxes are used to turn functions or devices on or off. Checked = On.


Up/Down Arrow indicates adjustment options are available for the field next to it, and the up or down arrow keys are used to select or enter the setting.

Item in reverse (white text on black box) indicates cursor is over item or field.


Asterisk in front indicates a text field (blank line) that can be named by user.


Clock next to equipment status field means device is scheduled to be "on."


Flame next to status field of heater means heater is firing.

To navigate the system for setup and operation:

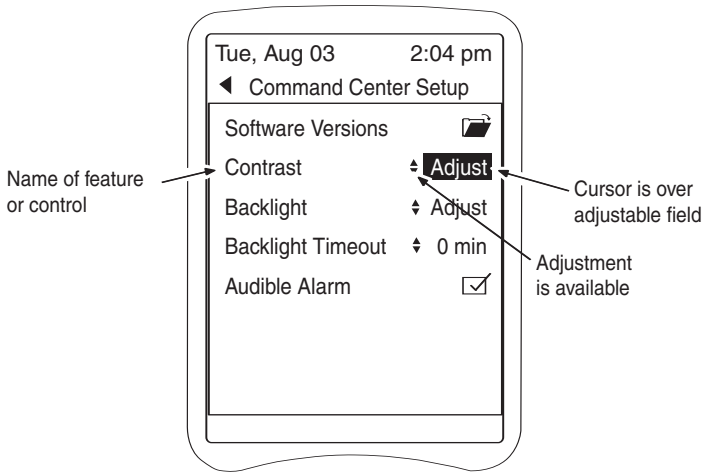
- Use arrow (cursor control) keys to move through screens and menu options.
- When the cursor is over an item, it will appear darkened or in reverse (white on black instead of black on white).
- Press the Enter key to select an item.

To set or adjust an item:

1. Use keypad arrow keys to move the cursor over the item.
2. Press <Enter> to select the item. The item will flash.
3. Use the up/down keys to choose or enter the setting.
4. Press <Enter> to activate the setting.

To adjust the brightness or contrast of the display, press the left and right arrow keys simultaneously to open the Command Center Setup screen.

Command Center Setup Screen Overview



Software Version

Not part of display adjustment controls, this screen provides information on the current software versions for the command center and the various devices it controls.

Contrast

Controls readability of text, light or dark, on screen.

Backlight

Controls illumination of screen for nighttime use and brightens for normal usage.

Backlight Timeout

Sets a time limit for inactivity after which the backlight on the display turns off. Hit any key to reactivate the display. Time range is 1 min. to 10 min., 1 hour or On.

To set or adjust any of the display controls:

1. Use arrow keys to move the cursor over the field to be adjusted. (Ex: Adjust)
2. Press <Enter> to select. The item will flash.
3. Use up arrow to increase or down arrow to decrease screen effect until it is at desired setting.
4. Press <Enter> to activate setting.

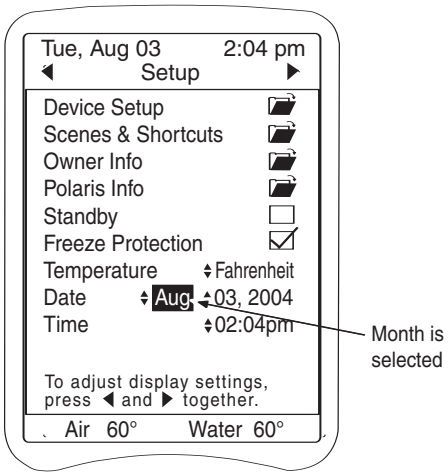
Audible Alarm

Activates and deactivates the alarm, **within the command center only**, that sounds when an alert condition is present. Use arrow keys to move cursor over check box and press <Enter> to check (activate) or uncheck (deactivate) the option.

When adjustments are complete, use the left arrow key to return to the **Setup** screen.

Setup Screen Overview

At startup, the Setup screen is the only active screen. From this screen, by choosing the various folders and adjustment fields, all basic setup information is input.



Device Setup

Defines and configures the equipment, pumps, lights, heaters, valves, sensors, etc. that the command center will control. **Complete Device Setup first as subsequent system specifications are dependent on this configuration**.

Scenes & Shortcuts

Establishes user-defined shortcuts that allow several devices to be started and stopped with a single command. **All system device connections and setups must be complete before Scenes or Shortcuts can be established**.

Owner Info

Allows input of owner name and address.

Polaris Info

Allows input of information such as serial number and service contact phone number.

Using Text Fields

- Move cursor over field and press <Enter> to select.
- Use the up/down arrow keys to move through the alpha-numeric options.
- Use the left/right arrow keys to move within the field.
- Press <Enter> when the entry is complete.

Standby

Checking the box disables all automatic control functions.

Freeze Protection

Freeze Protection should always be checked (default). If unchecked, all equipment controlled by Eos is removed from freeze protection. **Freeze Protect must also be specified for each individual device** (i.e., pumps, valves, etc.) except for the circulation pump which is covered by enabling this single setting.

Temperature

Defines how temperatures are displayed: Fahrenheit or Celsius.

2 Setting the Date and Time

It is imperative that the date and time be set correctly to ensure proper function of the equipment scheduling feature.

The command center offers multiple start and stop times and the ability to set various schedules. The built-in 365 day calendar clock accommodates multiple schedules without monthly reprogramming.

Date

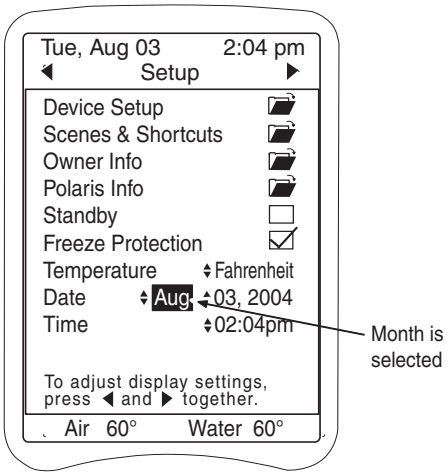
Sets the current date by month, day and two-digit year.

Time

Sets the current time along with an am or pm designation.

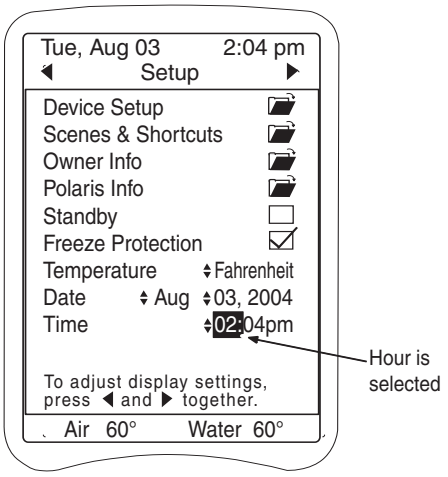
To set or adjust the date:

1. Use the arrow keys to move the cursor over the month field. (Ex: Aug)
2. Press <Enter> to select the item. The item will flash.
3. Use the up or down arrows to select the desired setting.
4. Press <Enter> to activate the setting.
5. Use the same steps to set the day and year.



To set or adjust the time:

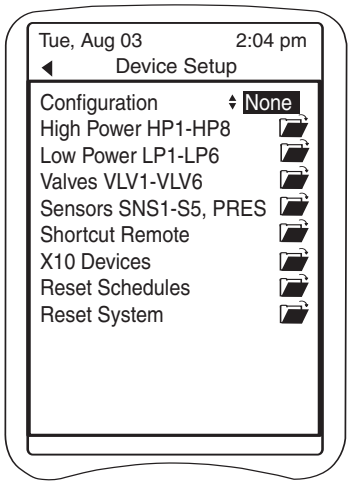
1. Use the arrow keys to move the cursor over the hour field (Ex: 02) first.
2. Press <Enter> to select the item. The item will flash.
3. Use the up arrow to run through the setting options, selecting the appropriate hour with am or pm.
4. Press <Enter> to activate the setting.
5. Use same steps to set minutes.



When all three fields of the date and both fields of the time are programmed, move the cursor to the Device Setup folder. Press <Enter> to open the **Device Setup** screen.

Device Setup Screen Overview

From the Device Setup screen the system configuration is established and the devices to be controlled by the command center are defined.



Configuration

The Eos system can be used with any pool/spa combination. Device Setup specifications vary depending on the configuration of the installation. For example: suction and return valve options are not available for a Pool Only configuration but are available on the Combo configuration.

The configuration options available on Device Setup are:

Configuration Option	Installation Type
Combo	Pool and Spa combination, shared plumbing
Pool Only	Pool only
Spa Only	Spa only
Separate	Pool and spa installations that are plumbed separately
None	Eos controls auxiliary equipment (landscape lighting, ceiling fans, etc.) only.

High Power HP1-HP8
Low Power LP1-LP6
Valves VLV1-VLV6
Sensors SNS1-5, PRES

The individual device setup screens (accessed by the folders) are where equipment is selected or named, and assigned to its specific connection location. Devices are categorized just as they were in installation i.e., High Power, Low Power, etc.

Shortcut Remote

The Shortcut remote is one of three options for remotely controlling Eos equipment (pump, light, heater, etc.). **All devices must be set up first to make the Shortcut functions available**. Setup instructions for the Shortcut and the other remote options are in the **Remote Setup** section.

PLC (X-10) Devices

PLC devices are named and assigned on a separate device screen where house codes and device codes are established for each PLC Receiver.

Reset Schedules

Clears all device schedules A confirmation screen will verify this selection before initiating the change. Select Yes and press <Enter> to activate reset. **CAUTION**: **There is no retrieval of deleted schedules.**

Reset System

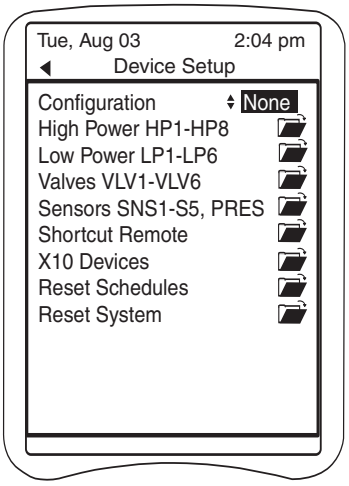
Clears all system settings: HP Setup. LP Setup, etc. A confirmation screen will verify this selection before initiating the change. Select Yes and press <Enter> to activate reset. **CAUTION: There is no retrieval of the deleted configurations.**

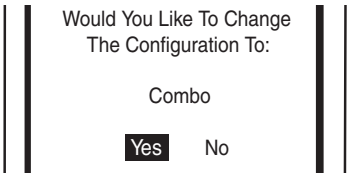
3 Completing Device Setup

To start the setup procedure, select the configuration:

1. Use arrow keys to move the cursor over the adjustable field. (Ex: None)
2. Press <Enter> to select the item. The item will flash.
3. Use the up or down arrow to select the desired configuration.
4. Press <Enter> to activate the setting.
5. A confirmation screen will appear. Move cursor to Yes and press <Enter> to activate the selection.

   The Device Setup screen will change to reflect the chosen configuration.





Device Setup instructions are presented for each specific configuration. Refer to the appropriate section to continue setup:

Device Setup - Configuration Combo, page 55.

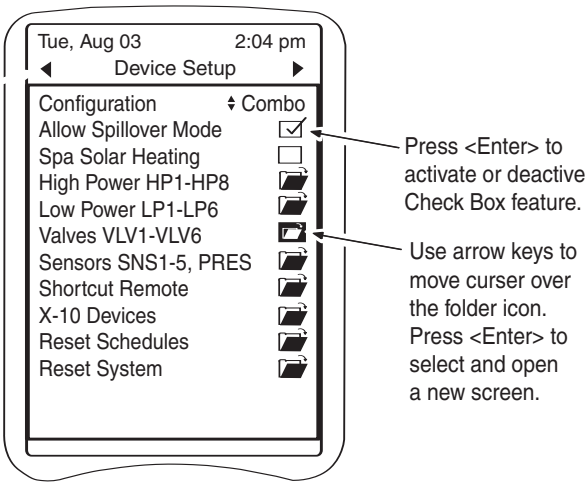
Device Setup - Configuration Pool Only, page 61.

Device Setup - Configuration Spa Only, page 67.

Device Setup - Configuration Separate, page 73.

For applications where only auxiliary devices are installed, follow any of the setup configurations to become familiar with programming the devices.

Device Setup - Configuration Combo



Allow Spillover Mode

By factory default, this check box is enabled (checked) and the spa spillover, “Spill,” option is available in Circulation Mode (see **Main Screen Overview**). During “Spill” mode, water is pulled from the pool and returned to the spa only, forcing water to spill back into the pool for a dramatic effect.

If the spa is separated from the pool and an equalizer line maintains the water level, this feature should be disabled.

Spa Solar Heating

When activated (checked), the feature allows solar heating for both the pool and spa. The default is unchecked. Solar heating operates only when the solar sensor reads 5 degrees warmer than the water temperature.

Device Screen Overview

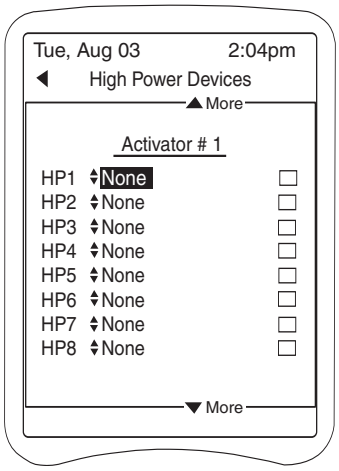
The device screens (High Power HP1-HP8, Low Power LP1-LP6, Valves VLV1-VLV6 and Sensors SNS1-5, PRES) provide the means for defining the equipment that is connected to the command center.

Each device screen provides:

- Activator board position name. (Ex: HP1)
- Device name field. (Ex: None)

  Device lists are available when field is selected.
- Check box (except Sensors that have a calibration function).

  Checking the box activates the device connected at that position. Use to identify/verify device connections.
- Connection assignments for Activator #2, #3 and #4 (used if Extension Panels are installed) are accessed by moving the cursor to “More.”



General rules for device assignments:

- **Device assignments must match the device's physical connection position** on the command center activator board.
- **Do not unplug devices from the activator board while the Eos is powered**.
- Some device options cannot be duplicated. If two or more devices need to change assignments, change them back to "None" and then reassign.
- Some devices, such as a dimmer, offer custom naming to distinguish multiple units or to personalize the device. These devices are displayed with an asterisk in front of the device name.

  User Defined is an option for naming devices not included on the device lists. This option provides no equipment associations (see **Device Associations**).

Using Nameable Text Fields

- Move cursor over name field and press <Enter> to select. The last letter of the name will blink.
- Use the left arrow key to erase the item name.
- Use the up/down arrow keys to access the alpha-numeric options.
- Use the right arrow key to move to the next letter.
- Press <Enter> when the entry is complete.

To change the item back to "None," move to the asterisk and press <Enter>.

High Power HP1-HP8

Defines the high power (120/240 VAC) devices controlled by the Eos and assigns them to their activator board connection positions.

General rules for HP device assignments:

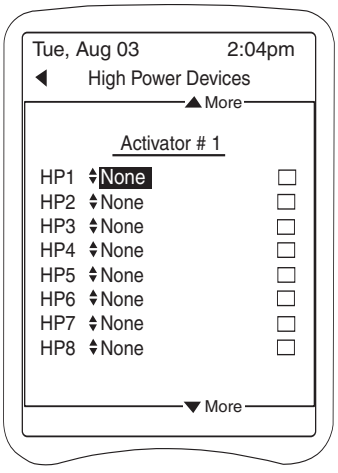
- If the circulation pump is two-speed, identify the standard relay as the circulation pump and the 2-speed relay as low speed.
- If a fiber optic light driver is installed, identify the light driver as Fiber Optic and the color wheel as Color Wheel.
- If a dimmer is installed, select Dimmer and then rename the device to identify the light being dimmed (Ex: Spa Light Dim). Dimming capability is from 0 to 100%, in increments of 10.

To assign or reassign an HP device:

1. Move the cursor over the High Power HP1-HP8 folder and press <Enter> to open the **High Power Devices** screen.

2. Move the cursor over the activator position to be assigned. (Ex: HP1)

3. Press <Enter> to select the item. The item will flash.

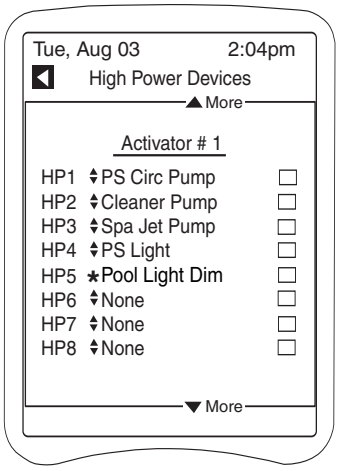


4. Use the up/down arrow keys to access the HP device options.

Combo HP Device Options	Description
PS Circ Pump	Shared Pool & Spa Circulation Pump
PS Low Speed	Shared Low Speed Pool & Spa Circulation Pump
PS Heater	Shared Pool & Spa Heater
Pool Heater	Pool Only Heater
Spa Heater	Spa Only Heater
PS Heat Pump	Shared Pool & Spa Heat Pump
Pool Heat Pump	Pool Only Heat Pump
Spa Heat Pump	Spa Only Heat Pump
Pool Chiller	Pool Only Chiller
Solar Pump	Solar Booster Pump
Cleaner Pump	Pressure Cleaner Booster Pump
Spa Jet Pump	HydroTherapy Jet Pump
Blower	Air Blower
Waterfall	Waterfall Pump
Water Feature	Waterfall Pump
PS Lighting	Shared Pool & Spa lights
Pool Light	Pool Only Light
Spa Light	Spa Only Light
Fiber Optic	Fiber Optic Light Driver
Color Wheel	Color Wheel for Light Driver
Lights	Accessory Lights
Dimmer	Nameable Pool or Spa Lights on Dimmer Relay
User Defined	Nameable Auxiliary Devices

5. Select the device connected to the HP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next HP position assignment and repeat these steps until all HP devices are assigned.



When all assignments are complete, use the left arrow key to return to the **Device Setup** screen.

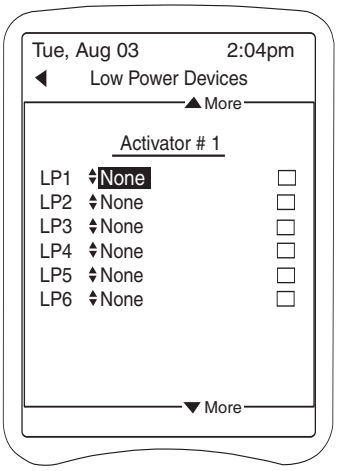
Low Power LP1-LP6

Defines the low power devices controlled by Eos.

General rules for LP device assignments:

- If using multiple heaters, use the rename option to simplify identification. (Ex: Heater 1 and Heater 2, or Raypak and AquaCal)

To assign or reassign a LP device:



1. Move the cursor over the Low Power LP1-LP6 folder and press <Enter> to open the **Low Power Devices** screen.

2. Move the cursor over the activator position to be assigned. (Ex: LP1)

3. Press <Enter> to select the item. The item will flash.

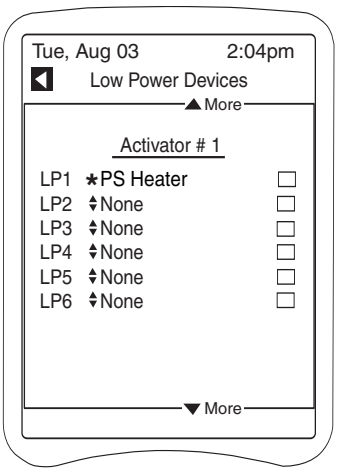
4. Use the up/down arrow keys to access the LP device options.

Combo LP Device Options	Description
PS Heater	Shared Pool & Spa Heater
Pool Heater	Pool Only Heater
Spa Heater	Spa Only Heater
PS Heat Pump	Shared Pool & Spa Heat Pump
Pool Heat Pump	Pool Only Heat Pump
Spa Heat Pump	Spa Only Heat Pump
Pool Chiller	Pool Only Chiller
LS Lighting	Landscape Lighting
User Defined	Nameable Auxiliary Devices

5. Select the device connected to the LP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next LP position assignment and repeat these steps until all LP devices are assigned.

When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.



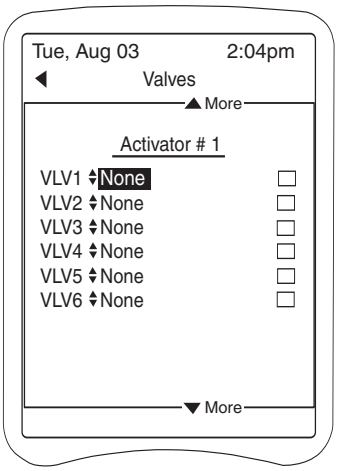
Valves VLV1-VLV6

Defines the valve actuators connected to Eos.

General rules for valve assignments:

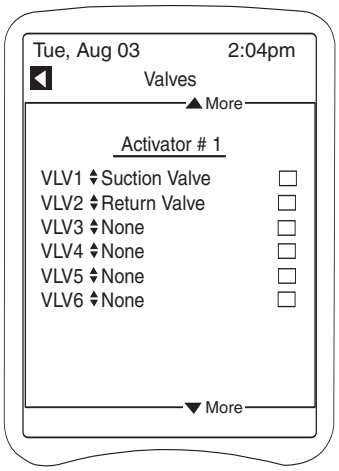
- Assign the suction valve and return valve separately.

To assign or reassign valves:



1. Move the cursor over the Valves VLV1-VLV6 folder and press <Enter> to open the **Valves** screen.
2. Move the cursor over the activator position to be assigned. (Ex: VLV1)
3. Press <Enter> to select the item. The item will flash.
4. Use the up/down arrow keys to access the valve options.

Combo Valve Options	Description
Solar Valve	Solar Valve Actuator
Cleaner Valve	Cleaner Valve Actuator
Suction Valve	Combo Suction Valve Actuator
Return Valve	Combo Return Valve Actuator
Spa Dep Valve	Nameable Spa Dependent Valve Actuator
Backwash Supply	Backwash Supply Actuator
Backwash Drain	Backwash Drain Actuator
Feature Valve	Water Feature Valve Actuator
Waterfall Valve	Waterfall Valve Actuator
Infloor Valve	Infloor Control Valve Actuator
User Defined	Nameable Auxiliary Valve Actuator



5. Select the device connected to the valve position and press <Enter> to activate the selection.
6. Use the arrow keys to move to the next VLV position assignment and repeat these steps until all valves are assigned.

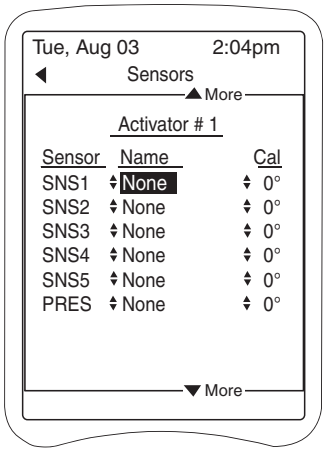
When all assignments are complete, Use left the arrow key to return to the **Device Setup** screen.

Sensors SNS1-SNS6

Defines the sensors controlled by the Eos.

There are five possible temperature sensors and one pressure sensor. One air and one water sensor (PS Sensor) are included. The sensors can be calibrated +/- 9°.

To assign or reassign a sensor:



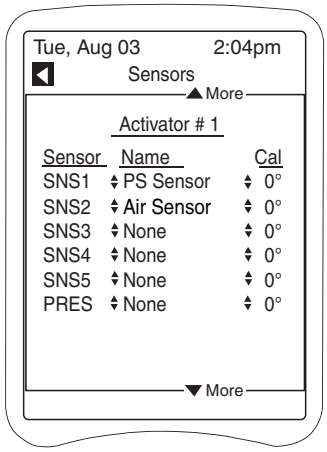
1. Move the cursor over the Sensors SNS1-5, PRES folder and press <Enter> to open the **Sensors** screen.

2. Move the cursor over the activator position to be assigned. (Ex: SNS1)

3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the sensor options.

Combo Sensor Options	**Description**
Air Sensor	Air Only Temp Sensor
PS Sensor	Shared Pool & Spa Heaters Temp Sensor
Pool Sensor	Pool Heater Only Temp Sensor
Spa Sensor	Spa Heater Only Temp Sensor
Solar Sensor	Solar Only Temp Sensor
User Defined	Nameable Temp Sensor



5. Select the device connected to the sensor position and press <Enter> to activate the selection.

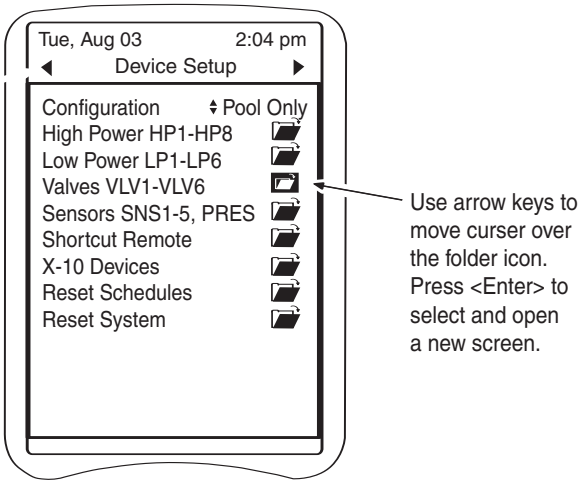
6. Use the right arrow key to move to the calibration (Cal) setting and adjust if desired. **CAUTION: Do not exceed high temperature recommendations**.

7. Use the arrow keys to move to the next SNS position assignment and repeat these steps until all sensors are assigned.

When all assignments are complete, use the left arrow to return to the **Device Setup** screen.

Use down arrow key to move to the X-10 Devices folder to continue device setup or use the left arrow to return to the Setup screen and then the right arrow to move to the **Main Screen**.

Device Setup - Configuration Pool Only



Device Screen Overview

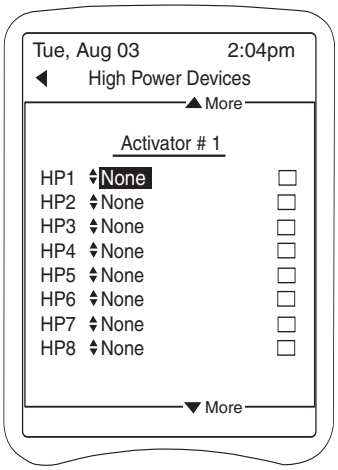
The device screens (High Power HP1-HP8, Low Power LP1-LP6, Valves VLV1-VLV6 and Sensors SNS1-5, PRES) provide the means for defining the equipment that is connected to the command center.

Each device screen provides:

- Activator board position name. (Ex: HP1)
- Device name field. (Ex: None)

  Device lists are available when field is selected.
- Check box (except Sensors that have a calibration function).

  Checking the box activates the device connected at that position. Use to identify/verify device connections.
- Connection assignments for Activator #2, #3 and #4 (used if Extension Panels are installed) are accessed by moving the cursor to “More.”



General rules for device assignments:

- **Device assignments must match the device’s physical connection position** on the command center activator board.
- **Do not unplug devices from the activator board while the Eos is powered.**
- Some device options cannot be duplicated. If two or more devices need to change assignments, change them back to “None” and then reassign.

- Some devices, such as a dimmer, offer custom naming to distinguish multiple units or to personalize the device. These devices are displayed with an asterisk in front of the device name.

  User Defined is an option for naming devices not included on the device lists. This option provides no equipment associations (see **Device Associations**).

Using Nameable Text Fields

- Move cursor over name field and press <Enter> to select. The last letter of the name will blink.
- Use the left arrow key to erase the item name.
- Use the up/down arrow keys to access the alpha-numeric options.
- Use the right arrow key to move to the next letter.
- Press <Enter> when the entry is complete.

To change the item back to "None," move to the asterisk and press <Enter>.

High Power HP1-HP8

Defines the high power (120/240 VAC) devices controlled by the Eos and assigns them to their activator board connection positions.

General rules for HP device assignments:

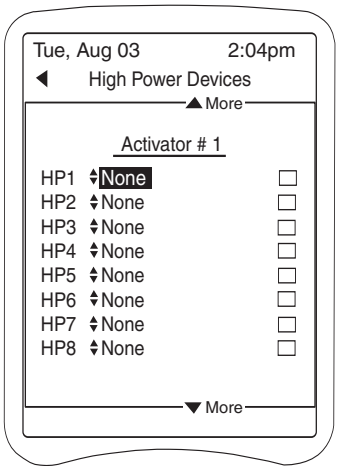
- If the circulation pump is two-speed, identify the standard relay as the circulation pump and the 2-speed relay as low speed.
- If a fiber optic light driver is installed, identify the light driver as Fiber Optic and the color wheel as Color Wheel.
- If a dimmer is installed, select Dimmer and then rename the device to identify the light being dimmed (Ex: Spa Light Dim). Dimming capability is from 0 to 100%, in increments of 10.

To assign or reassign an HP device:

1. Move the cursor over the High Power HP1-HP8 folder and press <Enter> to open the High Power Devices screen.

2. Move the cursor over the activator position to be assigned. (Ex: HP1)

3. Press <Enter> to select the item. The item will flash.



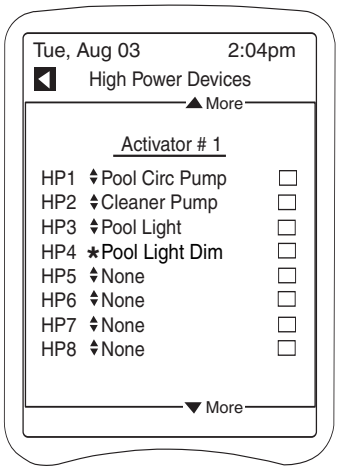
4. Use the up/down arrow keys to access the HP device options.

Pool Only HP Device Options	Description
Pool Circ Pump	Pool Circulation Pump
Pool Low Speed	Low Speed Pool Circulation Pump
Pool Heater	Pool Only Heater
Pool Heat Pump	Pool Only Heat Pump
Pool Chiller	Pool Only Chiller
Solar Pump	Solar Booster Pump
Cleaner Pump	Pressure Cleaner Booster Pump
Waterfall	Waterfall Pump
Water Feature	Waterfall Pump
Pool Light	Pool Only Light
Fiber Optic	Fiber Optic Light Driver
Color Wheel	Color Wheel for Light Driver
Lights	Accessory Lights
Dimmer	Nameable Pool or Spa Lights on Dimmer Relay
User Defined	Nameable Auxiliary Devices

5. Select the device connected to the HP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next HP position assignment and repeat these steps until all HP devices are assigned.

When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.



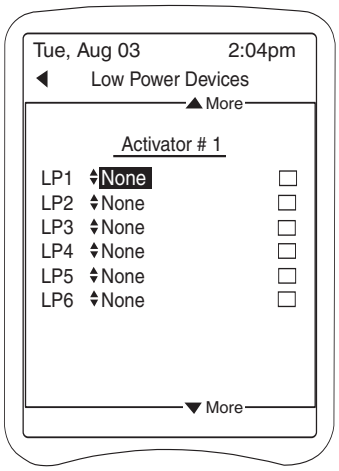
Low Power LP1-LP6

Defines the low power devices controlled by Eos.

General rules for LP device assignments:

- If using multiple heaters, use the rename option to simplify identification. (Ex: Heater 1 and Heater 2, or Raypak and AquaCal)

To assign or reassign a LP device:



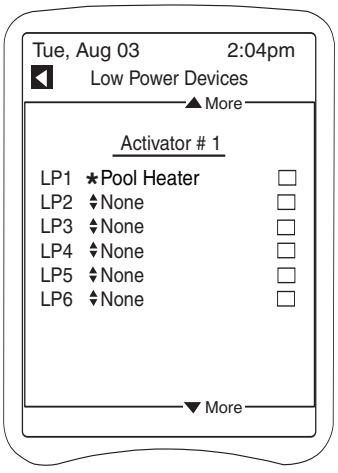
1. Move the cursor over the Low Power LP1-LP6 folder and press <Enter> to open the **Low Power Devices** screen.

2. Move the cursor over the activator position to be assigned. (Ex: LP1)

3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the LP Device options.

Pool Only LP Device Options	**Description**
Pool Heater	Pool Only Heater
Pool Heat Pump	Pool Only Heat Pump
Pool Chiller	Pool Only Chiller
LS Lighting	Landscape Lighting
User Defined	Nameable Auxiliary Devices



5. Select the device connected to the LP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next LP position assignment and repeat these steps until all LP devices are assigned.

When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.

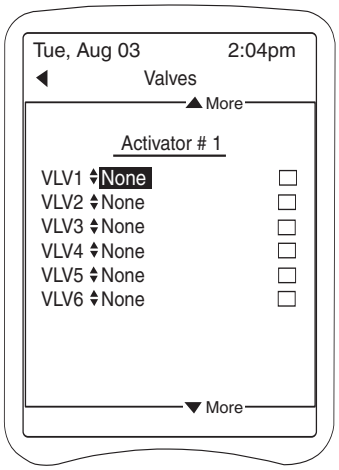
Valves VLV1-VLV6

Defines the valve actuators connected to Eos.

General rules for valve assignments:

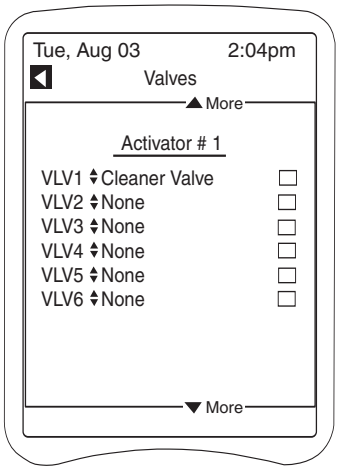
- Assign the suction valve and return valve separately.

To assign or reassign valves:



1. Move the cursor over the Valves VLV1-VLV6 folder and press <Enter> to open the **Valves** screen.
2. Move the cursor over the activator position to be assigned. (Ex: VLV1)
3. Press <Enter> to select the item. The item will flash.
4. Use the up/down arrow keys to access the valve options.

Pool Only Valve Options	**Description**
Solar Valve	Solar Valve Actuator
Cleaner Valve	Cleaner Valve Actuator
Backwash Supply	Backwash Supply Actuator
Backwash Drain	Backwash Drain Actuator
Feature Valve	Water Feature Valve Actuator
Waterfall Valve	Waterfall Valve Actuator
Infloor Valve	Infloor Control Valve Actuator
User Defined	Nameable Auxiliary Valve Actuator



5. Select the device connected to the valve position and press <Enter> to activate the selection.
6. Use the arrow keys to move to the next VLV position assignment and repeat these steps until all valves are assigned.

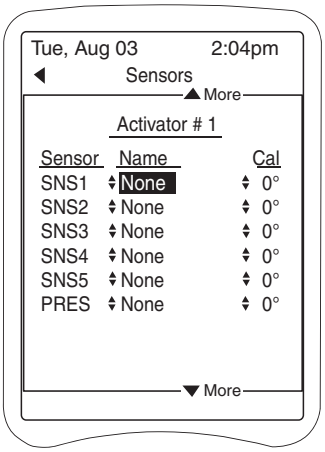
When all assignments are complete, Use left the arrow key to return to the **Device Setup** screen.

Sensors SNS1-SNS6

Defines the sensors controlled by Eos.

There are five possible temperature sensors and one pressure sensor. One air and one water sensor (PS Sensor) are included. The sensors can be calibrated +/- 9°.

To assign or reassign a sensor:



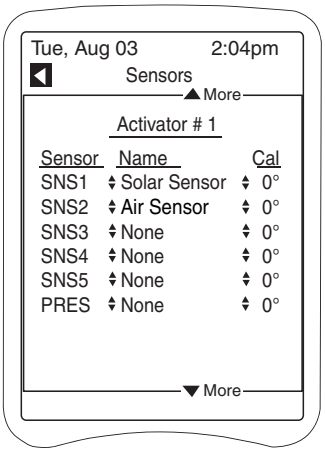
1. Move the cursor over the Sensors SNS1-5, PRES folder and press <Enter> to open the **Sensors** screen.

2. Move the cursor over the activator position to be assigned. (Ex: SNS1)

3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the sensor options.

Pool Only Sensor Options	**Description**
Air Sensor	Air Only Temp Sensor
Pool Sensor	Pool Only Temp Sensor
Solar Sensor	Solar Only Temp Sensor
User Defined	Nameable Temp Sensor



5. Select the device connected to the sensor position and press <Enter> to activate the selection.

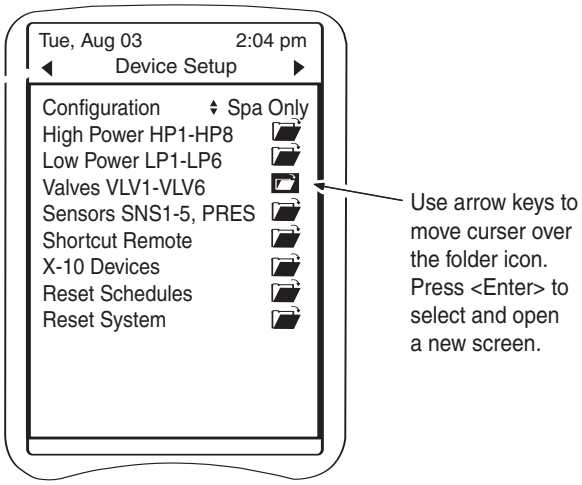
6. Use the right arrow key to move to the calibration (Cal) setting and adjust if desired. **CAUTION: Do not exceed high temperature recommendations**.

7. Use the arrow keys to move to the next SNS position assignment and repeat these steps until all sensors are assigned.

When all assignments are complete, use the left arrow key to return to the **Device Setup** screen.

Use down arrow key to move to the X-10 Devices folder to continue device setup or use the left arrow to return to the Setup screen and then the right arrow to move to the **Main Screen**.

Device Setup - Configuration Spa Only



Device Screen Overview

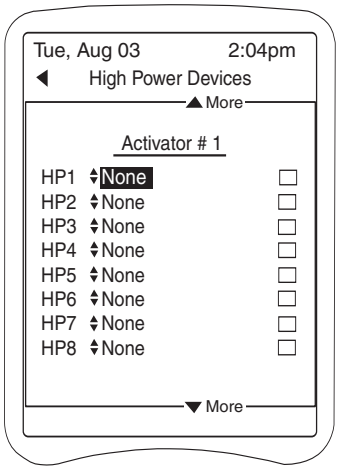
The device screens (High Power HP1-HP8, Low Power LP1-LP6, Valves VLV1-VLV6 and Sensors SNS1-5, PRES) provide the means for defining the equipment that is connected to the command center.

Each device screen provides:

- Activator board position name. (Ex: HP1)
- Device name field. (Ex: None)

  Device lists are available when field is selected.
- Check box (except Sensors that have a calibration function).

  Checking the box activates the device connected at that position. Use to identify/verify device connections.
- Connection assignments for Activator #2, #3 and #4 (used if Extension Panels are installed) are accessed by moving the cursor to “More.”



General rules for device assignments:

- **Device assignments must match the device’s physical connection position** on the command center activator board.
- **Do not unplug devices from the activator board while the Eos is powered.**
- Some device options cannot be duplicated. If two or more devices need to change assignments, change them back to “None” and then reassign.

- Some devices, such as a dimmer, require input of a custom name. Others offer custom naming to distinguish multiple units or to personalize the device. These devices are displayed with an asterisk in front of the device name.

  User Defined is an option for naming devices not included on the device lists. This option provides no equipment associations (see **Device Associations**).

Using Nameable Text Fields

- Move cursor over name field and press <Enter> to select. The last letter of the name will blink.
- Use the left arrow key to erase the item name.
- Use the up/down arrow keys to access the alpha-numeric options.
- Use the right arrow key to move to the next letter.
- Press <Enter> when the entry is complete.

To change the item back to "None," move to the asterisk and press <Enter>.

High Power HP1-HP8

Defines the high power (120/240 VAC) devices controlled by the Eos and assigns them to their activator board connection positions.

General rules for HP device assignments:

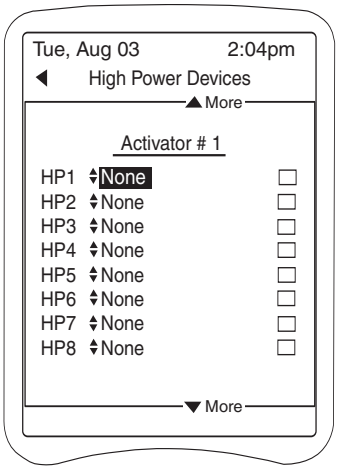
- If the circulation pump is two-speed, identify the standard relay as the circulation pump and the 2-speed relay as low speed.
- If a fiber optic light driver is installed, identify the light driver as Fiber Optic and the color wheel as Color Wheel.
- If a dimmer is installed, select Dimmer and then rename the device to identify the light being dimmed (Ex: Spa Light Dim). Dimming capability is from 0 to 100%, in increments of 10.

To assign or reassign an HP device:

1. Move the cursor over the High Power HP1-HP8 folder and press <Enter> to open the **High Power Devices** screen.

2. Move the cursor over the activator position to be assigned. (Ex: HP1)

3. Press <Enter> to select the item. The item will flash.



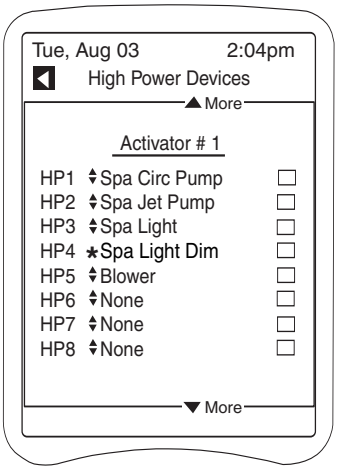
4. Use the up/down arrow keys to access the HP device options.

Spa Only HP Device Options	Description
Spa Circ Pump	Spa Circulation Pump
Spa Low Speed	Low Speed Spa Circulation Pump
Spa Heater	Spa Only Heater
Spa Heat Pump	Spa Only Heat Pump
Solar Pump	Solar Booster Pump
Spa Jet Pump	Hydro Therapy Jet Pump
Blower	Air Blower
Waterfall	Waterfall Pump
Water Feature	Waterfall Pump
Spa Light	Spa Only Light
Fiber Optic	Fiber Optic Light Driver
Color Wheel	Color Wheel for Light Driver
Lights	Accessory Lights
Dimmer	Nameable Pool or Spa Lights on Dimmer Relay
User Defined	Nameable Auxiliary Devices

5. Select the device connected to the HP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next HP position assignment and repeat these steps until all HP devices are assigned.

When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.



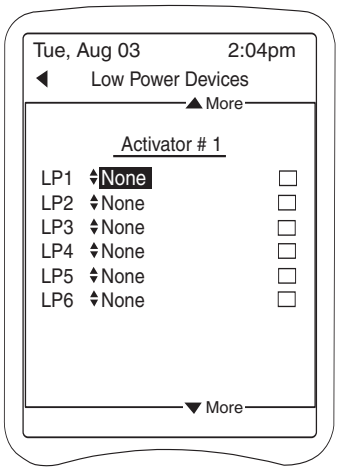
Low Power LP1-LP6

Defines the low power devices controlled by Eos.

General rules for LP device assignments:

- If using multiple heaters, use the rename option to simplify identification. (Ex: Heater 1 and Heater 2, or Raypak and AquaCal)

To assign or reassign a LP device:



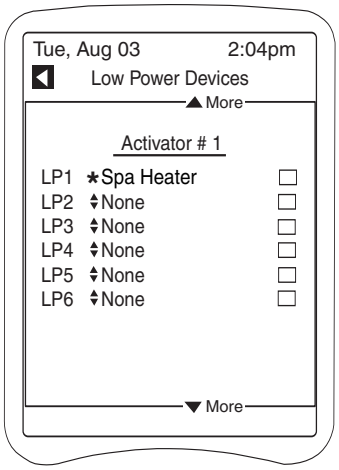
1. Move the cursor over the Low Power LP1-LP6 folder and press <Enter> to open the **Low Power Devices** screen.

2. Move the cursor over the activator position to be assigned. (Ex: LP1)

3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the LP device options.

Spa Only LP Device Name	**Description**
Spa Heater	Spa Only Heater
Spa Heat Pump	Spa Only Heat Pump
LS Lighting	Landscape Lighting
User Defined	Nameable Auxiliary Devices



5. Select the device connected to the LP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next LP position assignment and repeat these steps until all LP devices are assigned.

When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.

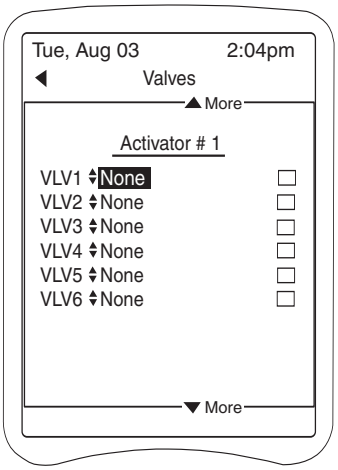
Valves VLV1-VLV6

Defines the valve actuators connected to Eos.

General rules for valve assignments:

- Assign the suction valve and return valve separately.

To assign or reassign valves:



1. Move the cursor over the Valves VLV1-VLV6 folder and press <Enter> to open the **Valves** screen.

2. Move the cursor over the activator position to be assigned. (Ex: VLV1)

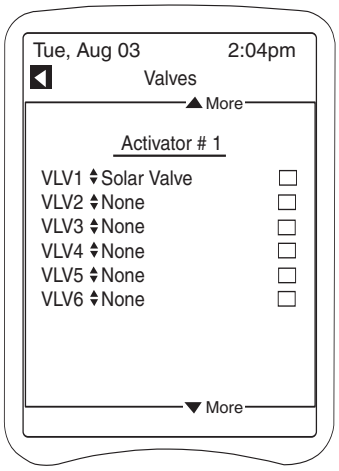
3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the valve options.

Spa Only Valve Options	**Description**
Solar Valve	Solar Valve Actuator
Backwash Supply	Backwash Supply Actuator
Backwash Drain	Backwash Drain Actuator
Feature Valve	Water Feature Valve Actuator
Waterfall Valve	Waterfall Valve Actuator
User Defined	Nameable Auxiliary Valve Actuator

5. Select the device connected to the valve position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next VLV position assignment and repeat these steps until all valves are assigned.



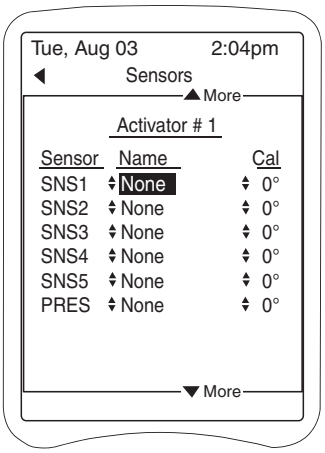
When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.

Sensors SNS1-SNS6

Defines the sensors controlled by Eos.

There are five possible temperature sensors and one pressure sensor. One air and one water sensor (PS Sensor) are included. The sensors can be calibrated +/- 9°.

To assign or reassign a sensor:



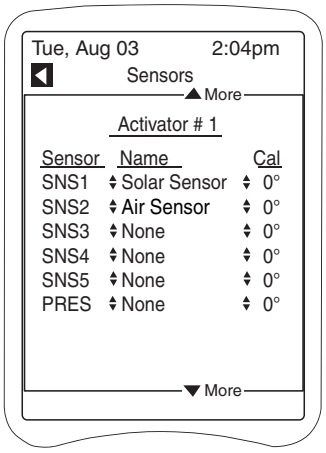
1. Move the cursor over the Sensors SNS1-5, PRES folder and press <Enter> to open the **Sensors** screen.

2. Move the cursor over the activator position to be assigned. (Ex: SNS1)

3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the sensor options.

Spa Only Sensor Options	**Description**
Air Sensor	Air Only Temp Sensor
Spa Sensor	Spa Only Temp Sensor
Solar Sensor	Solar Only Temp Sensor
User Defined	Nameable Temp Sensor



5. Select the device connected to the sensor position and press <Enter> to activate the selection.

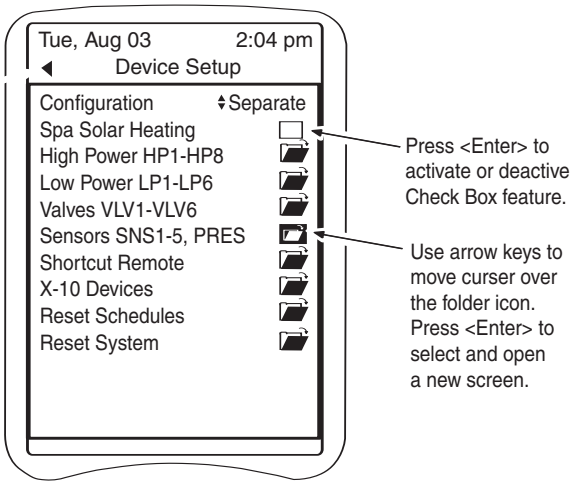
6. Use the right arrow key to move to the calibration (Cal) setting and adjust if desired. **CAUTION: Do not exceed high temperature recommendations**.

7. Use the arrow keys to move to the next SNS position assignment and repeat these steps until all sensors are assigned.

When all assignments are complete, use the left arrow key to return to the **Device Setup** screen.

Use down arrow key to move to the X-10 Devices folder to continue device setup or use the left arrow to return to the Setup screen and then the right arrow to move to the **Main Screen**.

Device Setup - Configuration Separate



Spa Solar Heating

This feature allows solar heating for the pool and spa. When the box is unchecked (default), solar heating is available in the pool only. When checked, solar heating is available for the spa only. Solar heating operates only when the Solar Sensor reads 5 degrees warmer than the water temperature.

Device Screen Overview

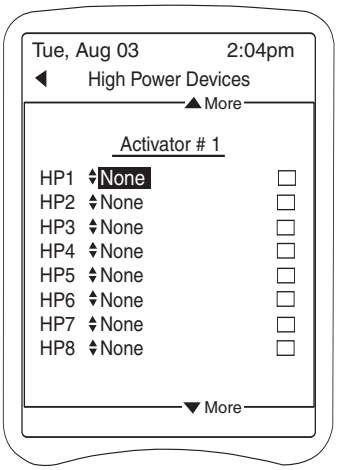
The device screens (High Power HP1-HP8, Low Power LP1-LP6, Valves VLV1-VLV6 and Sensors SNS1-5, PRES) provide the means for defining the equipment that is connected to the command center.

Each device screen provides:

- Activator board position name. (Ex: HP1)
- Device name field. (Ex: None)

  Device lists are available when field is selected.
- Check box (except Sensors that have a calibration function).

  Checking the box activates the device connected at that position. Use to identify/verify device connections.
- Connection assignments for Activator #2, #3 and #4 (used if Extension Panels are installed) are accessed by moving the cursor to “More.”



General rules for device assignments:

- **Device assignments must match the device's physical connection position** on the command center activator board.
- **Do not unplug devices from the activator board while the Eos is powered.**
- Some device options cannot be duplicated. If two or more devices need to change assignments, change them back to "None" and then reassign.
- Some devices, such as a dimmer, offer custom naming to distinguish multiple units or to personalize the device. These devices are displayed with an asterisk in front of the device name.

  User Defined is an option for naming devices not included on the device lists. This option provides no equipment associations (see **Device Associations**).

Using Nameable Text Fields

- Move cursor over name field and press <Enter> to select. The last letter of the name will blink.
- Use the left arrow key to erase the item name.
- Use the up/down arrow keys to access the alpha-numeric options.
- Use the right arrow key to move to the next letter.
- Press <Enter> when the entry is complete.

To change the item back to "None," move to the asterisk and press <Enter>.

High Power HP1-HP8

Defines the high power (120/240 VAC) devices controlled by the Eos and assigns them to their activator board connection positions.

General rules for HP device assignments:

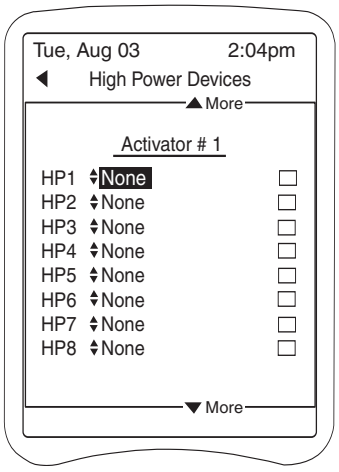
- If the circulation pump is two-speed, identify the standard relay as the circulation pump and the 2-speed relay as low speed.
- If a fiber optic light driver is installed, identify the light driver as Fiber Optic and the color wheel as Color Wheel.
- If a dimmer is installed, select Dimmer and then rename the device to identify the light being dimmed (Ex: Spa Light Dim). Dimming capability is from 0 to 100%, in increments of 10.

To assign or reassign an HP device:

1. Move the cursor over the High Power HP1-HP8 folder and press <Enter> to open the **High Power Devices** screen.

2. Move the cursor over the activator position to be assigned. (Ex: HP1)

3. Press <Enter> to select the item. The item will flash.



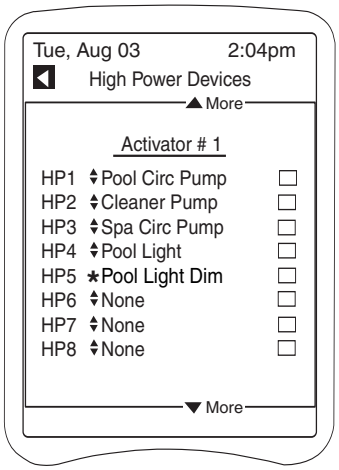
4. Use the up/down arrow keys to access the HP device options.

Separate HP Device Options	Description
Pool Circ Pump	Pool Circulation Pump
Pool Low Speed	Low Speed Pool Circulation Pump
Spa Circ Pump	Spa Circulation Pump
Spa Low Speed	Low Speed Spa Circulation Pump
Pool Heater	Pool Only Heater
Spa Heater	Spa Only Heater
Pool Heat Pump	Pool Only Heat Pump
Spa Heat Pump	Spa Only Heat Pump
Pool Chiller	Pool Only Chiller
Solar Pump	Solar Booster Pump
Cleaner Pump	Pressure Cleaner Booster Pump
Spa Jet Pump	HydroTherapy Jet Pump
Blower	Air Blower
Waterfall	Waterfall Pump
Water Feature	Waterfall Pump
Pool Light	Pool Only Light
Spa Light	Spa Only Light
Fiber Optic	Fiber Optic Light Driver
Color Wheel	Color Wheel for Light Driver
Lights	Accessory Lights
Dimmer	Nameable Pool or Spa Lights on Dimmer Relay
User Defined	Nameable Auxiliary Devices

5. Select the device connected to the HP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next HP position assignment and repeat these steps until all HP devices are assigned.

When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.



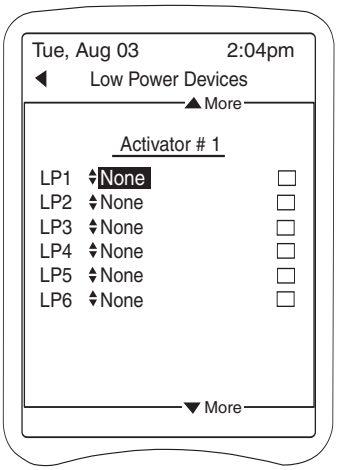
Low Power LP1-LP6

Defines the low power devices controlled by Eos.

General rules for LP device assignments:

- If using multiple heaters, use the rename option to simplify identification. (Ex: Heater 1 and Heater 2, or Raypak and AquaCal)

To assign or reassign a LP device:



1. Move the cursor over the Low Power LP1-LP6 folder and press <Enter> to open the **Low Power Devices** screen.

2. Move the cursor over the activator position to be assigned. (Ex: LP1)

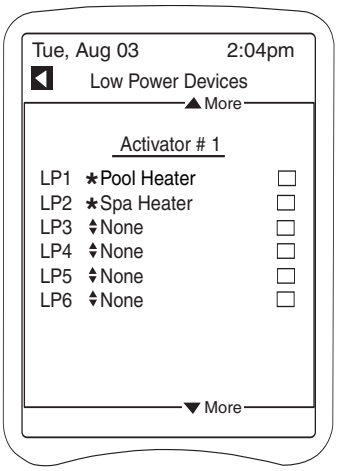
3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the LP device options.

Separate LP Device Options	**Description**
Pool Heater	Pool Only Heater
Spa Heater	Spa Only Heater
Pool Heat Pump	Pool Only Heat Pump
Spa Heat Pump	Spa Only Heat Pump
Pool Chiller	Pool Only Chiller
LS Lighting	Landscape Lighting
User Defined	Nameable Auxiliary Devices

5. Select the device connected to the LP position and press <Enter> to activate the selection.

6. Use the arrow keys to move to the next LP position assignment and repeat these steps until all LP devices are assigned.



When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.

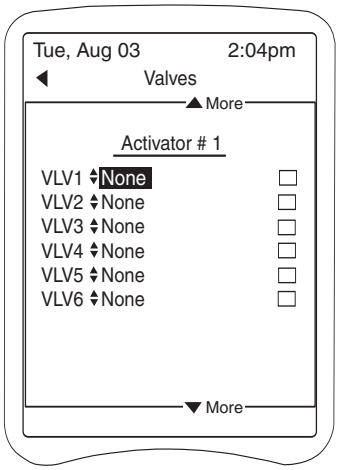
Valves VLV1-VLV6

Defines the valve actuators connected to Eos.

General rules for valve assignments:

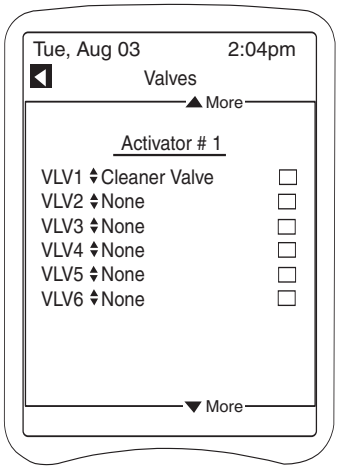
- Assign the suction valve and return valve separately.

To assign or reassign valves:



1. Move the cursor over the Valves VLV1-VLV6 folder and press <Enter> to open the **Valves** screen.
2. Move the cursor over the activator position to be assigned. (Ex: VLV1)
3. Press <Enter> to select the item. The item will flash.
4. Use the up/down arrow keys to access the valve options.

Separate Valve Options	**Description**
Solar Valve	Solar Valve Actuator
Cleaner Valve	Cleaner Valve Actuator
Backwash Supply	Backwash Supply Actuator
Backwash Drain	Backwash Drain Actuator
Feature Valve	Water Feature Valve Actuator
Waterfall Valve	Waterfall Valve Actuator
Infloor Valve	Infloor Control Valve Actuator
User Defined	Nameable Auxiliary Valve Actuator



5. Select the device connected to the valve position and press <Enter> to activate the selection.
6. Use the arrow keys to move to the next VLV position assignment and repeat these steps until all valves are assigned.

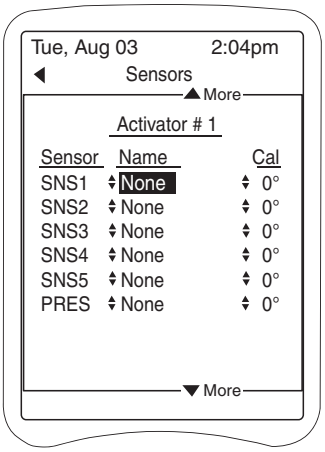
When all assignments are complete, use left the arrow key to return to the **Device Setup** screen.

Sensors SNS1-SNS6

Defines the sensors controlled by Eos.

There are five possible temperature sensors and one pressure sensor. One air and one water sensor (PS Sensor) are included. The sensors can be calibrated +/- 9°.

To assign or reassign a sensor:



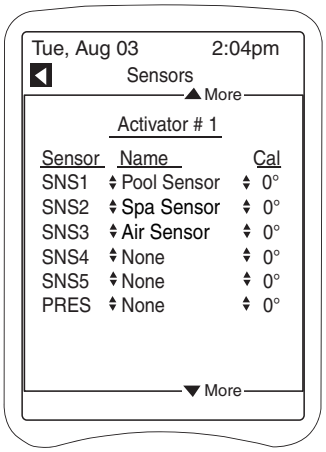
1. Move the cursor over the Sensors SNS1-5, PRES folder and press <Enter> to open the **Sensors** screen.

2. Move the cursor over the activator position to be assigned. (Ex: SNS1)

3. Press <Enter> to select the item. The item will flash.

4. Use the up/down arrow keys to access the sensor options.

Separate Sensor Options	**Description**
Air Sensor	Air Only Temp Sensor
Pool Sensor	Pool Only Temp Sensor
Spa Sensor	Spa Only Temp Sensor
Solar Sensor	Solar Only Temp Sensor
User Defined	Nameable Temp Sensor



5. Select the device connected to the sensor position and press <Enter> to activate the selection.

6. Use the right arrow key to move to the calibration (Cal) setting and adjust if desired. **CAUTION: Do not exceed high temperature recommendations**.

7. Use the arrow keys to move to the next SNS position assignment and repeat these steps until all sensors are assigned.

When all assignments are complete, use the left arrow to return to the **Device Setup** screen.

Use down arrow key to move to the X-10 Devices folder to continue device setup or use the left arrow to return to the Setup screen and then the right arrow to move to the **Main Screen**.

PLC (X-10) Devices

The house code (A-D) and device code (1-16) that were set on each PLC Receiver must be defined.

1. With the cursor over the X-10 Devices folder, press <Enter> to open the **X-10 Setup** screen.

2. Move the cursor to the name field next to the code identifier position to be assigned. (Ex: A01)

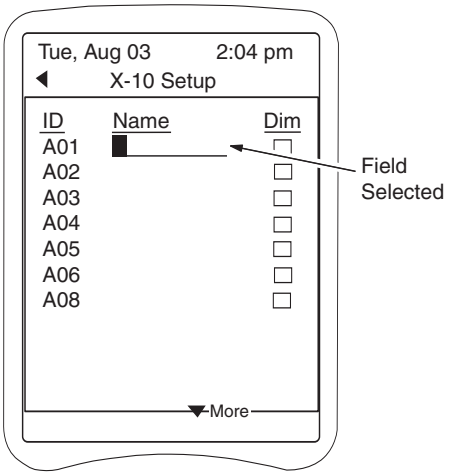
3. Press <Enter> to select the item. A line indicating the text field will appear and the first character position will flash.

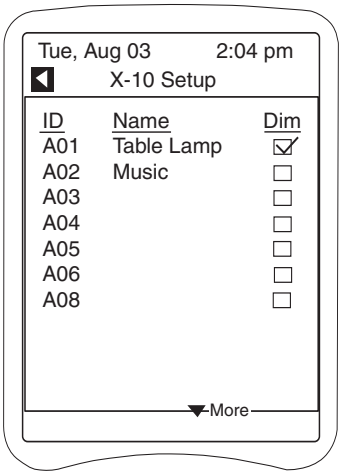
4. Enter the device name in the text field using the up/down keys to access the alpha-numeric characters and the left/right keys to move within the field. Press <Enter> when naming is complete.

5. If a dimmer module is installed, use the right arrow key to move to the dimmer (Dim) check box and press <Enter> to enable (check) dimming control for the device.

   Various settings between 0-100% are available to provide low to bright light levels.

6. Use the arrow keys to move to the next code position assignment and repeat these steps until all PLC devices are assigned.



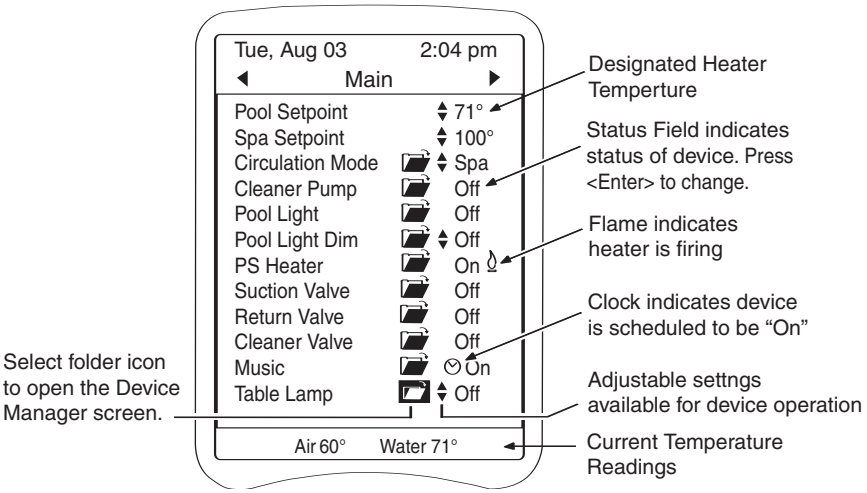


When all assignments are complete, use the left arrow to return to the Device Setup screen.

From Device Setup, use the left arrow to return to the Setup screen and then the right arrow to move to the **Main Screen**.

Customizing the Main Screen

Once device setup is complete and the system devices are defined, the Main screen is displayed with the installation-specific device functions. This screen shows designated set points, lists the devices installed, provides access the the device manager folders, and displays current operational status readings.



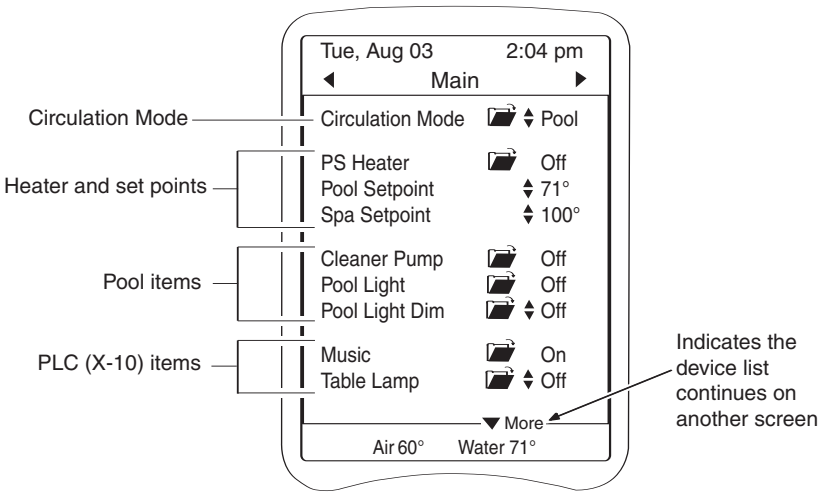
The screen can be customized, items reordered or devices grouped, to make the system easier to work with.

To move a device item up or down on the menu:

1. Move cursor to the Status field of the particular device.
2. Press and hold <Enter>.
3. Push the up or down arrow key to move the device.

To insert lines between menu items:

1. Move cursor to Status field of device you want to insert a line above.
2. Press and hold <Enter>.
3. Press the up and down arrow keys simultaneously. A space will be inserted above the item.



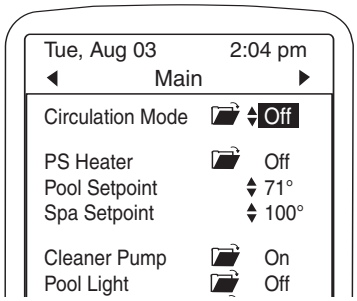
Circulation Mode
(Pool Circulation, Spa Circulation)

The options available for circulation mode are dependent on the configuration of the pool, the settings enabled and the equipment installed.

Configuration	Circulation Mode Options	Additional Settings With Two-Speed Pump
Combo with Spill Mode Enabled	Pool, Spa, Spill, Off	Pool LS, Spa LS, Spill LS
Combo without Spill Mode	Pool, Spa, Off	Pool LS, Spa LS
Pool Only	On, Off	On, Low, Off
Spa Only	On, Off	On, Low, Off
Separate		
Pool Circulation	On, Off	On, Low, Off
Spa Circulation	On, Off	On, Low, Off

To set (manually activate) the circulation mode:

1. Move the cursor over the status field (Ex: Off) and press <Enter> to select. The item will flash.
2. Use the up/down arrow keys to access the circulation mode options.
3. Select the desired mode and press <Enter> to activate the selection.

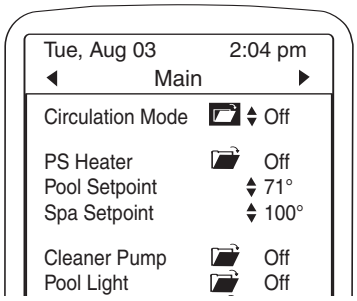


When a circulation mode is entered, either by manual activation or as a scheduled event, circulation pumps as well as the appropriate valve actuators will activate.

When set manually, the selected mode will run for as long as the Manual Duration (found in the device manager folder) specifies, if no other schedules are set.

To schedule the circulation mode:

Move the cursor over the circulation folder and press <Enter> to open the device manager screen.



Manual Control and Scheduling

Device Manager Screens Overview

Status

Indicates on/off status for most devices. For the pool/spa circulation pump it also indicates the current circulation mode (pool, spa, or spillover).

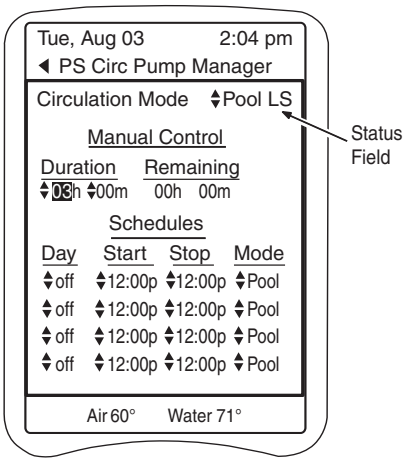
Manual Control

Specifies how long a device will be active when turned on or inactive when turned off manually.

Each device has a **Duration** default. When the specified duration is complete, the device control returns to established schedules.

Remaining refers to how much longer the device will be active under manual control.

Manually activated devices are subject to device manager rules; therefore, even though a device may be “on”, it may not activate unless all rules are met. See **Safety Delays and Lockouts** for further information.



Schedules

Activation schedules are available for each device. Up to four schedules can be set based on date and time.

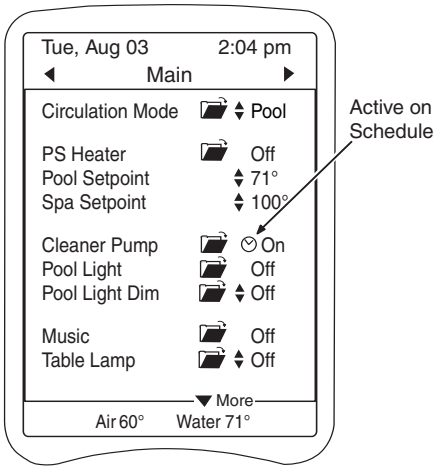
Day: Specifies day(s) of operation
(Sun, Mon, Tue, etc. or All)
(M-F = Monday thru Friday)
(S-S = Saturday and Sunday)
(MWF = Mon., Wed. and Friday)

Start: Specifies start time

Stop: Specifies stop time

Mode: For circulation pump only: specifies circulation mode (pool, spa, spillover)

Schedule **priority is based on the order of the schedules** from the top (highest priority) to the bottom of the menu.



When scheduling, take into consideration the operational function of each piece of equipment. Some equipment is dependent on other equipment to operate correctly. Review all programmed equipment to ensure there are no potential conflicts.

When a device is scheduled and active, a clock symbol is displayed next to it on the Main screen.

Freeze Protect

Enables or disables freeze protection for the device. Default is unchecked. Freeze Protection on the Setup screen must also be checked to activate.

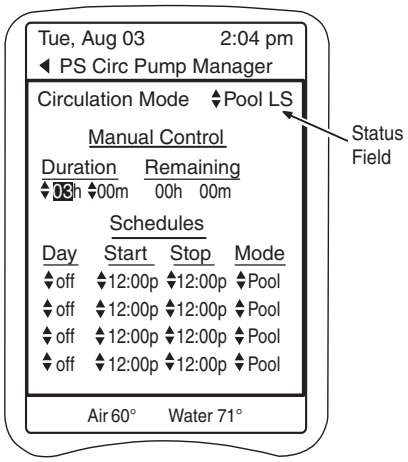
Circ Pump Manager

The same circulation options (including the low speed options for 2-speed pumps) available on the Main screen are available on the manager screens by selecting and adjusting the **Status** field.

When manually activated, the mode will run as long as the duration specifies. The default is 24 hours.

To set or change Duration:

1. Move the cursor over the hours (Ex: 03) and press <Enter> to select. The item will flash.
2. Use the up/down arrow keys to set time.
3. Press <Enter> to activate the selection.
4. Use right arrow to move to minutes and set if desired.



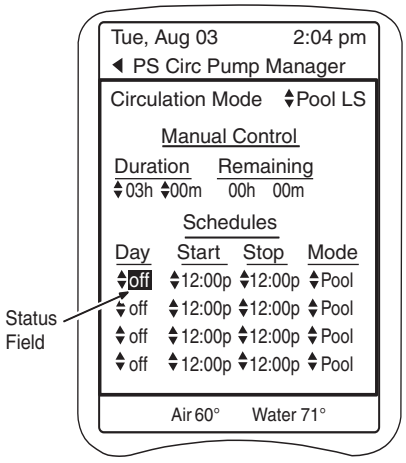
Schedules can be set for specific circulation modes. Schedule **priority is based on the order of the schedules** from the top (highest priority) to the bottom of the menu.

Start and **Stop** time can be set in hours and minutes with the am / pm setting designated by the hour.

To schedule circulation mode:

1. Use the arrow keys to move the cursor over the status field under Day (Ex: off) and press <Enter> to select. The item will flash.
2. Use the up/down arrow keys to set the day. Press <Enter> to activate the selection.
3. Move cursor to Start hour field and press <Enter> to select.

   Use the up/down arrow keys to choose start time. Press <Enter> to activate. Set minutes if desired.
4. Move cursor to Stop. Set stop time, hours and minutes.
5. Move cursor to Mode, select circulation mode and press <Enter> to activate. Use the left arrow key to return to the **Main** screen.



Some equipment such as heaters, solar valves, etc. have device-specific options listed on the manager screen.

Heater Manager

On the Main screen, mover cursor to the folder next to the heater. Press <Enter> to open the manager screen.

Range

Adjustable operating ranges are available. The low and high defaults are 0° and 104°.

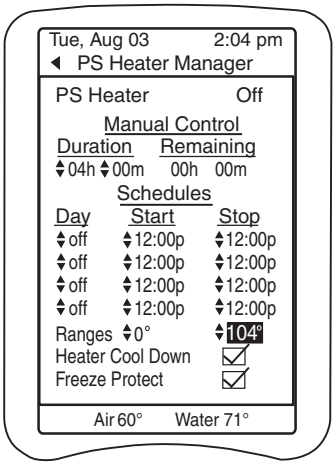
If only one heater is used or if multiple heaters are used within the same range, no adjustment of the default is necessary.

To set two heaters to heat together up to a certain temperature, such as 95° F, with only the second continuing to heat to 104° F:

1. In the first heater's manager screen, use the arrow keys to move the cursor over the high range setting (Ex:104°) and press <Enter> to select. The item will flash.

2. Use the up/down arrow keys to set the maximum desired temperature (Ex: 95°). Press <Enter> to activate the selection.

3. Leave the other heater at the 104° default.



Heater Cool Down

Default is checked (enabled). Provides a two minute-delay in turning off the circulation pump after heater has completed its firing cycle to allow the heater to cool down.

Freeze Protect

Disabled (unchecked) by default. Heater will not fire during "Freeze Alert." If enabled (checked), heater will fire when water temperature drops to 33° F.

Spa Dep Valve Manager

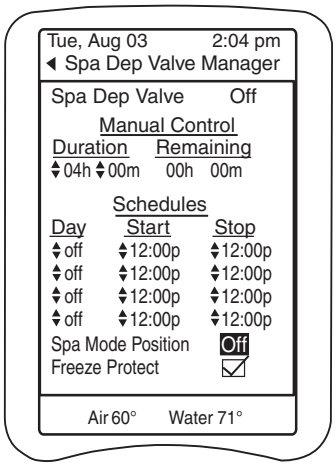
On the Main screen, move cursor to folder next to Spa Dep Valve. Press <Enter> to open the manager screen.

Spa Mode Position

Sets the Spa Dependent Valve position when the system is in circulation mode “Spa.”

1. Use the arrow keys to move the cursor over the Spa Mode Position field. (Ex: Off)

2. Press <Enter> to select On or Off.



Solar Valve Manager

On the Main screen, move cursor to folder next to Solar Valve. Press <Enter> to open the manager screen.

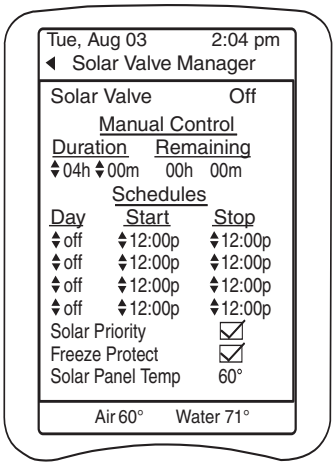
Solar Priority

Available on the Solar Valve Manager and Solar Pump Manager screens, sets solar heating to have priority over all other heaters.

When checked (default), the solar heater will have priority over other heaters until the water temperature gets within 5 degrees of the **Solar Panel Temp**. Then, solar heating will shut off and the other heater(s), if activated, will continue to heat until the set point is reached.

Solar Panel Temp

Indicates the reading from the temperature sensor on the solar panel.



Setting Scenes and Shortcuts

Scenes

A Scene is a “snapshot” of the entire system operation that can be recalled to play at any time.

Scenes can be scheduled to run at specific times or activated manually.

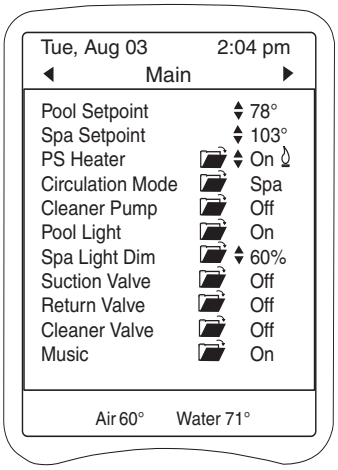
Up to 5 Scenes can be set up but only one Scene can be played at a time. If a Scene is “in play” and another is recalled (either manually or by a schedule), the latter Scene takes priority.

To set a Scene:

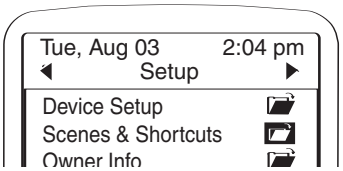
1. From the **Main** screen, turn on any equipment that you want to operate during the Scene. Set points can be part of the Scene.

   Move the cursor to the Status field of the each device and press <Enter> to select the setting.

   In this example: circulation mode is Spa, Spa set point is 103°, Pool Light is On, Spa Light is dimmed to 60%, and Music is On.



2. Use the left arrow key to move to the **Setup** screen.

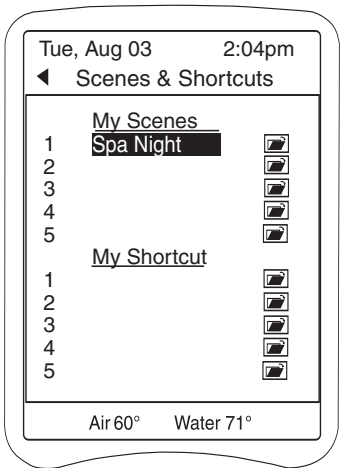


3. Move cursor to the Scenes & Shortcuts folder. Press <Enter> to open the **Scenes & Shortcuts** screen.

4. Move the cursor to the first available text field under My Scenes.

5. Press <Enter> to select the field and use the arrow keys to name the Scene. (Ex: Spa Night)

6. Move the cursor to the folder next to the newly named Scene and press <Enter> to open the **My Scene Manager** screen.



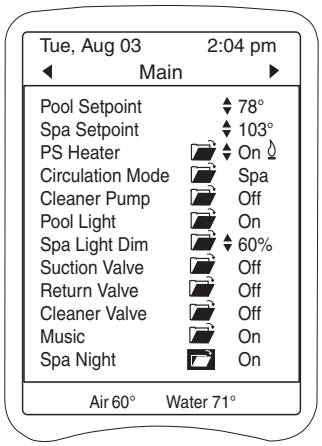
7. Move the cursor to **Save** and press <Enter> to capture the Scene.

   The Scene “Spa Night” is saved.

   Scenes can be scheduled just like any other device (see **Manual Control and Scheduling**).

8. The Scene is now displayed on the Main screen, just like a device, and can be activated (recalled) at any time by changing the Status to On.

   The device manager for the Scene can also be accessed via the folder on the Main screen.



Shortcuts

Shortcuts are also “snapshots” of system operation.

Unlike Scenes that turn devices on or off to set the scene, Shortcuts are only able to turn devices on.

Up to 5 Shortcuts can be set up and run simultaneously.

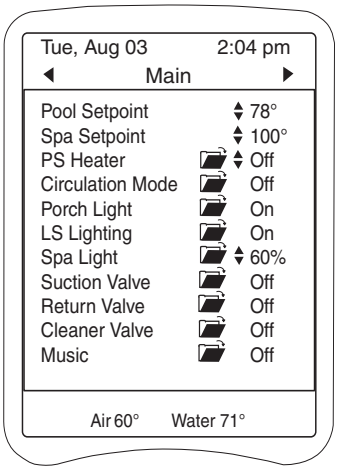
Shortcuts can run within a Scene, but Scenes cannot run within a Shortcut.

To set a Shortcut:

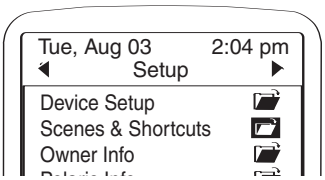
1. From the **Main** screen, turn on any equipment that you want to operate during the Shortcut.

   Move the cursor to the Status field of each device and press <Enter> to select the setting.

   In this example: Pool Light is On, Spa Light is dimmed to 60%, Porch Light is On, and LS (Landscape) Lighting is On.

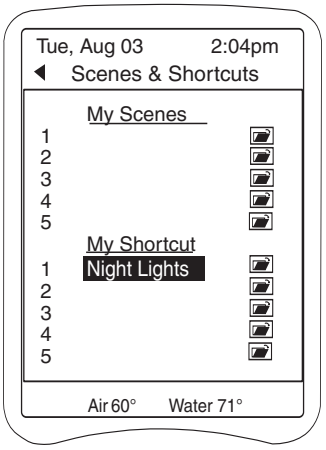


2. On the **Setup** screen, move cursor to the Scenes & Shortcuts. folder. Press <Enter> to open the **Scenes & Shortcuts** screen.



3. Move the cursor to the first available text field under My Shortcuts.

4. Press <Enter> to select the field and use the arrow keys to name the Shortcut. (Ex: Night Lights)



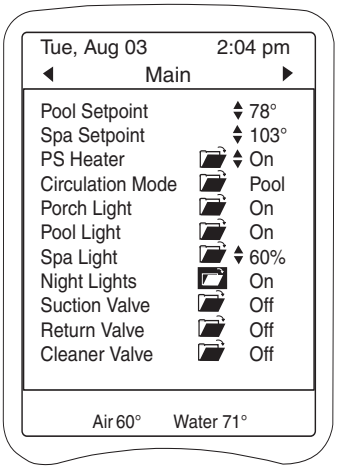
5. Move the cursor to the folder next to the newly named Shortcut. Press <Enter> to open the **My Shortcut Manager** screen.

6. Move the cursor to **Save** and press <Enter> to capture the Shortcut.

The Shortcut “Night Lights” is saved.

Shortcuts can be scheduled just like any other device (refer to **Manual Control and Scheduling**).

7. The Shortcut is now displayed on the Main screen, just like a device, and can be activated (recalled) at any time by changing the Status to On.

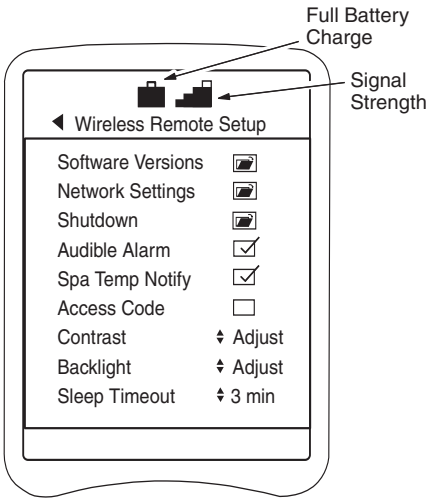


The device manager for the Shortcut can also be accessed via the folder on the Main screen.

Remote Control Setup

To access the Setup screen for the Wireless or In-house Panel remotes, press the left and right arrow keys simultaneously.

Wireless Remote Setup Screen

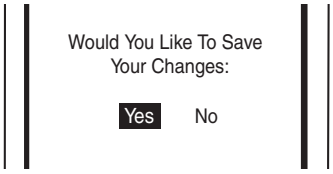


For optimum performance, the Wireless Remote should be used within line-of-sight of the antenna. **The battery must be charged for at least 5 hours before initial use**.

Battery charge level and signal reception are indicated at the top of the display screen. An animated scrolling battery symbol indicates battery is charging.

To save changes made to settings on this screen:

- Press left arrow key to exit the screen. A confirmation screen will open.
- Move curser to Yes and press <Enter> to activate the change.



To reset the display if it is locked-up or frozen:

- Press and hold <Enter>.
- Press left and right arrow keys simultaneously.

Software Version

Accesses current system software information.

Network Settings

Preset at factory, no adjustments are necessary. Lists unique remote channel setting.

Shutdown

Turns off the remote. Useful to conserve battery life. Press any key to reactivate.

Audible Alarm

When enabled (checked), the alarm **in this remote device** signals when an alert condition exists. Alert messages are displayed on the Main screen.

Spa Temp Notify

If enabled (checked), “Spa Has Reached Set Temp” is displayed when the water temperature in the spa reaches its designated set point.

Access Code

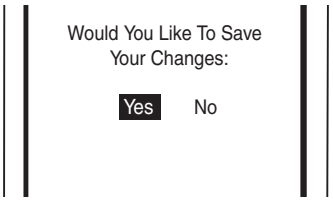
An additional security feature available on the remote control devices. When enabled, system change capabilities are limited to authorized users.

To set:

1. Enable (check) the Access Code box. A new screen will open and request a code.

2. Press any four keys on the keypad, in any order. Press <Enter> to activate the code.

3. Use the left arrow key to exit the Setup screen.



4. The confirmation screen will appear. Move cursor to Yes and press <Enter> to activate the change.

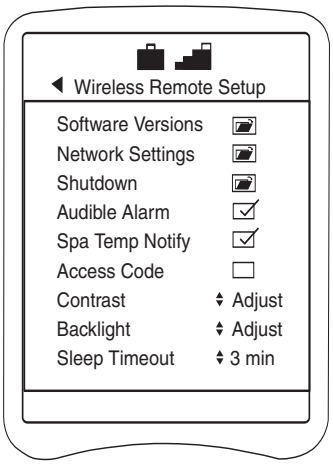
All function selections will lock requiring input of the access code to make changes.

To reset if code is forgotten:

1. Press the left and right arrow keys simultaneously to open the Setup screen.

2. Disable (uncheck) the Access Code box.

3. Press left arrow key to exit the Setup screen. Move cursor to Yes on the confirmation screen and press <Enter> to activate the change.



Contrast

Controls readability of text, light or dark, on screen.

Backlight

Controls illumination of screen for nighttime use and brightens for normal usage.

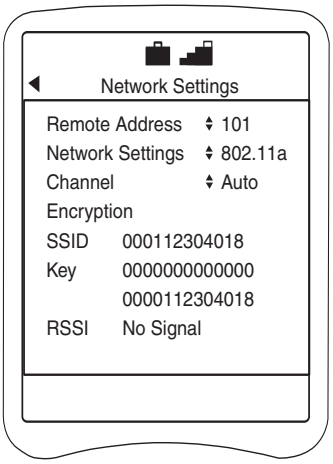
Sleep Timeout

To conserve battery life, the remote can be switched to sleep mode after a specified length of time without activity.

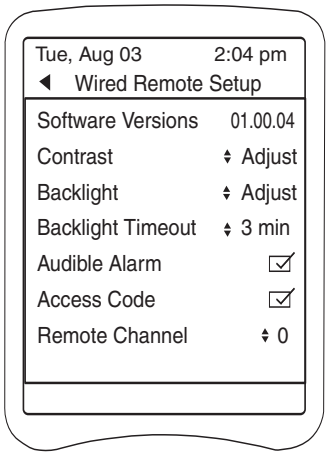
If the wireless remote is purchased with the Eos Command Center, it is factory set for communication. If the remote is purchased separately or is a second remote on the system, it must be configured for communication.

To configure remote for communications:

1. Select Network Settings and press <Enter> to open the **Network Settings** screen.
2. If two remotes are to be used on the system, assign each remote its own unique **Remote Address**. (Ex: set first remote to 101 and second to 102)
3. Enter the system SSID and Key number for the remote. The **SSID** is the antenna serial number (located on left side of the antenna) with three leading zeros. The **Key** consists of two rows of numbers, the second row is the serial number with four leading zeros.
4. When entries are complete, press the left arrow key to exit the screen. Press the left arrow key again to exit the Setup screen. The confirmation screen will open. Move the cursor to Yes and press <Enter> to activate the change.



In-House Panel (Wired Remote) Setup Screen



Software Version

Specifies the active software version.

Contrast

Controls readability of text, light or dark, on screen.

Backlight

Controls illumination of screen for nighttime use and brightens it for normal usage.

Backlight Timeout

Sets a time limit for inactivity after which the backlight on the display turns off. Time range is 1 to 10 minutes, 1 hour or On.

Hit any key to reactivate the display.

Audible Alarm

When enabled (checked), the alarm **in this remote device** signals when an alert condition exists. Alert messages are displayed on the Main screen.

Access Code

An additional security feature available on the remote control devices. When enabled, system change capabilities are limited to authorized users.

To set:

1. Enable (check) the Access Code box. A new screen will open and request a code.

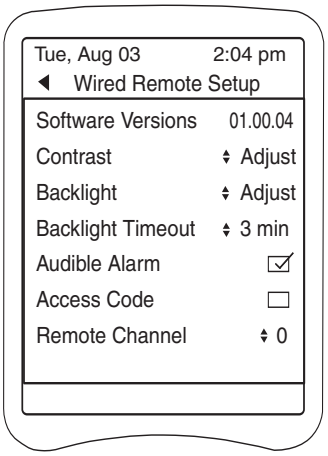
2. Press any four keys on the keypad, in any order. Press <Enter> to activate the code.

All function selections will lock requiring input of the access code to make changes.

To reset if code is forgotten:

1. Press the left and right arrow keys simultaneously to open the Setup screen.

2. Disable (uncheck) the Access Code box.



Remote Channel

If two In-House Panels are installed on a system, the second must be adjusted to a different channel to allow simultaneous use.

ShortCut Remote

The control functions of the Shortcut buttons (A, B, C, D) must be defined on the Shortcut Remote manager screen accessed from the Device Setup screen. In addition to two factory-set functions, up to 8 control functions can be assigned.

All devices, Scenes and Shortcuts must be set up to become available under the button function lists.

General guidelines for Shortcut button function assignments:

- Any device, Scene, or Shortcut listed on the Main screen can be controlled by the Shortcut remote.
- If lights (including dimmers) are setup, the remote controls only the on/off function of the device.
- Temperature controls are the default on buttons A and B, if a heater has been set up. Different temperature options will become available depending on the configuration mode.

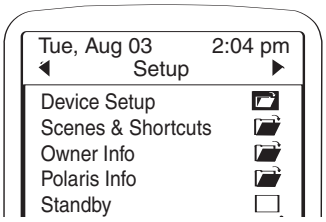
Configuration	Temperature Options
Combo with 1 heater (PS Heater)	Spa Temp Up and Spa Temp Down
Combo with 2 heaters (Pool Heater and Spa Heater)	Spa Temp Up and Spa Temp Down Pool Temp Up and Pool Temp Down
Separate with 2 heaters (Pool Heater and Spa Heater)	Spa Temp Up and Spa Temp Down Pool Temp Up and Pool Temp Down

  If multiple Spa Heaters are set up, the A/B button temperature functions will control the last heater set up.
- All 8 shortcut assignments, 4 on Shortcut #1 and 4 on Shortcut #2, are enabled (check box checked) by default.

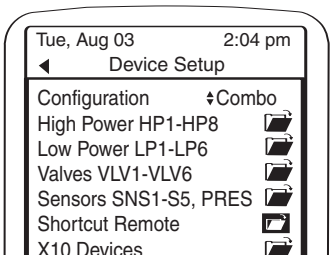
To assign control functions:

1. Perform setup from the command center display panel.

2. Go to **Setup** screen and highlight the Device Setup folder. Press <Enter> to open the **Device Setup** screen.



3. Move cursor down to **Shortcut Remote** and press <Enter> to open the manager screen.

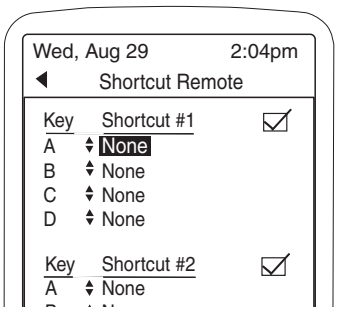


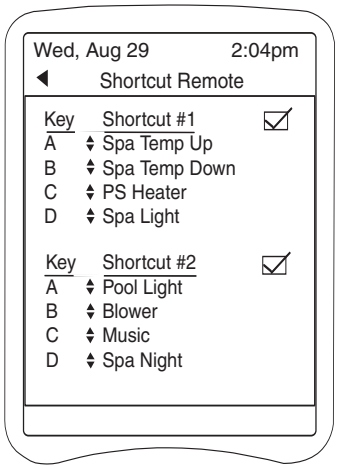
4. Move the cursor to the field next to Key (button) A and press <Enter> to select the field.

5. Use the up or down arrow key to select the control assignment. Press <Enter> to activate the selection.

6. Use the down arrow key to move to the field next to each Key, selecting the field and assigning controls for each.

7. After assigning the button functions, mark the buttons with the labels provided.





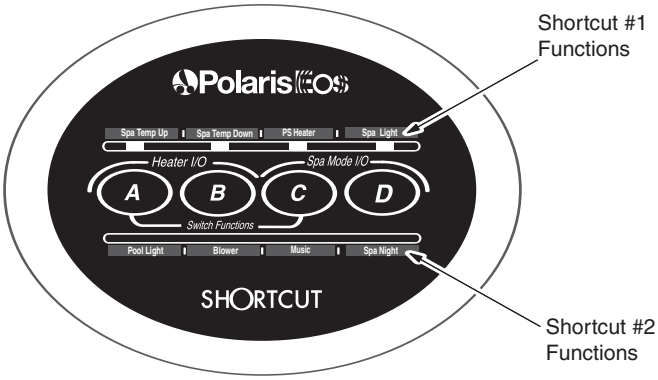
The check boxes enable the functions associated with the Shortcut (#1 or #2). To disable the functions, move the cursor to the associated check box and press <Enter> to uncheck.

Shortcut Operation

Button LEDs light when their respective device is active.

Temp Up and Temp Down button LEDs will only light when the buttons are pushed.

Temp Up and Temp Down buttons will increase or decrease the temperature set point by one degree. When the maximum temperature is reached (104 degrees for Spa), the Temp Up button LED will stay lit.



To switch between Shortcut #1 and Shortcut #2 controls, press buttons A and C simultaneously. The two button LEDs will flash and then the active shortcut button (i.e., A = Shortcut #1) will illuminate.

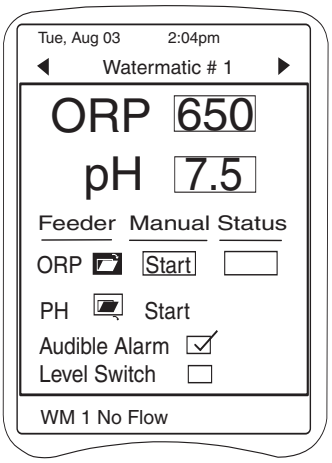
To activate the heater, press buttons A and B simultaneously. The two button LEDs will flash together three times. While the heater is firing, the two button LEDs will flash every 15 seconds. When the set point is reached the flashing will stop..

To activate Spa Mode, press buttons C and D simultaneously. All LEDs will flash three times.

Optional Controllers

Polaris Watermatic C2100 ORP/pH Controller

If a Watermatic controller is installed, a separate control screen is provided to monitor readings and access the controller parameters. If a second controller is used, a second control screen will become available.



When a controller is installed, an optional nameable field becomes available on the **Setup** screen. If two controllers are installed, there will be nameable fields for each.

To name the controller:

1. Move the cursor to the Watermatic #1 (text field) and press <Enter> to select the field.

2. Use the up or down arrow keys to move through the alpha-numeric options and the left/right arrow keys to move within the field. (Ex: Pool)

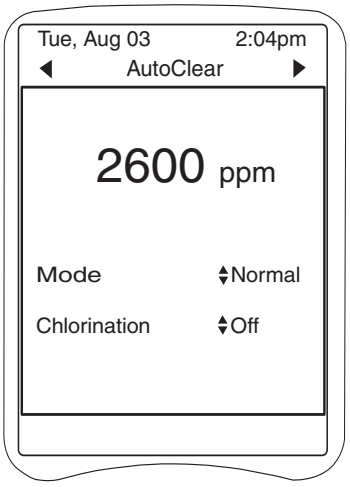
3. Press <Enter> when the entry is complete.

Refer to the C2000/C2100 Owner's Manual for complete operation and maintenance information.

Salt Chlorinators

If a Polaris AutoClearPLUS or other salt chlorinator is connected to the Eos command center, a control screen is provided to monitor salinity levels and access the chlorinator settings. The screen name is designated by the chlorinator software.

If the AutoClearPLUS is connected to a Watermatic C2100 that is controlled by the Eos system, the Salt Chlorinator screen will not be displayed. Salinity and chlorine production will be monitored and controlled by the Watermatic, making this separate control screen unnecessary.



The current salt concentration or **salinity** of the pool is displayed in parts per million (PPM).

Mode

Provides operational mode options:

Normal – Chlorine production at normal rate.

Super – Produces the maximum amount of chlorine for 24-hours, then reverts back to normal mode. If selected, the pool pump must be activated for a 24-hour run cycle as well.

Service – Disables control while chlorinator is being serviced.

Chlorination

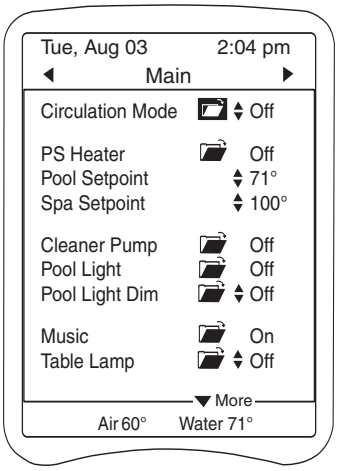
Adjusts the chlorine output from 0 to 100% in increments of 10.

Consult the chlorinator manual for recommended salinity levels, and complete operation and maintenance information.

System Operation

When all equipment setup is complete, manually check the operation of each device using the check boxes on the individual device setup screens (select **Device Setup** folder on **Setup** screen, then the device folder for each type of equipment) or by changing the device status on the Main screen.

Note: Manually activated devices are subject to device manager rules; therefore, even though a device is "on," it will not activate unless all rules are met. For example, although the heater is turned "on," it will only fire (indicated by the flame) if the circulation pump is on and the temperature set point is above the current temperature reading.



During normal operation, the **Main** screen provides access to the most commonly needed information such as temperature set points, status of devices and quick access to device schedules.

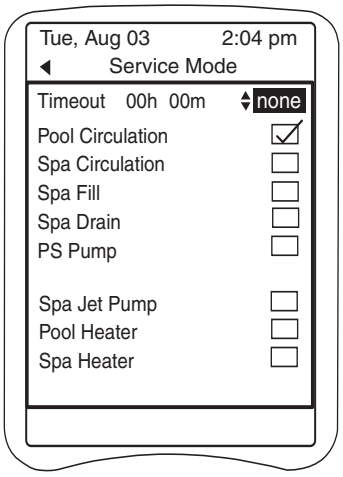
Service Mode

Service mode can only be accessed from the command center key board display. During service mode, the in-house panel and wireless remote displays will show "Service Mode" and no system operation will be available.

To enter service mode:

1. Press and hold SVC key for 2 seconds. The Service screen will open and all pool equipment will shut off.

2. When service is complete, use left arrow key to return to the Main screen.



To set a **Timeout** duration, disabling activation schedules, scenes or shortcuts so equipment can be serviced:

1. Move cursor to duration field (Ex: None) and press <Enter> to select.

2. Use up or down arrow key to set duration and press <Enter> to activate it. When timeout is complete or service mode is exited, normal operation will resume.

Equipment is turned On or Off using the check boxes to the right of the device.

In Combo configuration, suction and return valve positions are listed first. Only one valve can be activated at a time.

Freeze Protection

Freeze protection is activated when the air temperature drops to 36°F or the water temperature reaches 34° F. Manual or scheduled operation of Spa Mode will override freeze protection.

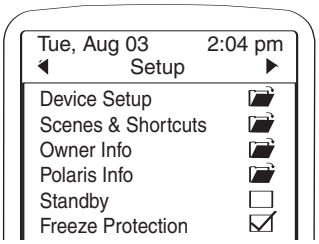
During freeze protection, “Freeze Alert” will flash on the bottom of the command center or remote display screen.

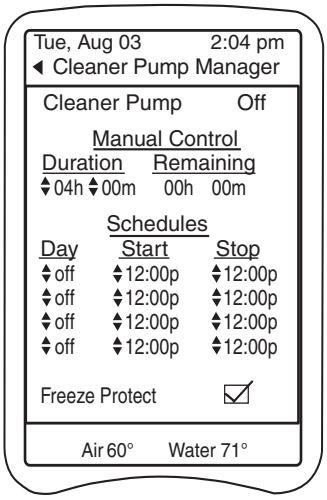
The **Freeze Protection** check box on the Setup screen is checked (enabled) by default. If unchecked, all equipment controlled by Eos is removed from freeze protection.

The circulation pump is covered by freeze protection as long as this check box is checked.

For all other equipment, **Freeze Protect** must also be specified on the individual device manager screen. Some devices default to freeze protect.

By default, heater freeze protect is unchecked: the heater will not fire during a freeze alert. If freeze protection is checked, the heater will fire when the water temperature drops to 33° F.





During Freeze Alert:

- In the Combo and Separate configurations, the system will alternate between activating the spa and the pool equipment every 15 minutes.
- In Spa Only and Pool Only configurations, the equipment will alternate for 15 minutes On and 15 minutes Off.
- Blowers will run for 5 minutes every half hour.
- No lighting (pool, spa, landscape, etc.) will activate.

Alerts and Alarms

The following alert conditions will sound the audible alarm in addition to displaying the alert.

Alert	Alert
Pool High Temperature	WM#2 High PH Alert
Pool Low Temperature	WM#2 Low PH Alert
Spa High Temperature	WM#2 High ORP Alert
Spa Low Temperature	WM#2 Low ORP Alert
Wireless Remote Battery Low	WM#2 PH Overfeed
WM#1 High PH Alert	WM#2 ORP Overfeed
WM#1 Low PH Alert	WM#2 Feeder Empty
WM#1 High ORP Alert	
WM#1 Low ORP Alert	
WM#1 PH Overfeed	
WM#1 ORP Overfeed	
WM#1 Feeder Empty	

The following Alerts are flashing messages only.

Alert	Alert
Freeze Alert	Cleaner Requires Pool Mode
WM#1 No Flow	Standby Mode
WM#1 2 Minute Flow Delay	CPC-ACT Comm Failure (Cable/Activator
WM#1 Clean PH Sensor	CPC-WM1 Comm Failure (Watermatic)
WM#1 Cal PH Sensor	CPC-WM2 Comm Failure
WM#1 Clean ORP Sensor	SCB Comm Failure
WM#2 No Flow	X10 Comm Failure
WM#2 2 Minute Flow Delay	Valves Turning
WM#2 Clean PH Sensor	Heater Cooling Down
WM#2 Cal PH Sensor	91 Check Salt
WM#2 Clean ORP Sensor	92 Chlorinator No Flow
Solar Purge Delay	Check Chlorinator
Solar Panel Temp Too Low	
Spa Has Reached Set Temp	

Device Associations

High Power and Low Power Devices

Device	Operational Device Interlocks	Delays
PS Circ Pump	Heaters, Cleaner & Solar Pump, Solar Valve	None
Pool Circ Pump	Heaters, Cleaner & Solar Pump, Solar Valve	None
Spa Circ Pump	Heaters, Solar Pump & Valve	None
Cleaner Pump	Circulation Pump, Solar Valve & Pump	Prime Delay (1 min., 4 min. Solar)
Solar Pump	Circulation Pump, Solar Valve, Temp Sensor	Prime Delay (45 sec.)
Spa Jet Pump	None	None
PS Heater Pool Heater Spa Heater PS Heat Pump Pool Heat Pump Spa Heat Pump Pool Chiller	Circulation Pump Multiple Heaters Solar Pump & Valves Temp Sensors	Fire Delay (1 min.), Heater Cool Down (2 min.)
Blower	None	None
Color Wheel	Fiber Optic Light Driver	None
Dimmer	None	None
Fiber Optic	None	None
Lights	None	None
LS (Landscape) Lighting	None	None
PS Lighting	None	None
Pool Light	None	None
Spa Light	None	None
PS Low Speed	Circulation Pump	None
Pool Low Speed	Circulation Pump	None
Spa Low Speed	Circulation Pump	None
Water Feature	None	None
Waterfall	None	None
User Defined	None	None

Valves

Device	Operational Device Interlocks	Delays
Backwash Drain	Backwash Supply, Pressure Sensor	None
Backwash Supply	Backwash Drain, Pressure Sensor	None
Cleaner Valve	None	None
Feature Valve	None	None
Infloor Valve	None	None
Return Valve	Pool/Spa/Spill Circulation Modes	None
Solar Valve	Heaters, Temp Sensor, Spa Circulation Mode	None
Spa Dep Valve	Pool/Spa/Spill Circulation Modes	None
Suction Valve	Pool/Spa Circulation Modes	None
Waterfall Valve	None	None
User Defined	None	None

Sensors

Device	Operational Device Interlocks	Delays
PS Sensor	Heaters, Freeze Protection	None
Pool Sensor	Heaters, Freeze Protection	None
Spa Sensor	Heaters, Freeze Protection	None
Air Sensor	Freeze Protection	None
Solar Sensor	Solar Pump & Valve	None
User Defined	None	None

Safety Delays and Lockouts

1. Heater

   When activated (turned on manually or via the schedule), the heater will only fire (indicated by flame on display) if the circulation pump is on and the temperature set point is above the current temperature reading.

   There is a 45-second operational delay at initial startup of the heater. Once the heater is active and the desired temperature is reached, the heater will turn off and remain off until the temperature falls two degrees below the set point. This prevents the heater from short cycling (i.e., turning on and off in rapid succession).

   After the heater shuts down, it enters a 2-minute cool down period. **Heater Cooling Down** will be displayed on the screen. If the filter pump is shut down during the cool down, the pump will remain on until the delay is finished and an hourglass will be displayed next to the pump on the screen.

2. Cleaner Booster Pump

   The pool cleaner will only activate when the system is in the pool mode (i.e., water circulating to the pool) as it requires water circulation to function correctly. **Cleaner Requires Pool Mode** is displayed if cleaner schedule requires circulation mode adjustment.

   There is a 1-minute prime delay to ensure the water is flowing to the booster pump. The display will read **Prime Delay** during this delay.

   If the filter pump is turned off while the cleaner booster pump is running, the controller will automatically shut down the booster pump. The system recognizes that the booster pump cannot run without the circulation pump.

   If the booster pump cleaner is active and spa or spa spillover mode is entered the booster pump will shut down and be locked-out. When the spa or spa spillover mode is cancelled, the booster pump schedule will resume.

3. Spa Drain

   The spa drain can only be activated on the Service screen.

4. Valves

   Valves Turning is displayed whenever a valve (pool to spa, spa to spillover, solar, etc.) is signaled to rotate. There is a 15 second delay during which the filter pump is shut off. The pump is reactivated when the valves have stopped turning.

5. When the equipment is manually activated:

   Existing schedules will be overridden. Remember to shut down the equipment, otherwise, the equipment will continue to run until the next scheduled shut down or time-out specified in the device setup.

   If spa mode is not turned off, only the water in the spa will be filtered and the pool cleaner will be disabled.

   Turning off the filter pump does not reset valves to pool mode. The valves will automatically return to pool mode after 6 hours.

6. Solar Heating Systems

   When solar heating is initiated and there is a booster pump cleaner on the system, the booster pump will shut down and be locked-out for a 2-minute **Solar Purge Delay** to allow water to be purged from the solar collectors. When the delay is complete, the booster pump is reactivated.

7. Communication Failures

   Communication failure messages (**CPC-ACT Comm Failure**, **X10 Comm Failure, etc.**) are displayed when there is a communications failure between the command center and the system components. Check connections or reposition the remote or antenna and try again.

Troubleshooting

Actlon: The display screen is blank.

Solution:
1. Confirm power is on to command center.
2. Press any key to reactivate from Backlight Timeout, Shutdown or Sleep Timeout.
3. Adjust the contrast setting of the display (via Command Center Setup Screen or remote setup screen) if it is too high or too low.

Action: System setup is complete but components do not function.

Solution:
1. Verify that the activator position assignments for the equipment match the actual physical connection positions on the command center activator board.
2. Confirm that device assignments accurately reflect equipment and configuration e.g., the shared pool/spa heater is defined as “PS Heater.” User Defined should only be used if a device is not available in equipment lists.
3. If component is a remote or external controller, open **Software Versions** on the Command Center Setup screen to verify that the device is listed. Ex: “Telnet” is listed if a Wireless Antenna is installed.
4. Check wiring connections at the command center and the component.

Action: Device (heater, pump, etc.) or feature comes on when activated but immediately turns off.

Solution:
1. Verify that the **Duration** setting on the device manager screen has not been incorrectly set to zero.

Action: Wireless remote is not communicating with the command center.

Solution:
1. Verify that the remote is charged (and was charged at least 5 hours before the initial use).
2. Confirm that the remote is within the coverage area of the antenna.
3. Check the command center’s **Software Versions** and verify that “Telnet” is listed. If not, make sure that the antenna wiring connections are secure and undamaged.
4. Check accuracy of pin/wire color sequence at antenna and command center.
5. Check the remote’s **Network Settings**. Verify that the Eos SSID number is the antenna serial number (located on left side of the antenna) with three leading zeros, and the second row of the Key number is the serial number plus four leading zeros.

Action: The heater does not fire when activated.

Solution:

1. Confirm that heater is not in the 45-second startup delay.
2. Confirm that the circulation pump is running and the temperature set point is above the current temperature reading.
3. If the pool is a pool/spa combination sharing one heater (Combo configuration), verify that the temperature sensor is assigned as “PS Sensor,” the heater is assigned as “PS Heater,” and the circulation pump is assigned as “PS Circ Pump.”
4. Check the **Range** settings (found on heater manager screen) of the heater. The upper range should be set above and the lower range below the actual water temperature.
5. Verify heater connection on the activator board.
6. Check heater manufacturer’s instructions for correct wiring at heater.

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