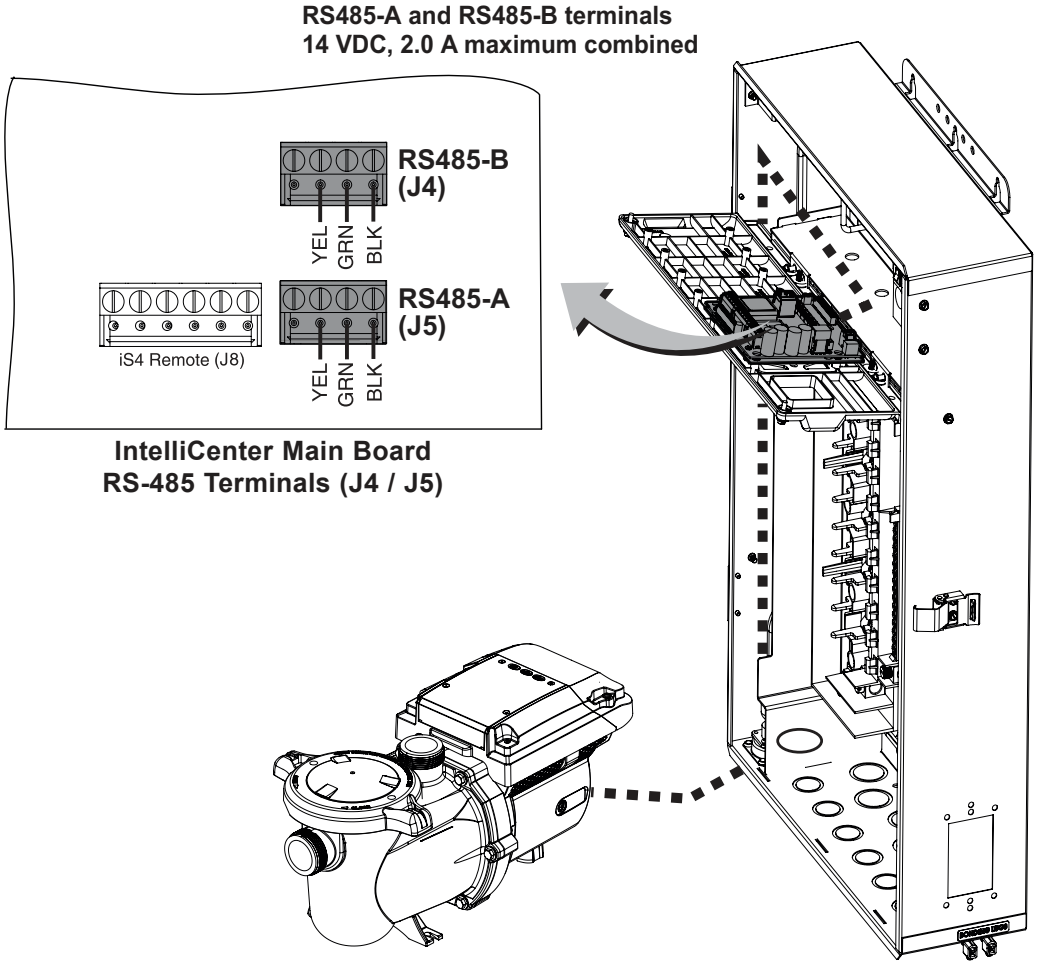
Connecting an IntelliFlo Pump to the Load/Power Center

IntelliCenter filter pump output is rated at 120 VAC, 15 Amp maximum. Check the electrical rating marked on the pump motor before connecting it to the system.

1. Switch power OFF to the Load/Power Center at the main circuit breakers.
2. Route an RS-485 cable from the pump to the Load/Power Center.
3. Route the cable through one of the grommet fittings located in the lower left side of the enclosure.
4. Route the cable up the low voltage raceway to the main IntelliCenter board, as shown below.
5. Strip the cable jacket 4-inches [102 mm].
6. Strip each conductor 1/4-inch [6.4 mm].
7. Wire the conductors into the desired RS-485 terminals on the IntelliCenter main board as shown below.
8. Secure the conductors into the terminal. For wiring details, refer to the pin configuration shown below.

   Note: Multiple conductors may be inserted into a single screw terminal.



IntelliCenter Main Board
RS-485 Terminals (J4 / J5)

Connecting a Heat Pump or Hybrid Heater to the Load/Power Center

Verify the heat pump terminal block conductor colors and pinouts (located on the back of the control board) before connecting it to an IntelliCenter RS-485 terminal. Refer to the wiring table below for the pin configuration.

IMPORTANT: DO NOT connect PIN 4 (RED) to the IntelliCenter RS-485 terminal. This pin will not be used.

Description	IntelliCenter RS-485 Terminal (J4 / J5)	Heat Pump Terminal (J1 or J8)
GROUND	PIN 1 - BLACK	PIN 1 - BLACK
- DATA	PIN 2 - GREEN	PIN 2 - GREEN
+ DATA	PIN 3 - YELLOW	PIN 3 - YELLOW
+15 VDC	PIN 4 - RED **(DO NOT USE)**	PIN 4 - RED **(DO NOT USE)**

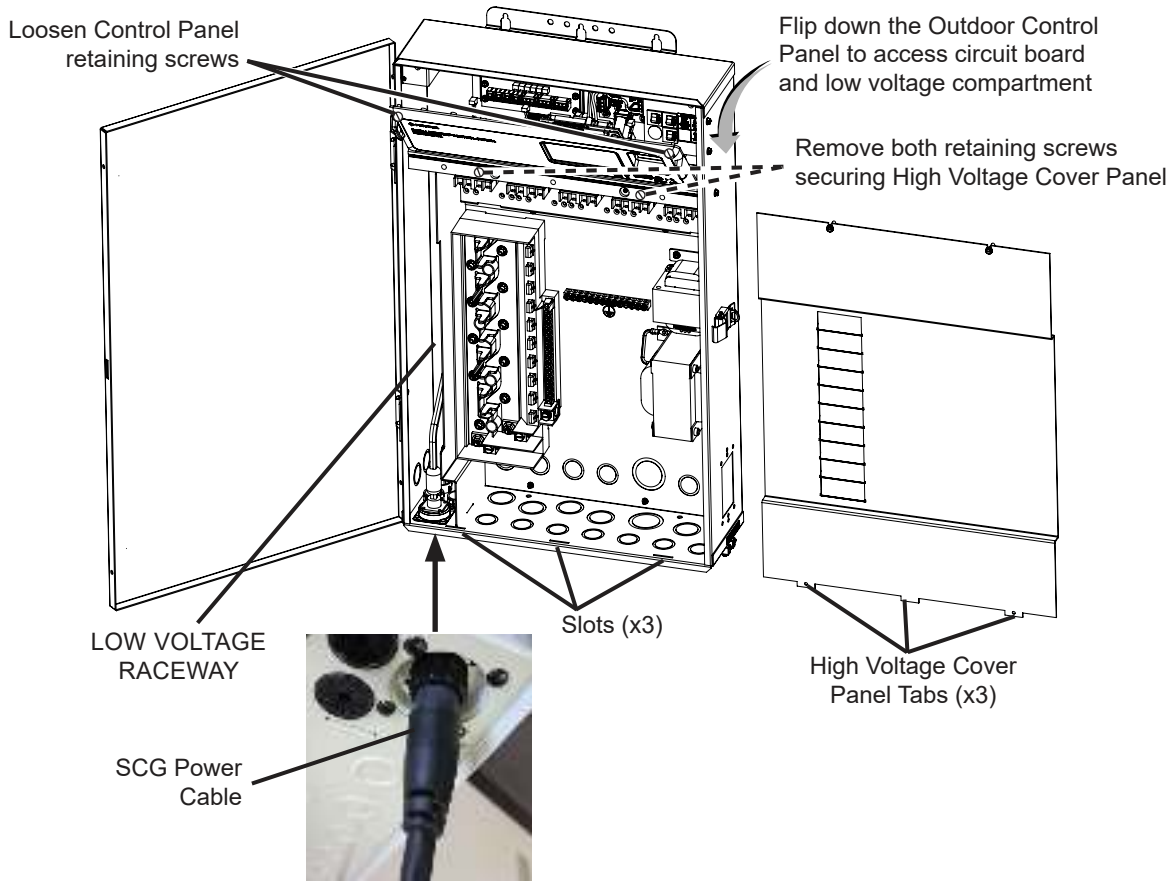
Connecting a Salt Chlorine Generator (SCG) Power Cable to the Enclosure

SCG cell power is connected at the bottom of the IntelliCenter Load Center (shown below) or Power Center enclosure.

⚠WARNING **BEFORE REMOVING THE HIGH VOLTAGE COVER FROM THE LOAD/POWER CENTER,** switch the main power **OFF** at the main circuit breaker and switch **OFF** main power to the Load/Power Center.

⚠WARNING **TO AVOID AN ELECTRICAL HAZARD AND EQUIPMENT DAMAGE TO THE ENCLOSURE AND SCG CELL, DISCONNECT ALL POWER TO INTELLICENTER AT THE CIRCUIT BREAKER BEFORE CONNECTING THE SCG POWER CABLE.**

1. Switch OFF power to the enclosure at the main circuit breaker.
2. Open the enclosure.
3. Remove the two retaining screws from the High Voltage Cover Panel.
4. Remove the high voltage cover panel.
5. Loosen the two retaining screws securing from the top edge of the Control Panel.
6. Fold down the Control Panel to access the circuit board electrical connections.
7. Align the four pins of the SCG power cable with the socket at the bottom of the enclosure and insert the cord connector into the socket.
8. Rotate the socket nut until it locks the connector in place. Hand tighten only.
9. Proceed to the next page.



IntelliCenter Load Center with SCG Option

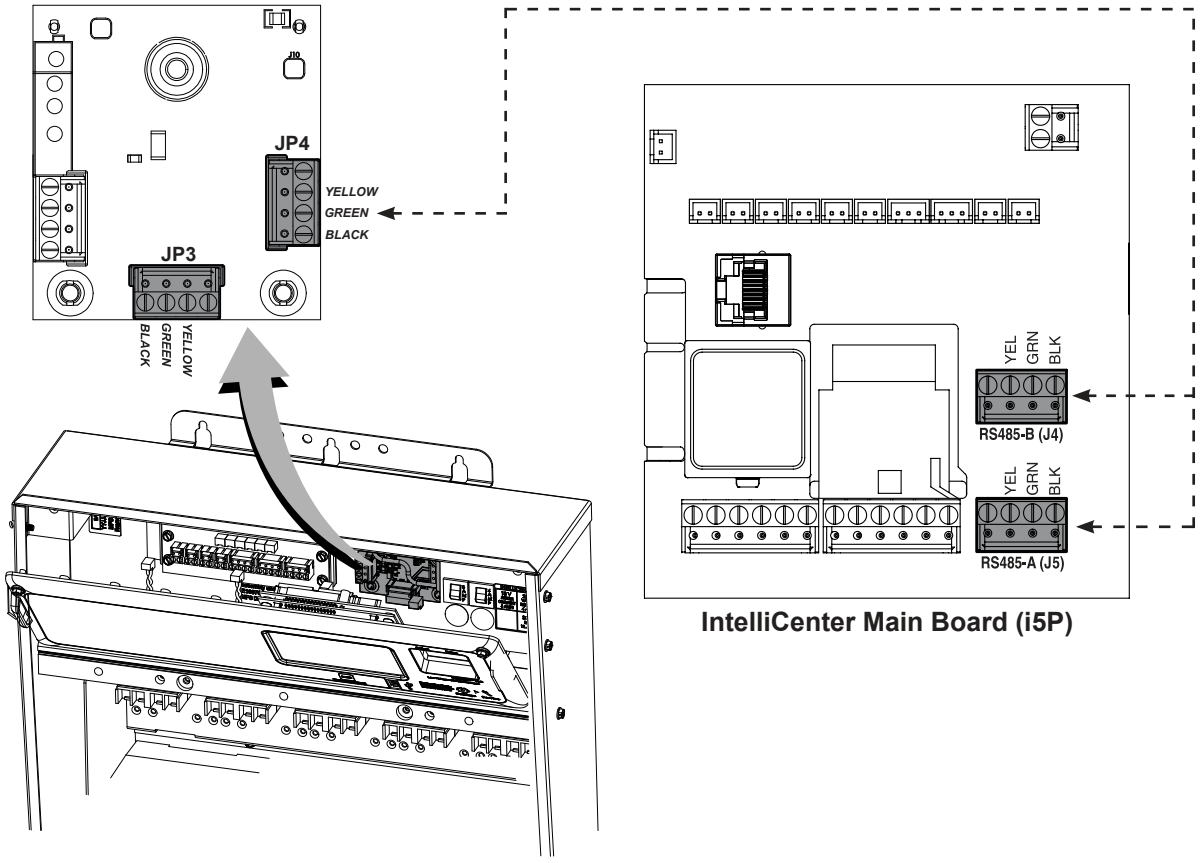
Connecting a Salt Chlorine Generator (SCG) to IntelliCenter via RS-485

The SCG cell communicates with IntelliCenter via a four conductor, 22 AWG RS-485 cable. This cable connects to the RS-485 terminals on the SCG board and main control board.

⚠WARNING **TO AVOID AN ELECTRICAL HAZARD AND EQUIPMENT DAMAGE, DISCONNECT ALL POWER TO INTELLICENTER AT THE CIRCUIT BREAKER BEFORE CONNECTING THE SCG COMMUNICATION CABLE.**

1. Connect the SCG communication cable to an RS-485 terminal **(JP3 or JP4)** on the IntelliCenter SCG board.
2. Connect the opposite end of the cable to an RS-485 terminal **(J4 or J5)** on the IntelliCenter main board according to the table below.
3. After electrical connections have been completed, close the Outdoor Control Panel and tighten the two retaining screws.
4. Reinstall the High Voltage Cover Panel and secure the panel with the two retaining screws.
5. Close the front door and secure with the latch.
6. Restore power to the load/power center at the circuit breaker.

IntelliCenter SCG Board



IntelliCenter Main Board (i5P)

Description	SCG Board (JP3 / JP4)	Main Board (J4 / J5)
+15 VDC	**RED (DO NOT USE)**	**RED (DO NOT USE)**
+ DATA	YELLOW	YELLOW
- DATA	GREEN	GREEN
GROUND	BLACK	BLACK

Connecting an IntelliChem Controller to IntelliCenter

Verify each conductor color between IntelliChem Controller and the IntelliCenter Load/Power Center as shown in the following wiring table.

Description	IntelliChem COM Port Wire Color	Main Board RS-485 Terminal (J4 / J5)
+15 VDC	**RED (DO NOT USE)**	**RED (DO NOT USE)**
+ DATA	YELLOW	YELLOW
- DATA	GREEN	GREEN
GROUND	BLACK	BLACK

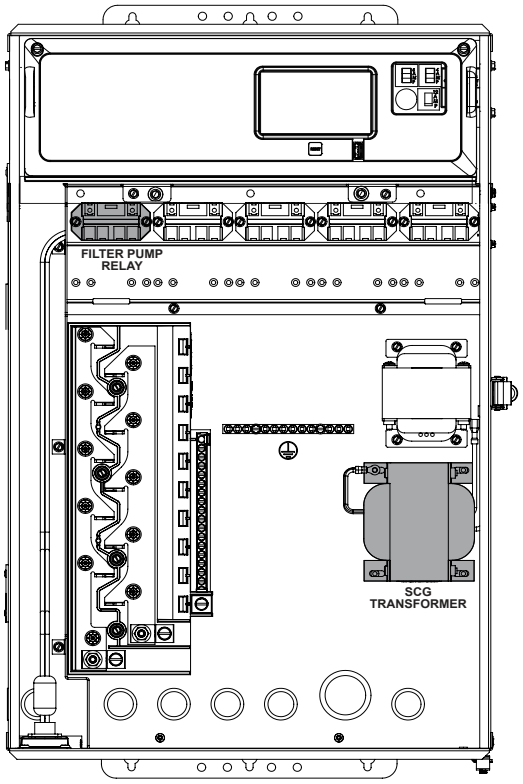
Wiring the SCG Transformer to Load/Power Center Filter Pump Relay

IMPORTANT! When using the IntelliCenter with integrated SCG transformer, ENSURE THE SCG TRANSFORMER CONDUCTORS ARE CONNECTED TO THE LOAD SIDE OF THE FILTER PUMP RELAY. This ensures that the SCG cell only produces chlorine when the pool/spa filter pump is on.

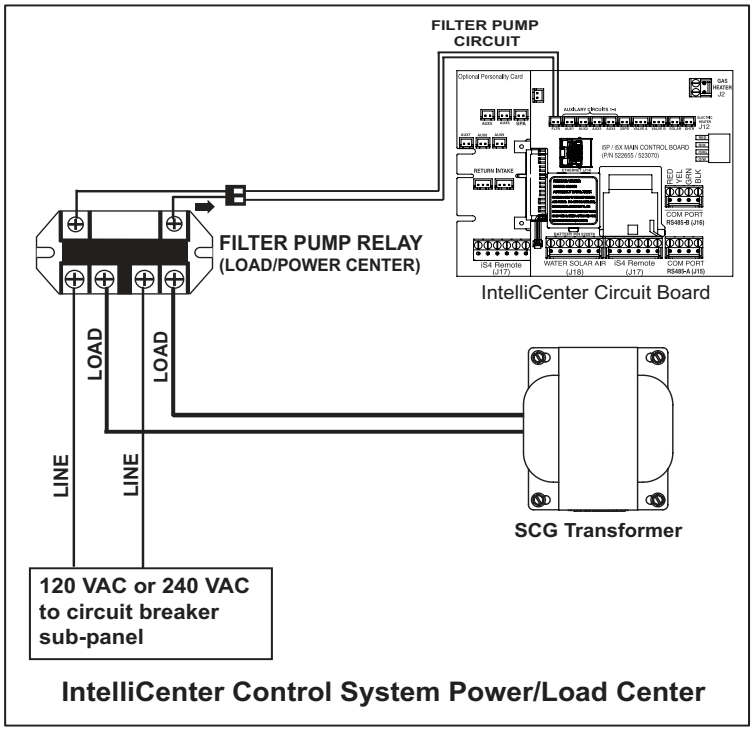
⚠WARNING **BEFORE REMOVING THE HIGH VOLTAGE COVER FROM THE LOAD/POWER CENTER,** switch main power **OFF** at the circuit breaker.

⚠WARNING **TO AVOID AN ELECTRICAL HAZARD AND EQUIPMENT DAMAGE TO THE ENCLOSURE AND SCG CELL, DISCONNECT ALL POWER TO INTELLICENTER AT THE CIRCUIT BREAKER BEFORE CONNECTING THE SCG POWER CABLE.**

1. Switch OFF power to the enclosure at the main circuit breaker.
2. Open the enclosure.
3. Remove the two retaining screws from the High Voltage Cover Panel and remove the panel.
4. Loosen the two retaining screws securing the top edge of the Control Panel and .
5. Fold down the Control Panel to access the circuit board electrical connections.
6. Remove the panel from the enclosure.
7. **Locate the FILTER PUMP RELAY. Connect the SCG transformer conductors to the LOAD SIDE of the relay as shown below.**
8. After electrical connections have be completed, insert the panel's three tabs into the slots at the bottom of the enclosure.
9. Secure the panel with the two retaining screws.
10. Close and latch the enclosure door.
11. Reconnect power to the load/power center.



IntelliCenter Load Center (with SCG transformer)



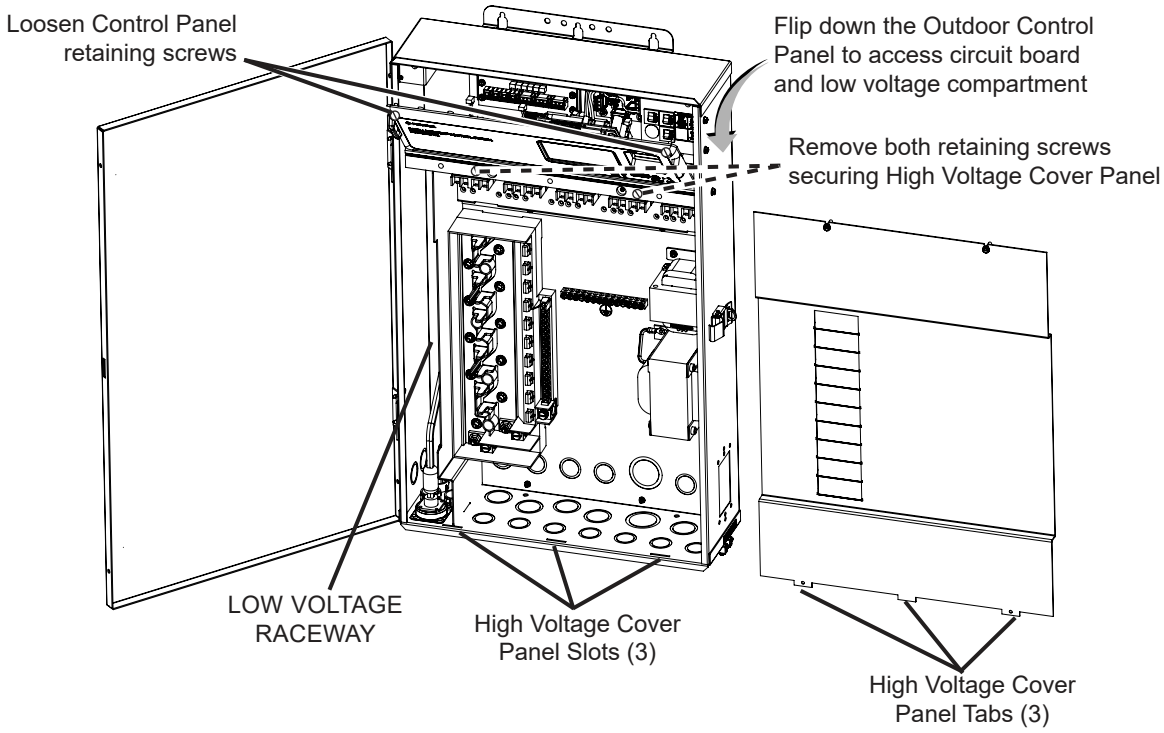
IntelliCenter Control System Power/Load Center

Rewiring the SCG Transformer for 120 VAC

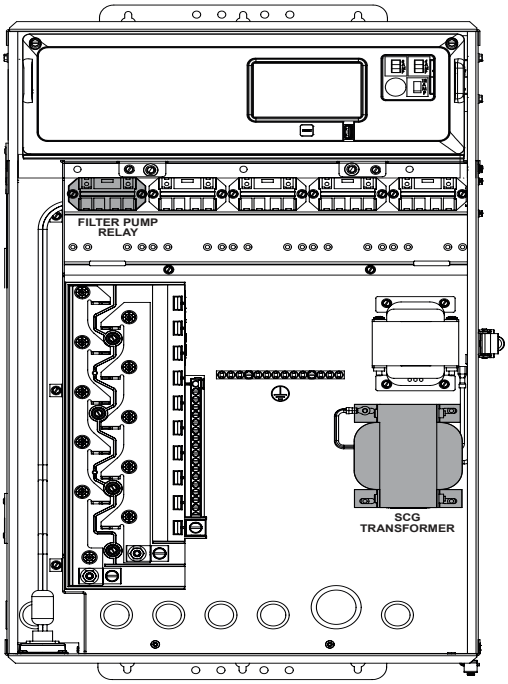
The SCG power supply transformer is located in the IntelliCenter Load/Power Center is pre-wired for 240 VAC at 1.3 A but can be wired for 120 VAC at 2.5 A.

⚠WARNING **BEFORE REMOVING THE HIGH VOLTAGE COVER PANEL FROM THE LOAD/POWER CENTER ENCLOSURE** switch OFF the power at the main breaker box.

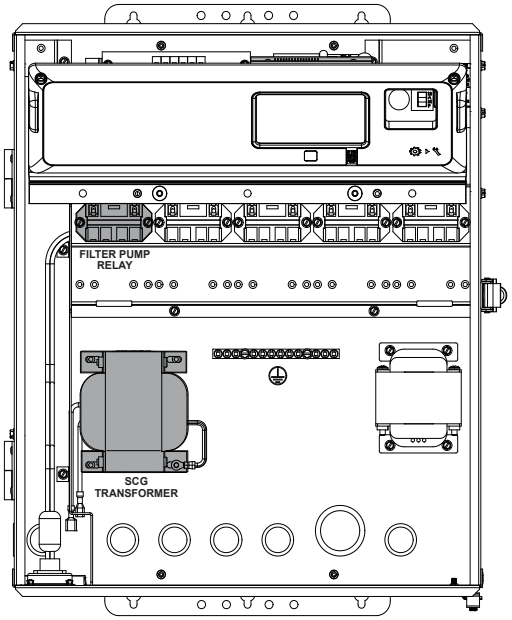
1. Switch OFF power to the enclosure at the main circuit breaker.
2. Unlatch the front door latch and open the front door.
3. Remove the two retaining screws from the High Voltage Cover Panel and remove the panel.
4. Loosen the two retaining screws securing from the top edge of the Outdoor Control Panel.
5. Fold down the Outdoor Control Panel to access the circuit board sockets connectors for the electrical connections. Remove the panel from the enclosure, as shown below.
6. Rewire the SCG transformer for 120 VAC as shown in the wiring diagram on page 31.
7. Reinstall the High Voltage Panel and secure with the two retaining screws.
8. Close the front door and secure with the latch.
9. Restore power to the load/power center.



Rewiring the SCG Transformer for 120 VAC (Continued)



IntelliCenter Load Center
(with SCG transformer)



IntelliCenter Power Center
(with SCG transformer)

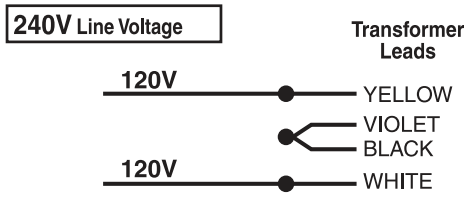
SALT CHLORINE GENERATOR OPTION

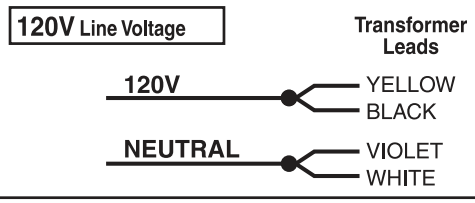
FOR OUTDOOR USE ONLY

INPUT: 120 VAC AT 2.5 A, 50/60 Hz
240 VAC AT 1.3 A, 50/60 Hz

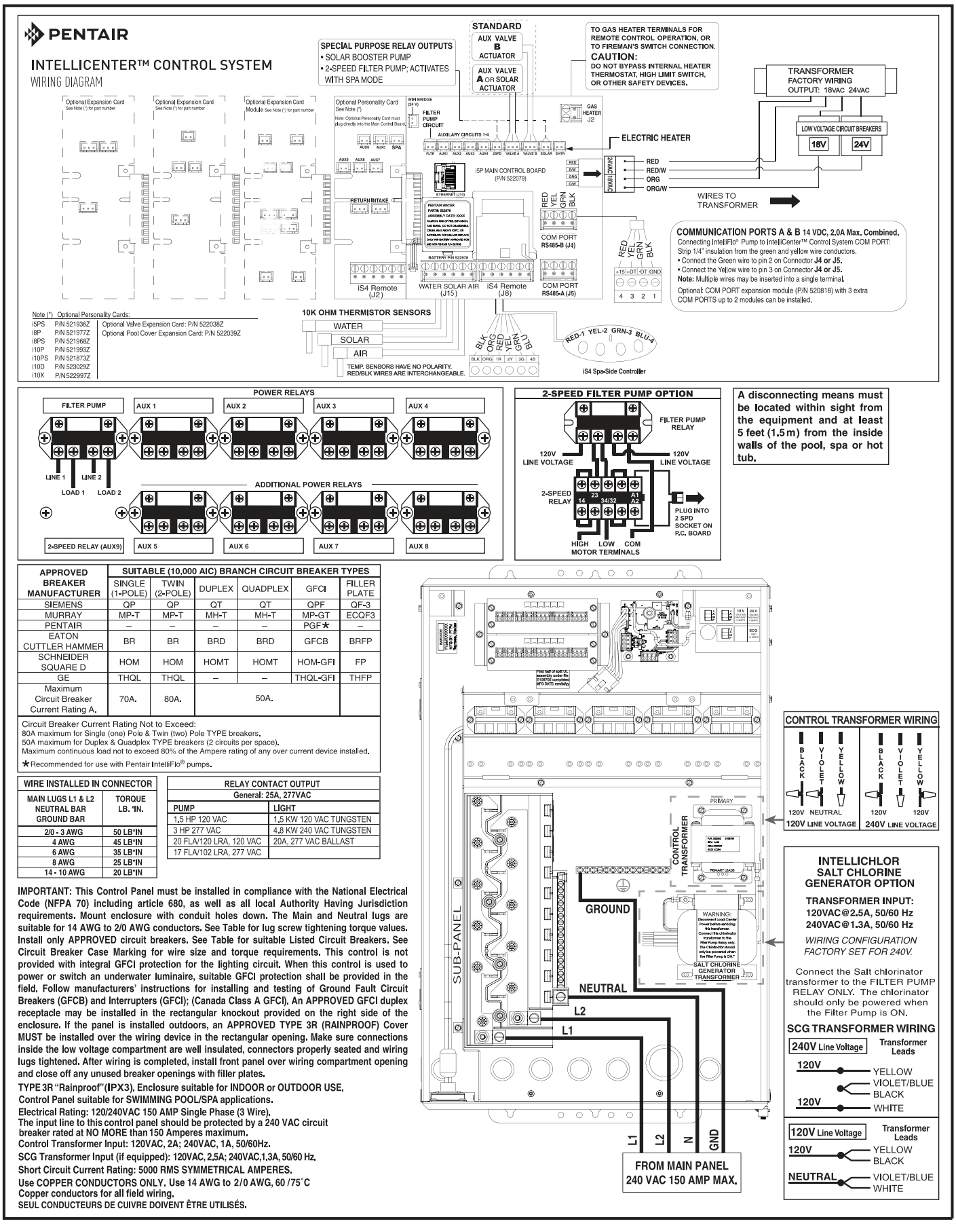
WIRING CONFIGURATION
IS FACTORY SET FOR 240V.

TRANSFORMER WIRING





Load Center Wiring Diagram



APPROVED BREAKER MANUFACTURER	SUITABLE (10,000 AIC) BRANCH CIRCUIT BREAKER TYPES					
	SINGLE (1-POLE)	TWIN (2-POLE)	DUPLEX	QUADPLEX	GFCI	FILLER PLATE
SIEMENS	QP	QP	QT	QT	QPF	QF-3
MURRAY	MP-T	MP-T	MH-T	MH-T	MP-GT	ECQF3
PENTAIR	–	–	–	–	PGF★	–
EATON CUTTLER HAMMER	BR	BR	BRD	BRD	GFCB	BRFP
SCHNEIDER SQUARE D	HOM	HOM	HOMT	HOMT	HOM-GFI	FP
GE	THQL	THQL	–	–	THQL-GFI	THFP
Maximum Circuit Breaker Current Rating A.	70A.	80A.	50A.			

Circuit Breaker Current Rating Not to Exceed:
80A maximum for Single (one) Pole & Twin (two) Pole TYPE breakers.
50A maximum for Duplex & Quadplex TYPE breakers (2 circuits per space).
Maximum continuous load not to exceed 80% of the Ampere rating of any over current device installed.
★Recommended for use with Pentair IntelliFlo® pumps.

WIRE INSTALLED IN CONNECTOR	
MAIN LUGS L1 & L2 NEUTRAL BAR GROUND BAR	TORQUE LB. 'IN.
2/0 - 3 AWG	50 LB*IN
4 AWG	45 LB*IN
6 AWG	35 LB*IN
8 AWG	25 LB*IN
14 - 10 AWG	20 LB*IN

RELAY CONTACT OUTPUT General: 25A, 277VAC	
PUMP	LIGHT
1.5 HP 120 VAC	1.5 KW 120 VAC TUNGSTEN
3 HP 277 VAC	4.8 KW 240 VAC TUNGSTEN
20 FLA/120 LRA, 120 VAC	20A, 277 VAC BALLAST
17 FLA/102 LRA, 277 VAC	

IMPORTANT: This Control Panel must be installed in compliance with the National Electrical Code (NFPA 70) including article 680, as well as all local Authority Having Jurisdiction requirements. Mount enclosure with conduit holes down. The Main and Neutral lugs are suitable for 14 AWG to 2/0 AWG conductors. See Table for lug screw tightening torque values. Install only APPROVED circuit breakers. See Table for suitable Listed Circuit Breakers. See Circuit Breaker Case Marking for wire size and torque requirements. This control is not provided with integral GFCI protection for the lighting circuit. When this control is used to power or switch an underwater luminaire, suitable GFCI protection shall be provided in the field. Follow manufacturers' instructions for installing and testing of Ground Fault Circuit Breakers (GFCB) and Interrupters (GFCI); (Canada Class A GFCI). An APPROVED GFCI duplex receptacle may be installed in the rectangular knockout provided on the right side of the enclosure. If the panel is installed outdoors, an APPROVED TYPE 3R (RAINPROOF) Cover MUST be installed over the wiring device in the rectangular opening. Make sure connections inside the low voltage compartment are well insulated, connectors properly seated and wiring lugs tightened. After wiring is completed, install front panel over wiring compartment opening and close off any unused breaker openings with filler plates.

TYPE 3R "Rainproof" (IPX3). Enclosure suitable for INDOOR or OUTDOOR USE.
Control Panel suitable for SWIMMING POOL/SPA applications.
Electrical Rating: 120/240VAC 150 AMP Single Phase (3 Wire).
The input line to this control panel should be protected by a 240 VAC circuit breaker rated at NO MORE than 150 Amperes maximum.
Control Transformer Input: 120VAC, 2A; 240VAC, 1A, 50/60Hz.
SCG Transformer Input (if equipped): 120VAC, 2.5A; 240VAC,1.3A, 50/60 Hz.
Short Circuit Current Rating: 5000 RMS SYMMETRICAL AMPERES.
Use COPPER CONDUCTORS ONLY. Use 14 AWG to 2/0 AWG, 60 /75˚C Copper conductors for all field wiring.
SEUL CONDUCTEURS DE CUIVRE DOIVENT ÊTRE UTILISÉS.