

TOWN OF GRAND FALLS-WINDSOR

TENDER

EXPLOITS VALLEY YMCA – MAIN POOL REHABILITATION

Project Location	13 Prices Avenue, Grand Falls-Windsor, NL
Closing Date	August 20, 2026
Submission	tenders@townofgfw.com
Contacts	Todd Mercer /Mark Hickey

1. INVITATION AND INTENT

The Town of Grand Falls-Windsor invites qualified contractors to submit a lump sum Tender for rehabilitation of the main swimming pool at the Exploits Valley YMCA. The Work includes a complete commercial reinforced membrane resurfacing system, replacement of specified through wall hydraulic fixtures, associated concrete and deck restoration, integration of Owner supplied automatic water level control equipment, testing, commissioning and closeout.

The Work shall be completed during the YMCA's scheduled shutdown period between November 15, 2026, and December 19, 2026.

The successful Contractor shall provide all labour, materials, equipment, supervision, travel, mobilization, tools, temporary works and incidentals necessary to complete the Work, except items specifically identified as Owner supplied or excluded.

2. REFERENCE INFORMATION

A September 2025 pool inspection/assessment is included in Appendix A for reference. It is intended to assist bidders and does not relieve bidders of responsibility for verifying dimensions, quantities, accessibility and reasonably ascertainable site conditions.

- Commercial in-ground swimming pool.
- Approximate dimensions: 30 ft × 82 ft.
- Maximum depth: approximately 10.5 ft.
- Approximate floor area: 2,460 sq. ft.
- Approximate wall area: 1,880 sq. ft.
- Approximate transitions, steps, fittings and waste allowance: 660 sq. ft.
- Approximate total membrane requirement: 5,000 sq. ft.

Membrane areas are estimates only and are not measurement quantities for payment. Final requirements shall be confirmed by the Contractor through field measurement.

3. CONTRACT BASIS – LUMP SUM

This Tender is for a single lump sum price for the complete Work. The Bidder shall satisfy itself as to dimensions, quantities, existing conditions and the complete scope before submission. Quantities and dimensions provided are intended to assist bidders and do not relieve the successful Contractor of responsibility for all labour, materials, equipment and incidentals necessary to deliver the complete

finished Work. The lump sum price shall include removal and proper disposal of all demolition materials, waste and debris generated by the Work.

No additional compensation will be considered for work explicitly specified, reasonably inferable from the Tender Documents, or reasonably necessary to provide the complete functional and watertight system. Genuinely concealed conditions that could not reasonably have been identified before bidding shall be addressed only through prior written authorization from the Town before additional work proceeds.

4. DETAILED SCOPE OF WORK

4.1 Concrete Removal and Hydraulic Fixture Replacement

- Demolish/remove concrete as required to access existing fixtures.
- Remove and replace eight (8) skimmers.
- Remove and replace ten (10) return inlets.
- Remove and replace three (3) main drains.
- Provide new commercial duty, membrane compatible fixtures including flanges, faceplates, gaskets, fasteners, seals and accessories for a watertight installation.
- Reconnect new fixtures to existing hydraulic piping as required.
- Pressure test new fixture connections and isolate the return system as required to verify integrity and identify leakage in connected underground piping.
- Immediately notify the Town of suspected defects outside the specified fixture work. No additional work shall proceed without prior written authorization from the Town.
- Restore concrete around all new hydraulic fixtures.
- Complete channeling/concrete removal required for the automatic water level sensor conduit from the selected skimmer to the equipment/mechanical room and reinstate disturbed concrete.
- The Contractor shall be responsible for the removal from the site and proper disposal of all demolished concrete, removed skimmers, returns, main drains, piping components, packaging, waste materials and other debris generated by the Work. Disposal shall be at an approved disposal facility and in accordance with all applicable requirements. All costs associated with loading, hauling, tipping/disposal fees and site cleanup shall be included in the lump sum Tender price.

4.2 Pool Deck Restoration

- Remove and replace approximately 4 ft × 4 ft (1.2 m × 1.2 m) of deck above each of the eight (8) skimmer locations, or the area reasonably required for proper replacement.
- Replacement concrete shall match existing thickness, elevation, slope and general surface profile and be properly bonded/reinforced as required for a durable repair.
- Repairs shall be flush with adjoining surfaces, free of abrupt edges/trip hazards and suitable for a public aquatic facility.
- Painting, decorative coating and colour matching of repaired deck concrete are excluded unless approved by the Town in writing as additional work.

4.3 Substrate Preparation

- Inspect the substrate and identify visible deficiencies affecting installation.
- Clean, grind and smooth protrusions and irregularities.

- Patch/repair cracks, voids, honeycombing and localized damaged areas reasonably required for a sound, smooth substrate.
- Remove loose, sharp, incompatible or unsuitable material.
- Provide compatible geotextile or manufacturer required underlayment.
- Complete fixture replacement and preparation of penetrations before final membrane installation.

4.4 Reinforced Commercial Pool Membrane System

The proposed commercial reinforced PVC pool membrane system shall meet or exceed:

- Minimum nominal thickness: 60 mil (1.5 mm).
- Dual layer PVC membrane with internal polyester or equivalent reinforcing mesh.
- Designed and warranted for commercial/public swimming pool use. Must be commercial grade waterproofing system.
- Resistant to normal pool chlorination and water chemistry within manufacturer limits.
- UV resistant where exposure may occur.
- Impermeable and suitable as the primary watertight pool basin finish.
- Compatible membrane, underlay, termination components, penetration details, accessories and sealants forming one complete system.
- Smooth membrane on general floor/wall surfaces except where anti-slip membrane is required. (Anti-slip membrane required on stairs, benches, ledges, and designated walking surfaces).
- Pale/light blue or similar commercial pool colour acceptable to the Town.
- Contrasting lane and perimeter markings (preferably black).

The Bidder shall identify the proposed manufacturer/system and submit technical data demonstrating compliance. Equivalent systems meeting or exceeding these performance requirements are acceptable, subject to written approval by the Town. No substitution, alternative product, material or system shall be incorporated into the Work unless approved by the Town in writing.

4.5 Membrane Installation

- Field measure before ordering/fabrication.
- Field fabricate/install in accordance with the manufacturer's written commercial installation requirements.
- Use technicians trained and experienced in reinforced commercial pool membrane installation.
- Install and seal compatible termination strips/profiles around the perimeter and other required terminations.
- Mechanically secure membrane at perimeter termination points as required by the system.
- Install compatible underlayment.
- Install membrane over floors, walls, steps, transitions and other submerged surfaces required for a complete watertight basin.
- Hot air weld all seams using manufacturer recommended procedures.
- Provide uniform seam overlaps and clean, consistent weld finishes.
- Test seam integrity progressively during installation.
- Apply compatible liquid PVC seam sealer or equivalent treatment approved by the Town in writing where required by the proposed system.
- Properly terminate, flange, gasket and seal membrane at skimmers, main drains, suction outlets, returns, inlets, outlets and all penetrations.

4.6 Anti-Slip Surfaces and Markings

- Provide reinforced anti-slip membrane at entry steps, access areas, ledges and submerged walking/standing surfaces where required for safe operation and applicable public pool requirements.
- Provide three (3) contrasting anti-slip swim lane markings generally matching the existing configuration.
- Provide a contrasting anti-slip perimeter border/waterline treatment generally matching the existing functional layout.
- Final layout, colours and any proposed variation from the specified arrangement shall be approved by the Town in writing before installation.

4.7 Automatic Water Level Control Integration

A Jandy Levolor® Electronic Water Leveler system has been purchased and will be Owner supplied (See Appendix B). Contractor scope includes:

- Install the water level sensor at the selected new skimmer or manufacturer approved location.
- Install/route sensor conduit or line from pool/skimmer to equipment/control location.
- Complete required concrete channeling/removal and reinstatement.
- Extend/route associated sensor/control wiring to the existing control location where required within this scope.
- Coordinate with Town/YMCA and separate plumbing/electrical trades for final fresh water, valve or other connections outside this scope.
- Verify Contractor installed sensor/conduit components are correctly installed and ready for final operation.

5. TESTING AND COMMISSIONING

- Visually inspect all seams and terminations.
- Probe, vacuum test or otherwise test welded seams using manufacturer approved methods as appropriate.
- Inspect sealing of all fittings and penetrations.
- Pressure test newly installed hydraulic fixture connections before concealment/reinstatement where practicable.
- Correct defective welds, wrinkles, folds, incomplete seals, leaks or other deficiencies.
- Coordinate controlled pool filling after confirming readiness.
- Participate in final walkthrough with Town/YMCA.
- Deliver Contractor installed work complete, watertight and ready for normal operation.

The reinforced PVC membrane system shall be installed in strict accordance with the membrane manufacturer's current written requirements for commercial/public swimming pool installations. Where the manufacturer's requirements exceed the Tender Documents, the more stringent requirement shall apply unless otherwise approved by the Town in writing.

All field welded seams shall be continuously hot air welded using equipment and procedures recommended by the membrane manufacturer. The Contractor shall perform progressive quality control testing throughout installation.

All accessible seams shall be nondestructively tested for continuity using an appropriate manufacturer approved method. Where vacuum chamber testing is appropriate for the membrane and seam

configuration, testing shall be carried out generally in accordance with ASTM D5641/D5641M, Standard Practice for Geomembrane Seam Evaluation by Vacuum Chamber.

Where a dual track seam incorporating an air test channel is used, air channel testing shall be carried out in accordance with ASTM D7177/D7177M, Standard Specification for Air Channel Evaluation of Polyvinyl Chloride (PVC) Dual Track Seamed Geomembranes, where applicable.

Seams, penetrations, terminations, patches and repairs that cannot reasonably be tested using the above methods shall be inspected and tested using the membrane manufacturer's approved quality control procedures. Failed or questionable seams shall be repaired and retested before acceptance.

The Contractor shall complete a test weld at the beginning of each workday and whenever welding equipment/settings or significant environmental conditions change, in accordance with the membrane manufacturer's requirements.

Newly installed hydraulic piping and fixture connections shall be pressure tested prior to concealment or concrete reinstatement, where practicable, in accordance with applicable requirements and the piping/fixture manufacturer's requirements. The Contractor shall submit the proposed test procedure, test pressure and duration to the Town for written approval before testing.

The Contractor shall maintain records of seam testing, repairs and hydraulic pressure testing and submit completed testing records to the Town as part of project closeout documentation.

6. QUALITY REQUIREMENTS

The completed installation shall have a uniform professional appearance and be free from wrinkles, folds, open seams, incomplete fusion, sharp edges and visible installation defects. Welds and terminations shall be neat and consistent. The complete membrane installation shall be watertight.

Work shall comply with the proposed membrane manufacturer's written installation requirements and applicable requirements governing commercial/public swimming pools and trades involved. Any proposed deviation from the accepted product, system, specification or installation requirements shall require prior written approval from the Town.

7. CONTRACTOR QUALIFICATIONS AND REFERENCES

- Provide at least three (3) similar completed commercial/public pool membrane projects, preferably within the last five (5) years.
- For each: facility/project name, location, brief scope, year completed, client contact name, telephone and email.
- Confirm experience/training of personnel who will install the reinforced membrane.
- Identify significant subcontractors.

The Town reserves the right to contact references and consider demonstrated past performance.

8. PRODUCT SUBMITTALS – WITH TENDER

- Membrane manufacturer and proposed commercial product/system.
- Technical data confirming thickness, reinforcement, commercial pool use and performance characteristics.
- Manufacturer installation requirements or system installation summary.
- Manufacturer's commercial membrane warranty.
- Proposed Contractor workmanship warranty.
- Product information for skimmers, returns, main drains and membrane compatible fittings.
- Information for proposed anti-slip membrane.

The Town may request clarification or additional information to confirm equivalency. A product shall not be rejected solely because it is from a different manufacturer where the Bidder demonstrates that it meets or exceeds the Tender performance requirements. Acceptance of any equivalent, substitute or alternative product or system shall be confirmed by the Town in writing before it is incorporated into the Work.

9. WARRANTY AND CLOSEOUT

- Minimum one (1) year Contractor workmanship warranty from acceptance.
- Minimum fifteen (15) year manufacturer's warranty for the proposed reinforced commercial PVC membrane system, specifically applicable to commercial/public swimming pool use.
- Warranty documents and conditions required to maintain coverage, including water chemistry parameters.
- Installation and maintenance recommendations.
- As-built photographs of completed work and concealed fixture/penetration details where practicable.
- Final product data and installation documentation.
- Complete testing and quality-control records, including membrane seam testing, test welds, seam repairs and retesting, hydraulic fixture/piping pressure testing, and other testing required by Section 5 and the membrane manufacturer's installation requirements.

10. OWNER SUPPLIED WORK / RESPONSIBILITIES

- Drain the pool before the agreed commencement date.
- Refill the pool after Contractor authorization.
- Provide water treatment/start-up chemicals and normal water balancing.
- Provide the Owner purchased Jandy Levelor® Electronic Water Leveler system for installation and integration as specified in Section 4.7.
- Arrange final fresh water supply/valve plumbing and other connections specifically identified as outside the membrane Contractor's scope.
- Provide reasonable access to pool, equipment room and work areas.

11. EXCLUSIONS

- Pool draining and refilling.
- Supply of water treatment/start-up chemicals.
- Painting/coating/colour matching of replacement deck concrete.
- Underground piping replacement beyond included fixture connections where separate concealed piping failure is identified by testing.
- Major structural repair to the pool shell that could not reasonably have been identified before removal of existing finishes.

Any work associated with an exclusion, or otherwise outside the specified scope, shall not proceed unless the Town has approved the work and any associated price adjustment in writing.

12. SITE VISIT AND BIDDER DUE DILIGENCE

Bidders are strongly encouraged to inspect the site. Site visit requests may be requested through:

- Todd Mercer todd.mercer@townofgfw.com
- Mark Hickey mhickey@townofgfw.com

Requests shall be made in writing and no later than five (5) calendar days before the Tender closing date. The Town will make reasonable arrangements for access.

Failure to attend shall not relieve the successful Contractor of responsibility for conditions that were visible, reasonably ascertainable or could reasonably have been verified before bidding.

13. PROJECT SCHEDULE

The YMCA has identified the available construction window as November 15, 2026, to December 19, 2026. All Work, including testing, commissioning, deficiency correction and final acceptance, shall be substantially complete no later than December 19, 2026, unless otherwise approved in writing by the Town.

A detailed schedule shall be submitted with the Tender showing:

- Proposed mobilization/start date.
- Concrete removal and fixture replacement duration.
- Membrane procurement/fabrication period.
- Membrane installation duration.
- Testing/commissioning period.
- Completion and turnover date.

The Bidder shall clearly demonstrate in its submitted schedule that the Work can be completed within the available construction window of November 15, 2026, to December 19, 2026. The accepted schedule shall form part of the Contract.

14. CHANGES, SUBSTITUTIONS AND EXTRA WORK

No change, substitution, deviation from the Tender Documents, or additional work shall be undertaken without the prior written approval of the Town.

Where the Contractor proposes an alternative product, material, component, installation method or specification that differs from that submitted with the Tender or otherwise accepted by the Town, the

Contractor shall submit complete technical information for review. No proposed substitution or deviation shall be incorporated into the Work unless approved by the Town in writing.

If a condition is encountered that the Contractor believes requires work outside the lump sum scope, the Contractor shall stop only the affected work, protect the Work, promptly notify the Town, and provide sufficient information and pricing for review. No additional or extra work shall proceed until written authorization is issued by the Town.

Verbal direction, discussion, review, inspection, or presence of Town representatives at the site shall not constitute authorization for a change, substitution, additional work or additional compensation.

Any unauthorized work, product substitution, specification deviation or additional work undertaken without prior written approval of the Town shall be at the Contractor's sole risk and expense.

15. SUBMISSION REQUIREMENTS

- Completed Bid Form.
- Lump sum price.
- Detailed project schedule.
- Three (3) references with contact information.
- Contractor experience and installer qualifications.
- Required product/technical submittals.
- Manufacturer membrane warranty and proposed workmanship warranty.
- All exceptions, exclusions or qualifications. If none are stated, the Tender will be understood to include the complete Tender scope.
- Evidence of Commercial General Liability Insurance with a minimum limit of \$2,000,000 per occurrence, or confirmation from the Bidder's insurer/broker that such coverage will be maintained for the duration of the Work.
- Current COR certification. The Bidder shall provide a current letter/certificate from the Newfoundland and Labrador Construction Safety Association (NLCSA) confirming COR certification.
- Current Letter of Good Standing/clearance from WorkplaceNL.

16. EVALUATION AND AWARD

The Town intends to award based on the Tender providing the best overall value and satisfying the Tender requirements. Consideration may include technical compliance, relevant experience, references, proposed system, ability to meet the schedule and lump sum price. The lowest priced Tender will not necessarily be accepted.

The Town reserves the right to reject any or all Tenders, waive minor informalities, seek clarification or cancel the Tender where considered appropriate.

The Town may consider the Bidder's demonstrated ability to complete the Work within the required construction window as part of the evaluation.

17. SUBMISSION INSTRUCTIONS

- Closing Date: August 20, 2026.
- Submit by email to: tenders@townofgfw.com.
- Email subject: Tender – Exploits Valley YMCA Main Pool Rehabilitation.
- Technical/site inquiries: Todd Mercer or Mark Hickey.

18. PAYMENT SCHEDULE

Progress payments shall be based on the following milestones, subject to verification and acceptance by the Town:

- 25% – Upon the Contractor providing satisfactory evidence to the Town that the major materials required for the Work have been ordered. Evidence shall include copies of supplier invoices or purchase orders identifying the materials ordered, quantities, supplier, order date, anticipated delivery date and other information reasonably requested by the Town to verify the order. Payment shall be subject to review and acceptance of the supporting documentation by the Town. Payment of this milestone does not transfer responsibility for the materials to the Town. The Contractor remains responsible for procurement, delivery, storage, protection and incorporation of the materials into the Work.
- 20% – Upon mobilization of the Contractor's crew to the site and commencement of construction.
- 25% – Upon completion of concrete removal and replacement and replacement of the specified hydraulic inlets, outlets, skimmers and main drains.
- 25% – Upon completion of installation of the reinforced 60 mil commercial PVC membrane system.
- 5% – Upon successful completion of testing and commissioning, correction of deficiencies, submission of required closeout documentation and final acceptance by the Town.

Payment of a progress claim does not constitute acceptance of defective or incomplete Work and does not relieve the Contractor of any obligation under the Contract.

BID FORM

Tender – Exploits Valley YMCA Main Pool Rehabilitation

Bidder / Company Name:

Address: _____

Contact Person: _____

Telephone: _____

Email: _____

The Bidder confirms that the Work can be completed within the required construction window of November 15, 2026, to December 19, 2026.

☐ Yes

Lump Sum Price

Lump Sum Price, excluding HST: \$ _____

HST: \$ _____

Total Price, including HST: \$ _____

Bidder Confirmation

The undersigned confirms that the Bidder has reviewed the Tender Documents, has satisfied itself as to the scope and conditions of the Work, and offers to complete the Work for the lump sum price stated above, subject only to exceptions expressly identified in the submission. The Bidder further acknowledges that substitutions, deviations, additional work and other items not specified in the Tender Documents require prior written approval from the Town.

Exceptions / Qualifications (state 'None' if none):

References

Reference 1

Project / Facility: _____

Location / Year: _____

Description: _____

Client Contact: _____

Phone: _____ Email: _____

Reference 2

Project / Facility: _____

Location / Year: _____

Description: _____

Client Contact: _____

Phone: _____ Email: _____

Reference 3

Project / Facility: _____

Location / Year: _____

Description: _____

Client Contact: _____

Phone: _____ Email: _____

Signature

Authorized Representative: _____

Signature: _____ Date: _____

APPENDIX A – INDEPENDENT ASSESSMENT REPORT



Pool Services NL Assessment & Summary

Facility: Exploits Valley YMCA – Grand Falls-Windsor

Service Provider: Pool Services NL

Contact: Alex Pinsent

[REDACTED]

Date Issued: September 14, 2025

1. Background

Following reports of water loss and suspected leaks within the main pool at the Exploits Valley YMCA, Pool Services NL was engaged to complete diagnostic testing and provide a comprehensive repair proposal. Pressure testing was conducted on the pool lines to determine if any leakage was occurring and to identify areas requiring attention.

2. Findings

The pressure test results showed **no significant loss of pressure**, indicating there are **no major leaks** within the pool's plumbing system.

It was noted that there **may be a small isolated leak**, but this would be fully addressed through the recommended repair and replacement work. The planned scope — which includes the installation of a new commercial-grade pool membrane and through-wall fixture replacements — will effectively eliminate any potential leakage issues.

3. Proposed Work (Quote PSNL368)

Pool Services NL provided a detailed proposal outlining the following key components:

- **Installation of a 60 mil commercial pool membrane lining** to reline the main pool with high-grade material designed for long-term durability.
- **Replacement of through-wall fixtures**, including skimmers, returns, and main drains, with membrane-compatible components.
- **Concrete and decking restoration** in all areas affected by fixture replacement.
- **Installation of a new autofill sensor system** with extended wiring to integrate with the existing control box.

[REDACTED]



4. Recommendation

Based on the inspection results and professional advice provided by Pool Services NL, it is recommended that the YMCA proceed with the proposed work. The planned upgrades — including new fixtures, membrane lining, and an autofill system — will modernize the pool infrastructure, address any minor leakage issues, and enhance the long-term operation of the facility.

APPENDIX B – JANDY LEVELOR® ELECTRONIC WATER LEVELER



INSTALLATION AND OPERATION MANUAL

ENGLISH | FRANÇAIS | ESPAÑOL

Jandy

Levolor® Electronic Water Leveler

Models K-1100, LX2, K-2300, and LEV110CK/2G



K-1100



LX2



K-2300



LEV110CK/2G



WARNING

FOR YOUR SAFETY - This product must be installed and serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed where such state or local requirements exist. The maintainer must be a professional with sufficient experience in pool equipment installation and maintenance so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty. Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.



ATTENTION INSTALLER - This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

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Section 1. Safety Information

IMPORTANT SAFETY INSTRUCTIONS PERTAINING TO A RISK OF PROPERTY DAMAGE OR INJURY TO PERSONS READ AND FOLLOW ALL INSTRUCTIONS

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

WARNING

FOR YOUR SAFETY. This product must be installed and serviced by a professional service technician, qualified in pool/spa installation and maintenance. Improper installation or operation could cause serious injury, property damage, or death. Improper installation or operation will void the warranty.

WARNING

Before installing this product, read and follow all warning notices and instructions accompanying them. Failure to follow safety warnings and instructions could result in severe injury, death, or property damage.

WARNING

To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

WARNING

Risk of electric shock - Install the control box at least five (5) feet (152.4cm) from the inside wall of the pool and/or hot tub using non-metallic plumbing. Canadian installations must be at least three (3) meters from the water. Children should not use spas or hot tubs without adult supervision.
Do not use spas or hot tubs unless all suction guards are installed to prevent body and hair entrapment.
People using medications and/or having an adverse medical history should consult a physician before using a spa or hot tub.

WARNING

To reduce the risk of electrical shock, connect the green ground wire marked  to the ground of your electric service or supply panel with a continuous copper conductor having green insulation and one that is equivalent in size to the circuit conductors supplying this equipment, but no smaller than number 12 AWG (3.3mm). This ground wire marked  is provided within the control box.



Attention Installer: Install to provide drainage of compartment for electrical components.



ATTENTION INSTALLER: This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

SAVE THESE INSTRUCTIONS

Section 2. System Description

Levolor® Models K-1100, LEV110CK/2G, and LX2 are computer-controlled devices that detect a low water condition and automatically replace the water to a pre-set level. They can be used in all pools and spas.

The LEV110CK/2G is designed for use in large commercial applications.

Levolor II, Model K-2300, is a dual-fill device that can maintain the water level in two (2) separate environments, such as a pool/spa combination or other dual-equipped application. It can be used in any situation where a consistent liquid level is desired.

The Levolor kit contains a sensor, a control box, and a solenoid valve. The Levolor II kit contains two (2) sensors, a control box, and two (2) solenoid valves.

For more details, see *Section 3.1, Materials and Tools*.

Sensor

There are three (3) styles of sensors:

1. Slip Style - installed in static pipe in new pool.
2. Skim Style - installed in skimmer in existing pool (also known as Half-moon Style).
3. Dual Style (Slip on one end/Skim on other end).

NOTE An optional threaded sensor can be installed in a static pipe in a new pool.

Depending on the model, the sensor comes with 50 to 500 feet of wire at the top and two (2) stainless steel contacts at the bottom. You can cut off the sensor wire you do not use.

Control Box

The control boxes for K-1100, LX2 and LEV110CK/2G have three (3) LED displays: Power, Sensor, and Filling. The control box for the K-2300 has five (5) LED displays: Power, Sensor I, Filling I, Sensor II, and Filling II. For more details, see *Section 4. Operation*.

The K-1100, K-2300, and LEV110CK/2G are factory wired for 220 volt operation and require rewiring for 110 volt operation. The LX2 comes in a 220 volt unit and a 110 volt unit.

Valve

The K-1100, LX2, and LEV110CK/2G require one (1) valve, and the K-2300 requires two (2) valves.

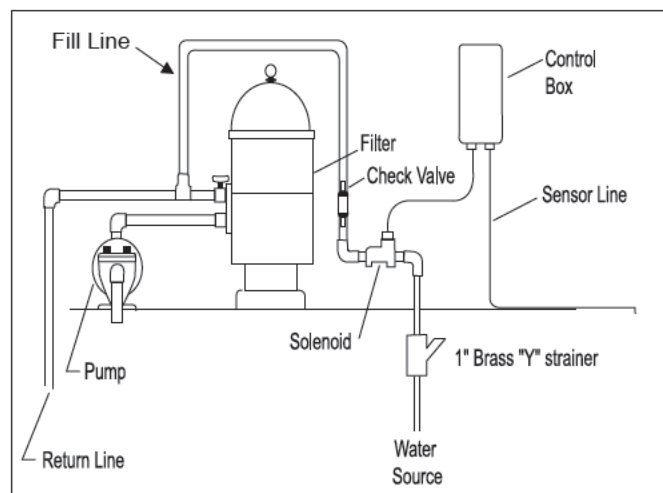


Figure 1. K-1100 or LEV110CK/2G Installation

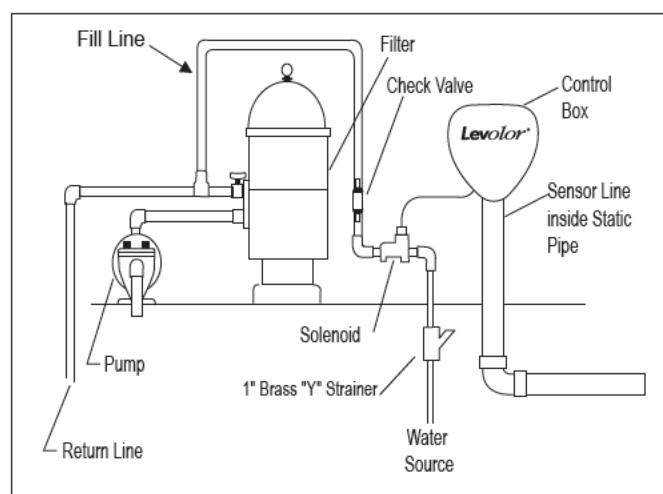


Figure 2. LX2 Installation

The K-1100, LX2, and K-2300 use a 1" valve (Part # SOL100). It has a pressure rating that cannot exceed 125 PSI.

The LEV110CK/2G uses a 2" valve (Part # SOL200). It has a pressure rating that cannot exceed 150 PSI.

2.1 Electrical Specifications

Models K-1100, LX2, K-2300, and LEV110CK/2G

Input: 110 VAC, 50/60 HZ, 0.5 AMPS

220 VAC, 50/60 HZ, 0.5 AMPS

Output: 24 VAC@ 1 AMP

⚠ CAUTION

Models K-1100, K-2300, and LEV110CK/2G are factory wired for 220 VAC service. If available electrical service is 110 VAC, the power supply wiring must be changed to operate on 110 VAC as shown in figures 4, and 5.

2.2 Wiring Diagrams

This section contains wiring diagrams for the K-1100, K-2300, and LEV110CK/2G, along with detailed views of the factory-direct wiring for 220 VAC and the modified wiring for 110 VAC. The section also contains a wiring diagram for the LX2, along with detailed views of the factory-direct wiring for the 220 VAC and 110 VAC units.

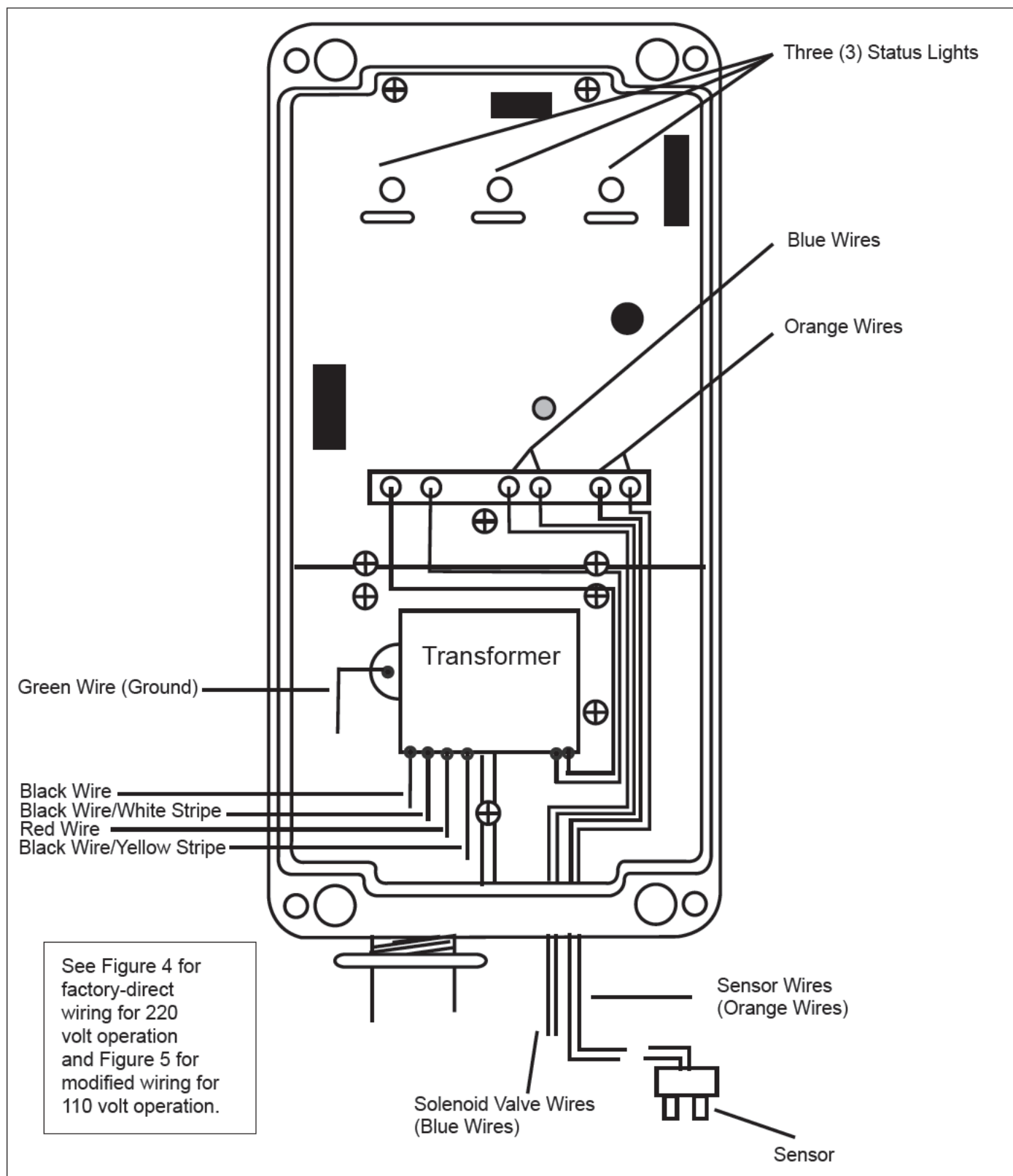


Figure 3. K-1100 and LEV110CK/2G Control Box

220 Volt Operation

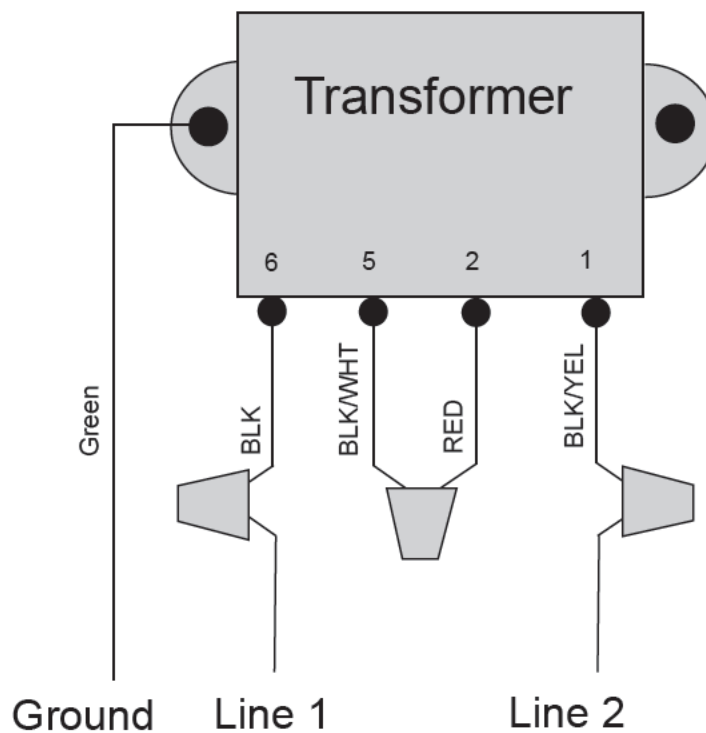


Figure 4. K-1100, K-2300, and LEV110CK/2G Factory Wiring for 220 Volt Operation

110 Volt Operation

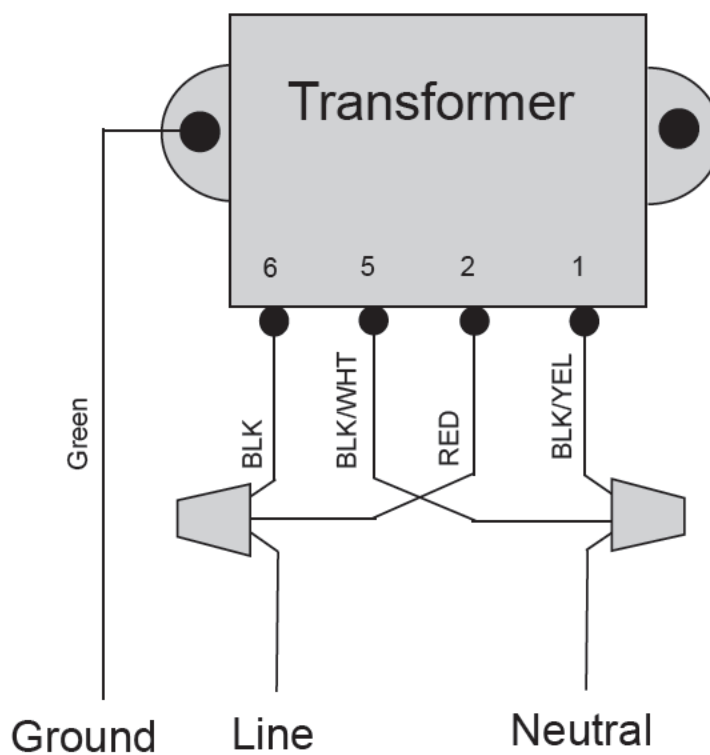


Figure 5. K-1100, K-2300, and LEV110CK/2G Modified Wiring for 110 Volt Operation

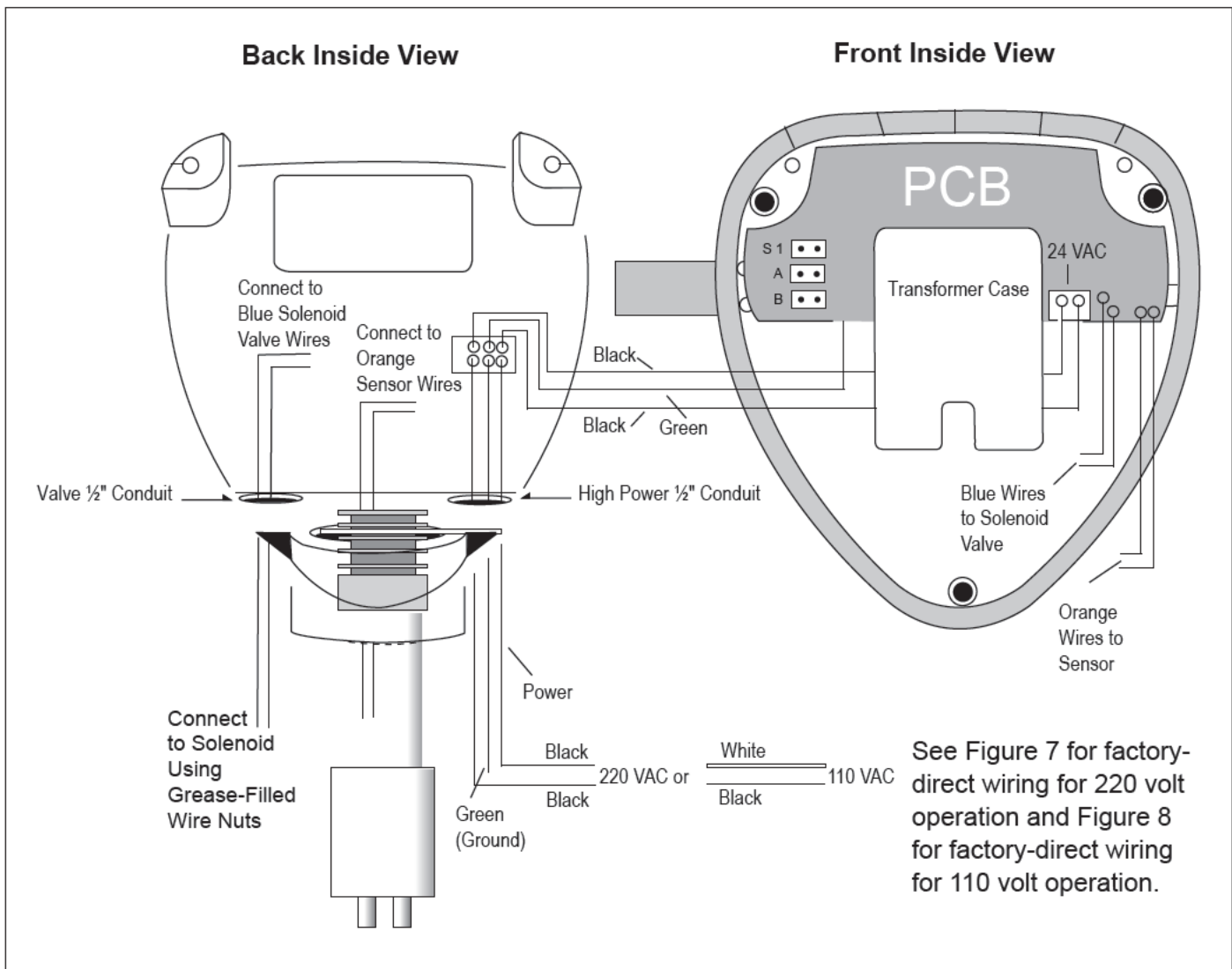


Figure 6. LX2 Control Box

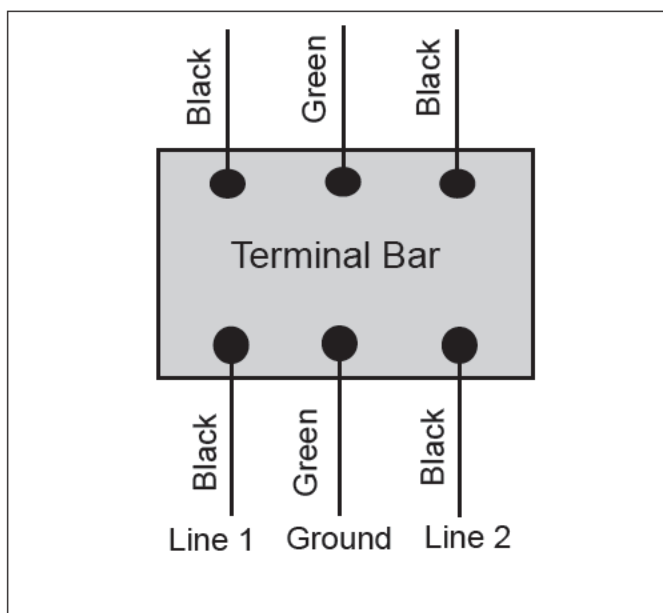


Figure 7. LX2 Factory Direct Wiring for 220 Volt Unit

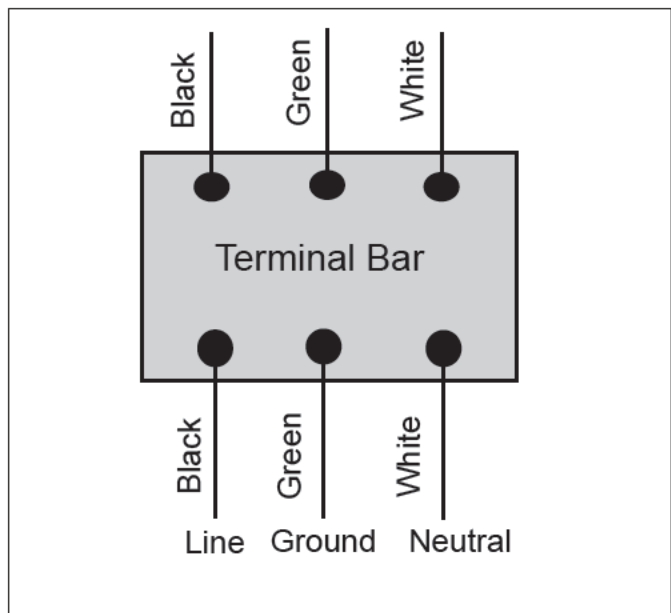
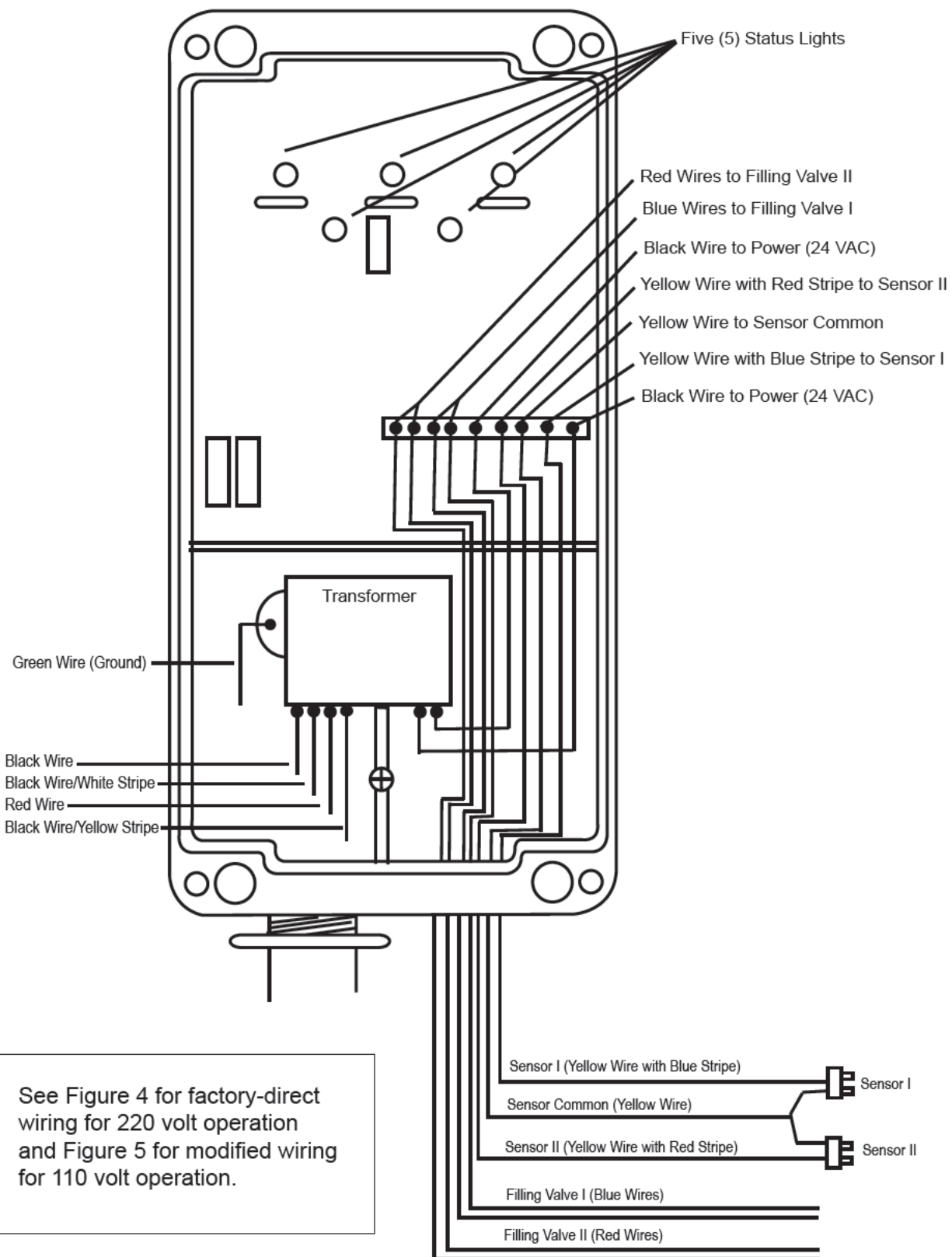


Figure 8. LX2 Factory Direct Wiring for 110 Volt Unit



See Figure 4 for factory-direct wiring for 220 volt operation and Figure 5 for modified wiring for 110 volt operation.

Figure 9. K-2300 Control Box

Section 3. Installation Instructions

3.1 Materials and Tools

Installation Materials Supplied for Levolor® Models K-1100, LX2, or LEV110CK/2G	Qty
Sensor with Wire	1
Solenoid Valve	1
Coupler	1
Control Box	1
Remote Sensor Housing	1
Hardware Kit	1
Grease-Filled Wire Nuts for Valve	2 per kit
Screws	4 per kit
Anchors	4 per kit
Owner's Manual - Warranty Information	1

Installation Materials Furnished for Levolor II, Model K-2300	Qty
Sensor with Wire	2
Solenoid Valve	2
Coupler	2
Control Box	1
Remote Sensor Housing	2
Hardware Kit	2
Grease-Filled Wire Nuts for Valve	2 per kit
Screws	4 per kit
Anchors	4 per kit
Owner's Manual - Warranty Information	1

Additional Materials Needed for Installation
Anti-siphon Valve*
2-Conductor, 18-Gauge Solid-Core Burial Cable
Wire Nut Connectors for the Sensor and Power Connections

*The anti-siphon valve is not necessary if the connection is made from the irrigation system.

Open the box and check to see that it contains the contents listed above. If it does not, contact your dealer or Zodiac technical support at (800) 822-7933.

3.2 Installing the Control Box

NOTE When installing a Levolor on a spa (less than 300 sq ft of surface area), turn the flow control down to reduce the flow rate of the valve.

Models K-1100, K-2300, and LEV110CK/2G

1. Mount the control box to the wall near the pump and filter. See Figure 1. ***Do not install the control box within 10 ft (3 m) of the pool edges.***
2. Mount the control box at eye level. Leave sufficient clearance on all sides of the chassis backplate.
3. Check the source voltage. (All three (3) units are factory wired for 220 volt operation.) To modify the wiring for 110 volt operation, see *Section 3.3*.
4. For 220 volt operation, connect the black wire to line 1 and connect the black wire with the yellow stripe to line 2. See Figure 4.

Model LX2

1. Mount the control box in the static pipe where the sensor is installed. See Figure 2.
2. Check the source voltage. (There are separate units for 220 and 110 volt operation.)
 - a. For 220 volt operation, connect one (1) of the black wires to line 1 and the other black wire to line 2. See Figure 7.
 - b. For 110 volt operation, connect the white wire to the white neutral line. Then connect the black wire to the black power line. See Figure 8.

3.3 Changing Wiring for 110 Volt Operation

⚠ WARNING

Potentially high voltages in the Levolor® control box can create dangerous electrical hazards, possibly causing death, serious injury or property damage. Turn off power at the main circuit breaker providing power to the control box to disconnect the control box from the system. To properly and safely wire the system, be sure to carefully follow the applicable requirements of the National Electrical Code (NEC), NFPA 70 or the Canadian Electrical Code (CEC), CSA C22.1. All applicable local installation codes must also be adhered to.

Models K-1100, K-2300, and LEV110CK/2G

Refer to Figures 4 and 5 and do the following:

1. Cut the splice cap connecting the black/white and the red wires. See Figure 4.
2. Connect the red wire with the black wire and connect to the line side of power. See Figure 5.
3. Connect the black/white wire with the black/yellow wire and connect to the neutral side of power. See Figure 5.

3.4 Grounding

Connect the green ground wire marked  to the ground of your electric service or supply panel with a continuous copper conductor that has green insulation and is equivalent in size to the circuit conductors supplying this equipment, but no smaller than no. 12 AWG (3.3mm). Refer to your local codes for the acceptable grounding wire gauge.

3.5 Installing the Valve

NOTE Install the valve with the directional water flow arrow pointing in the appropriate direction. The directional water flow arrow is located on the inlet side of the valve.

A 24 VAC solenoid valve will provide water from a supply line to the pool or spa. You can install the supply line either before or after the filter at the equipment pad or on a dedicated line back to the pool.

The K-1100, LX2, and K-2300 use a 1" valve, and the LEV110CK/2G uses a 2" valve. In addition, Zodiac recommends an anti-siphon valve (to help prevent accidental draining of the pool), and an in-line strainer, which you can purchase from Zodiac.

1. Connect the 24 VAC water solenoid valve to the 18-gauge solid-core burial cable using the supplied grease-filled wire nuts.
2. Connect the other end according to the model being installed, using the following instructions:

Models K-1100, LX2, and LEV110CK/2G:

Connect the valve wires to the blue wires in the control box using wire nuts.

Model K-2300: Connect the wires from Valve I to the blue wires in the control box using wire nuts. Connect the wires from Valve II to the red wires in the control box using wire nuts.

3. Turn the flow control knob (+) on the top of the valve (See Figure 10) to set the flow rate to your specifications.

NOTE The rate can be set up to 30 GPM for the K-1100, LX2, and K-2300. The rate can be set up to 130 GPM for the LEV110CK/2G.

4. Put the manual ON/OFF lever, located just below the solenoid, in the OFF position, so it will only open with the electronic water Levolor. See Figure 11.

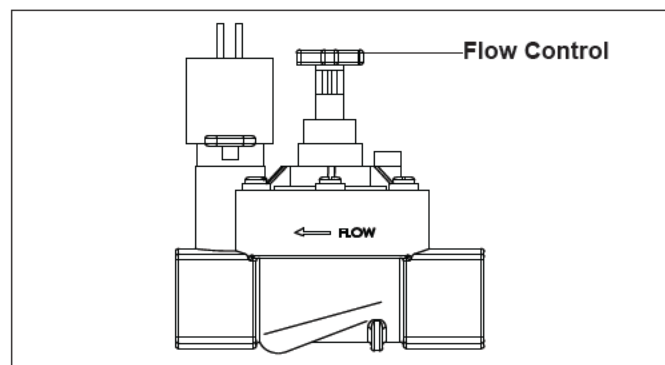


Figure 10. Valve Flow Controller

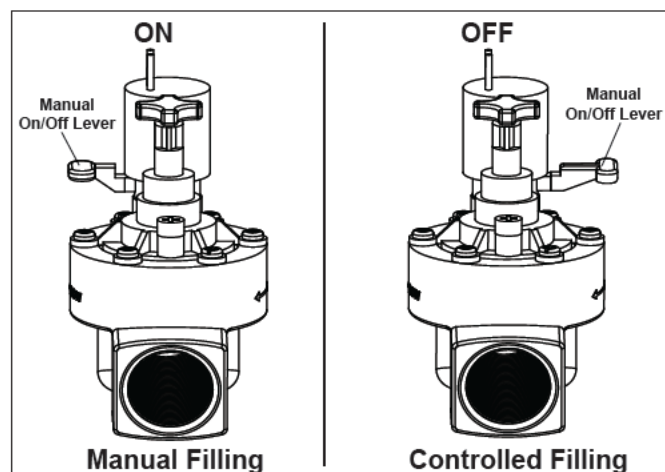


Figure 11. Manual Valve Lever

3.6 Installing the Sensor

NOTE If using a dual style sensor, cut off and discard the sensor you are not planning to use. See Figure 12.

⚠ CAUTION

Important Safety Instructions. Sensor wires must be continuous and not spliced. Solder all low voltage wire connections when possible and always use grease-filled wire nuts on low voltage connections.

1. Install the sensor in the appropriate location for the sensor style.
 - a. Mount the skim (half-moon) sensor horizontally to an existing skimmer. Mount with velcro or a suitable adhesive in the skimmer throat behind the whirl door arc. See Figures 13 and 15.
 - b. Mount the slip sensor vertically in a static pipe. Glue the sensor to the coupling. See Figures 14 and 16.

NOTE Screw the optional threaded sensor into a 1" threaded coupling.

NOTE When using the static pipe method, glue all 1" fittings only. Do not glue 2" fittings. Glue all fittings with proper ABS/PVC glue: 793 IPS brand for ABS/PVC.

2. Connect the sensor wires as follows:

Models K-1100, LX2, and LEV110CK/2G:

Connect the sensor cable to the two (2) orange wires in the control box using wire nuts. See Figures 3 and 6.

Model K-2300:

- a. Connect one (1) wire from Sensor I and one (1) wire from the Sensor II to the yellow Sensor Common wire using wire nuts. See Figure 9.
- b. Connect the other wire from Sensor I to the yellow wire with the blue stripe using wire nuts. See Figure 9.
- c. Connect the other wire from Sensor II to the yellow wire with the red stripe using wire nuts. See Figure 9.

NOTE For all models, the wire to the sensors must be continuous. There cannot be any wire splices.

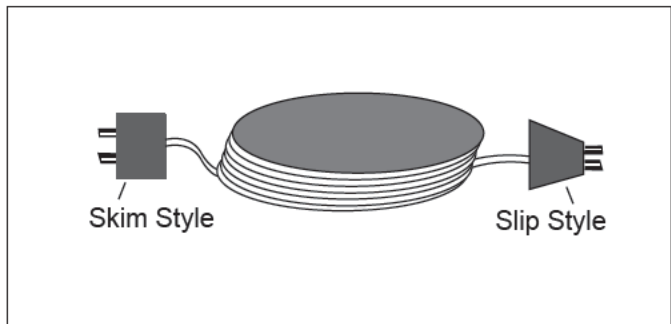


Figure 12. Dual Style Sensor

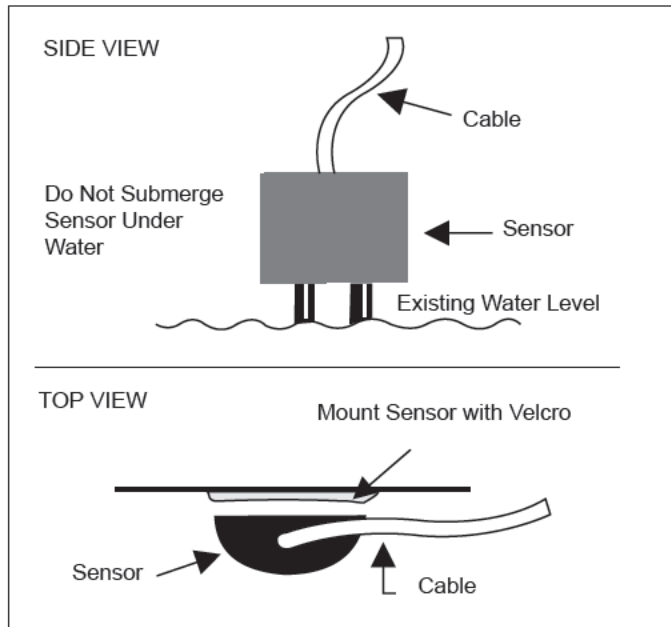


Figure 13. Skim (Half-moon) Sensor Retrofit Installation

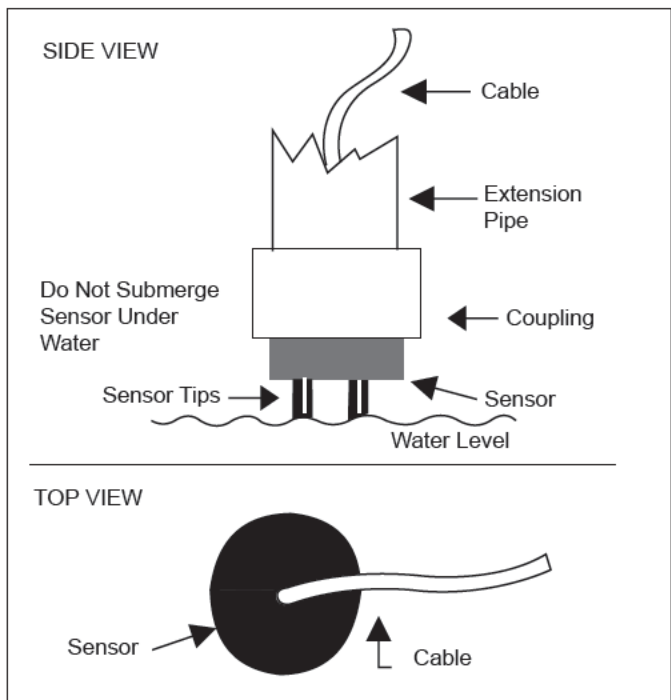


Figure 14. Slip Sensor Installation

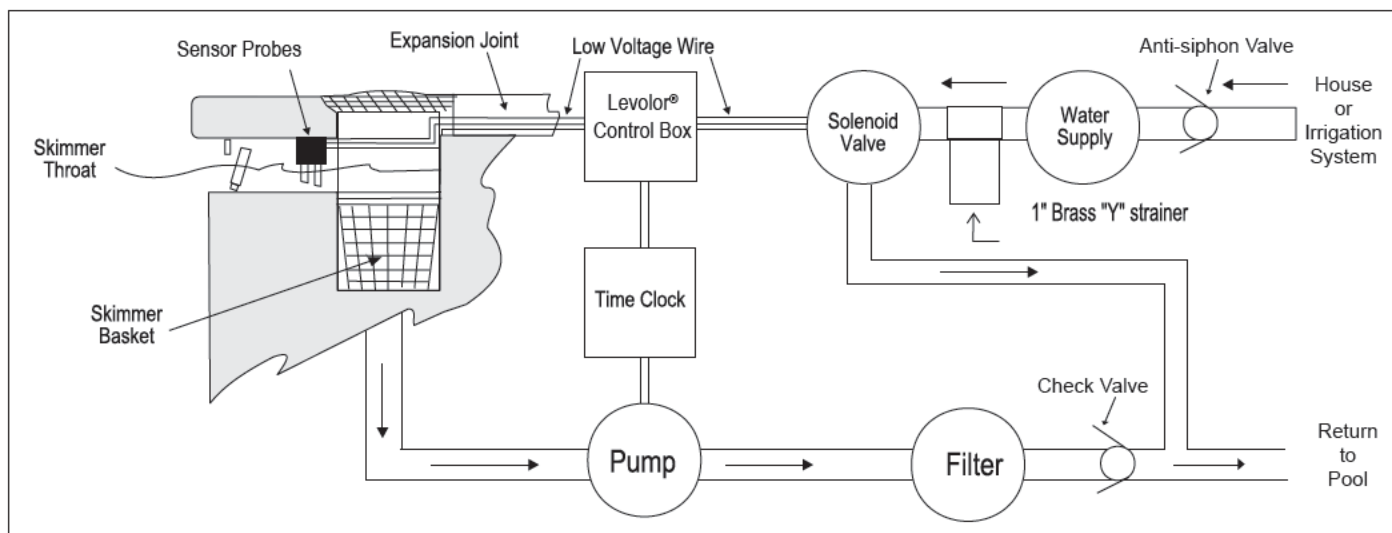


Figure 15. Skim (Half-moon) Sensor in Skimmer Installation in Existing Pool

3.7 Installation Diagrams

This section shows diagrams of skim (half-moon) style and slip style sensor installations and details. They are:

- Skim (Half-moon) Sensor in Skimmer Installation in Existing Pool
- Slip Sensor in Static Pipe Installation in New Pool
- Slip Sensor Detail
- Slip Sensor in Remote Housing Detail
- Deck Lid Installation Detail
- LX2 Static Pipe Installation in New Pool
- Slip Sensor in LX2 Installation Detail

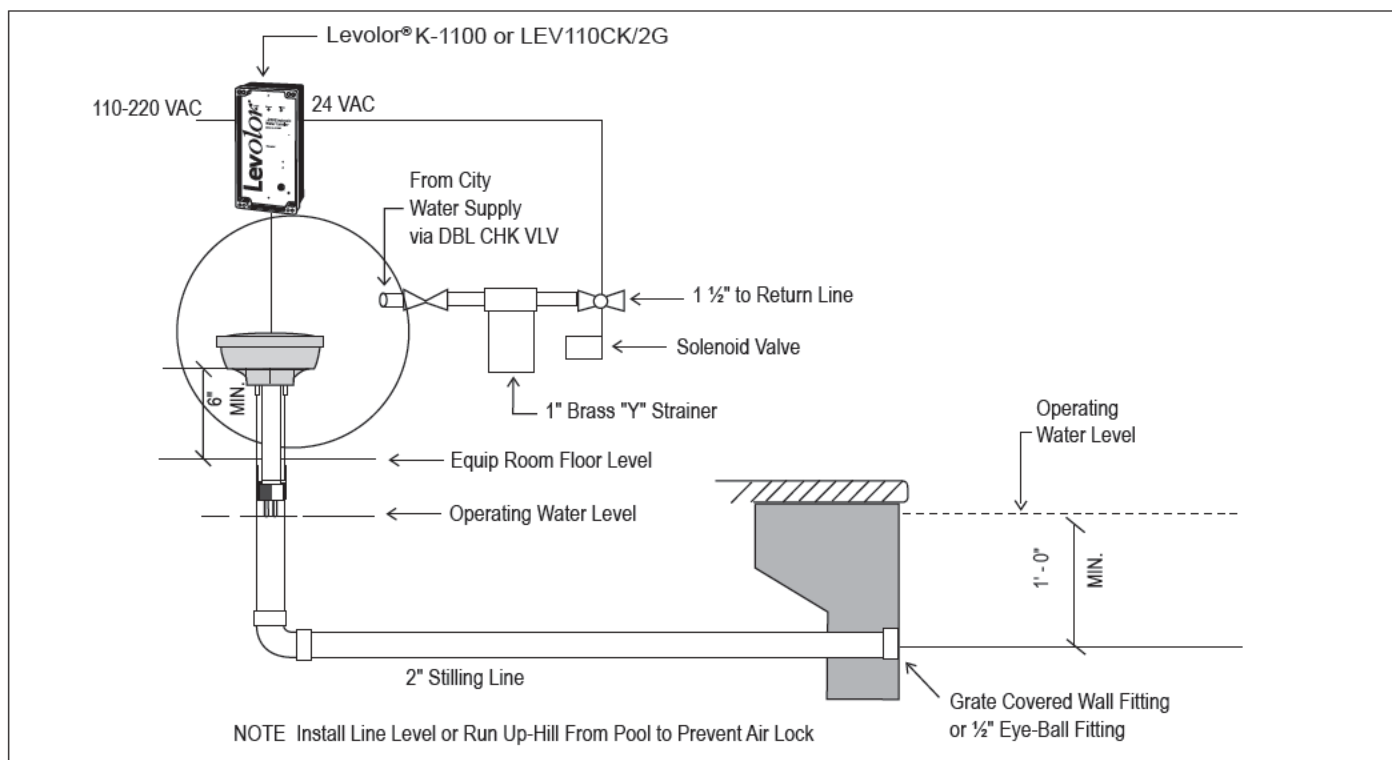


Figure 16. Slip Sensor in Static Pipe Installation in New Pool

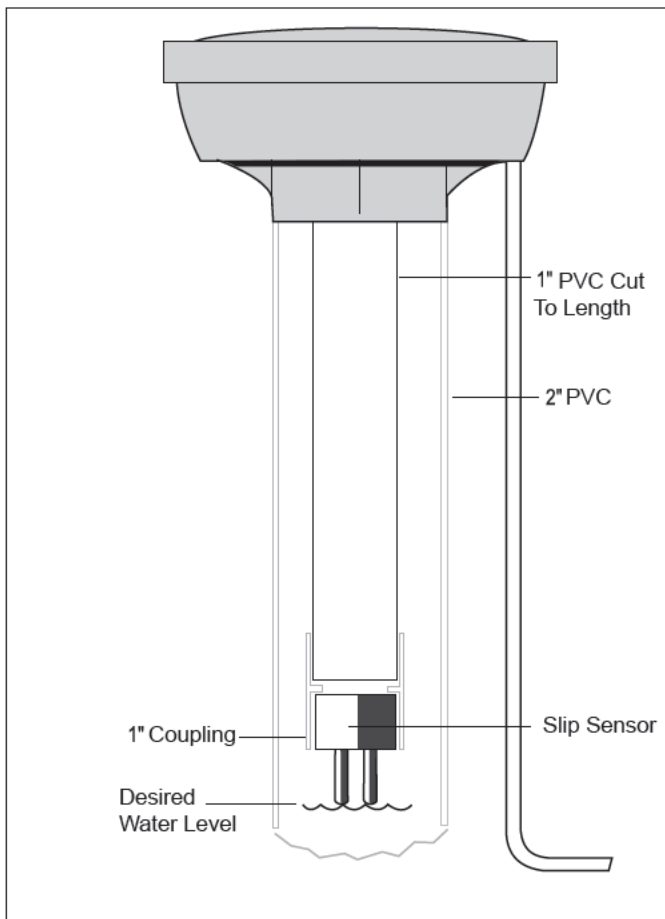


Figure 17. Slip Sensor Detail

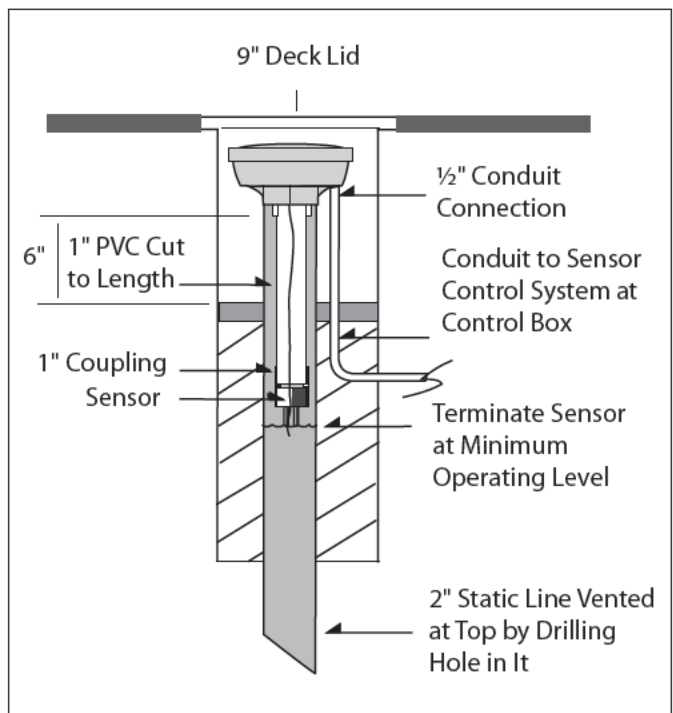


Figure 19. Deck Lid Installation Detail

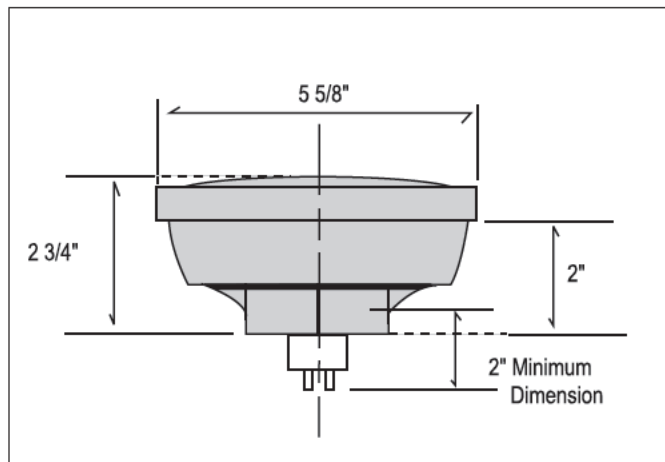


Figure 18. Slip Sensor in Remote Housing Detail

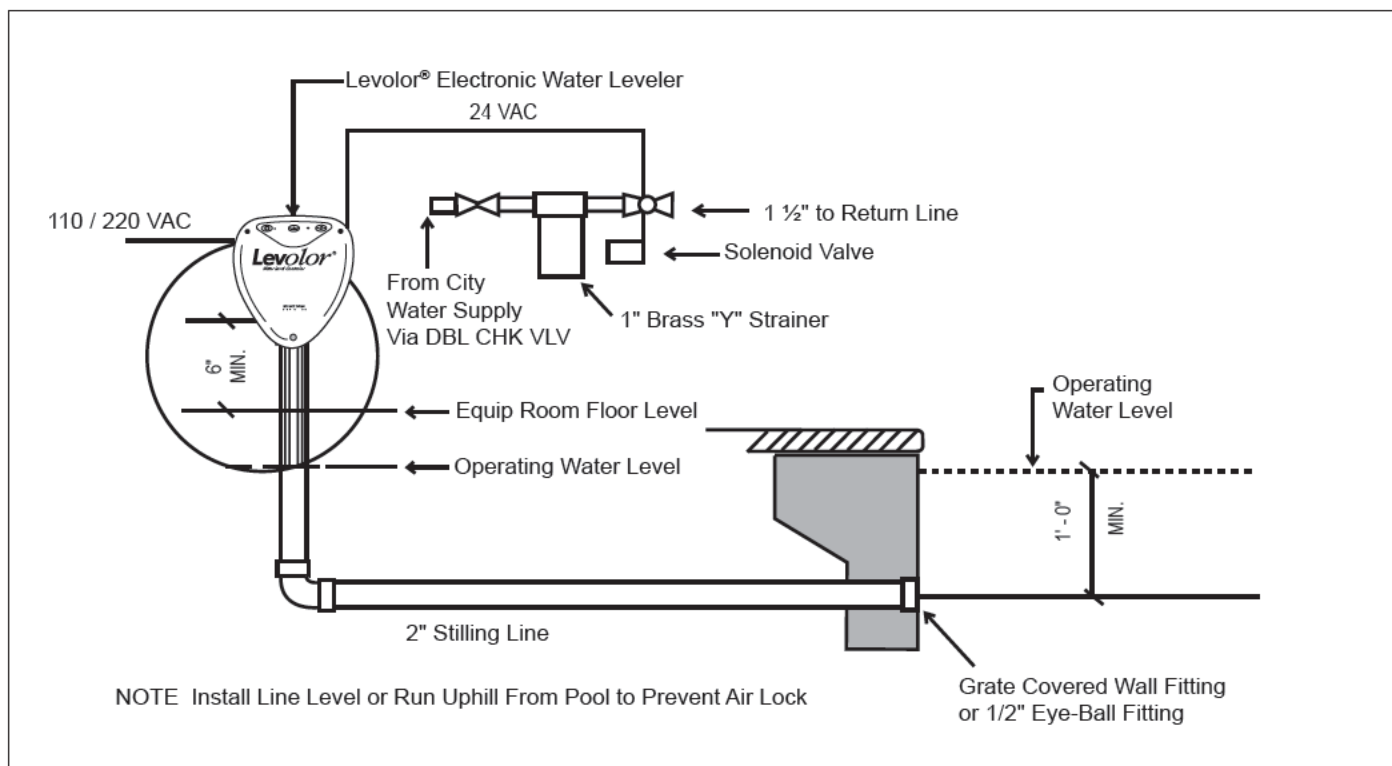


Figure 20. LX2 in Static Pipe Installation in New Pool

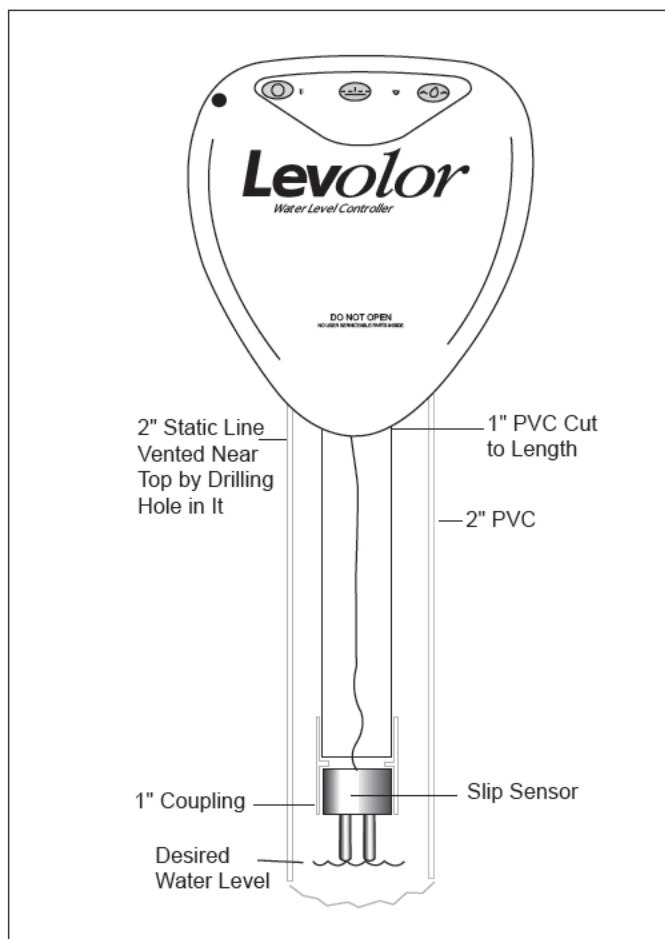


Figure 21. Slip Sensor in LX2 Installation Detail

Section 4. Operation

4.1 K-1100, LEV110CK/2G, and LX2

The controllers for the K-1100 and LEV110CK/2G (See Figure 22) and the LX2 (See Figure 23) each have three (3) lights. Refer to the figures and Table 1.

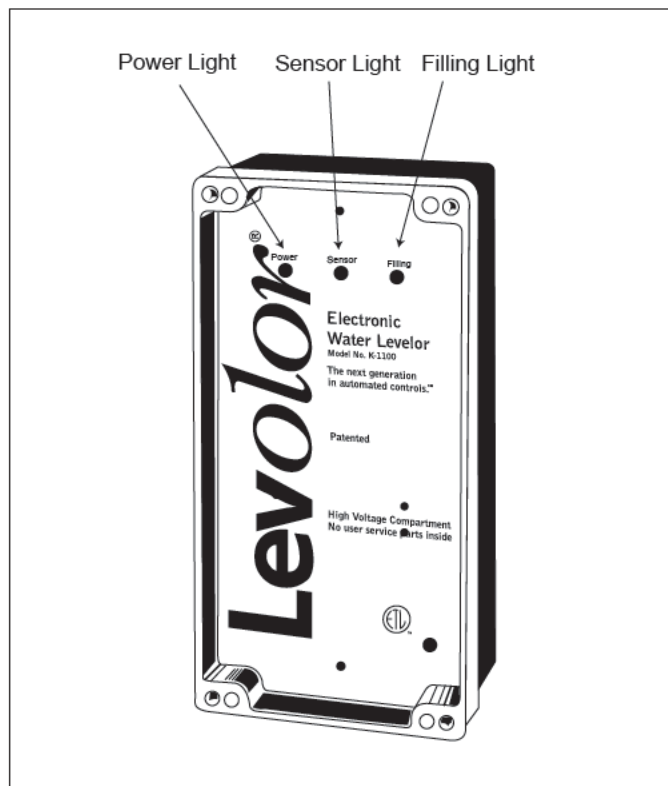


Figure 22. K-1100 and LEV110CK/2G Controller Lights

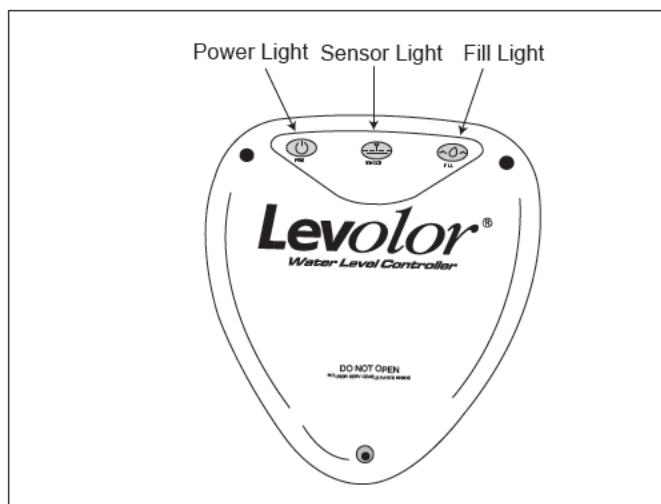


Figure 23. LX2 Controller Lights

The Power light turns green when the unit is powered on. The Sensor light turns yellow when water is not touching the sensor tips.

The Filling light turns green 20 seconds after the sensor light illuminates, indicating that the valve is operational and filling. The Filling light turns off when the pool is filled.

The Filling light turns red when the unit enters Fill Safety Lockout Mode. This happens if it takes longer to fill the pool than the time period allotted (20, 40, or 60 minutes). For more information, see *Section 4.3, Fill Safety Lockout Mode*.

NOTE The time period allotted for the LEV110CK/2G to fill is one (1), two (2), or three (3) hours. See Table 1.

LED	Function	Color	Operating Mode	Delay to Turn Function ON	Delay to Turn Function OFF
Power	Turn Power ON	Green	Power is ON	None	None
Sensor	Detect Low Water	Yellow	Water is Low	None	None
Filling for K-1100 and LX2	Filling Pool	Green	Fill Valve is ON	20 Seconds after Sensor Light Turns ON	20 Seconds after Sensor Light Turns OFF
	Safety Lockout	Red	Fill Valve is OFF	20, 40 or 60 Minutes	24 Hours
Filling for LEV110CK/2G	Filling Pool	Green	Fill Valve is ON	20 Seconds after Sensor Light Turns ON	20 Seconds after Sensor Light Turns OFF
	Safety Lockout	Red	Fill Valve is OFF	1, 2, or 3 Hours	24 Hours

Table 1. LED Indicators for K-1100, LX2, and LEV110CK/2G

4.2 K-2300

The controller for the K-2300 has five (5) lights. See Figure 24 and refer to Table 2. The Power light turns green when the unit is on. The Sensor I light turns yellow when water is not touching the Sensor I tips.

Twenty seconds later, the Filling I light turns green, indicating that Valve I is operational and filling. The light turns off when the pool is filled, and turns red when Valve I goes into Safety Lockout Mode.

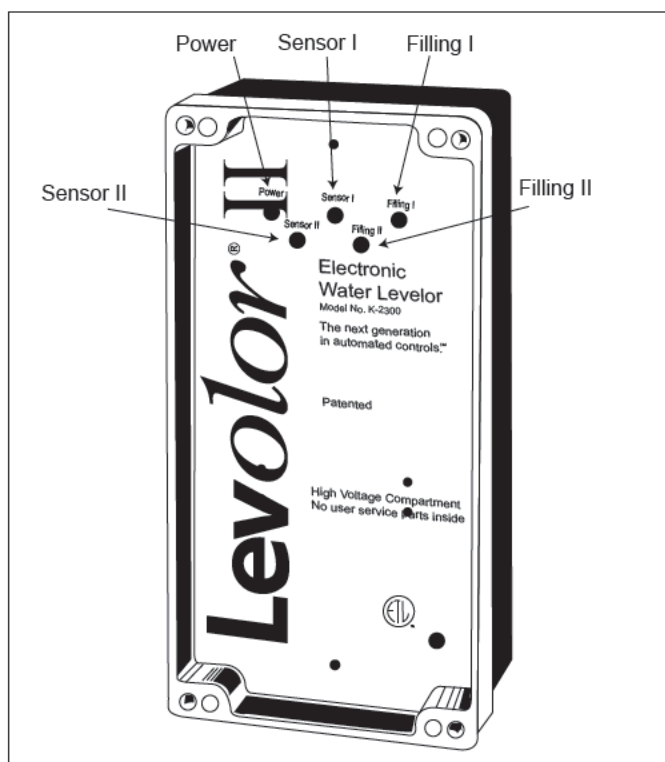


Figure 24. K-2300 Controller Lights

The Sensor II light turns yellow when water is not touching the Sensor II tips. Twenty seconds later, the Filling II light turns green, indicating that Valve II is operational and filling. The light turns off when the spa is filled, and it turns red when Valve II goes into Safety Lockout Mode.

Note that the K-2300 has two (2) Safety Lockout features, one (1) for Valve I and the other for Valve II. They operate independently. If one valve goes into Safety Lockout Mode, the other valve can continue to operate normally.

4.3 Fill Safety Lockout Mode

The Fill Safety Lock-out Mode shuts the Filling I or Filling II valve down for 24 hours or until the unit is powered down and back up to reset the filling time. When the unit goes into lock-out, it indicates a possible problem with the control, sensor, or water fill line system. The 24-hour window provides time to find and fix the problem. If the problem has not been fixed after 24 hours, the control will lock out for another 24 hours.

All four (4) models described in this manual are equipped with a lock-out sequence. This means that if the Levolor® sensor has not been touched by water within the pre-set Fill time period, the controller turns the valve off for 24 hours and changes the Filling I or Filling II light from green to red.

The pre-set factory Fill time for the K-1100, LX2, and K-2300 is 20 minutes, but it can be modified to 40 or 60 minutes. The pre-set factory Fill time for the LEV110CK/2G is one (1) hour, but it can be modified to two (2) or three (3) hours. See Table 1 for pre-set and modified Fill times. See Section 4.4 for instructions on modifying pre-set Fill times.

LED	Function	Color	Operating Mode	Delay to Turn Function ON	Delay to Turn Function OFF
Power	Turn Power ON	Green	Power is ON	None	None
Sensor I	Detect Low Water in Pool	Yellow	Water in Pool is Low	None	None
Filling I	Filling Pool	Green	Fill I Valve is ON	20 Seconds after Sensor Light Turns ON	20 Seconds after Sensor Light Turns OFF
	Safety Lockout	Red	Fill I Valve is OFF	20, 40 or 60 Minutes	24 Hours
Sensor II	Detect Low Water in Spa	Yellow	Water in Spa is Low	None	None
Filling II	Filling Spa	Green	Fill II Valve is ON	20 Seconds after Sensor Light Turns ON	20 Seconds after Sensor Light Turns OFF
	Safety Lockout	Red	Fill II Valve is OFF	20, 40 or 60 Minutes	24 Hours

Table 2. LED Indicators for K-2300

4.4 Fill Time before Lockout

Model K-1100 and LX2:

For the K-1100 and LX2 the factory-set Fill time before Safety Lockout occurs is 20 minutes. The Fill time can be modified by cutting the jumpers as follows:

Cut Jumper	Fill Time Period
Either A or B	40 minute fill before lockout
Both A and B	60 minute fill before lockout

NOTE To disable the lockout feature, cut jumper S-1.

See Figure 26 for the location of the LX2 jumpers and Figure 27 for the location of the K-1100 jumpers.

Model LEV110CK/2G:

The LEV110CK/2G factory-set Fill time before Lockout is one (1) hour. To modify, cut jumpers as follows:

Cut Jumper	Fill Time Period
Either A or B	2 hours fill before lockout
Both A and B	3 hours fill before lockout

NOTE To disable the lockout feature, cut jumper S-1.

See Figure 27 for location of LEV110CK/2G jumpers.

Model K-2300: The K-2300 factory-set Fill time before Lockout is 20 minutes for both Filling I and Filling II. To modify fill times, cut jumpers as follows:

Cut Jumper	Fill Time Period
Either A or B	40 minute fill before Filling I lockout
Both A and B	60 minute fill before Filling I lockout
Either C or D	40 minute fill before Filling II lockout
Both C and D	60 minute fill before Filling II lockout

NOTE To disable Filling I lockout, cut jumper S-1. To disable Filling II lockout, cut jumper S-2.

See Figure 28 for the location of the K-2300 jumpers.

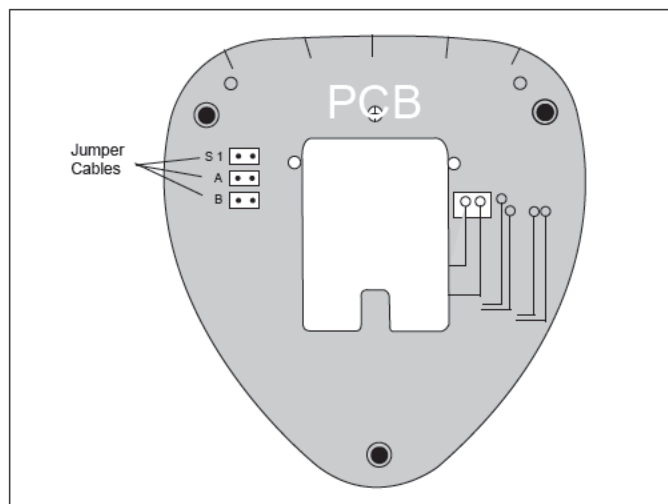


Figure 26. LX2 Jumper Cables

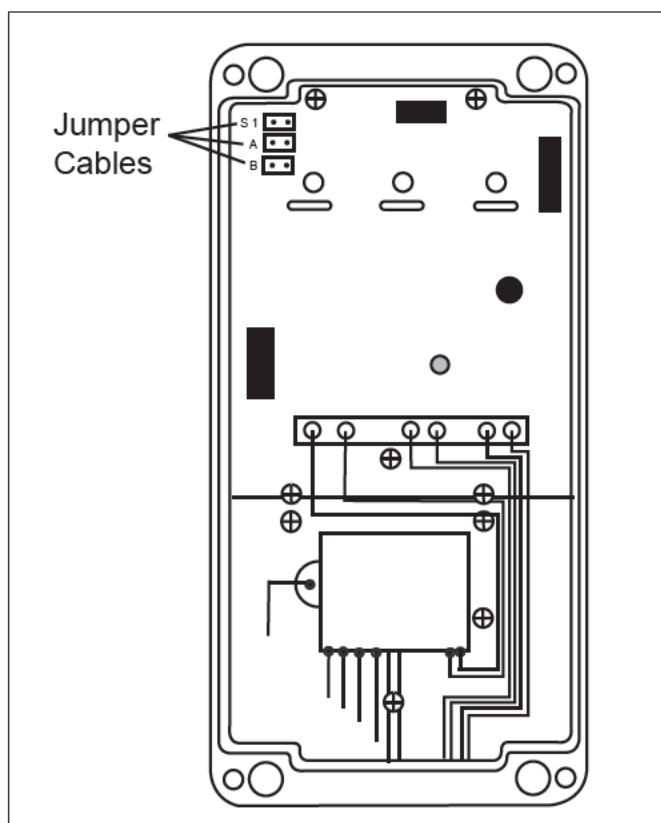


Figure 27. K-1100 and LEV110CK/2G Jumper Cables

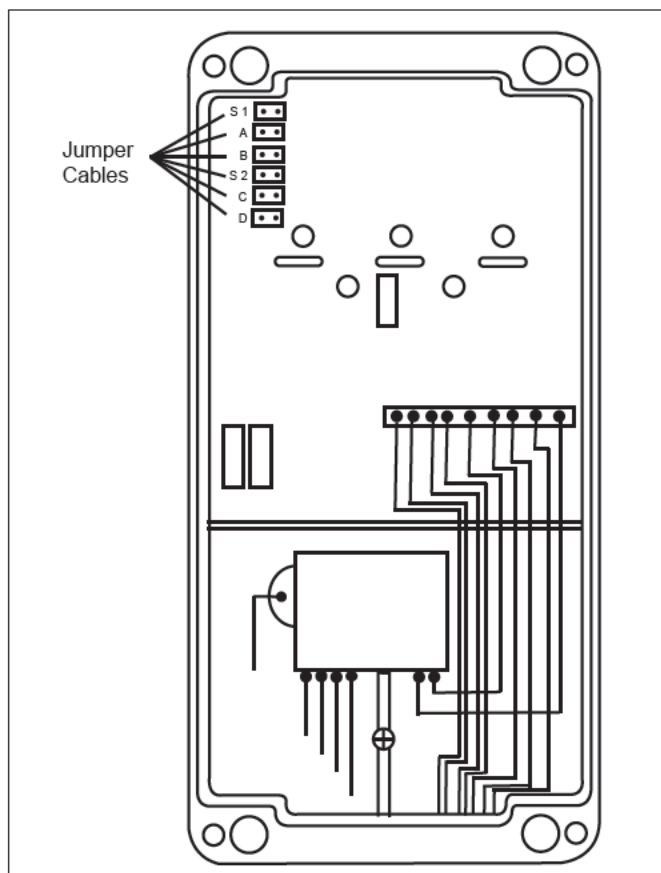


Figure 28. K-2300 Jumper Cables

Section 5. Troubleshooting

5.1 Manual Valve Override

There is a manual ON/OFF lever located just below the solenoid. If you are having a problem with the system and want to override the electronic water Levolor®, you can manually open the valve by putting the lever in the ON position. See Figure 11.

During normal operation, the lever must be in the OFF position.

5.2 Initial Observations at Job Site

When called to a job site, make these initial observations.

1. Proper wire usage between the controller and the valve. (Burial-style polypropylene-jacketed solid-core wire, at least 18-gauge.) (Same wire as the sensor wire.)
2. Proper wire nuts at the valve connection. (Grease-filled wire nuts or gel caps. Conventional wire nuts filled with silicone will not work since some silicones have acids that degrade copper wires.)
3. Sensor wire must be continuous and not spliced. (No splices between the tips and the controller.)
4. Proper use of appropriate sensor. (Slip style for static pipes or skim (half-moon) style for skimmer mounts where there is no water in transit from fountains, etc.)
5. Proper power input voltage to the box.

5.3 Test Operation of Control Unit

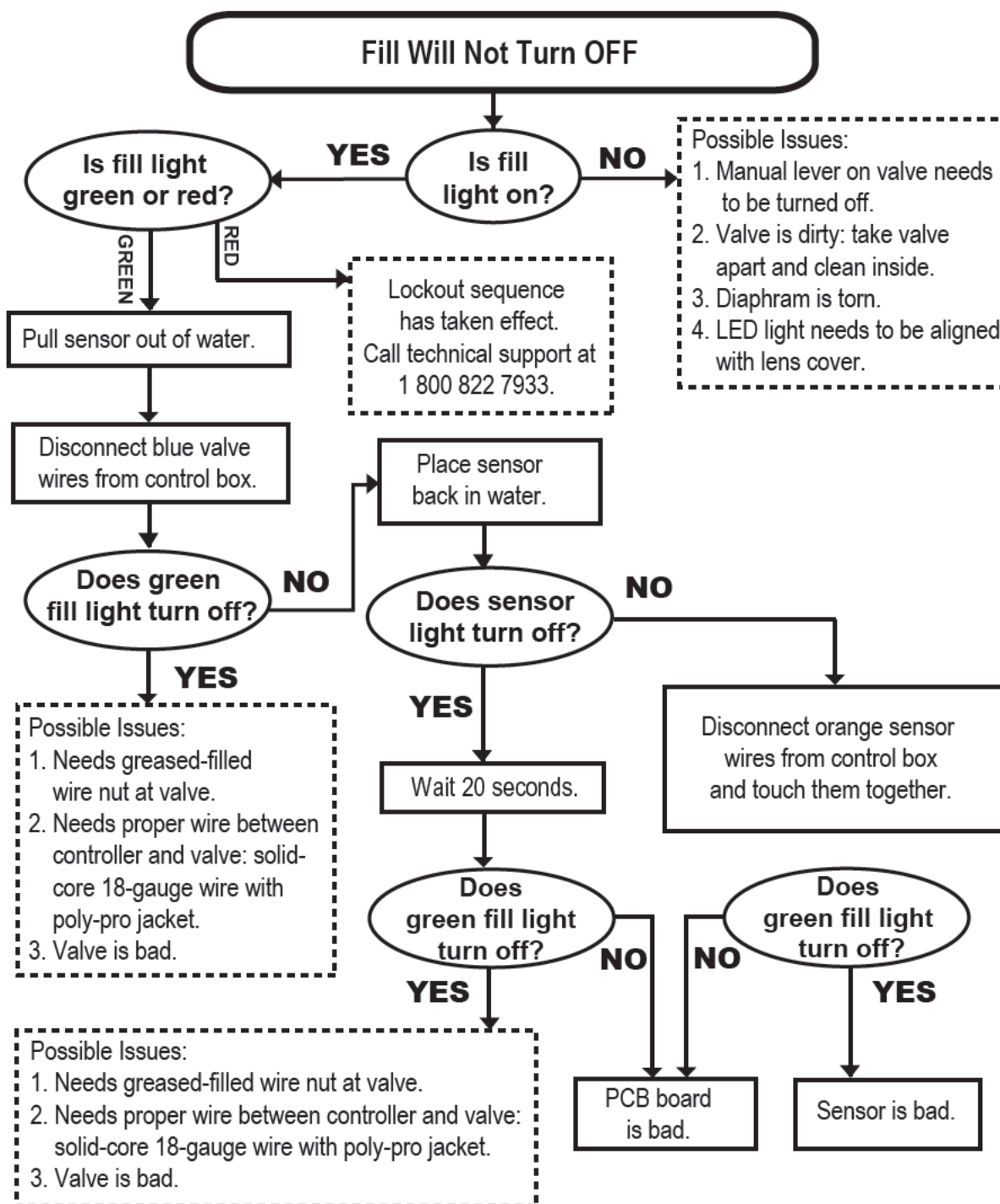
1. Shut power off to the control box.
2. Disconnect the sensor from the sensor wires:
 - a. Models K-1100, LX2, and LEV110CK/2G: Disconnect the sensor from the orange wires in the control box.
 - b. Model K-2300: Disconnect Sensor I from the yellow wire with the blue stripe and the yellow common wire in the control box. Disconnect Sensor II from the yellow wire with the red stripe and the yellow common wire in the control box.
3. Disconnect the valve from the valve wires, making sure they do not touch each other or the power ground.
 - a. Models K-1100, LX2, and LEV110CK/2G: Disconnect the valve from the blue wires in the control box.

- b. Model K-2300: Disconnect Valve I from the blue wires in the control box and disconnect Valve II from the red wires in the control box.
4. Restore power to the control box and observe the operation. The control box is working if steps 5 - 9 occur.
 5. The Power light turns green.
 6. The Sensor light(s) turn yellow.
 7. Send voltage to the valve(s).
 - a. Models K-1100, LX2, and LEV110CK/2G: Twenty seconds after the Sensor light turns yellow, the Filling light turns green, sending 24VAC to the valve on the blue wires.
 - b. Model K-2300: Twenty seconds after the Sensor I light turns yellow, the Filling I light turns green, sending 24 VAC to Valve I on the blue wires. Twenty seconds after the Sensor II light turns yellow, the Filling II light turns green, sending 24 VAC to Valve II on the red wires.
 - c. Use a volt meter to confirm 24 VAC at wires in the control box.
 8. Connect sensor wires:
 - a. Models K-1100, LX2, and LEV110CK/2G: Connect the orange wires in the control box together and the yellow Sensor light turns off immediately. Twenty seconds later the green Filling light will turn off.
 - b. Model K-2300: Connect the yellow wire with the blue stripe for Sensor I and the yellow common wire together in the control box, and the yellow Sensor I light turns off immediately. Twenty seconds later, the green Filling I light turns off. Connect the yellow wire with the red stripe for Sensor II and the yellow common wire in the control box. The Sensor II light turns off immediately. Twenty seconds later the Filling II light turns off.
 9. After the green Filling light(s) turn off, use an AC voltmeter to confirm the following:
 - a. Models K-1100, LX2, and LEV110CK/2G: 0 voltage at the blue wires in the control box.
 - b. Model K-2300: 0 voltage at the blue wires for Valve I and the red wires for Valve II.

Use the troubleshooting flow charts on the following pages to find and fix specific problems.

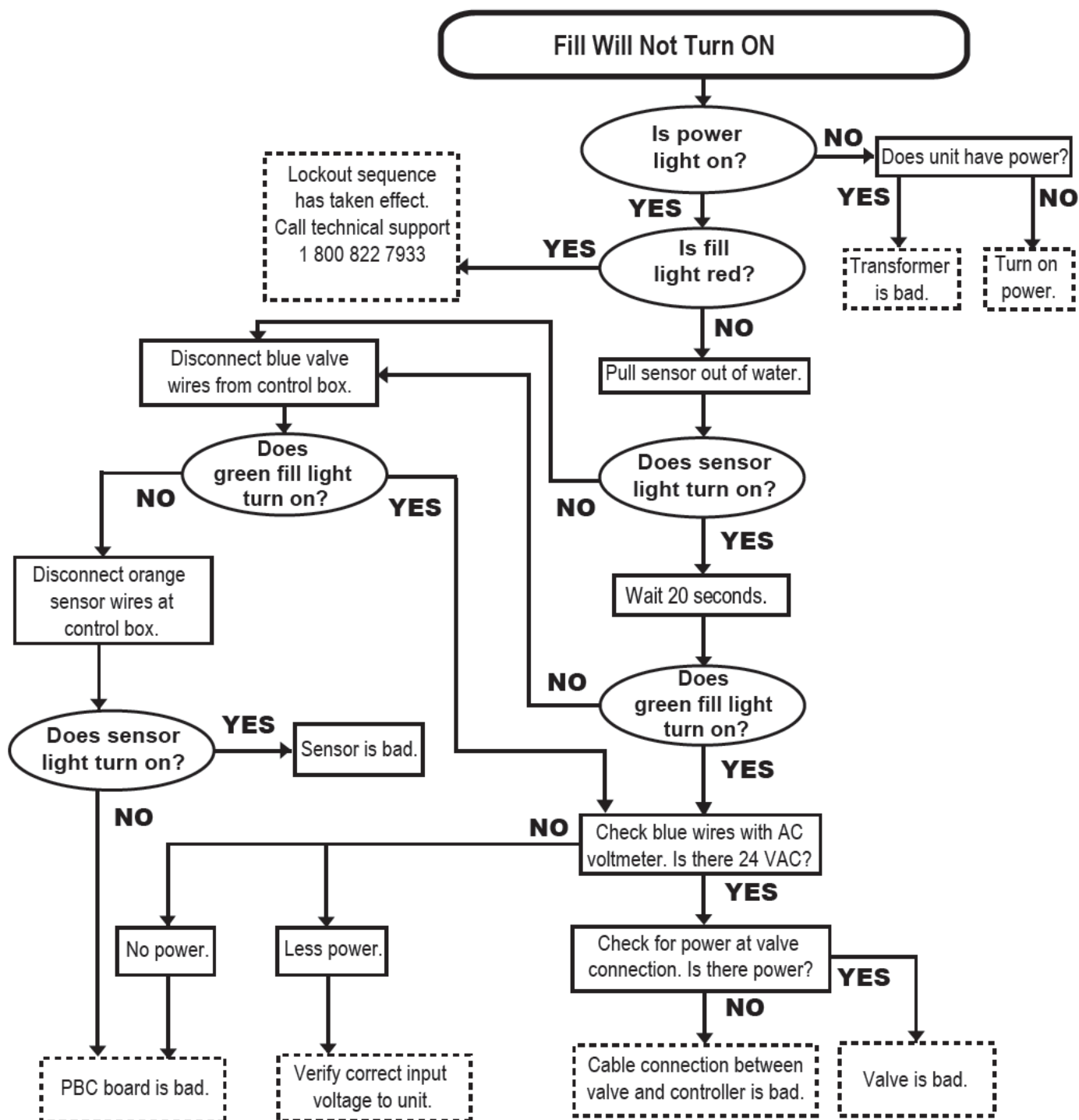
5.4 Fill Will Not Turn OFF

This is a troubleshooting flow chart for the K-1100, LX2, and LEV110CK/2G. Use it when the Fill function will not turn off.



5.5 Fill Will Not Turn ON

This is a troubleshooting flow chart for models K-1100, LX2, and LEV110CK/2G. Use it when the Fill function will not turn on.



Section 6. Replacement Parts

6.1 Ordering Information

To order or purchase parts for the Levolor® products, contact your nearest Jandy dealer or distributor. See the Jandy website at www.jandy.com for the nearest service center. For further assistance, contact Customer Service at Zodiac Pool Systems, Inc. at (800)-822-7933.

NOTE To order the correct part, you need to supply the correct model number and part number.

Key	Description	Model No.	Part No.
PCBs and Controllers			
1	Levolor PCB with time-out system	K-1100	LEVBRD (timeout)
2	Controller Only, Lev-220V	K-1100	LEV220Control
3	PCB w/ Transformer, Lev-220V	K-1100	LEV220BDw/TRANS
4	Controller Only, LX2, 110V and 220V	LX2	LX2Control
5	PCB Only, LX2, 110V and 220V	LX2	LX2Board
6	Controller Only, K-2300 220V	K-2300	K2300220Control
7	PCB w/Transformer, K-2300 220V	K-2300	K2300220BDT
Slip Style Sensor (Static Pipe Install)			
8	Slip Style 2 Contact Sensor w/20 ft	K-1100, K-2300	S2040
8*	Slip Style 2 Contact Sensor w/50 ft	K-1100, K-2300	S2040A
8	Slip Style 2 Contact Sensor w/100 ft	K-1100, K-2300	S2040C
8	Slip Style 2 Contact Sensor w/150 ft	K-1100, K-2300	S2040E
8	Slip Style 2 Contact Sensor w/200 ft	K-1100, K-2300	S2040G
8	Slip Style 2 Contact Sensor w/250 ft	K-1100, K-2300	S2040I
8	Slip Style 2 Contact Sensor w/300 ft	K-1100, K-2300	S2040K
8	Slip Style 2 Contact Sensor w/350 ft	K-1100, K-2300	S2040M
Threaded Style (Static Pipe Install)			
9	Threaded Style 2 Contact w/50 ft	K-1100, K-2300	S2042A
9	Threaded Style 2 Contact w/100 ft	K-1100, K-2300	S2042C
9	Threaded Style 2 Contact w/200 ft	K-1100, K-2300	S2042G
9	Threaded Style 2 Contact w/50 ft - 30" Sensor	K-1100, K-2300	S2042A30
Skim (Half Moon) Style (Skimmer Install)			
10	Half Moon Style 2 Contact w/ no wire	K-1100, LX2, K-2300	S2044
10	Half Moon Style 2 Contact w/50 ft	K-1100, LX2, K-2300	S2044A
10	Half Moon Style 2 Contact w/100 ft	K-1100, LX2, K-2300	S2044C
10	Half Moon Style 2 Contact w/100 ft - 4" Sensor	K-1100, LX2, K-2300	S2044C4
10	Half Moon Style 2 Contact w/150 ft	K-1100, LX2, K-2300	S2044E
10	Half Moon Style 2 Contact w/200 ft	K-1100, LX2, K-2300	S2044G
10	Half Moon Style 2 Contact w/250 ft	K-1100, LX2, K-2300	S2044I
10	Half Moon Style 2 Contact w/300 ft	K-1100, LX2, K-2300	S2044K
10	Half Moon Style 2 Contact w/350 ft	K-1100, LX2, K-2300	S2044M

Key	Description	Model No.	Order Part No.
Dual Style (Skimmer or Static Pipe Install)			
11	Dual Style Sensor w/50 ft	K-1100, LX2, K-2300	S2046A
11	Dual Style Sensor w/100 ft	K-1100, LX2, K-2300	S2046C
11	Dual Style Sensor w/150 ft	K-1100, LX2, K-2300	S2046E
11	Dual Style Sensor w/200 ft	K-1100, LX2, K-2300	S2046G
11	Dual Style Sensor w/250 ft	K-1100, LX2, K-2300	S2046I
11	Dual Style Sensor w/300 ft	K-1100, LX2, K-2300	S2046K
11	Dual Style Sensor w/350 ft	K-1100, LX2, K-2300	S2046M
11	Dual Style Sensor w/400 ft	K-1100, LX2, K-2300	S2046O
11	Dual Style Sensor w/450 ft	K-1100, LX2, K-2300	S2046Q
11	Dual Style Sensor w/500 ft	K-1100, LX2, K-2300	S2046S
Miscellaneous			
12	Remote Sensor Cover and Lower Housing	K-1100, LX2, K-2300	70010110
13	1" Plastic Valve, 24 V Solenoid w/Flow Control	K-1100, LX2, K-2300	SOL100
14	1" Y Strainer	K-1100, LX2, K-2300	BRY

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