



## INSTALLATION OPERATION & SERVICE MANUAL

### MODEL: PE30000T3

#### CONTROL PANEL WITH TRANSFORMER FOR INDOOR/OUTDOOR USE

SUITABLE FOR SWIMMING POOL / SPA APPLICATIONS AND FOR DIRECT CONNECTION TO A WET-NICHE OR NO NICHE LUMINAIRE.

**PANEL RATING: 80 AMP. 120/240 VOLT OR 120/208 VOLT SINGLE PHASE (THREE WIRE) AC**

ALL DEVICES IN THIS CONTROL MUST BE SUPPLIED BY BRANCH CIRCUIT PROTECTORS LOCATED WITHIN THIS ENCLOSURE AND SHALL BE OF THE SAME MANUFACTURER AND TYPE.

### DANGER

**Risk of drowning!**

*Do not permit unsupervised children to use pool or spa.  
Close supervision of children required at all times.*

### WARNING Risk of Fire or Electrical Shock

Turn power off at main panel before servicing this switch or the equipment it controls. This control panel must be installed according to the National Electrical Code and local code requirements. Use MIN 75°C Copper conductors ONLY. Install interchangeable circuit breakers with an interrupting current rating of 10000 symmetrical amperes, or higher.

Follow manufacturers instructions for installing and testing of ground fault circuit breakers (GFCB) and interrupters (GFCI). Install only LISTED receptacle(s) and/or wiring device(s) inside the enclosure. When panel is outdoors, a LISTED rainproof cover must be installed over the wiring device in the side knockouts. This control should not be connected to any equipment which would cause bodily injury or property damage should it be activated unexpectedly.

Reinstall safety guard after wiring.

## GENERAL INFORMATION

Many of today's energy efficient pools and spas utilize the advantages of a single electrical panel, containing all the necessary controls for the safe, efficient and automatic operation of the pool/spa equipment. In addition, included in this panel is a 12 Volt, 300 Watt transformer for the underwater lights.

The Panel is designed for custom installations and accepts a large variety of electronic and mechanical controls and wireless remote controls. It also comes standard with a breaker base for up to eight full size circuit breakers. In addition, it has provisions to install a wiring device inside as well as a switch or GFCI receptacle on the outside. The two KO-s on top of enclosure are for mounting Intermatic Radio Receivers. PE650 on the left and PE653 must be installed on the right.

The transformer supplied in this panel is specifically designed to supply 12 volts to underwater pool/spa lights. A grounded shield between the primary and secondary winding assures safe operation and built-in circuit protection will disconnect power to the transformer in case of overload.





# CAUTION

## Risk of injury or property damage!

Do not install or operate this equipment and other associated equipment without basic safety precautions.

Read and follow the safety instructions listed below and other basic safety precautions before installation or operation of this control and other associated equipment.

1. *This control must be installed by a qualified person, according to the national and local electrical codes.*
2. *Install this control not less than 5 feet (3 meters in Canada) from inside edge of pool and 1 foot (30cm) above ground.*
3. *USE COPPER CONDUCTORS ONLY rated 75°C minimum.*
4. *Do not exceed maximum ratings of individual components, wiring devices and current carrying capacity of conductors.*
5. *For control grounding, bonding, installing and the wiring of underwater lights, refer to Article 680 of the National Electrical Code or Article 68 of the Canadian Electrical Code.*
6. *The control should not operate any equipment which would cause bodily injury or property damage should it be activated unexpectedly.*

## INSTALLATION

1. Remove the #10 hex head screws from the outside **back** of the enclosure and attach mounting brackets.

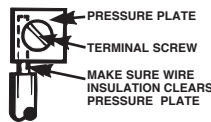
2. Select the proper location for the control panel and hang enclosure on a flat vertical surface or other support. When mounting the enclosure, be sure to use hardware capable of supporting its weight.

NOTE: The Panel will accept the main feed, through the 3/4, 1, 1 1/4 inch knockouts at the bottom of the enclosure or through the 1- 3/4 inch knockouts on the back of the enclosure. The main feed must also pass through a listed outdoor conduit hub, mounted at the time of installation.

3. Prepare the necessary conduit runs, terminate them at both ends and pull in the conductors as specified by the installation layout. If this control is used for direct conduit connection to a wet-niche or no-niche luminaire, order one of the following:

- 1/2" non-metallic - order 156PA13713A
- 3/4" non-metallic - order 156PA13714A
- 1" non-metallic - order 156PA13715A
- 1/2" metallic - order 156PA14336A

4. A breaker base for up to eight full size circuit breakers is included on all models. To wire the panel, follow the wiring diagram located inside the enclosure door. When wiring the P1353ME, make sure that the connections are tight (25 lb.-in. minimum) and insulation clears the pressure plate (see illustration).



5. To install additional wiring devices inside the enclosure, first remove rectangular knockout(s) in dead front. Next, remove hex head screws inside back of enclosure and install stand-offs\* in place of screws. Attach wiring device to stand-offs.

\*Stand-offs are not furnished. Order 21T156A for a set of four (4) stand-offs and mounting hardware.

6. If external bonding is required, install a listed bonding lug at bottom of enclosure and bond installation according to code requirements.
7. Testing of the installation is optional and recommended only if the desired loads are securely in place and will not be damaged by the test.
8. Install front panel over wiring compartment.

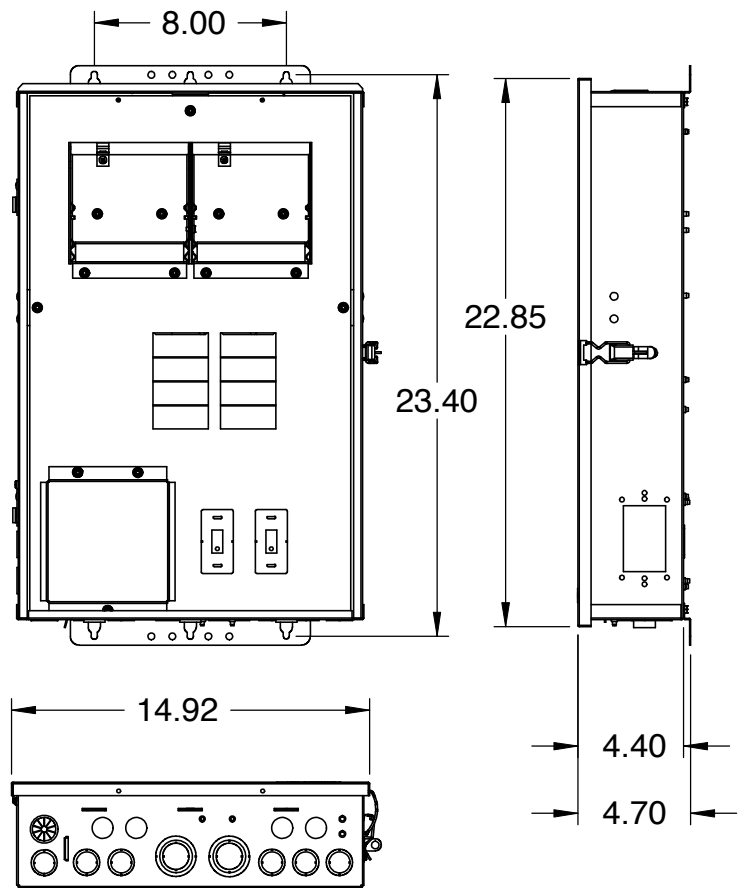
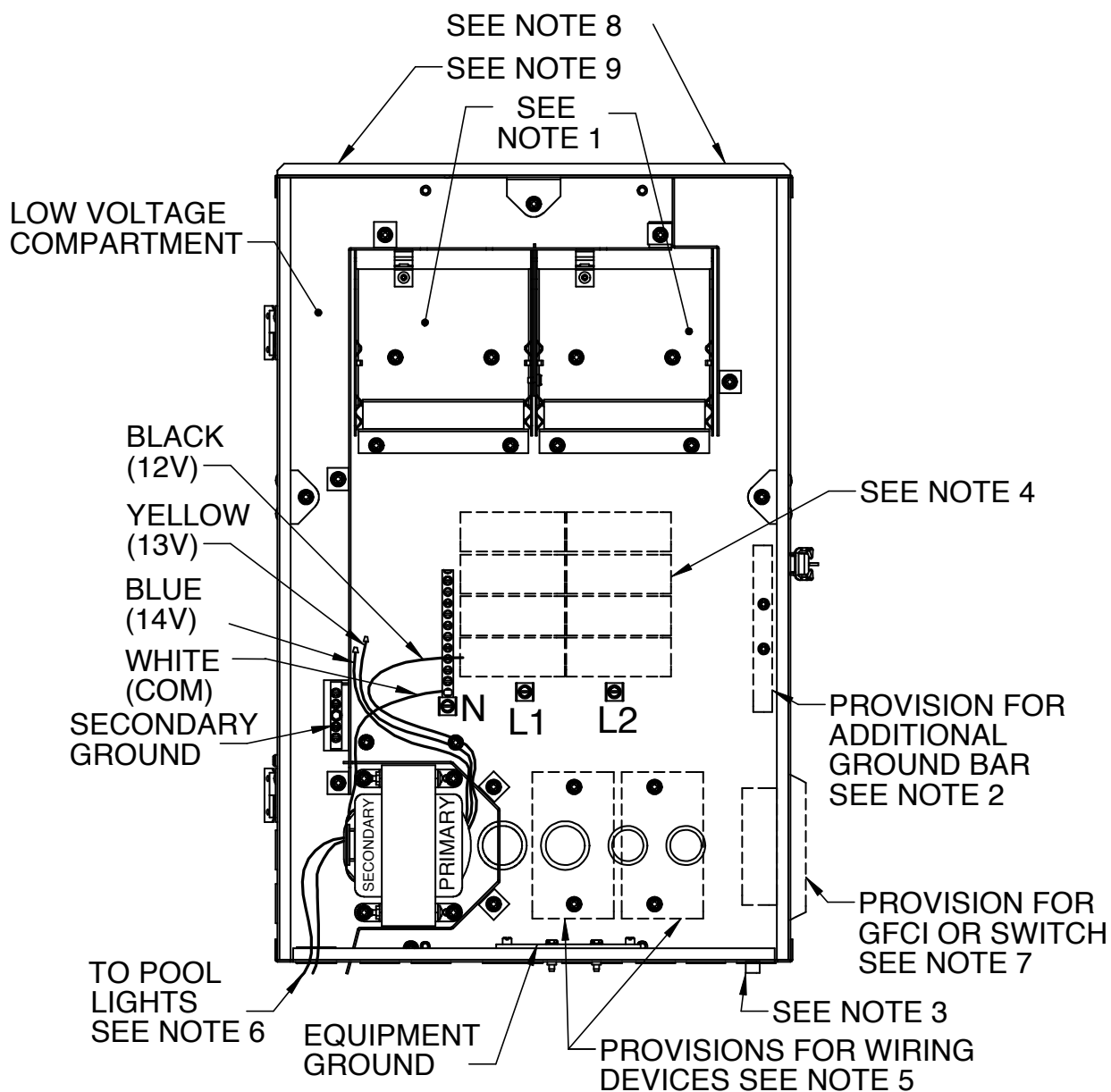


Figure 1

# PANEL DETAILS



## NOTES:

1. Any Intermatic T100M or ET100CM Series Time Switch, P1353ME, P4043ME, P4243ME or P5043ME Mechanism, PF1000M Series Freeze Protection or RC2000M Series Air Switch mechanisms, may be installed in the bracket(s) provided.
2. An additional ground bar may be installed in this control panel (order 130T1318A).
3. If this control panel requires bonding, attach a LISTED bonding terminal of a suitable size using the mounting hole(s) provided on the bottom of the enclosure.
4. When a circuit breaker is back-fed, 22T904A Breaker Hold-Down Kit must be used.
5. Wiring devices may be installed in this control panel (order 21T156A (4) stand-offs for mounting).
6. The following kits are available to connect under water luminaires to this enclosure:
  - 1/2" non-metallic - order 156PA13713A
  - 3/4" non-metallic - order 156PA13714A
  - 1" non-metallic - order 156PA13715A
  - 1/2" metallic - order 156PA14336A
7. The side KO is for optional wiring device like a switch or receptacle. If outdoors, it has to be protected by a LISTED rainproof cover.
8. This KO is for installing an optional PE653 wireless Control.
9. This KO is for installing an optional PE650 Receiver.

# TRANSFORMER WIRING

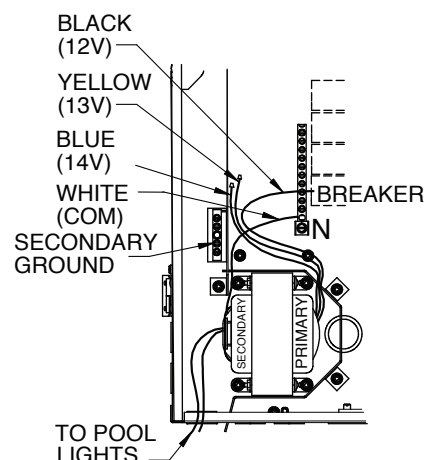
## **WARNING** Risk of Fire or Electrical Shock

- If installation involves running wiring through a building structure, special wiring methods are needed.
- For Canadian installations, supply circuit must be protected by a Ground Fault Circuit Interrupter.
- Do not connect two or more power supplies in parallel.
- Do not use with dimmers.

**CAUTION** If this enclosure is used for direct connection of underwater lights, refer to 1999 NEC 680-21(b), 2002 NEC 680-24 (b) or CEC 68-060, 062 and 066 for further details. For Canadian installations, supply circuit must be protected by a ground fault circuit interrupter. Do not connect two or more power supplies in parallel. Do not use with dimmer.

## To Wire - use copper conductors only

1. Connect WHITE lead from Transformer to the NEUTRAL bar of Breaker Base.  
*Note: Depending on the color of the Transformer Primary lead connected to a 15 Amp. Breaker, the Secondary output voltage can be selected either as 12, 13 or 14 Volts.*
2. From the Gauge Selector Guide below, determine the voltage appropriate for the installation and connect either the BLACK for 12 Volt, Yellow for 13 Volt or the Blue lead for 14 Volt for the secondary Transformer output.  
**Make sure the unused leads are separately insulated (capped).**
3. Connect leads from light(s) or Deck (Junction) Box to Transformer leads in the Low Voltage Compartment.
4. Connect Grounding Lead(s) from light(s) or Deck Box to Ground Bar in the Low Voltage Compartment as provided by the prevailing local electrical code.



TRANSFORMER OUTPUT VOLTAGE SELECTOR GUIDE

Wire Size (Gauge)	Less Than 10 Ft	10	20	30	40	50	60	70	80	90	100
12	12V	13V	13V	14V	•	•	•	•	•	•	•
10	12V	12V	13V	14V	14V	14	•	•	•	•	•
8	12V	12V	12V	13V	13V	14V	14V	14V	14V	•	•
6	12V	12V	12V	12V	13V	13V	13V	13V	14V	14V	14V

\* At this point the voltage available at the lamp greatly reduces light output.

# TROUBLESHOOTING

SYMPTOM	CAUSE(S)	CORRECTIVE ACTION
Lights cycle off/on every 10 to 20 minutes	Circuit Overload	Measure the amperage in the low-voltage side of the transformer to determine if exceeding transformer power rating. Remove loads if necessary.
Transformer is buzzing	Defective Wiring	Check wiring to load. Improperly insulated wiring or moisture in the wiring can cause the thermal safety to cycle.
The transformer is working fine, but it is warm to the touch	Taps Connected Together	Determine if the unused taps are connected together. If they are wired together, the transformer will make a loud buzzing noise and turn off very quickly. Make sure unused taps are insulated separately. A slight humming is normal.
Lights cycle off/on every few seconds	Inherent heat build up	A transformer under full load will be warm to the touch and the surface temperature can reach 130°F. This is normal.
	Failed Light or Low Water Sensor	There may be a problem with the light fixture. Only the manufacturer of the light fixture can address this problem.

## LIMITED ONE-YEAR WARRANTY

If within the warranty period specified, this product fails due to a defect in material or workmanship, Intermatic Incorporated will repair or replace it, at its sole option, free of charge. This warranty is extended to the original household purchaser only and is not transferable. This warranty does not apply to: (a) damage to units caused by accident, dropping or abuse in handling, acts of God or any negligent use; (b) units which have been subject to unauthorized repair, opened, taken apart or otherwise modified; (c) units not used in accordance with instructions; (d) damages exceeding the cost of the product; (e) sealed lamps and/or lamp bulbs, LED's and batteries; (f) the finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear; (g) transit damage, initial installation costs, removal costs, or reinstallation costs.

**INTERMATIC INCORPORATED WILL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY MODIFIED TO EXIST ONLY AS CONTAINED IN THIS LIMITED WARRANTY, AND SHALL BE OF THE SAME DURATION AS THE WARRANTY PERIOD STATED ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON THE DURATION OF AN IMPLIED WARRANTY, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.**

This warranty service is available by either (a) returning the product to the dealer from whom the unit was purchased or (b) completing a warranty claim online at [www.intermatic.com](http://www.intermatic.com).

This warranty is made by: Intermatic Incorporated, Customer Service 7777 Winn Rd., Spring Grove, Illinois 60081-9698. For warranty service go to: <http://www.intermatic.com> or call 815-675-7000.

*Because of our commitment to continuing research and improvements, Intermatic Incorporated reserves the right to make changes, without notice, in the specifications and material contained herein and shall not be responsible for any damages, direct or consequential, caused by reliance on the material presented.*

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