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, this Panel can also be used to control any outdoor equipment, sign or pump within its rated capacity.

The all-weather enclosure contains none one or two heavy-duty, industrial grade Time Switches. Also, it has provisions to install switches or a GFCI receptacle on the side as well as the inside. The Time Switch can also accommodate an optional heater control (fireman) switch.

The Control is designed to operate any pump, within its rated capacity. However, if protection to prevent dry start is required by the pump manufacturer, it must be provided in addition to this Control. Contact pump manufacturer if not sure and/or for more details.

**General Information**

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**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, the unit free of charge. This warranty applies only to the original purchaser and is not transferable. This warranty does not apply to: (a) damage caused by accident, abuse, mishandling, dropping, 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. Some states do not allow a limitation of damages, so the foregoing limitation may not apply to you. This warranty gives you specific legal rights and you may have other rights that vary from state to state.

Intermatic Incorporated Will Not Be Liable for Incidental Or Consequential Damages. 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 Herby Modified To Exist Only As Contained In This Limited Warranty, And Shall Be Of The Same Duration As The Warranty Period Stated Above.

This warranty service is available by either (a) returning the product to the dealer from whom the unit was purchased, or (b) mailing the product, along with proof of purchase, postage prepaid to the authorized service center listed below. This warranty is made by: Intermatic Incorporated/After Sales Service, 7777 Wilm Rd., Spring Grove, IL 60081-9698/815-675-7000. http://www.intermatic.com. Please be sure to wrap the product securely when mailing to avoid shipping damage.

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

**Intermatic Incorporated, Spring Grove, IL 60081-9698**

http://www.intermatic.com
**IMPORTANT SAFETY INSTRUCTIONS**

When installing and operating this Product and any associated equipment, basic safety precautions should always be followed, including the following:

1. Read and follow all instructions.
2. This Control must be installed by a qualified electrician, according to National and Local Electrical Codes.
3. When using this product, follow all instructions. Insufficient knowledge of the function of a device can result in injury or damage.
4. Do not exceed the 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.

READ, FOLLOW AND SAVE THIS INSTRUCTION MANUAL

**INSTALLATION**

1. Remove the four #10 hex head screws from the rear of the enclosure and attach mounting brackets to enclosure.
2. Select the proper location for the Control and hang enclosure on a flat vertical surface or other support, using hardware suitable for the purpose.
3. Prepare the necessary conduit runs, terminate them at both ends and pull in the conductor as specified by the installation layout.
4. Refer to Figure 1 below; note that this enclosure contains one or two Time Switch(es). To wire the panel, follow the wiring diagram located inside the enclosure door. Make sure that connections to time switch terminals are tight (25 lb.-in. minimum) and not be damaged by this test.
   - a. Turn the manual lever of the Time Switch to OFF.
   - b. Turn ON power at breaker panel.
   - c. Move the manual lever of Time Switch to the right (ON). Pump should start and run on full speed. In case of unsatisfactory results, turn OFF power, check your wiring, and refer to Troubleshooting on Page 3.
5. If required by the heater manufacturer, install fireman switch kit 156T156A (not furnished) on Time Switch Plate and make the fireman switch connections. Use at least #18 AWG wiring with insulation rated 300 volt or higher. Place heater ON/OFF switch on heater to ON (see Figure 2). Some heaters may require a special connecting harness, contact heater manufacturer for details.
6. For direct wiring of underwater lights, the installation must comply with Article 680-21(b) of the National Electrical Code or in Canada, Articles 68-060, -062 and -066.
7. To install additional wiring devices inside the enclosure, first remove rectangular knock-out(s) in face 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.

8. If external bonding is required, install a bonding lug at bottom of enclosure and bond installation according to code requirements.
9. Testing of the installation is optional and recommended only if pump is securely in place and will not be damaged by this test:
   - a. Turn the manual lever of the Time Switch to OFF.
   - b. Turn ON power at breaker panel.
   - c. Move the manual lever of Time Switch to the right (ON). Pump should start and run on full speed. In case of unsatisfactory results, turn OFF power, check your wiring, and refer to Troubleshooting on Page 3.
10. Install front panel over wiring compartment.

   The control is now ready for programming, see OPERATION section on Page 3.

**OPERATION**

**TIME SWITCH OPERATING INSTRUCTIONS**

1. TO SET ‘ON’ AND ‘OFF’ TIMES: Hold TRIPPERS against edge of CLOCK-DIAL, pointing to time (AM or PM) when ON and OFF operations are desired. Tighten tripper screws firmly.
2. TO SET TIME-OF-DAY: Pull CLOCK-DIAL outward. Turn in either direction and align the exact time-of-day on the CLOCK-DIAL (the time now, when switch is being put into operation) to the pointer.
   - TO OPERATE SWITCH MANUALLY: Move MANUAL LEVER below CLOCK-DIAL left or right as indicated by arrows. This will not affect the next operation.
   - FOR MORE THAN ONE DAILY ON-OFF OPERATION: Place additional tripper pairs on CLOCK-DIAL (order 156T078A).
   - IN CASE OF POWER FAILURE: Reset CLOCK-DIAL to proper time of day. See step 2 above.

**TROUBLESHOOTING**

**SYMPTOM**

1. Time Switch will not keep time but dial is turning.
2. Time Switch Dial stops at ON or OFF tripper.
3. Dial stops after switch turns OFF.
4. Load is ON at all times - dial is turning.
5. Dead clock motor. (Clock motor gears do not rotate).

**CAUSE(S)**

1a. Frequent power outages
1b. Wrong voltage/cycle
1c. Loose clock motor connections
2a. Loose tripper
2b. Bent dial
2c. Defective motor
3a. LINE leads are connected to LOAD terminals
4a. Welded contacts
4b. Two ON trippers and no OFF tripper on dial
4c. Defective mechanism
5a. Defective clock motor (open coil due to lightning or surge)
5b. Loose clock motor connections
5c. Wrong voltage

**CORRECTIVE ACTION**

Reset dial
Change clock motor
Check connections
Check/change tripper
Check/change mechanism
Change clock motor
Reverse LINE and LOAD connections
Change mechanism
Change tripper
Change mechanism
Change clock motor
Check connections
Change clock motor

**WARNING:** Do not disconnect high limit or pressure switches.

Figure 2