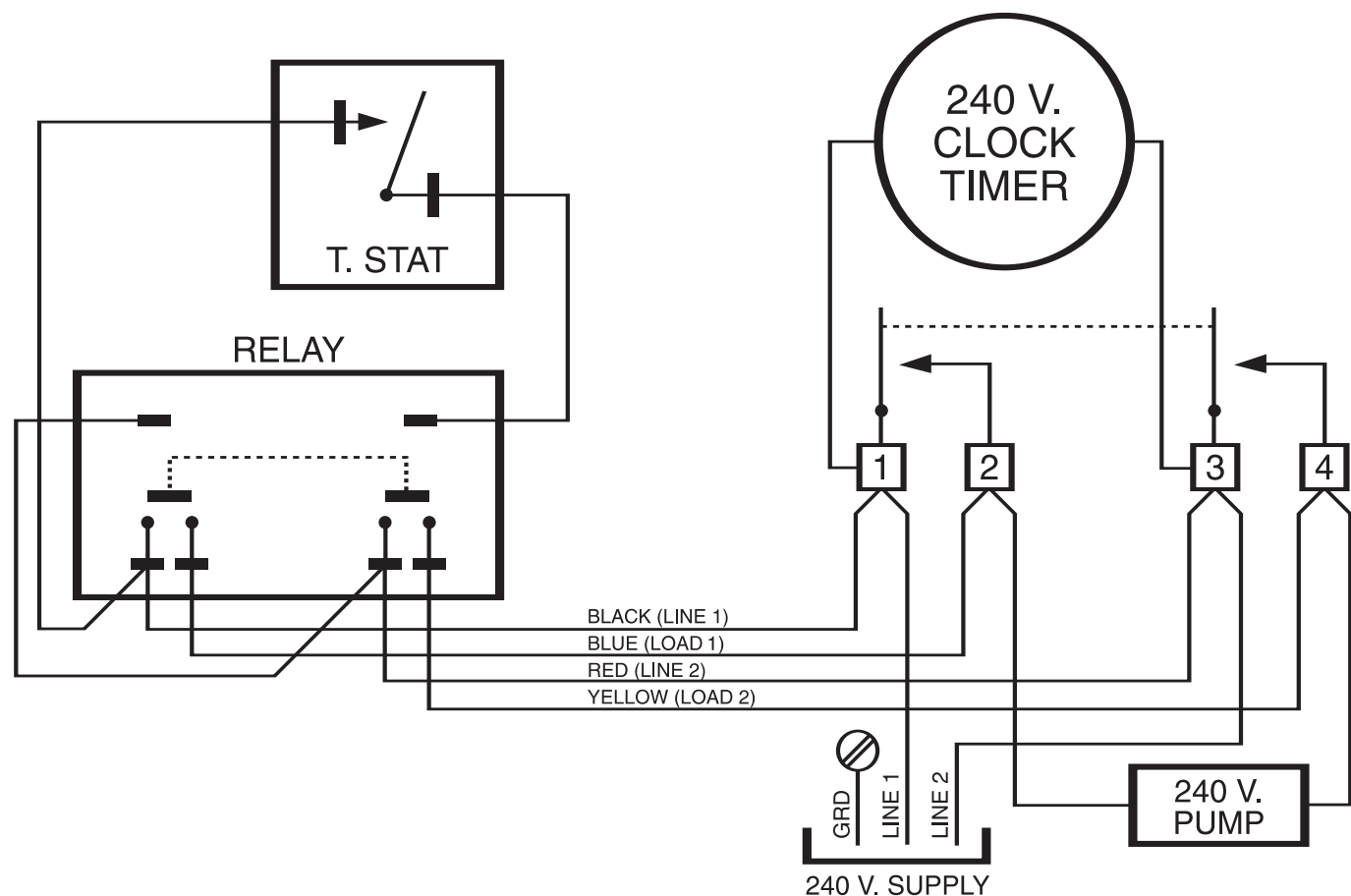


WIRING DIAGRAM



INSTALLATION OPERATION & SERVICE MANUAL

Model: PF112T Pool Equipment Control

WITH FREEZE PROTECTION IN RAINPROOF ENCLOSURE

ELECTRICAL RATING: 3 HP Max. - 240 Volt, 60 Hz.

MAXIMUM RUNNING LOAD NOT TO EXCEED 17 AMPERES

DANGER! TO AVOID RISK OF INJURY:

...do not permit children to operate the Control Unit or use the Pool/Spa unless they are closely supervised at all times.
 ...test GROUND FAULT protection regularly. If it fails to reset, DO NOT USE THE POOL or SPA! Contact a qualified service technician.
 ...always disconnect electricity before servicing this control or the equipment connected to it. THIS CONTROL IS NOT TO BE USED AS A POWER DISCONNECT.

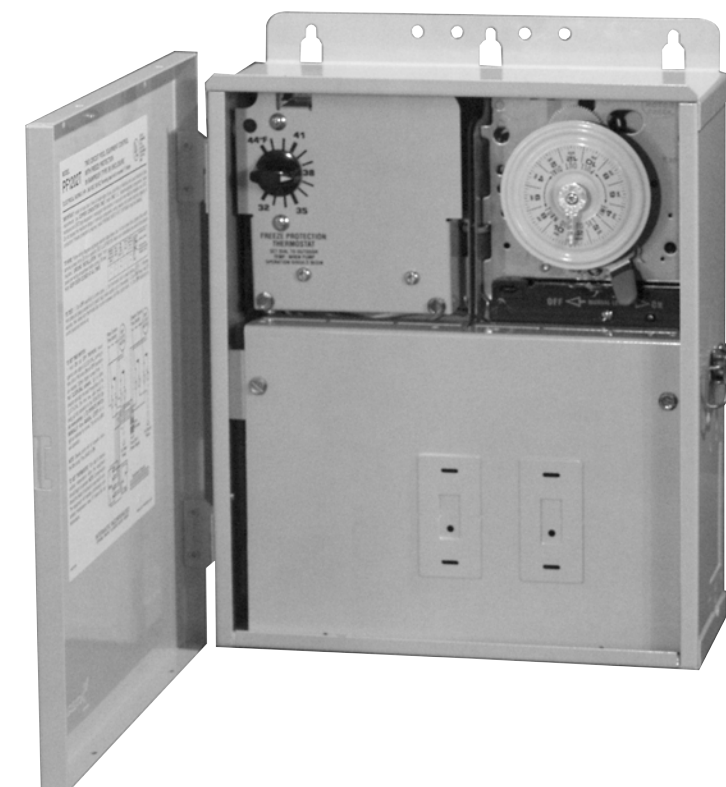
READ, FOLLOW AND SAVE THIS INSTRUCTION MANUAL

GENERAL INFORMATION

This Pool Equipment Control is designed to automatically operate the Filter Pump and also to provide freeze protection for the pool equipment. Nevertheless, this product is not intended to be a substitute for insulation, coverings, or maintenance.

The Filter Pump Time Switch is located in the upper right side of the enclosure and operates the Filter Pump, as set by the trippers on the yellow dial, on a 24 hour schedule. For setting the schedule, refer to page 3 of this manual.

The Freeze Protection Unit is located in the upper left side of the enclosure and turns ON the Filter Pump when the air temperature (where the Control Panel is located) drops below the temperature set on the dial (between 32°F and 45°F).



WARRANTY

If within one (1) year from the date of installation, this product fails due to a defect in material or workmanship, Intermatic Incorporated will repair or replace it free of charge.

The warranty does not cover labor for removal or reinstallation and does not apply to: (a) damage caused by accident, abuse, mishandling, or dropping; (b) a unit which has been subject to unauthorized repair; (c) units not used in accordance with directions; (d) damages exceeding the cost of the product. Some states do not allow a limitation of damages so the foregoing warranty may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

This warranty service is available, if the defective product or its defective component is returned with proof of purchase and date of installation, either (a) to the dealer from whom the unit was purchased or (b) by shipping prepaid to the Intermatic Service Center, Intermatic Incorporated, Intermatic Plaza, Spring Grove IL 60081-9698

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.

INTERMATIC INCORPORATED, SPRING GROVE, IL 60081-9698

<http://www.intermatic.com>

IMPORTANT SAFETY INSTRUCTIONS

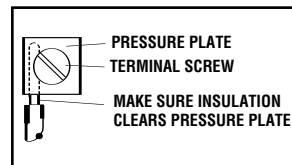
When installing and operating this Product and other associated equipment, basic safety precautions should always be followed, including the following:

1. This Control must be installed by a qualified electrician, according to the National Electrical Code (Including Article 680) and Local Electrical Codes.
2. **USE COPPER CONDUCTORS ONLY.** If applicable, install this Control not less than 5 feet from inside edge of pool or spa.
3. Do not exceed the maximum ratings of individual components, wiring devices, and current carrying capacity of conductors.
4. For grounding of the installation, refer to Article 250 and 680 of the National Electrical Code.
5. This Control should not operate any equipment which would cause bodily injury or property damage should it be activated unexpectedly.
6. Always disconnect electricity at main panel before servicing this Control or the equipment connected to it.
THIS CONTROL IS NOT TO BE USED AS A POWER DISCONNECT.

READ, FOLLOW AND SAVE THIS INSTRUCTION MANUAL

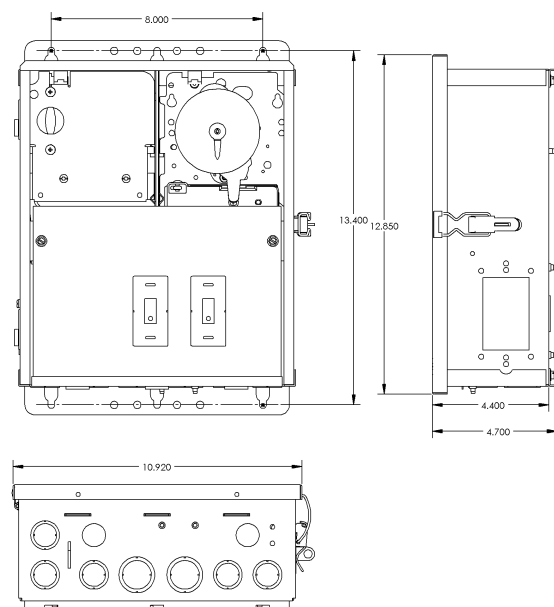
INSTALLATION

1. Select the proper location for the Control Panel and prepare the necessary conduit run(s) required by the installation layout.
2. Remove the four #10 hex head screws from the back of the enclosure and attach mounting brackets to enclosure.
3. Hang enclosure on a flat vertical surface or other support, using hardware suitable for the purpose.
4. Properly terminate conduits at both ends and pull-in the conductors as specified by the installation layout.
5. Follow wiring diagram on page 4 of this Manual. Connect LINE 1 and LINE 2 of the 240 Volt supply conductors to time switch terminals 1 and 3 (see insert above for proper connection) and the grounding conductor to the Equipment Grounding Terminal.



6. Connect Filter Pump leads to terminals 2 and 4 of Filter Pump Time Switch. Connect the grounding lead of the pump to the Equipment Grounding Terminal at the bottom of the enclosure.
7. If the Control Panel is installed in a location where it is exposed to direct sun most of the day, extend 8 inches of the copper capillary tube of the thermostat into an open ended (plastic or metal) conduit, about 10 inches long, installed at bottom of the enclosure. **Handle capillary tube with care!**

8. If external bonding is required, install a bonding lug at bottom of enclosure and bond installation according to code requirements.
9. **TEST INSTALLATION:**
 - a. Turn thermostat dial to its lowest setting and place crushed ice (in plastic bag) inside capillary coil of Thermostat.
 - b. Turn ON power to Control Panel, wait 20 seconds then slowly turn thermostat dial counterclockwise until Filter Pump starts.
 - c. Turn OFF power to Control Panel, remove ice, check wiring, tighten terminal screws if necessary, reinstall time switch insulator and front plate.
 - d. Turn ON power to Control Panel and set Time Switch and the Thermostat, see OPERATION instructions on page 3.

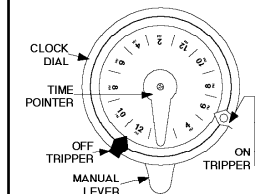


OPERATION

TO SET FILTER PUMP TIME SWITCH, follow instructions on the right. The length of the daily filtration/heating cycle depends on many variables such as size, shape, geographic location of the pool, water chemistry, type of pool equipment, usage and season of year. If not sure, contact your local pool service professional for advice.

TO SET THERMOSTAT, turn dial, pointing to desired temperature, marked on the plate, between 32°F and 45°F. Again, many variables must be considered before selecting the “turn ON” temperature of the Filter Pump and your local pool service professional is the best source of information. The Thermostat is factory set to turn OFF the Filter Pump when the ambient temperature rises 5°F above its set point.

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 156T1978A).
 - **IN CASE OF POWER FAILURE:** Reset CLOCK-DIAL to proper time of day. See step 2 above.

TROUBLESHOOTING

SYMPTOM	CAUSE(S)	CORRECTIVE ACTION
1. Time Switch will not keep time but dial is turning.	1a. Frequent power outages 1b. Wrong voltage/cycle 1c. Loose clock motor connections	Reset dial Change clock motor Check connections
2. Time Switch Dial stops at ON or OFF tripper.	2a. Loose tripper 2b. Bent dial 2c. Defective motor	Check/change tripper Check/change mechanism Change clock motor
3. Load is ON at all times -- dial is turning.	3a. Welded contacts 3b. Two ON-trippers on dial 3c. Defective mechanism	Change mechanism Change tripper Change mechanism
4. Dead clock motor. (Clock motor gears do not rotate.)	4a. Defective clock motor (open coil due to lightning or surge) 4b. Loose clock motor connections 4c. Wrong voltage	Change clock motor Check connections Change clock motor
5. Filter Pump will not start when temp. is below 32°F.	5a. Defective thermostat 5b. Defective relay 5c. Faulty wiring 5d. Power outage	Replace thermostat Replace relay Check wiring Install stand-by power