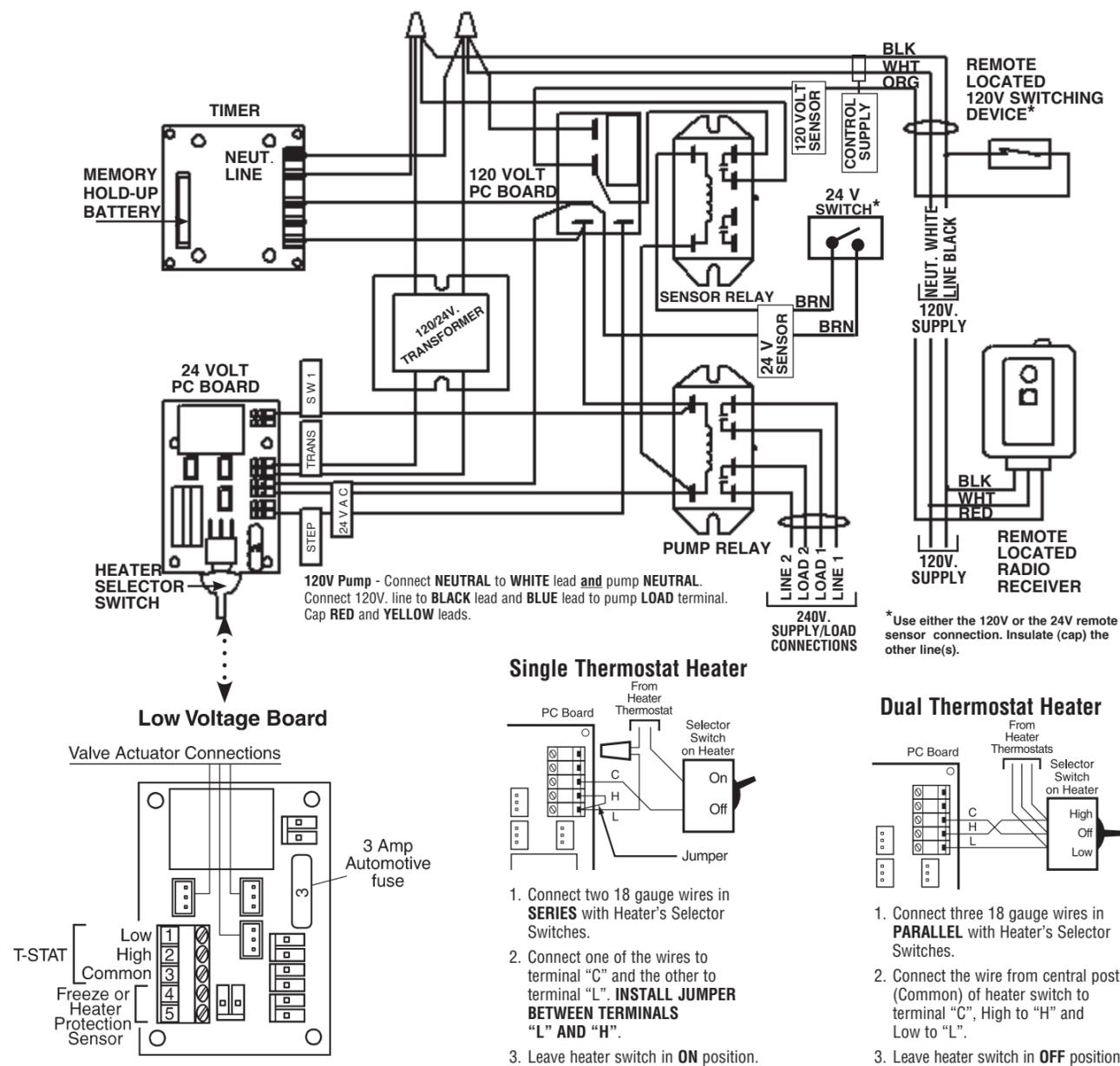


WIRING DIAGRAM RC2163FE



ONE YEAR LIMITED 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 HEREBY 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 Winn 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 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>

INTERMATIC® RC2000 SERIES REMOTE CONTROLS

INSTALLATION OPERATION & SERVICE MANUAL

Model: RC2163FE Control Center / Model: RC2163BFE Control Panel REMOTE OPERATED CONTROLS FOR POOL - SPA COMBINATIONS

In Rainproof (Type 3R) Enclosure Suitable for Pool/Spa Equipment Control and for Direct Connection of Underwater Lights
ELECTRICAL RATING: 20 A Resistive - 120V or 240V, 1.5 HP - 120V, 3 HP - 240V, DPST
LOW VOLTAGE: 24V - 40 VA Maximum

DANGER! To Reduce the Risk of Injury:

...do not permit small children to operate the control 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 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 & SAVE THIS INSTRUCTION MANUAL

GENERAL INFORMATION

Many of today's pools and spas utilize the advantages of a single electrical control panel, containing all the necessary components for the safe, cost effective and automatic operation of a pool or spa.

Model RC2163FE is designed to operate the shared equipment, like the filter pump, filter and the heater of a Pool-Spa combination safely from the spa side or other remote location.

The 24 hour timer turns ON the filter pump and automatically filters and, if set, heats the pool water on a daily schedule. In addition, the control provides a 120 volt and a 24 volt output for a switching device (a toggle switch, a timer or a radio receiver) installed at a convenient remote location in order to turn ON the pump, the heater and rotate the valves thus allowing the water to circulate in the spa. The Control also features a three position selector switch for the heater.

The Control also has terminals to accept a number of options like the freeze or heater protection accessories.

Model RC2163BFE is the same as the one described above, except it is built into an 8 circuit 100 Amp. sub-panel.

The Control coordinates the operation of the various equipment according to the following table:

EQUIPMENT	Sequence 1 POOL MODE	Sequence 2 SPA MODE
Filter Pump	Timer Controlled	ON - Continuously
Heater	If selected, Water Temperature is as Set by Pool Thermostat	Water Temperature is as Set by Spa Thermostat
Valves	Set to Pool Circulation	Set to Spa Circulation



IMPORTANT SAFETY INSTRUCTIONS

When installing and operating this Product and other 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. Install this control not less than 5 feet (3 meters in Canada) from inside edge of pool and 1 foot (30 cm) above ground. USE COPPER CONDUCTORS ONLY, rated Min. 70°C.
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 RC2163FE

This Control can operate either a 120 volt or 240 volt, single speed pump, together with a gas heater and up to three 24 volt valve actuators. It has a 120 volt and 24 volt connection for a remote installed switching device and also has a connection for a freeze or heater protection device to turn ON the pump if needed.

IMPORTANT: High and low voltage conductors should not occupy the same conduits or compartments.

1. Follow wiring diagram on Page 4 and prepare your installation layout. Make sure only copper (solid or stranded), 70°C minimum rated conductors are used, properly sized and suitable for the installation. Each piece of equipment must be grounded properly. **IMPORTANT: Neutral must always be connected to the white lead of the control.**
2. Hang Control on a flat vertical surface or other support, using hardware suitable for the purpose.
3. Prepare the necessary conduit runs, including one for the remote - located 120 volt switching device (switch, timer or radio receiver), underwater light(s),* terminate them at both ends and pull-in the conductors as specified by the installation layout. ***If this control is to be used for direct connection to under-water lights, a Nonmetallic Hub Kit should be used. Order 156PA13713A for a 1/2" Kit, 156PA13714A for a 3/4" Kit or 156PA13715A for a 1" Kit.**
4. Follow wiring diagram on page 4, make LINE and LOAD (Pump) connections in the high voltage compartment.

Make sure the installation is securely grounded and bonded if required.

5. Remove screw next to Heater Switch and gain access to printed circuit (P.C.) board assembly in low voltage compartment. Follow wiring diagram on page 4, plug valve actuators into designated sockets on P.C. board and make heater connections to terminals 1, 2 and 3.

Place jumper between terminals L and H if heater is single stage. See page 4 for details. Replace P.C. board assembly.

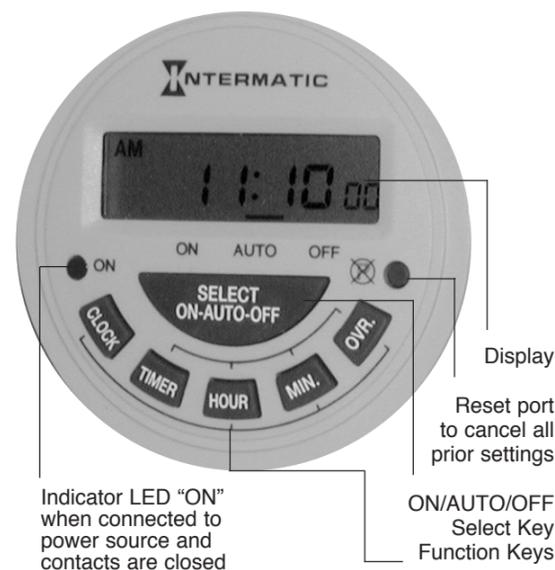
6. If selected, install remote - located low voltage control (Switch, or Timer). See wiring on page 4.
7. Check wiring, tightness of connections and grounding. Close wiring compartment and test installation.
8. Set timer, see instructions below.

SETTING / OPERATING INSTRUCTIONS

Programming Instructions

To Set or Change the Time of Day: To clear entire memory, press  key. Hold down the CLOCK key while pressing either the HOUR or MINUTE keys. Continue pressing until the desired number is shown. Then simply lift finger off the CLOCK key to set.

To Set Program (ON/OFF times): Press TIMER key once to enter into program mode. Display will show "1 ON-- --". Press the HOUR key and then the MINUTE key to select the desired first ON time. Press TIMER key once. Display will show "1 OFF -- --". Repeat previous step to select the desired first OFF time. Repeat the entire sequence to complete up to eight total ON/OFF times as desired. When programming is done, press the CLOCK key then the SELECT key repeatedly until the indicator bar is above the word "AUTO".



2

SETTING/OPERATING INSTRUCTIONS (Continued) RC2163FE

To Review Program: Press TIMER key repeatedly. When done, press CLOCK key to return to the time of day.

To Cancel/Change Part of the Program: Press Timer key repeatedly until the particular ON or OFF time appears. Set new ON or OFF time.

To Override the Automatic Operation one time: Press OVR. key to turn ON/OFF equipment.

NOTE: Timer will resume automatic operation with the next opposite setpoint.

To Suspend Automatic Operation Permanently:

Press SELECT key to move indicator bar to the desired ON or OFF position. **Note:** Timer will not resume automatic operation until indicator bar is repositioned above the word AUTO.

To Operate Equipment in Spa Mode:

1. Activate control.
2. After using the spa, make sure that control is back in the POOL mode.

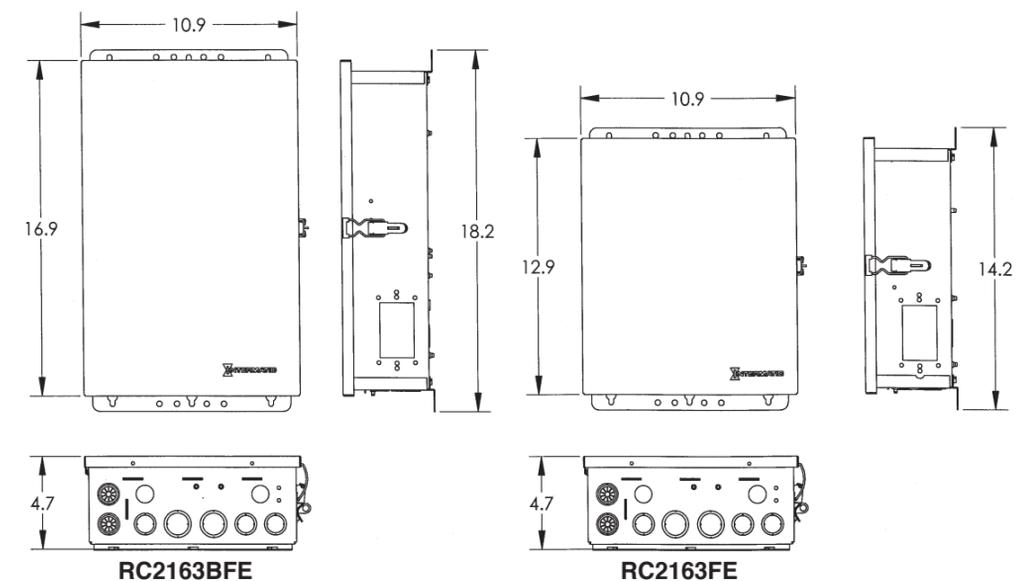
To Operate Heater:

Heater Selector Switch is provided to save on heating cost during the summer months or prevent over-heating of pool water if heater is the single thermostat type. Set switch to POOL AND SPA mode if the heater is the DUAL thermostat type and set thermostats on heater to the desired pool and spa water temperatures. Set switch to SPA ONLY mode if the heater is the SINGLE thermostat type or only the spa water needs to be heated. Set switch to OFF if no heater operation is needed.

TROUBLESHOOTING

Symptom	Possible Cause(s)	Corrective Action
Control will not operate in SPA mode	Defective remote control Defective relay Blown fuse	Replace remote control Replace relay Replace fuse
Timer is not turning pump ON/OFF for daily filtration	Defective timer Defective relay Timer is set to ON/OFF No program in memory Dead battery	Replace timer Replace relay Set timer to AUTO Set program - see instructions Replace battery
Valve actuators(s) is/are not working	Frozen valve Defective actuator Loose connection Blown fuse	Check/Lubricate valve Replace actuator Check connections Replace fuse
Pump inoperative	Open circuit breaker Defective relay Defective pump	Check power supply Change relay Check pump

ENCLOSURE DETAILS



3