



# MODEL PE103/P1403ME Pool and Spa Two-Speed Pump Motor Controller

## INSTALLATION AND SETUP INSTRUCTIONS

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

- Disconnect all power before installing the time switch or connected loads.
- Follow local electrical and safety codes, National Electric Code (NEC) and Occupational Safety and Health Act Codes (OSHA).
- More than one disconnect or circuit breaker may need to be turned off to de-energize all conductors.
- If the power disconnect point is out of sight, lock it in the OFF position and tag it to prevent unexpected application of power.
- The time switch must be grounded.
- Do not exceed maximum current carrying capacity.
- Always replace the plastic insulator to its original position before powering the time switch.
- Make sure there is no wire insulation under the terminal plate on time switch connector. Firmly tighten terminal screws.

### Federal Communications Commission (FCC) Notice for PE103/P1403ME Controller

This device complies with part 15 of the FCC rules. Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference that requires the user to correct at their own expense.

### Description

The PE103/P1403ME timer is a programmable pool and spa three-circuit device used for two-speed pumps and auxiliary equipment. The timer features a programmable Seasonal Adjust offset that automatically adjusts filter pump ON/OFF schedules according to season.

At initial power up, the timer is in a setup state that requires users to program the time, date, year, Daylight Saving Time (DST) option, Seasonal Adjust offset, and low speed event. Optional high speed and auxiliary circuit ON/OFF events can also be configured at initial startup. After the setup events are programmed, the timer advances to AUTO Mode, where relays can be automatically turned ON and OFF according to programmed events. The relays can also be manually turned ON/OFF by pressing the applicable button under the active load.

### Seasonal Adjust Overview

The Seasonal Adjust feature is a user-configured offset (10-minute intervals between 10 and 120 minutes) that increases/decreases the OFF time of the pump. The timer adds the offset value to the high and low speed OFF events in March, May, and July. Then the timer subtracts the offset to the OFF events September, November and January 1st. This ensures that the pump runs longer in summer swim months and shorter in fall and winter months to accommodate pool usage.

**NOTE:** The timer divides the offset equally between the high speed event and the low speed event. If only the low speed event is used, the complete offset value is added/subtracted to the low speed event.

**NOTE:** If you have a single speed pump, be sure to only set the low speed. The high speed event is not applicable to single speed pumps.

### Connecting the PE103/1403ME Wiring

The single speed or two-speed pump and optional auxiliary component wires must be connected to the applicable terminals on the PE103/P1403ME timer. Refer to Figure 2 to connect the PE103/P1403ME wiring.

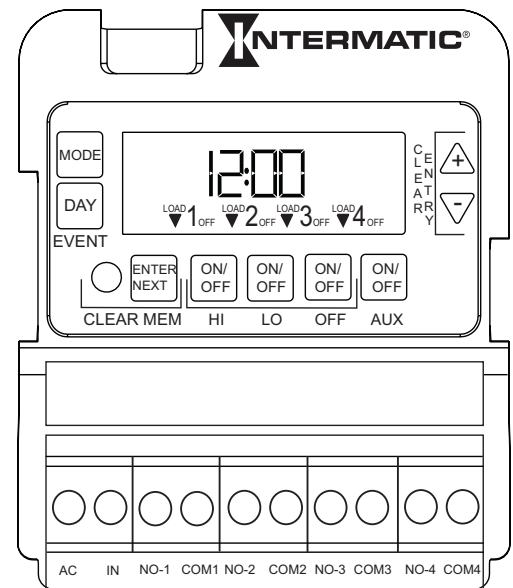


Figure 1 Front View of the Timer

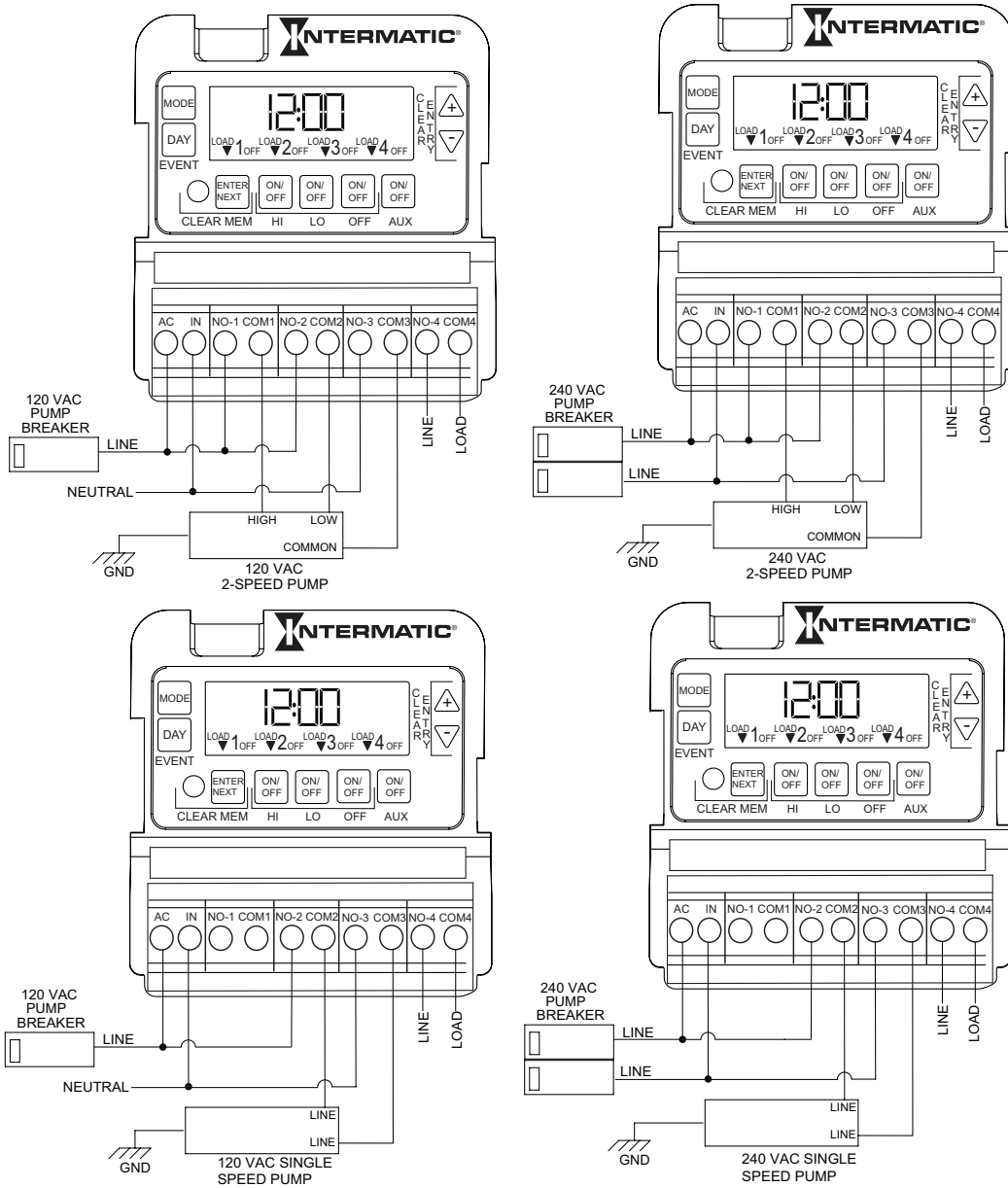


Figure 2 PE103/P1403ME 120 and 240 VAC wiring for 2-speed and single speed pumps.

## Verifying Wire Installation

Verify that the timer wires are connected properly. Press the **LO** button on the controller to verify that **LO** appears on the screen. If your pump uses high speed, press the **HI** button to verify **HI** appears on the screen. If you are using the auxiliary circuit, press the **AUX** button. The screen displays **ON** next to **LOAD 4**. If any of the circuits do not activate on command, review Figure 2 above to adjust the wiring as needed.

**NOTE:** After a circuit button is pressed, the circuit will shutoff after 30 seconds.

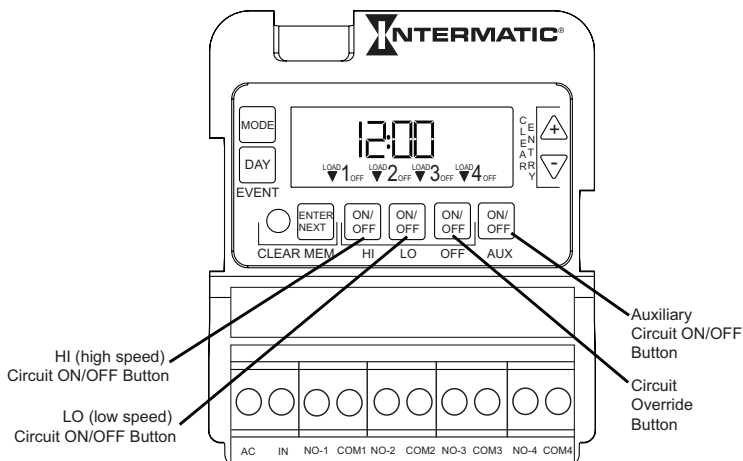


Figure 3 Controller with circuit buttons.

## Initial Setup

This section provides setup instructions for the timer. The timer screen will not move until these initial setup procedures are completed: **month, year, day, time of day, Daylight Saving Time (DST) option**, and **low speed** events. Optional high speed and auxiliary circuit ON/OFF events should also be configured at initial startup.

**NOTE:** If you have single speed pump, do not configure a high speed event.

**NOTE:** If date, time, adjustment, and low speed pump are reconfigured after the timer was inactive for five minutes, the timer will enter AUTO mode, saving the parameter and using the currently displayed parameter as the correct parameter.

1. Turn the controller ON. Hyphens appear on the screen as shown in Figure 4.
2. Press **MODE**. The first three digit dashes flash.
3. Press + or - to scroll to the current month and press **ENTER/NEXT**. The two-digit dashes next to the month flash.  
**NOTE:** Press + or - simultaneously to delete a time, date, or event ON/OFF time displayed on the screen.
4. Press + or - to scroll to the current day of the month and press **ENTER/NEXT**. The two-digit dashes next to the day of the month flash.
5. Press + or - to scroll to the desired two-digit year (ex: 12 for the year 2012) and press **MODE** to save. The screen displays **SET CLOCK**. (See Figure 5).
6. Press + or - to scroll to the desired time and press **MODE**.  
**NOTE:** Press and hold + or - to rapidly scroll to the desired time.
7. From the **DST** screen press **MODE** to keep the **DST ON** or press + or - to turn **DST OFF**. Press **MODE** to advance to **SET ADJ**. (See Figure 6).
8. Press + or - to set the seasonal adjustment offset value and press **MODE** to save and advance to the **LO ON** event screen.  
**NOTE:** See *Seasonal Adjust Overview* section for an overview of the feature.
9. From the **LO ON** event screen, press + or - to set the time when the low speed pump will turn ON and press **ENTER/NEXT**.
10. From the **LO OFF** event screen, press + or - to set the time when the low speed pump will turn OFF and press **MODE** to save. The **HI ON** event screen appears.
11. Take one of these actions:

If...	Then...
Your pump has high speed operation,	Go to step 12 to set Hi speed pump event
Your pump does not have high speed operation, but you are using the auxiliary circuit.	Press <b>MODE</b> to scroll to the AU (auxiliary circuit) ON screen and go to step 14.
Your pump does not have high speed operation or an auxiliary circuit.	Press <b>MODE</b> to scroll to <b>AUTO</b> mode (see Figure 8). The Initial Setup is complete.

12. From the **HI ON** event screen, press + or - to set the time when the high speed pump will turn ON and press **ENTER/NEXT**.
13. Press + or - to set the time when the high speed pump will turn OFF and press **MODE**. The **AU** (auxiliary circuit) screen appears.  
**NOTE:** if you are not using the auxiliary circuit on the timer, then the initial setup is complete. Press **MODE** to scroll to **AUTO** mode.
14. From the **AU ON** event screen, press + or - to set the time when the auxiliary circuit will turn ON and press **ENTER/NEXT**.
15. Press + or - to set the time when the auxiliary circuit will turn OFF and press **MODE**. The screen displays **AUTO** (Auto Mode) as shown in Figure 8. The initial setup is complete.

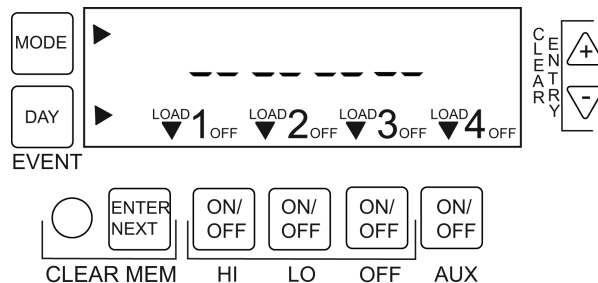


Figure 4 Initial screen after power up

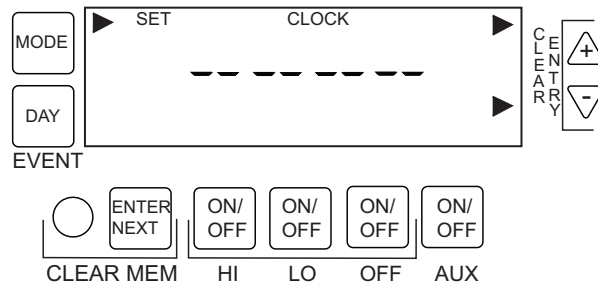


Figure 5 Setting the clock

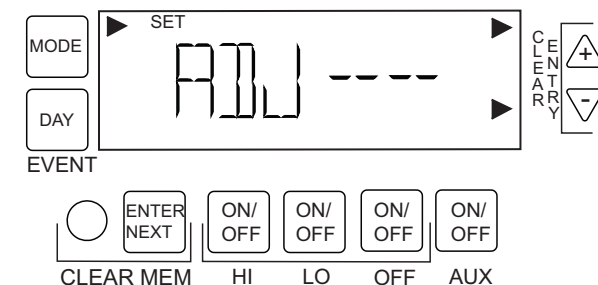


Figure 6 Setting the Seasonal Adjust Offset



Figure 7 Setting the LO speed pump ON event

## Adjusting PE103/P1403ME Program Settings

All programs and events set during *Initial Setup* can be adjusted as needed. Follow this procedure to adjust a setting.

1. Press **MODE** to advance to the setting you want to adjust.
2. Press + or - to adjust the program and then press **MODE** to save.  
**NOTE:** If you are adjusting an ON/OFF event, press **DAY (EVENT)** to bypass the date, time, year, SET ADJ, and DST screens and advance to the LO ON event. From there, press **MODE** to advance to the ON or OFF event you want to adjust.

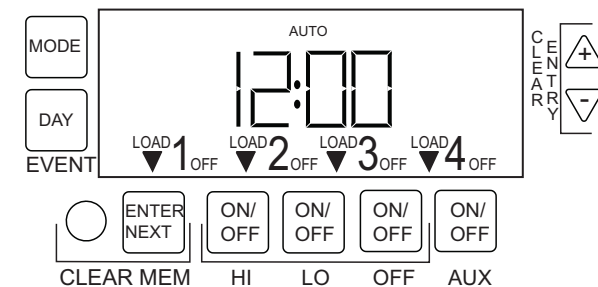


Figure 8 AUTO mode screen

## Resetting the Timer

The Reset command enables users to reboot the timer. To reset the timer, press the reset button.

**NOTE:** The timer does not erase the configured settings during a reset.

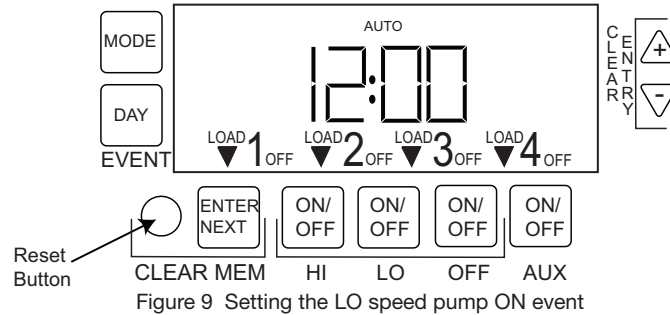


Figure 9 Setting the LO speed pump ON event

## Clearing the Timer Memory

To clear the timer memory, press and release the reset button and then immediately press and hold the ENTER/NEXT until MEMCLR followed by DONE appears on the screen. Release ENTER/NEXT. The following occurs:

- All calendar and clock information is erased
- All events are erased
- The Seasonal Adjust offset value is erased
- The DST command is automatically set to ON

## Specifications

### Time Switch

- Input Voltage: 120 to 277 VAC, 50/60 Hz
- Power Consumption: 7 watts maximum

**Switch Ratings:** 30 A Inductive & Resistive @ 24 VAC,  
120-277 VAC, 16 FLA, 96 LRA @ 120 VAC;  
17 FLA, 80 LRA @ 240 VAC 20A Resistive @ 28 VDC;  
5 A Tungsten @ 120 VAC - 277 VAC

**Events:** Time switch can support up to 3 timed ON and 3 timed OFF events (1 ON/OFF event for high, low, and auxiliary circuits)

**Clock Backup:** Up to 100-hour Supercapacitor

**Minimum ON or OFF time:** 1 minute

**Maximum ON or OFF time:** 23 hours, 59 minutes

**Shipping Weight:** 2.5 lb. (1.1 kg)

**Enclosures:** Type 3R indoor/outdoor lockable metal enclosure

**Knockouts:** Combination 1/2 - 3/4 inch size, 1 on back and each side, 2 on bottom

**Wire Size:** AWG #10 through #18

### 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.

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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).

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