



# INSTALLATION & OPERATING INSTRUCTIONS

(Model:TR1003)

IF YOU CANNOT READ OR UNDERSTAND THESE INSTALLATION INSTRUCTIONS, DO NOT ATTEMPT TO INSTALL OR OPERATE.

## INTRODUCTION

This Durablow remote control system is to provide a safe and reliable remote control system for gas heating appliances, such as fire fireplace. The system can be operated thermostatically or manually from the transmitter (remote handset). The system operates on radio frequencies (RF) within a 20-foot range using non-directional signals. The remote receiver box code must be matched to the transmitter prior to initial use (see [LEARNING TRANSMITTER TO RECEIVER](#)).

Read ALL sections and original manufacturer manual for safety installation before any action. These safety features shut down the system and appliance, such as fireplace when a potentially unsafe condition exists, such as high-heat.

<b>Contents:</b>		<b>Page</b>
1	PACKING LIST	2
2	LCD DISPLAY ICONS	2
3	BASIC TRANSMITTER FUNCTIONS & MODES	2
4	SETTING UP THE TRANSMITTER	3
5	SETTING THE CLOCK	3
6	CONVERTING °F / °C SCALE	3
7	REMOTE RECEIVER BOX	4
8	WARNING & REMINDER	4
9	PREINSTALLATION	5
10	WALL MOUNTING	5
11	HEARTH MOUNT	5
12	WIRING INSTRUCTIONS	6
13	LEARNING TRANSMITTER TO RECEIVER	7
14	SYSTEM TESTS & CHECK LIST	7
15	ADDITIONAL INFORMATION	8
16	TROUBLE SHOOTING	10
17	WARRANTY & LEGAL DISCLAIMER	11

**PACKING LIST:**

Please check and make sure all parts are in good condition before installation. Any questions, please do NOT return to dealer, but email us ([info@payandpack.com](mailto:info@payandpack.com)) immediately, we will do our best to assist you. Thank you.

1. Remote transmitter (1), Remote receiver box w/ 18" wire (1)
2. Wall mount cover plate (1), Switch box screw (2), Slide switch button (1)
3. 1.5V Batteries: AA-size (4), AAA-size (2)
4. Installation Instructions (1)



Fig. 1 Transmitter

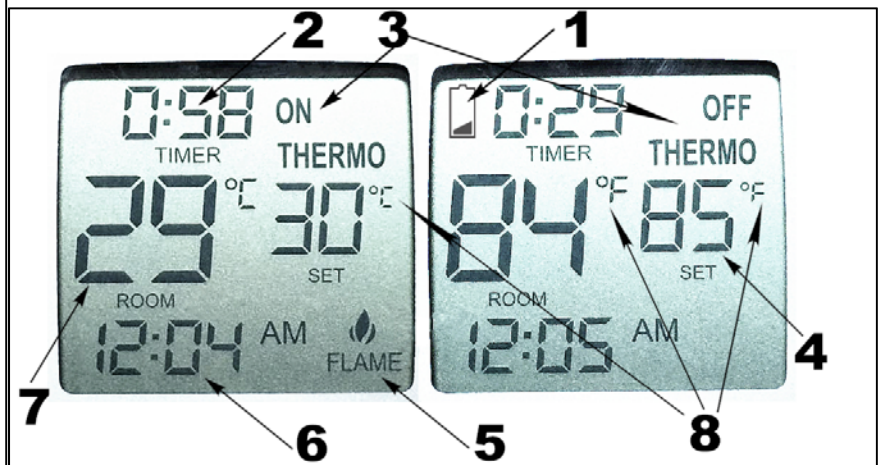


Fig. 2 LCD display on transmitter

**LCD DISPLAY ICONS (Fig. 2)**

1. **LOW BATTERY** - Once it appears which means battery power is low. Replace batteries in 2 weeks.
2. **TIMER**<sup>1</sup> - Indicates time remaining before system shuts OFF. Maximum 9-hour setting for timer programming.
3. **MODE** - Indicates system operation modes. ON means the system is manually ON. OFF means the entire system is OFF. THERMO<sup>2</sup> means the system will automatically cycle ON/OFF, with the desired set temperature.
4. **SET** - Indicates desired set room temperature of THERMO<sup>2</sup> mode. (works with ROOM)
5. **FLAME** - Indicates burner/valve is at ON position.
6. **CLOCK** - Indicates the current time.
7. **ROOM** - Indicates CURRENT room temperature.
8. **°F / °C** - Indicates degrees in Fahrenheit or Celsius (convertible).

**BASIC TRANSMITTER FUNCTIONS & MODES**

**NOTE:** For model TR1002-T, the THERMO mode is NOT included; For TR1002-TH, the TIMER mode is NOT included.

**IMPORTANT:** The transmitter requires two AAA-size 1.5V batteries (included). New (fully charged) batteries are required for proper functionality of the system. Insert batteries into the transmitter battery compartment on the back, positioning the (+) and (-) ends of the batteries as indicated on the casing. (Fig. 1) When the batteries are inserted properly, LCD will display initial numbers.

**CAUTION:** Due to the temperature-monitoring components in the transmitter, it is important to allow the transmitter to detect the room temperature before accurately displaying room temperature on the screen. Normally it takes 5 to 15 minutes for every first time placing this transmitter in a new location / environment.

To begin the mode cycle (Fig. 3), press and release the MODE button (Fig. 1) until the LCD screen reads OFF (Fig. 4).

**Step1:** Press the MODE button one time to manually turn **ON** the appliance (Fig. 5). Timer<sup>1</sup> is available in this mode.

The receiver will make sounds of quick BEEP X 2 (♪, ♪).

**Step2:** Press the MODE button a second time to put the system in **THERMO**<sup>2</sup> mode (Fig. 6).

Timer<sup>1</sup> and Thermostat<sup>2</sup> are both available in this mode.

★NOTE: The Thermostat<sup>2</sup> has first priority to turn OFF when the room temperature reach desired set temperature & it will turn ON again when the room temperature go below desired set temperature, at the meantime, Timer<sup>1</sup> keeps countdown. However, once the set time ends, the Timer<sup>1</sup> will turn OFF the entire system and go back to OFF mode (Fig. 4).

**Step3:** Press the MODE button a third time to turn the appliance back **OFF** again as show in (Fig. 4). The receiver will make sounds of continuous BEEP for one second (♪~~).

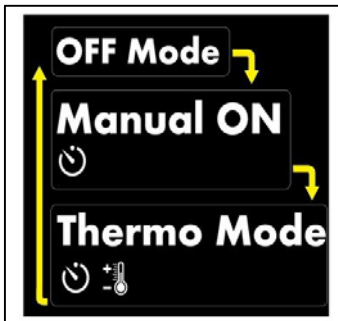


Fig. 3<sup>3</sup> Mode sticker

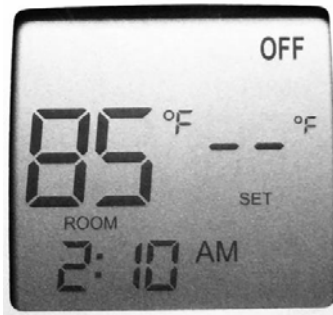


Fig. 4 OFF mode

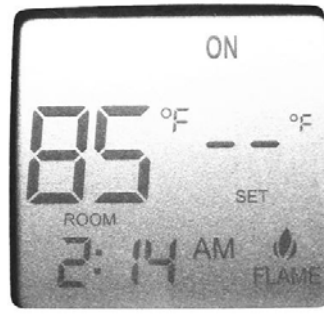


Fig. 5 ON mode

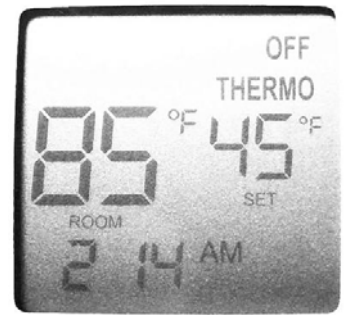


Fig. 6 Thermo<sup>2</sup> mode



Fig. 7

### SETTING UP THE TRANSMITTER

Any blinking numbers on the LCD screen indicate the system is awaiting user's input. Using the "+" and "-" buttons (Fig. 7) to increase or decrease the numbers, and press "OK" button to set / confirm. If no change / action is made within 15-seconds, the system will accept the numbers and finish the procedure.

### SETTING THE CLOCK (Fig.7)

1. Press and hold the TIMER button on the transmitter for three seconds. The hour digit(s) will become blinking.
2. Press the "+" and "-" button to set.
3. After setting the desired hour, press and release the TIMER button again to set the minutes.
5. Press and hold the TIMER button again for three seconds to finish setting. You can also press the OK button to finish setting.

### CONVERTING °F/°C SCALE

The default setting for temperature is °F. To change the setting from °F to °C (or °C to °F), first press and hold the “+” and “-” buttons on the transmitter simultaneously (Fig. 7). The highest set temperature is 99° Fahrenheit = 32° Celsius.

**Explanatory notes for TIMER, THERMO, Thermostat, & Modes:**

- \*1: TIMER mode is NOT available / included in model **TR1002-TH**.
- \*2: THERMO mode & Thermostat are NOT available / included in model **TR1002-T**
- \*3: Mode sticker, located under the flip cover of transmitter, varies with different models.

**REMOTE RECEIVER BOX**

The remote receiver box requires four AA-size 1.5V batteries (Fig. 8). When LOW battery icon appears on the screen, please replace batteries.

The remote receiver box equips the microprocessor that receives the signals / commands from the transmitter in order to control system operations / functions. It makes sounds of quick BEEP X 2 (♩, ♩) when it receives an ON command, and makes sounds of continuous BEEP for one second (♩~~) when it receives an OFF command manually (or when Timer ends automatically). But no beep when cycling ON/OFF automatically in THERMO<sup>2</sup> mode.

The remote receiver box has a 3-position slide switch (ON/REMOTE/OFF) and a LEARN button on the front panel (Fig. 8).



Fig. 8

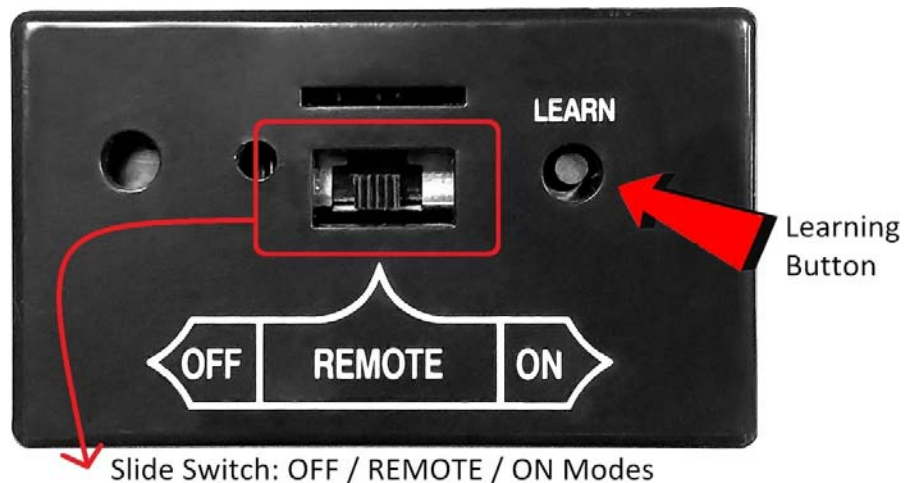


Fig. 9

**ON mode:** Slide the switch to the ON position (toward the LEARN button), the system will remain ON all the time. Remote transmitter is disabled.

**REMOTE mode:** Slide the switch to the REMOTE position (middle), the system will ONLY operate with receiving commands from the remote transmitter.

**OFF mode:** Slide the switch to the OFF position, the system will remain OFF all the time. Remote transmitter and Receiver box are both disabled.

★NOTE: The OFF mode is strongly recommended if house is unattended for a long time. For safety, placing the slide switch in the OFF position also functions as a safety “LOCK-OUT” by both turning the system off and disable the remote receiver.

**WARNING & REMINDER**

- This system MUST be installed exactly as complied with these instructions. Read all instructions before installation,

and follow them during installation carefully.

- Any modifications of Durablowl remote control system, or parts, or components are PROHIBITED. They will void the warranty, and may cause a fire hazard result in human casualties and property damages.
- Do NOT connect any gas valve or electronic module directly to 110-120VAC power.
- Read gas appliance manufacturer's instructions and wiring schematics completely for proper placement of all wires. All electronic modules are to be wired to manufacturer's specifications.
- All wiring diagrams in these instructions are for illustration purpose ONLY. Follow instructions from manufacturers of gas valve and electronic module for correct wiring & installation procedures. Improper installation of electric components can cause damage to electronic module, gas valve and remote receiver.

## PREINSTALLATION

Decide where to install the receiver box before proceeding. The receiver is designed to be wall-mounted into a standard wall switch box (**STRONGLY SUGGESTED**).

Otherwise, you can place it on or near the fireplace hearth (**\*IMPORTANT: Keep away from high-heat, exceeding 130°F. Additional protection required for no exposure to the hearth**).



Fig. 10

Make sure the receiver box's slide switch is in the **OFF** position before installation.

The receiver is connected with 18-inches of black wire. If additional length of wire is required, for the best results, 18 gauge stranded or solid wire are recommended. Splice with the original black wires of the receiver box. Or, remove the black wires and insert new wires directly into the slots at back of receiver box (Fig. 10). Wires are NOT longer than 20-feet. Please allow some wire / space to remove the receiver for battery replacement or check.



Fig. 11



Fig. 12



Fig. 13

## WALLMOUNTING

1. Install four AA-size 1.5V batteries into the remote receiver box (Fig 8). The system operates well with all batteries' total output voltage is greater than 5.2V. Generally, four NEW AA-size batteries should output voltage of 6.0 to 6.2 volts if installed in series.

2. Attach wall mount cover plate to receiver box (Fig. 11). Press the receiver and have it snap into top & bottom tabs of cover plate.

3. Position the cover plate to have words facing up (Fig. 12) Install the remote receiver box into the wall switch box with two provided switch box long screws.

**NOTE:** The remote receiver box will only receive signal from the transmitter in the REMOTE position (middle). The remote receiver box code must be matched to the transmitter prior to initial use (see LEARNING TRANSMITTER TO RECEIVER).

### HEARTH MOUNT

The remote receiver box can be placed on the fireplace, under the fireplace, behind the control panel or louvers....etc. Keep away from high-heat, exceeding 130°F. Additional protection required for no exposure to the hearth. The Slide switch button should be installed on the receiver box for Hearth Mount (Fig. 13).

### WIRING INSTRUCTIONS

ONLY qualified electrician / gas technician with the knowledge of gas appliances and gas valves that are permitted to install the remote control system. Incorrect wiring installation will damage the gas valve, electronic module of gas appliance and also the remote receiver.

#### a. WIRING MILLIVOLT VALVE (Fig. 14)

Connect the two 18 gauge stranded or solid wires of the Remote receiver box to the Millivolt gas valve at the TH & TH/TP terminals on the terminal block. It does not matter which wire go to which terminal.

The remote receiver box's operation is similar to a thermostat that also turn the gas valve ON and OFF based on the input signals from TH & TH/TP terminals. Transmitter sends signals to receiver box, and receiver box pass the signals to Millivolt valve to function the ON and OFF of fire / heater.

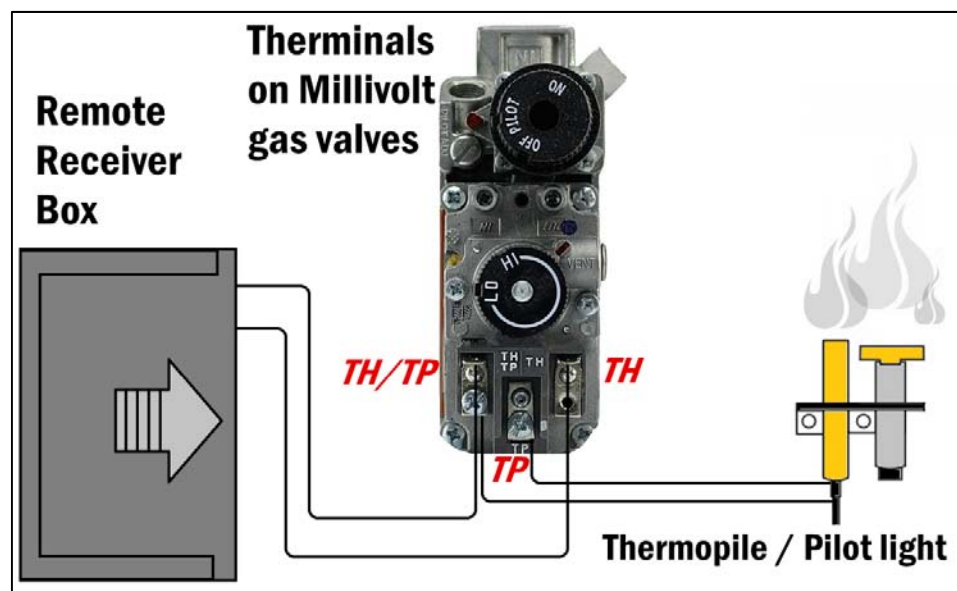


Fig. 14

#### b. WIRING ELECTRONIC SPARK IGNITION MODULE (Fig. 15)

Connect a 24VAC transformer in series to the TR (transformer) terminal on the ELECTRONIC MODULE. Connect the hot wire from the 24VAC transformer to either of the wire terminals on the remote receiver box. Connect another wire

between receiver wire terminal and the TH (thermostat) terminal on the ELECTRONIC MODULE.

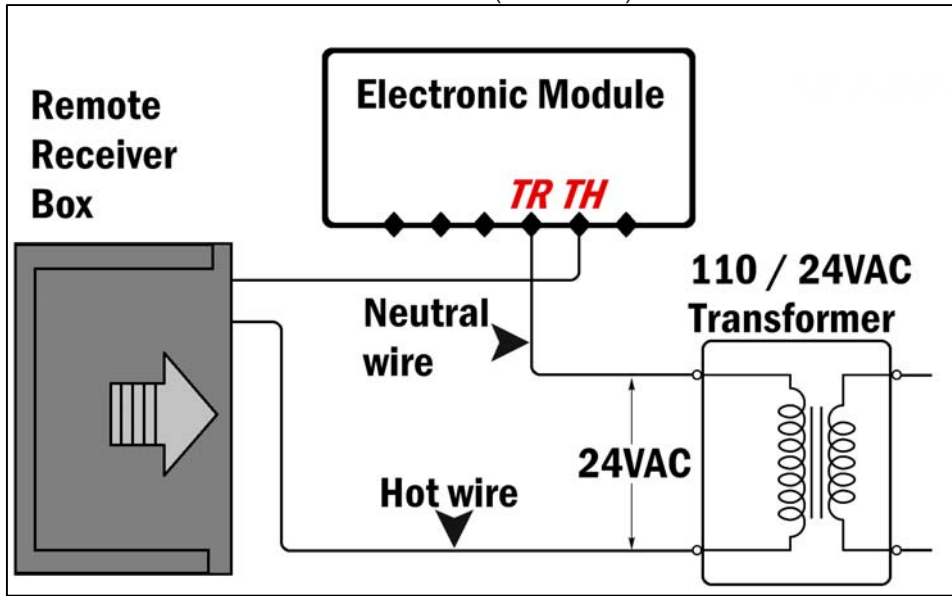


Fig. 15

### LEARNING TRANSMITTER TO RECEIVER

Each transmitter has a unique RF code. To have the receiver box to accept the transmitter's signal (code), be sure the slide switch button on the receiver is in the REMOTE mode.

Find the LEARN button on the front face of the receiver (Fig. 16) Use a small screwdriver to gently press the black LEARN button inside the hole. Then the receiver box will sound of quick BEEP X 2 (♪, ♪). And press the MODE button on transmitter. The receiver box will beep indicating that the transmitter's code has been captured by the receiver.

If you fail the LEARNING of matching the security code, please wait 2 minutes before another try. The interval allows the microprocessor in the receiver box to reset itself and available for accepting new code. Please try more times.

Any questions, please email us. ([info@payandpack.com](mailto:info@payandpack.com))

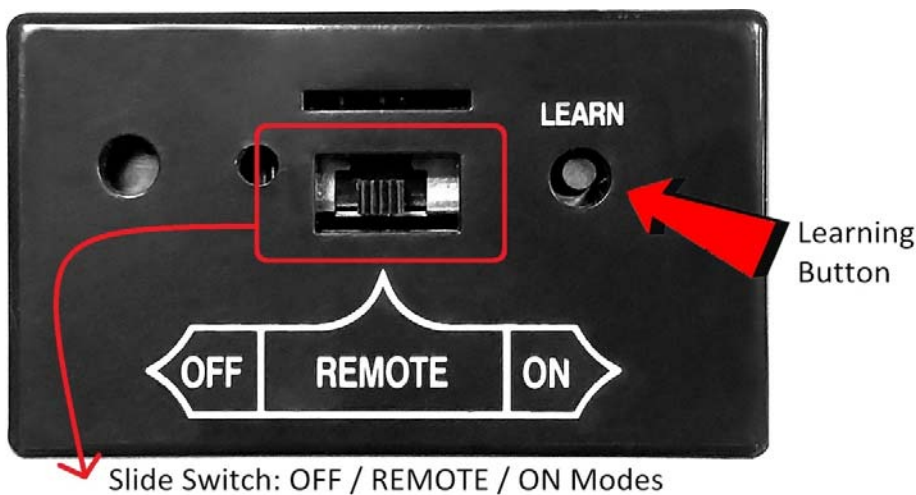


Fig. 16

### SYSTEM TESTS & CHECK LIST

## **MILLIVOLTVALVES**

Please DO take following tests and make sure all functions are working fine:

1. Slide the slide switch button on the receiver to the ON (Fig. 16). The main gas fire flame should ON.
2. Slide the button to OFF. The main gas fire flame should extinguish and the pilot flame will remain ON.
3. Slide the button to REMOTE, and press the MODE button on the transmitter to change the system to ON. The main gas fire flame should ON.
4. Press the MODE button on the transmitter to change the system to OFF. The main gas fire flame should extinguish and the pilot flame will remain ON.
5. Press the MODE button on the transmitter to change the system to THERMO<sup>2</sup> mode. Make the SET temperature on the transmitter to a temperature of a least 2° F (1° C) above the ROOM temperature displayed on the LCD screen, the system flame and main gas fire flame will be ON. Then make the SET temperature to at least 2° F (1° C) below the ROOM temperature, the system flame and main gas fire flame will extinguish in seconds. It should continue to cycle ON and OFF thermostatically. The temperature differential between ROOM and SET temperatures differ at least 2° F (1° C) to start the THERMO<sup>2</sup> cycling. (The 2° F differential is the factory setting, can NOT be changed.)



## **ELECTRONICIGNITIONSYSTEMS**

Please DO take following tests and make sure all functions are working fine:

1. Slide the slide switch button on the receiver to the ON (Fig. 16). The spark igniting electrode should begin sparking to ignite the pilot. Once the pilot flame is lit, the main gas valve should open and the main gas fire flame should be ON.

2. Slide the button to OFF. The main gas fire flame and pilot fire flame should extinguish together.

3. Slide the button to REMOTE, and then press the MODE button on the transmitter to change the system to ON. The spark igniting electrode should begin sparking to ignite the pilot. Once the pilot flame is lit, the main gas valve should open and the main gas fire flame should be ON.

4. Press the MODE button to OFF. The main gas fire flame and pilot fire flame should extinguish together.

5. Press the MODE button on the transmitter to change the system to THERMO<sup>2</sup>. Make the SET temperature on the transmitter to a temperature of a least 2° F (1° C) above the ROOM temperature displayed on the LCD screen, the system flame and main gas fire flame will be ON. Then make the SET temperature to at least 2° F (1° C) below the ROOM temperature, the system flame and main gas fire flame will extinguish in seconds. It should continue to cycle ON and OFF thermostatically. The temperature differential between ROOM and SET temperatures differ at least 2° F (1° C) to start the THERMO<sup>2</sup> cycling. (The 2° F differential is the factory setting, can NOT be changed.)

## **ADDITIONALINFORMATION**

### **THERMOSAFETYPROTECTION FORRECEIVER**

In order to protect the receiver box, batteries, and receiver's microprocessors, the Durablow remote control system equips a THERMISTOR, a safety feature in receiver box.

The THERMISTOR will automatically shut the system and appliance down, & begin making BEEP X 3 (♪, ♪, ♫), every 4 seconds, when the temperature inside the receiver box is higher than 130°F (54°C). User can re-activate the system by pressing the MODE button on the transmitter when the receiver temperature drops between 120°F (48°C) and 130°F (54°C).

However, the BEEPING will NOT stop if the temperature remains between 120°F and 130°F until the temperature drops below 120°F. The beeping is to alert user that the receiver should be re-located at a cooler position.

To completely reset the beeping and THERMISTOR, please press the MODE button to make a mode cycle (OFF-ON-OFF). Please make sure & allow some time for the receiver box to cool down below 120°F.

### **TRANSMITTER**

#### 1. TRANSMITTER OPERATING DISTANCE

The transmitter uses RF radio frequency to send signal to receiver. It is strongly recommended to use the transmitter within 20-foot distance from receiver box in the same room / space (no wall partition).

#### 2. THERMO<sup>2</sup> DETECTING INTERVAL IN TRANSMITTER

The transmitter normally detects the ROOM temperature every 2 minutes against the SET temperature by sending a signal to the receiver.

#### 3. OUT-OF-RANGE SAFETY ALERT IN TRANSMITTER

This Durablow remote control system have a OUT-OF-RANGE SAFETY ALERT function which alerts when the transmitter is out of the normal 20-foot operating range of the receiver for all operation modes. The transmitter sends an RF signal every fifteen minutes to the receiver box to indicate that the transmitter is within the normal operating range of 20-foot.

If the receiver does NOT receive a signal every 15 minutes from transmitter, the receiver will begin a 120-minute countdown. If during this period, the receiver does NOT receive a signal from the transmitter, the receiver will shut down the system (OFF). Then the receiver will beeps rapidly for 10 seconds, and after that, the receiver will continue to beep (single beep) every 4 seconds until a transmitter signal is again received. Press the MODE button on the transmitter to reset the receiver and the system will be back to normal operation.

The OUT-OF-RANGE SAFETY ALERT will be triggered when the transmitter is out of range again or the transmitter's low battery, batteries fail, batteries removed.

**SETTING THE DESIRED ROOM TEMPERATURE**

To set the DESIRED room temperature, press the MODE button to place transmitter into THERMO<sup>2</sup> mode (Fig. 6), the "THERMO<sup>2</sup>" must be displayed on the LCD screen. Then press the "+" and "-" buttons to increase or decrease desired room temperature. The MAX. set temperature is 99° F (32° C), MIN. is 45° F (6° C). REMINDING: To extend battery lifespan, the changes of ROOM temperature are detected and updated (send) to transmitter automatically every two minutes only.

**TEMPERATURE DIFFERENTIAL (variation "SWING")**

The THERMO<sup>2</sup> mode on the transmitter operates with TEMPERATURE DIFFERENTIAL (also called variation "SWING"). A smaller SWING increases the number of cycles so the room temperature is updated more often which consume more battery power. A larger SWING decreases the number of cycles, so the tolerance of ROOM temperature is larger, but can save some battery. The factory default setting for the SWING is 2 which means a temperature variation of +/- 2°F (1°C) between SET temperature and ROOM temperature, which determines when the system will be ON or OFF. There are three SWING numbers for user's choice: +/- 1°F (0.5°C), +/- 2°F (1°C), and +/- 3°F (1.6°C). See Fig. 17

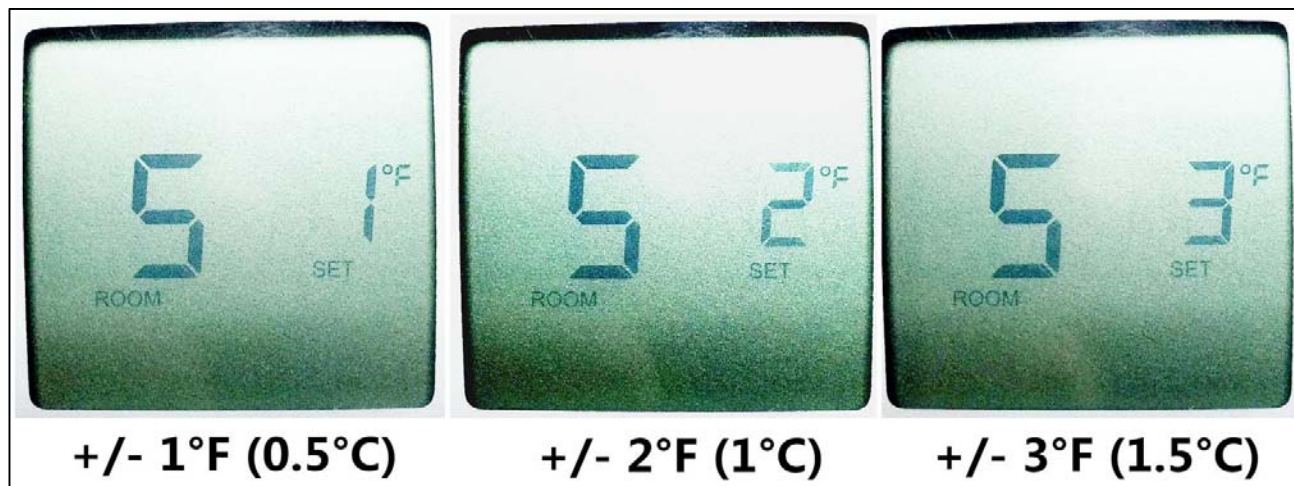


Fig. 17



Fig. 18

## **SETTING THE SWING**

1. To change the temperature SWING setting, press the TIMER and “-” buttons (Fig. 18) at the same time to display the current SWING setting (Fig. 17). The letter “S” (looks like Arabic number “5”) means you are currently in the SWING setting.
2. Press the “+” and “-” buttons to change the SWING (1, 2, 3).
3. To store the desired SWING number, press the OK button or wait for 15 seconds without any actions, then transmitter will accept the setting and become programmed.

## **SETTING THE COUNTDOWN TIMER<sup>\*1</sup>**

The TIMER<sup>\*1</sup> is available in the ON or THERMO<sup>\*2</sup> modes on transmitter (THERMO or ON must be displayed on the screen).

1. Press the TIMER button (Fig. 18) on the transmitter. The word TIMER<sup>\*1</sup> will be displayed and “0:15” minutes (factory default setting) will be blinking on the screen (Fig. 19).
2. Press the “+” and “-” buttons on the transmitter to set the countdown time. Available countdown time options are 15 minutes, 30 minutes, 1 hour (1:00), 1:30, 2:00, 2:30, 3:00, 3:30 ..... 8:30, 9:00.
3. To confirm the TIMER<sup>\*1</sup>, press the OK button or wait for 15 seconds without any actions, then transmitter will accept the setting and become programmed. If the system is cycling in the THERMO<sup>\*2</sup> mode + TIMER<sup>\*1</sup> feature, it will cycle on and off, as the room temperature requires until the “time” has expired.



Fig. 19



Fig. 20

## **CHILDPROOF FEATURE & SETTING**

A safety LOCK feature is available from the TRANSMITTER.

1. To activate the LOCK, press and hold the “+” and TIMER buttons together for 5-7 seconds. The “CP” will appear in the ROOM temperature on the screen (Fig. 20). CP word will disappear in one second but the CP lock is activated.
2. To deactivate the LOCK, press and hold the “+” and TIMER buttons together for 5-7 seconds. The “CP” will disappear and the transmitter will be unlocked and back to normal operating condition.

NOTE: The CHILDPROOF FEATURE (CP-LOCK) will NOT cancel the operating and cycling of ON, TIMER<sup>\*1</sup>, THERMO<sup>\*2</sup>. In order to “TOTAL” lock-out the system, please activate CP-LOCK in OFF mode on transmitter.

## **TROUBLE SHOOTING**

Problems with different fireplace systems are NOT just caused by Durablow remote control, but also by fireplace itself. Please firstly review and check fireplace manufacturer's manual to see if all wires are properly connected, valve is working fine, or gas tank / pipes are in good condition. Then please check the operations below:

1. Check to see if receiver batteries are installed properly. If one battery is installed backward, the entire system will NOT working. Be sure battery output is 2.5 volts or more for transmitter, and 5.2 volts or more for receiver box.
2. Make sure the transmitter is communicating with the receiver.

Check to see if receiver beeps in ON & OFF modes. The receiver only beeps in ON & OFF modes.

If no beeps when the MODE button is depressed on the transmitter in ON & OFF modes, please LEARN and match transmitter with receiver first (see LEARNING TRANSMITTER TO RECEIVER).

4. Make sure the transmitter is in good condition (doused or broken transmitter will be out of order) and within the 15 to 20-foot range of the receiver.
5. Positioning the receiver box is quite important. If the receiver is fully covered by a metal, the operation of the receiver may be failed because of losing communicating with transmitter or shortening the use distance range. Re-position the receiver to gain better signals.

## **WARRANTY & LEGAL DISCLAIMER**

### Warranty:

Durablow warrants this remote control system for a 2-YEAR LIMITED WARRANTY of the original purchaser / owner of this system. This warranty is not transferable to another person. It is for the original purchaser of the product. Durablow warrants any parts failed because of defective workmanship in production or materials from the original date of purchase. Durablow will repair or replace the defective parts at Durablow's decision.

Replacement parts will be available at NO charge and free-shipping to users for the FIRST 2 years of this warranty. If Durablow does not have the parts for a certain model, then a replacement system will be provided.

The Owner must provide a bill of sale, order ID or payment record which should be kept to verify purchase date and establish warranty period.

This warranty does not cover claims. Damage to the system caused by accident, misuse, abuse, or installation error, no matter implemented by a contractor, third party Service Company, or owner, is not covered by this warranty. Any modifications of the system will void this warranty.

Photos and simple questions may be required for further product investigation & improvement. Durablow & PayandPack will reserve the right to physically inspect the product for defects, by authorized representatives.

### Legal disclaimer:

Due to different using circumstance, user should take specific advice from qualified technician or professional people before undertaking any action following information included in these instructions above.

All users who ignore this disclaimer, misuse, abuse, or install the system improperly are at their own risk.

## **FCC / ID**

### **FCC STATEMENT**

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

**FCC ID: 2AKOB-TR1003**

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### **CUSTOMER SUPPORT:**

Any questions, please contact and email us before returning items or leaving a feedback / review. We will always be here for you. Reach us on eBay, Amazon, [www.payandpack.com](http://www.payandpack.com) or email ([info@payandpack.com](mailto:info@payandpack.com)). Thank you. ^\_^