

DIGITAL BOX TIMER INSTRUCTIONS

Installation Instructions:

Note: For outdoor locations, rain-tight or wet location conduit hubs that comply with requirements of UL 514B Conduit, Tubing, and Cable Fittings, must be used.

1. Open door by releasing the spring latch.
2. Remove the interior protective cover by loosening two screws holding on the middle of the board. (see Figure 1)
3. Select knockouts to be used. Remove the inner 1/2" knockout by inserting a screwdriver in the slot and carefully punch the knockout loose. Remove slug. If 3/4" knockout is required, remove the outer ring with pliers after removing the 1/2" knockout. Smooth edge with knife, if necessary.
4. Place the enclosure in the desired mounting location and mark a mounting hole. Start by placing a screw on top and attaching enclosure over keyhole.
5. Wire in accordance with National and Local Codes. (see wiring diagrams)
6. Grounding: Terminate all ground wires to ground lug on the bottom of enclosure. (see Figure 2)
7. Replace interior protective cover.

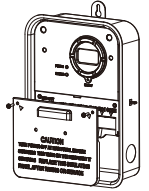


Figure 1

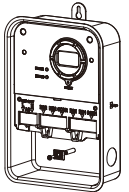


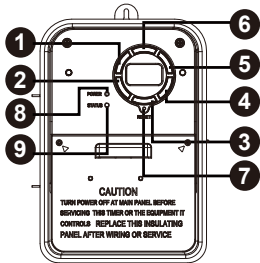
Figure 2

Notice:

1. Always close the door after use.
2. Use Copper Conductors Only.
3. Press the RESET button using an insulated tool such as pins and toothpicks.

Button Layout:

Before initial use, charge the internal battery at least 30 minutes. After the screen displays, the unit is ready for programming.



1. TIME – Setting the Clock.
2. RESUME – Erase Program.
3. MODE – Choose Different Mode.
4. (-) - Adjust DOWN.
5. (+) - Adjust UP.
6. PROGRAM - Setting Program.
7. RESET – Reset all the functions.
8. POWER – Power indicator light indicates if the Digital Box Timer is turned ON or OFF.
9. STATUS – Status light indicates the output ON.

Electrical Ratings:

N.O. Contacts:
 40A Resistive, 120~277VAC
 1HP, 16A FLA, 96A LRA, 120VAC
 2HP, 10A FLA, 60A LRA, 277VAC
 30A Ballast, 120VAC
 20A Ballast, 277VAC
 15A Tungsten, 120VAC
 30A Resistive, 28VDC

N.C. Contacts:
 30A Resistive, 120~277VAC
 1HP, 16A FLA, 96A LRA, 120VAC
 2HP, 12A FLA, 72A LRA, 240VAC
 2A Tungsten, 120VAC
 10A Ballast, 120VAC
 10A Ballast, 277VAC
 20A Resistive, 28VDC

Setting The Clock

1. Press the Time button to set the current year.
Press "+" or "-" button to adjust the flashing number from 2013 to 2099.
2. Press the Time button again to set the month.
Press button "+" or "-" to adjust the number from 01 to 12.
3. Press the Time button again to set the date.
Press button "+" or "-" to adjust the number. The maximum date will depend on which month you choose.
4. Press the Time button again to set the Day Light Savings Time (DST) function.
Press button "+" or "-" to setting AUTO mode or OFF mode.



When DST setting is on AUTO:

Timer schedule will automatically move ahead 1 hour on the Sunday of the second week in March at 02:00am every year. The timer will automatically adjust back 1 hour on the Sunday of the first week in November at 02:00am every year.



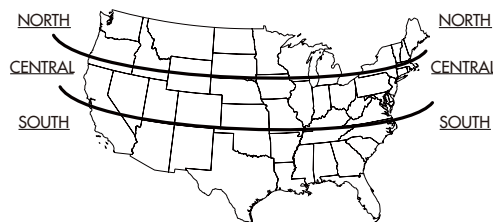
5. Press the Time button again to set the hour.
Press button "+" or "-" to adjust the number from 12AM-11AM to 12PM-11PM.
6. Press the Time button again to set the minutes.
Press button "+" or "-" to adjust the number from 00 to 59.
7. Press the Time button again to set the Astronomic function.
Press button "+" or "-" to adjust three different areas to your current location.



1. NORTH:
2. CENTRAL:
3. SOUTH:



The map below will determine what zone the timer is being used.



Once the zone is determined the time will automatically set the sunrise and sunset time.

Manual Option:

- Press the Time button again to adjust the Sunrise time.
 Press "+" or "-" button to adjust ±2 hours to set the device to power OFF after or before sunrise.
 Press RESUME button if you want to resume the originally sunrise time.



Press the Time button again to adjust the Sunset time.



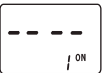
- Press "+" or "-" button to adjust ±2 hours to set the device to power ON after or before sunset.
 Press RESUME button if you want to resume the originally sunset time.

8. Press the Time button again to finish and the setting will go back to current time.



Setting The Program

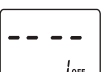
1. Press the Program button to begin setting the event.
2. Press Time button to set the first On event. The setting will begin from the beginning of the week.
Press button "+" or "-" to adjust different week event:
 1. Every day (7 Days of the week).
 2. Weekday (Mon-Fri).
 3. Weekend (Sat-Sun).
3. Press Time button to set the hours.
Press (+) or (-) to set hours. Hours setting mode:
 - a. 12-hour clock AM/PM
 - b. Sunrise/Sunset



Press Time button to set the minutes.
 Note: If you select Sunrise or Sunset as the event. Please press PROGRAM button to select "ON" or "OFF".

Press button (+) or (-) to adjust from 00-59.
 Note: If you press button "RESUME" that will cancel the setting.

4. Press Program button to turn the first event OFF.
This setting is like the pervious step. There are 7 events you can set in this timer. Once you finished the setting please press the program button back to standby status.
Note: If the timer is idle for 30 seconds. The time will automatically set to current time.



5. Press Mode button to choose different functions between ON, ON AUTO, ON RANDOM(RDM), OFF, OFF AUTO, OFF RDM
 ON - Device will be ON permanently and will stay on manual mode.



ON AUTO — AUTO mode has been selected the device will be ON and will stay ON until another scheduled event takes place.



ON RDM — RDM mode has been selected the device will be ON and will stay ON until another scheduled event takes place.



When RDM setting is ON: Random setting will increase or decrease the time on your ON/OFF setting by 30 minutes.

OFF — OFF mode has been selected the device will stay OFF.



OFF AUTO — OFF AUTO mode has been selected the device will be OFF and will stay OFF until another scheduled event takes place.



OFF RDM — OFF RDM mode has been selected the device will be OFF and will stay OFF until another scheduled event takes place.



Safety Information:

WARNING – Risk of Fire or Electric Shock

1. Read instructions thoroughly before installation and preserve for future reference.
2. To avoid fire, shock, or death, turn off power at circuit breaker and test that power is off before wiring.
3. Disconnect power at the circuit breaker or disconnect switch before beginning installation or servicing.
4. More than one circuit breaker or disconnect switch may be required to de-energize the equipment before servicing.
5. Wire in accordance with national and local electrical code requirements.
6. Inspect all terminals and wires with an applicable voltage meter before touching.
7. The circuit conductors shall have a capacity not less than the maximum total load to be controlled.
8. For supply connections, use #8 AWG wires suitable for at least 80°C.

9. The value of tightening torque is 12in-lbf.

10. Use listed wiring connector for Grounding Terminals.

11. This enclosure does not provide grounding between conduit connectors. When metallic conduit is used, you must also install grounding type bushings and jumper wires in accordance with the (NEC) National Electrical Code Requirements.

Wiring Connections: Screw box lug terminals. Up to one #8 AWG Wire.

Environmental Ratings:

Operating Temperature Range: -31°F to 104°F (-35°C to 40°C) Operating Humidity: 0 – 95% RH non-condensing.

Application

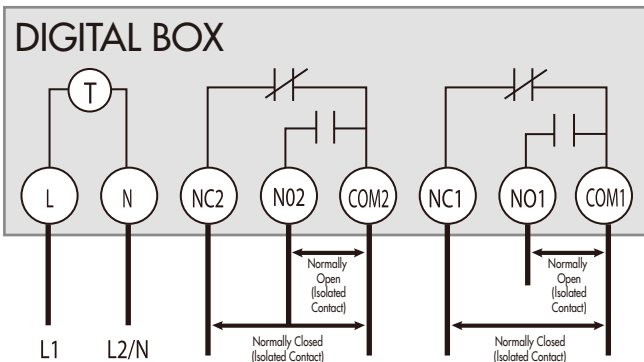
Digital Box Timer is capable of field configured for diverse power supply voltages. The voltage options include 120VAC, 208/240VAC and 277VAC. The mechanism is mounted in a UL TYPE 3R outdoor enclosure and not only has been designed for the control of lighting, heating, air conditioning, pumps, motors, also general electrical circuits in residential, commercial, industrial and agricultural facilities are suited for this instrument. (see wiring diagrams)

Battery Powered Reserve

In case of power failure, the built-in nickel-metal hydride battery maintains the time around 90 days. During power outage relays are de-energized.

Digital Box Timer Terminal Designations:

DIGITAL BOX TIMER TERMINAL DESIGNATIONS



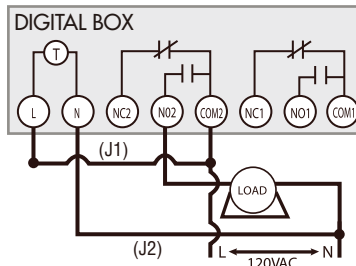
L = Line | N = Neutral | NO = Normally Open | NC = Normally Closed
COM = Common Terminal | J = Jumper Wire | T = Timer

DIGITAL BOX TYPICAL APPLICATION WIRING DIAGRAMS

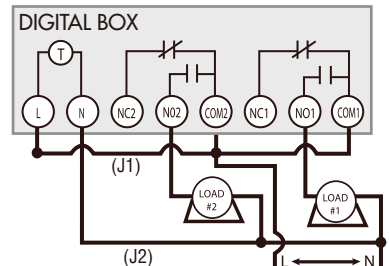
Note: Digital Box is capable of being configured for 120VAC, 240VAC or 277VAC.

*J1 & J2 are 16 AWG jumper wire for the timer power supply.

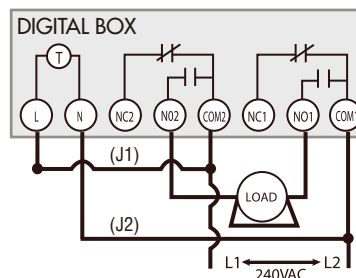
120VAC Application Controlling One 120VAC Load



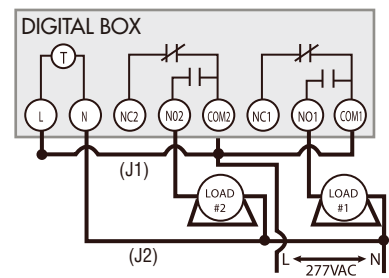
120VAC Application Controlling Two 120VAC Load



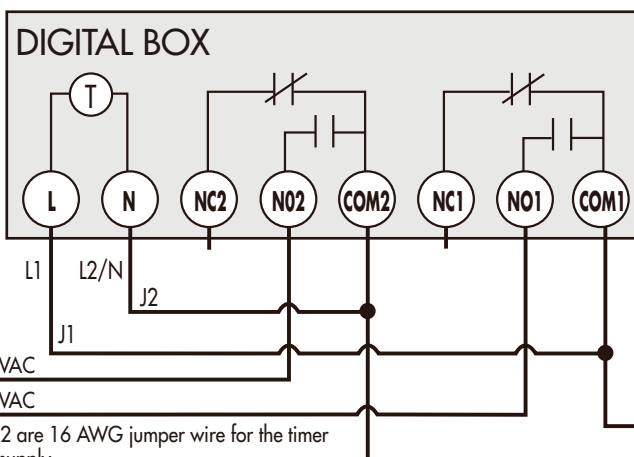
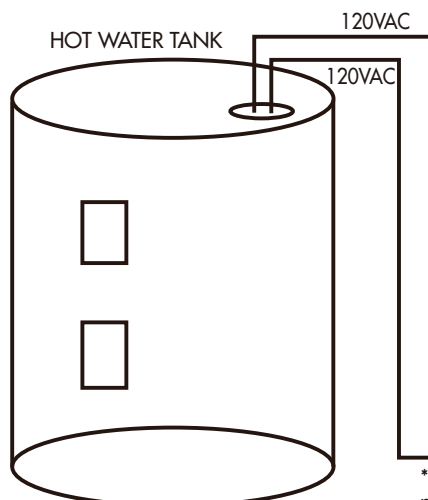
240VAC Application Controlling One 240VAC Load



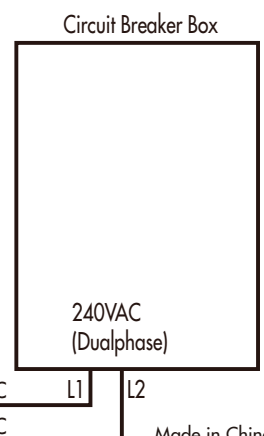
277VAC Application Controlling Two 277VAC Load



HOT WATER HEATER TYPICAL WIRING DIAGRAM



*J1 & J2 are 16 AWG jumper wire for the timer power supply.



Made in China