

ENFORCER®

7-Day Timer

SA-027WQ

Installation Manual



The ENFORCER SA-027WQ 7-Day Timer can be programmed to operate a Form C relay 24 hours a day on a weekly basis for various applications including security, access control, lighting, and environmental control. The relay can be programmed for up to 60 events with each event on a weekly or daily schedule. A programmable holiday disables the timer for a single day weekly.

- Wide operating voltage range – 10~48 VDC, 12~24 VAC
- One (1) N.O. or N.C. Form C relay, 10A@14VDC, with an egress input
- First-person-in (first-man-in, FM) function interrupts the normal operation of the timer
- 60 Programmable events set weekly, daily, or hourly, over a week
- Programmable holiday event – holiday from 1~31 days in duration
- EEPROM Memory for safe data protection in case of power failure
- No clock battery to replace - built-in super capacitor saves date/time 5-10 days after power loss
- Easy troubleshooting status checks – relay test, power input voltage
- Passcode protection can be turned ON or OFF
- Event outputs can be programmed to disable, ON, OFF, shunt, or momentary (1~99 seconds)
- Enable/Disable 1-hour offset as a quick setting during Daylight Savings Time
- Large alphanumeric white backlit LCD display for easy programming

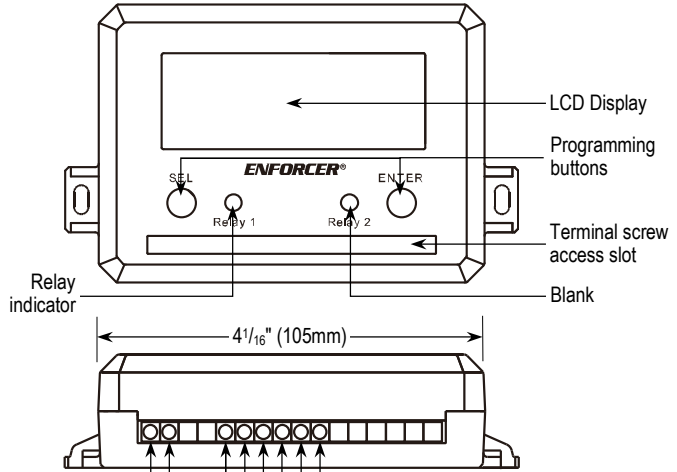
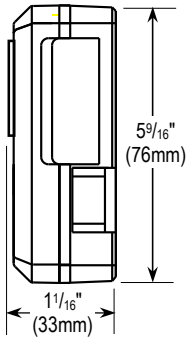
Parts List

1x Timer

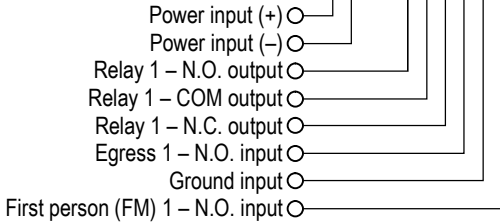
2x Mounting screws

1x Manual

Overview



Terminal Layout Chart




Specifications

Operating voltage	10~48 VDC / 12~24 VAC
Number of relays	One (1) Form C
Relay contact rating	10A@14VDC
Relay active current draw	110mA@12VDC ±10%
Standby current draw	14mA@12VDC ±10%
Event capacity	60 events
Operating temperature	-4°~167° F (-20°~75° C)
Dimensions	4 1/8" x 3" x 1 5/16" (105x76x33 mm)
Weight	5.6-oz (158g)

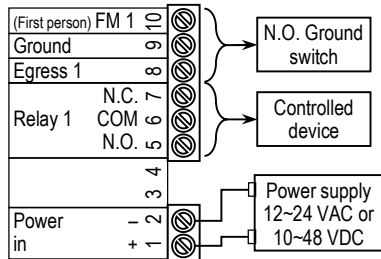
Installation

1. Find a location where the LCD display is visible, and the buttons accessible. Mark the location.
2. Connect the wires (see *Overview*, *Terminal Layout Chart*, pg. 2 and *Basic Wiring*, below).
3. Connect a 12~24 VAC or 10~48 VDC power supply to the power input terminals, 1 and 2.
4. Connect the devices to be controlled to the relay outputs and other terminals as needed.

NOTE: To protect the relay, you must install a 1N4004 diode—with the cathode (striped end , not included) wired toward the positive side—in parallel with the power supply and as close to the lock as possible for DC powered locks **unless** your lock has a diode built in. AC powered locks and electromagnetic locks require a varistor/MOV (05D390K or similar, not included) wired in the same location **if** the lock does not have one built in (all SECO-LARM electromagnetic locks have built-in protection). Failure to use these as directed will void the warranty.

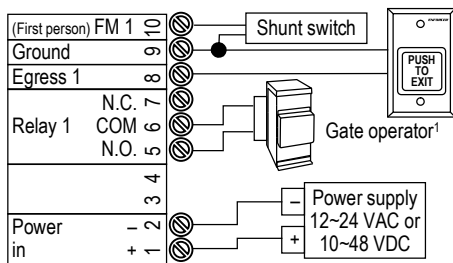
5. Close the case, program the timer, and mount the unit to the location marked above.

Basic Wiring



NOTE: The *first person-in* (first-man-in, FM) function suspends the timer operation when its optional N.O. switch is activated. If the corresponding relay is turned on before *FM* switch is activated, the relay remains on until the *FM* switch is deactivated. Once deactivated, the timer turns on the last programmed function prior to *FM* activation.

Sample Application



¹A gate operator connected to the relay output is triggered and opens a gate.

Program Introduction

A convenient feature is the ability to program before installation. The EEPROM memory stores and protects programming instructions even during a power failure and the super capacitor, after a full charge (about 24 hours), will preserve the date and time for 7~10 days after power is lost.

Programming is easier and faster if you know exactly how you want to use the timer and have a good understanding of the functions it has.

Program Introduction (Continued)

Programming Recommendations

1. For easier installation, it is recommended you program in the order following.
2. Using a separate piece of paper, write down your programming notes.
 - a. All the events you want to program, as well as their duration (up to 60).
 - b. Any events that can be block coded. i.e., events that occur in a pattern.
 - c. Any holiday you wish to program to override the programmed events.
3. Decide whether you want to use a PIN code or not. See *Programming a PIN Code* on pg. 7.

LCD Display

Besides the obvious text entries, there are some abbreviations or icons that should be noted.



Return to parent menu



Device is locked with PIN code



Daylight Savings Time is activated

NOTE: OFF or ON in the top right corner of the screen refers to the relay status. OFF means that the relay is not triggered. If the relay is on, the display will change to ON.

Programming Buttons

Programming is accomplished with two buttons.

1. **SEL** – The *Select* button is used to navigate the menu to select the function to be programmed.
2. **ENTER** – The *Enter* button is used for changing and confirming a selected choice. Press once to change to the next option. Press and hold to cycle ahead rapidly.

Programming Menu Flow Chart

When first powered up, a startup screen appears (~3sec) then a home screen showing day/time. Repeatedly pushing the **SEL** button rotates through the basic programming menus as shown below.

Screen Readout	Description
Set Events	ENTER to set timed events (up to 60) including event number, relay operation, and day and time. Block programming for events is also available.
Set Holiday	ENTER to program a holiday event, i.e., a day when the normal operation of the timer should be suspended.
Set PinCode	ENTER to set a PIN code to secure the timer from unauthorized tampering (optional, 4-digits, factory preset = 0000).
Set Time	ENTER to set both the current day and time (24-hour, military time format).
Set DST	ENTER to Disable (Standard time) or Enable (Add 1hr)
System Test	ENTER to show the current relay status, on or off, and test relay operation.
Set Disply	ENTER to adjust the contrast of the display using relative numbers 00~09.
Clr Memory	ENTER to clear all programmed items except the PIN code from the memory. You will be required to confirm yes or no.
Exit	ENTER to exit programming mode and return to the home screen.

SEL

Programming

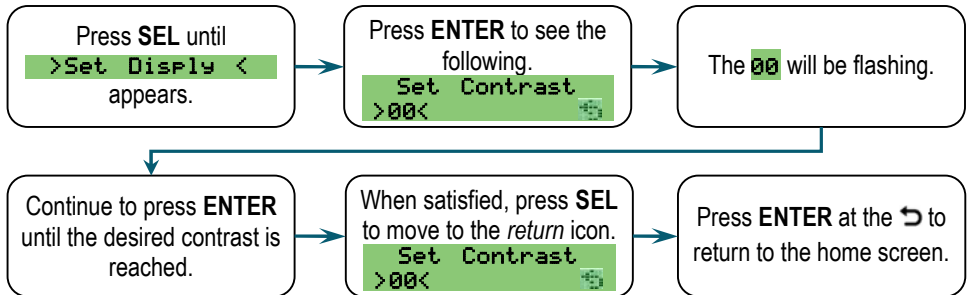
The basic steps for programming are as follows.

1. Go to the menu for the feature you wish to program by pressing the *SEL* button.
2. Press the *ENTER* button to enter that menu.
3. The first programming option will be flashing. Press the *ENTER* button to change that option and press the *SEL* button to move to the next option and repeat.
4. Move to the *Return* ↩ icon. Press the *ENTER* button to save changes and exit to home screen.

NOTES:

- In the following instructions, the PIN Code is assumed to be disabled. If enabled, you need to enter your PIN code before beginning programming.
- Holding the *ENTER* button down will cause it to quickly move through the options.

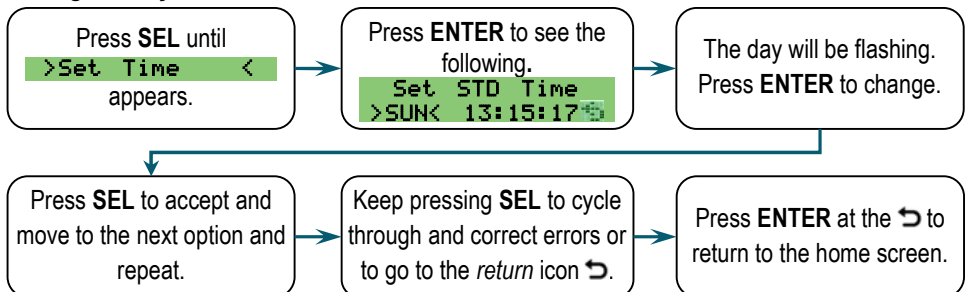
Setting the Display Contrast



NOTES

- The contrast is represented relatively from 00~09 (default, 00). Continuing to press *ENTER* after reaching 09 will start the cycle over at 00.
- The display contrast can also be set at any time by pressing and holding the *SEL* and *ENTER* buttons at the same time. The screen contrast will gradually adjust eventually cycling back to 00 and starting over. When it reaches the level you desire, release the buttons.

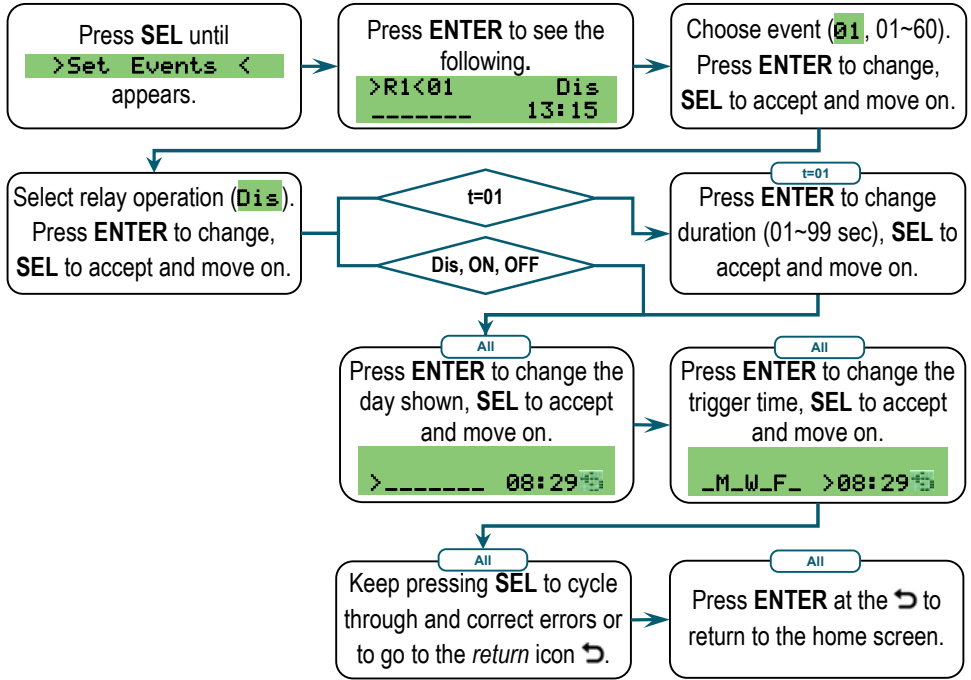
Setting the Day and Time



NOTE: The time is displayed in 24-hour, military format where 1:00 PM is written as 13:00:00.

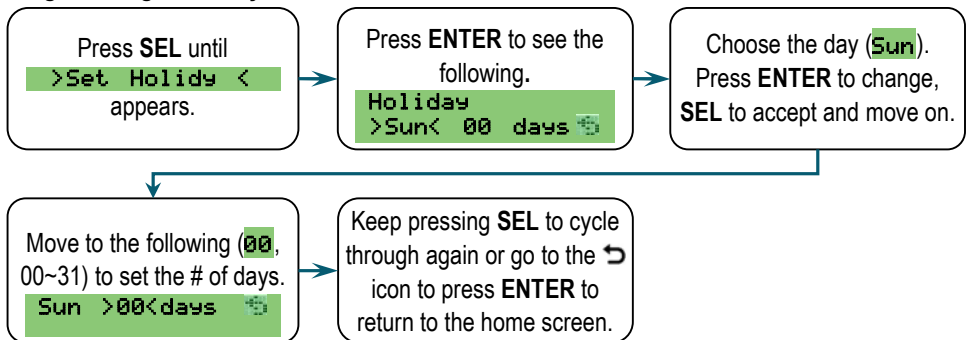
Programming (Continued)

Programming Events



NOTE: Relay operations are Dis (shunt), ON, t=x (momentary, where x=01~99 seconds), or OFF.

Programming a Holiday Event

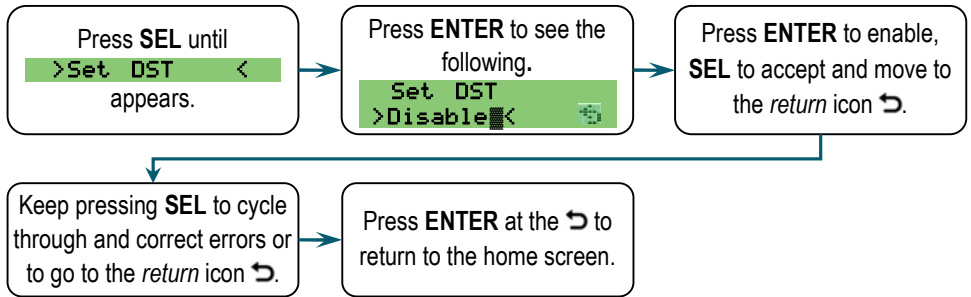


NOTES

- In programming holidays, 00 is equivalent to "disable."
- Note that holiday events are for 24-hour periods beginning at midnight and cannot be limited to certain hours.
- On a holiday, the lower portion of the timer display will alternate between the date and >HOLI.

Programming (Continued)

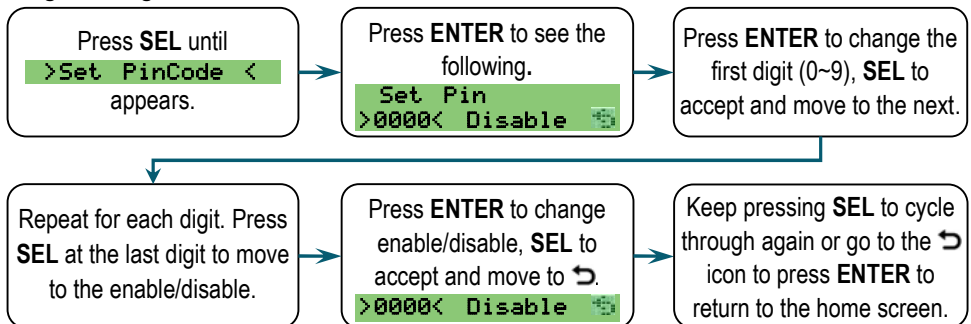
Programming Daylight Savings Time




NOTE: DST options are as shown below.

- Disable – Standard time
- Enable – Adds one hour

Programming a PIN Code

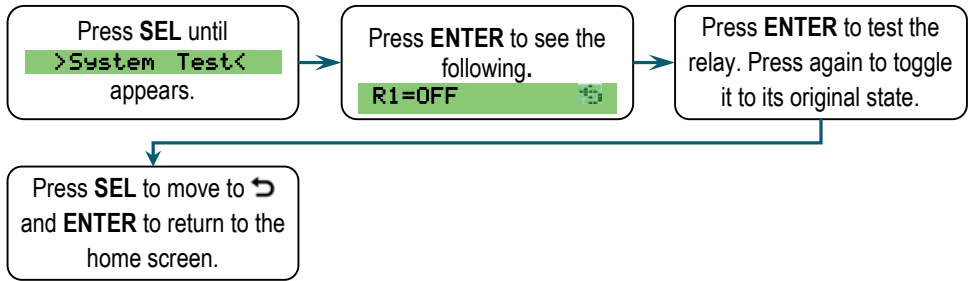


If you forget the PIN Code, proceed as follows to unlock the timer and enter programming mode.

1. Turn off power to the timer and disconnect the backup battery.
2. Power up the timer and immediately press and hold the **ENTER** button for at least 3 seconds, until the lock icon  disappears from the display. This returns the PIN code to 0000.
3. Proceed with programming as usual.

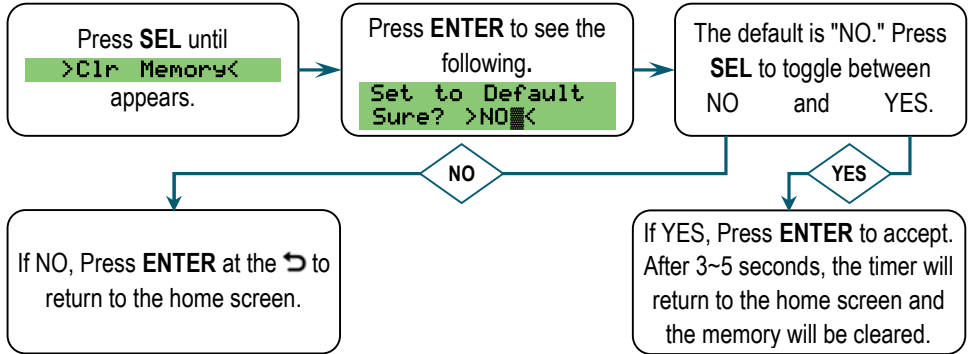
Programming (Continued)

Performing a System Test



NOTE: Performing the system test toggles the relay based on its current state. If it is currently ON, pressing ENTER to test will toggle it OFF and vice versa.

Clearing the Memory



Troubleshooting

How can I test that a relay is working?

- You can use the *System Test* (see above) to toggle the relay on and off to test that it works properly.

I am unsure that my device is receiving the correct input voltage

- From the home screen, press the **ENTER** button to see the input voltage.

IMPORTANT: Users and installers of this product are responsible for ensuring that the installation and configuration of this product complies with all national, state, and local laws and codes. SECO-LARM will not be held responsible for the use of this product in violation of any current laws or codes.

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