ENFORCER®

SA-027WQ

7-Day Timer

Manual

- 12~24 VAC/VDC
- Program up to 60 flexible events
- Holiday function
  (up to 99 days)
- Easy-to-read backlit LCD
- Adjustable output time
- Programmable security code
  lock out
- Memory saved if power fails
- 12 or 24 hr clock format

- Enclosed terminals for safer installation
- Mode selection button for manual relay operation
- 16 Schedules including daily, weekly, weekends, etc.
- Backup battery included*
- Form C relay output
  (10A@120VAC/28VDC)
- Egress input terminal

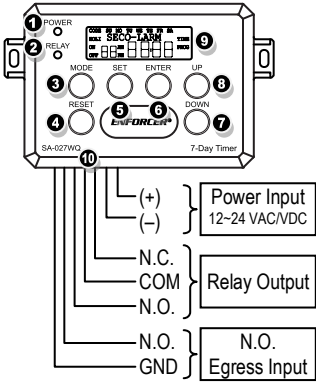*Preserves clock time only. External power must be present for relay to function.

SLI SECO-LARM

RoHS

Note: Products with model numbers that end with "Q" or that have a round green "Q" sticker are RoHS compliant.
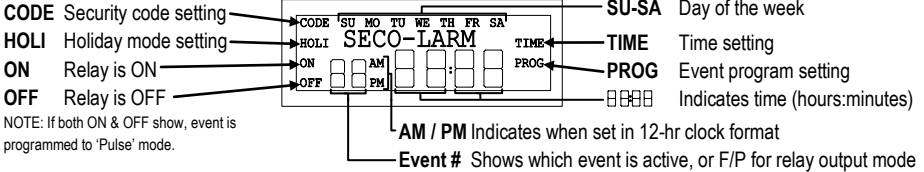
Table of Contents:

Overview:

❶ Power Indicator LED
Glows blue when power is ON.

❷ Relay Indicator LED
Glows red when relay is active.

❸ MODE
Enter mode selection
Toggle Automatic (relay will follow programs) / Manual (relay will not follow programs)
Hold 3-sec: Relay will exit mode selection

❹ RESET
Press once: Turn off relay
Hold 3-sec: Reset to factory defaults

❺ SET See Programming section for details
Enter settings mode / Move to previous setting.

❻ ENTER See Programming section for details
Enter setting / Confirm setting / Move to next setting.

❼ DOWN See Programming section for details
Move to previous setting / Decrease selected setting.

❽ UP See Programming section for details
Move to next setting / Increase selected setting.

❾ LCD Display
See detailed description below.

❿ Terminal block
For connection details, see Sample Applications/Wire Diagram on page 7.

Power Input
12~24 VAC/VDC
(+)
(−)

N.C.
COM
N.O.
Relay Output

N.O.
GND
N.O. Egress Input

LCD Display:

CODE Security code setting
HOLI Holiday mode setting
ON Relay is ON
OFF Relay is OFF
NOTE: If both ON & OFF show, event is programmed to 'Pulse' mode.

SU-SA Day of the week
TIME Time setting
PROG Event program setting
Indicates time (hours:minutes)

AM / PM Indicates when set in 12-hr clock format
Event # Shows which event is active, or F/P for relay output mode

Specifications:

Operating voltage		12~24 VAC/VDC
Current draw	Standby	15mA@12VDC
	Active	70mA@12VDC
Relay rating		10A@120VAC/28VDC
Backup battery		1 x CR-2016 (included)
Weight		4.6-oz (130g)
Dimensions		$4^3/_{16}$" x $3^1/_{16}$" x $1^1/_4$" (107 x 78 x 31 mm)

Dimensions:

$4^3/_{16}$"
(107mm)

$3^1/_{16}$"
(78mm)

$4^9/_{16}$"
(116mm)

$1^1/_4$"
(31mm)
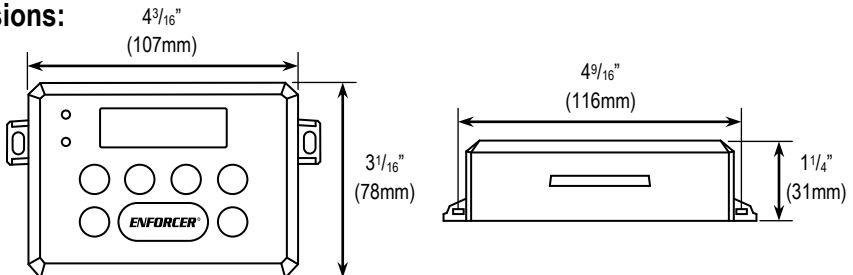
Installation:

1. Mount the 7-Day Timer where the alpha-numeric display can be easily seen, and the keys can be pressed.
2. Connect 12~24 VAC/VDC to the power input terminals marked (+) and (-).
3. Remove the cover from the device. Remove the paper battery protector from the backup battery (CR-2016, included).
   NOTE: The paper protector prevents the battery from being drained during product shipment. If the protector is not removed, the backup battery will fail to function.
4. Connect the device that will be controlled to the relay N.O. or N.C. and COM terminals.
   NOTE: If connecting the timer to a DC-powered electromagnetic or electric lock, connect a 1N4004 diode (not included) as close as possible to, and in parallel with, the lock (see page 7). This absorbs possible electromagnetic interference to prevent operation of the lock from damaging the timer. A 1N4004 diode is not required for AC-powered locks.
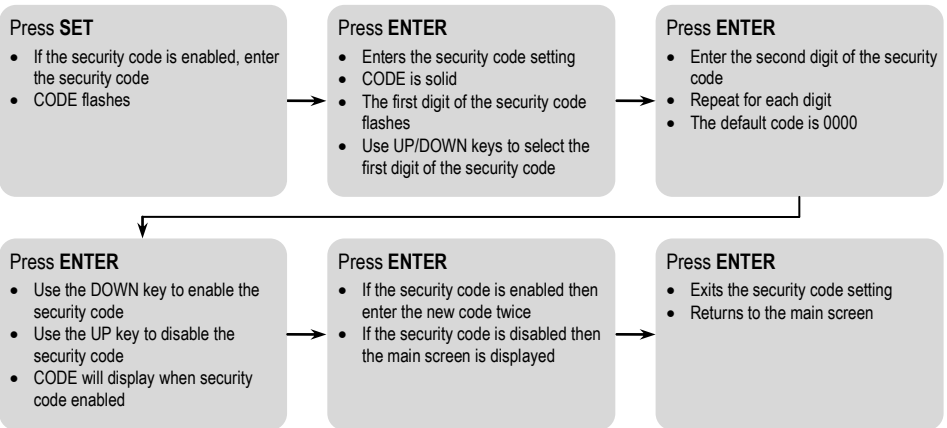5. Ensure the connected device operates within the specifications of the relay.

Egress Input: (optional, switch not included)

1. The 7-Day Timer features a N.O. Egress input which can be used with an optional N.O. switch which, when pressed, will cause the 7-Day Timer relay to activate.
2. Connect the switch between the N.O. Egress input and ground
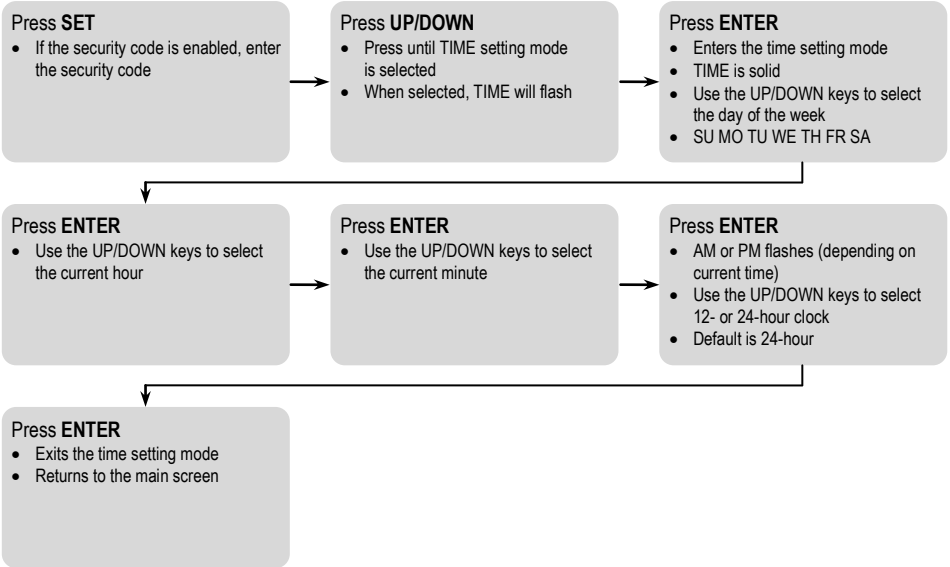
Setting the Security Code:

- If the security code feature is enabled, a 4-digit code must be entered before performing any operations.
- Use the UP/DOWN keys to input the code, and ENTER/SET to move to the next/previous code digit.
- Entering the incorrect code will return to the main screen.
- The default code is 0000.

Press **SET**	Press **ENTER**	Press **ENTER**
• If the security code is enabled, enter the security code • CODE flashes	• Enters the security code setting • CODE is solid • The first digit of the security code flashes • Use UP/DOWN keys to select the first digit of the security code	• Enter the second digit of the security code • Repeat for each digit • The default code is 0000

Press **ENTER**	Press **ENTER**	Press **ENTER**
• Use the DOWN key to enable the security code • Use the UP key to disable the security code • CODE will display when security code enabled	• If the security code is enabled then enter the new code twice • If the security code is disabled then the main screen is displayed	• Exits the security code setting • Returns to the main screen

Security Code Reset: To reset the security code to the factory default (0000), press and hold the SET, ENTER, UP & DOWN keys for 3 seconds.

Setting the Time:

- Set the current time in 12- or 24- hour clock format.
- Note: The backup battery will preserve clock time during power failure
- To set the time:

Press **SET**	Press **UP/DOWN**	Press **ENTER**
• If the security code is enabled, enter the security code	• Press until TIME setting mode is selected • When selected, TIME will flash	• Enters the time setting mode • TIME is solid • Use the UP/DOWN keys to select the day of the week • SU MO TU WE TH FR SA

Press **ENTER**	Press **ENTER**	Press **ENTER**
• Use the UP/DOWN keys to select the current hour	• Use the UP/DOWN keys to select the current minute	• AM or PM flashes (depending on current time) • Use the UP/DOWN keys to select 12- or 24-hour clock • Default is 24-hour

Press ENTER
- Exits the time setting mode
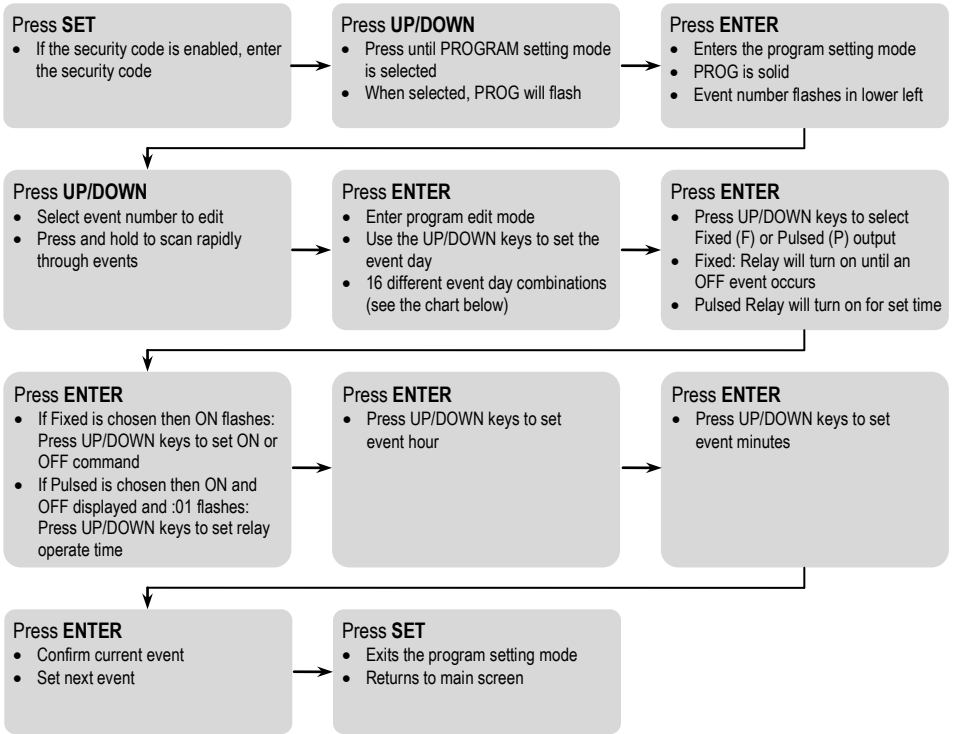- Returns to the main screen

Entering Events:

- The 7-Day Timer can store up to 60 events.
- When an event is active, the event number will show on the LCD.
- In fixed mode, ON or OFF will show on the LCD.
- Fixed mode means the relay will activate with one event and deactivate with another event.
- In pulsed mode, ON and OFF will both show on the LCD.
- Pulsed mode means the relay will activate for a set period of time and then automatically turn off.
  NOTE 1: The timer only executes future events. For example, a Monday 8:00 AM event that is programmed at 10:00 AM on Monday will not execute and come into effect until the following Monday at 8:00 AM.
  NOTE 2: Only one event can be scheduled for each minute. Subsequent events set to the same day/hour/minute will not be saved.
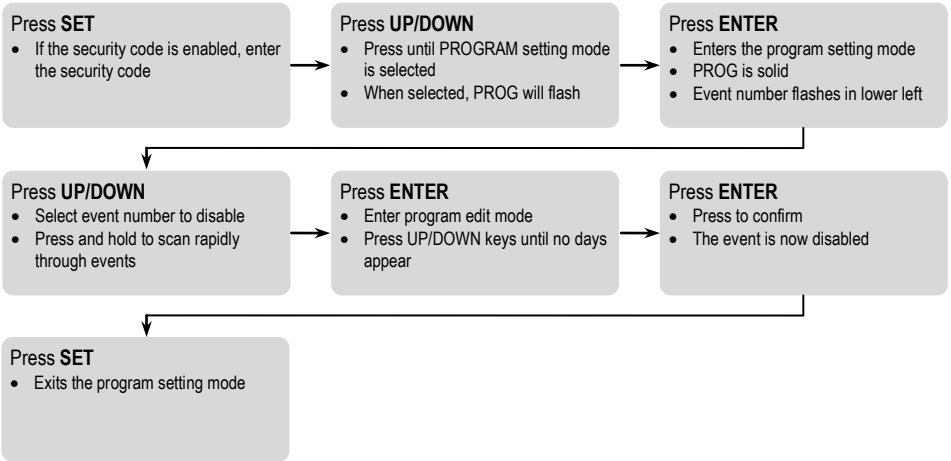
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To create a new event:

Press SET
- If the security code is enabled, enter the security code

Press UP/DOWN
- Press until PROGRAM setting mode is selected
- When selected, PROG will flash

Press ENTER
- Enters the program setting mode
- PROG is solid
- Event number flashes in lower left

Press UP/DOWN
- Select event number to edit
- Press and hold to scan rapidly through events

Press ENTER
- Enter program edit mode
- Use the UP/DOWN keys to set the event day
- 16 different event day combinations (see the chart below)

Press ENTER
- Press UP/DOWN keys to select Fixed (F) or Pulsed (P) output
- Fixed: Relay will turn on until an OFF event occurs
- Pulsed Relay will turn on for set time

Press ENTER
- If Fixed is chosen then ON flashes: Press UP/DOWN keys to set ON or OFF command
- If Pulsed is chosen then ON and OFF displayed and :01 flashes: Press UP/DOWN keys to set relay operate time

Press ENTER
- Press UP/DOWN keys to set event hour

Press ENTER
- Press UP/DOWN keys to set event minutes

Press ENTER
- Confirm current event
- Set next event

Press SET
- Exits the program setting mode
- Returns to main screen

Setting for day of the week can be programmed in 16 different combinations. Combinations, in the order they appear, are as follows: (combination will show onscreen when selected)
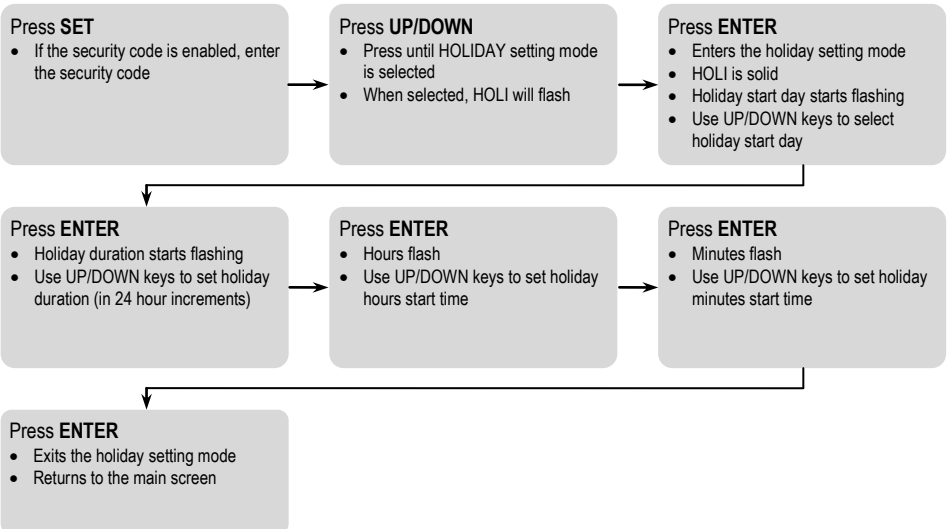
	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	●						
2		●					
3			●				
4				●			
5					●		
6						●	
7							●
8		●	●	●	●	●	
9		●	●	●	●	●	●
10	●	●	●	●	●	●	●
11		●	●	●			
12					●	●	●
13		●		●		●	
14			●		●		●
15	●						●
16	Disabled						

To disable an event:

Press **SET**	Press **UP/DOWN**	Press **ENTER**
• If the security code is enabled, enter the security code	• Press until PROGRAM setting mode is selected • When selected, PROG will flash	• Enters the program setting mode • PROG is solid • Event number flashes in lower left

Press **UP/DOWN**	Press **ENTER**	Press **ENTER**
• Select event number to disable • Press and hold to scan rapidly through events	• Enter program edit mode • Press UP/DOWN keys until no days appear	• Press to confirm • The event is now disabled

Press **SET**
• Exits the program setting mode

Setting Holiday Mode:

- Holiday mode is used to temporarily suspend all programmed events for up to 99 days.
- Each holiday period is active only once and will not repeat. Holiday duration must be a multiple of 24 hours.
- When holiday mode is active, the number of holiday days remaining are displayed on the LCD.
- Holiday mode will only become active once the start time is reached. For example, if on Monday at 10:00AM a 3-day holiday period is set to begin on Monday at 8:00AM, suspension of events will only begin Tuesday at 8:00AM, and run until Friday at 7:59AM.
- To schedule a holiday:

Press **SET**	Press **UP/DOWN**	Press **ENTER**
• If the security code is enabled, enter the security code	• Press until HOLIDAY setting mode is selected • When selected, HOLI will flash	• Enters the holiday setting mode • HOLI is solid • Holiday start day starts flashing • Use UP/DOWN keys to select holiday start day

Press **ENTER**	Press **ENTER**	Press **ENTER**
• Holiday duration starts flashing • Use UP/DOWN keys to set holiday duration (in 24 hour increments)	• Hours flash • Use UP/DOWN keys to set holiday hours start time	• Minutes flash • Use UP/DOWN keys to set holiday minutes start time

Press **ENTER**
• Exits the holiday setting mode • Returns to the main screen

Sample Applications/Wire Diagram:

- In this application, the SA-027WQ is used to open and close a gate based on a weekly schedule. The gate is required to remain open from 7:00am to 7:00pm Monday through Friday.
- If the gate is set to automatically close after opening:
- The relay is set in Fixed mode to activate at 7:00am Monday through Friday
- The relay is set in Fixed mode to deactivate at 7:00pm Monday through Friday
- If the gate is set to open or close based on a dry contact closure:
- The relay is set in Pulse mode to activate for :02 seconds at 7:00am Monday through Friday
- The relay is set in Pulse mode to activate for :02 seconds at 7:00pm Monday through Friday
- A wireless remote (such as the SK-919TD1S-UP) activates the wireless receiver (such as the SK-910RBQ), which is connected to the egress input of the SA-027WQ. This will activate the gate when the timer is not in use.
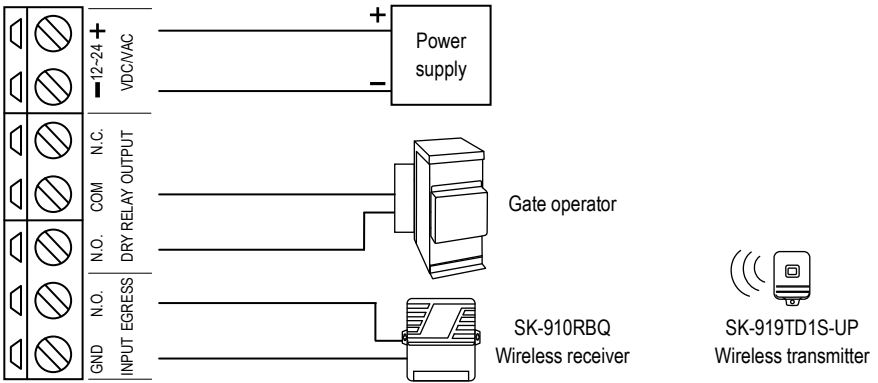
- In this application, the SA-027WQ is used to keep an entry door unlocked during normal business hours.
- The relay is set in Fixed mode to activate at 8:00am Monday through Friday.
- The relay is set in Fixed mode to deactivate at 5:00pm Monday through Friday.
- A fail safe electric door strike (such as the SD-996C-NUQ) is connected between the N.C. and (–) terminals. A 1N4004 diode (not included) must be connected as close as possible to, and in parallel with, the lock.
- A Normally Open (N.O.) spring-loaded switch connected to the egress input of the SA-027WQ allows for egress while the door is locked.
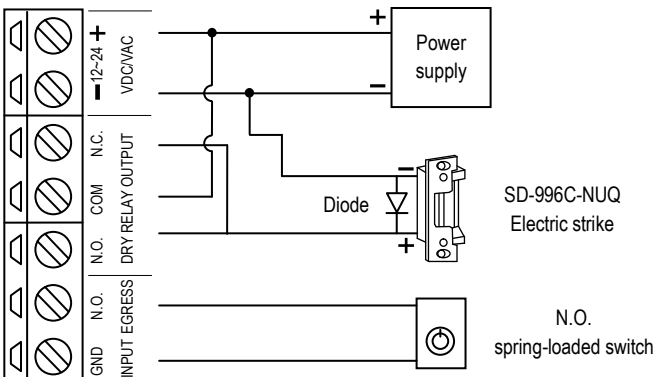
Changing the Battery:

1. Use one CR-2016 button cell battery.
2. Unscrew the rear panel.
3. Note the orientation of the button cell battery and remove it.
4. Replace the battery with one fresh cell of the same type (CR-2016), in the same orientation as before.
5. Replace the rear panel.

Troubleshooting:

Time frequently incorrect	• Ensure the 7-Day Timer has a reliable power source. • Replace the backup battery.
Programmed event does not execute	• Ensure relay is in Automatic Mode (Overview section, see page 2). • Ensure event is correctly programmed.

Also Available from SECO-LARM:

365-Day Annual Timer	Delayed Egress Timer	Multipurpose Timers
SA-027Q	**SA-025EQ**	**SA-025Q/SA-026Q**