c. **Triggering by powering unit up** – If DIP switch #5 is set to ON, the delay period set by the timer starts when the SA-025Q is powered up. At the end of the delay period, the relay latches on and remains on until the SA-025Q is disconnected from power.

5. **Pulsing or Flashing Output, instant or delay (Fig. 6)**:

a. **DIP** switch settings:

1 – Relay output mode, see below	4 – Timer setting (ON or OFF)
2 – Instant/delay start, see below	5 – OFF
3 – OFF	6 – OFF

b. **Action** – If the TRG terminal is connected to (+) momentarily, the SA-025Q waits for the time set by the timer, and then starts pulsing/flashing. The pulse/flash output lasts until the TRG terminal is disconnected from (+).

c. **Triggering by powering unit up** – If DIP switch #5 is set to ON, the output works the same, but instead of triggering via the TRG terminal, the SA-025Q is triggered by being powering up.

d. **Instant/delay start** – If DIP switch #2 is set to ON, the SA-025Q waits for the time set by the timer after triggered or powered up, and then starts pulsing/flashing. If DIP switch #2 is set to OFF, the SA-025Q starts pulsing/flashing as soon as it is triggered or powered up.

e. **Relay output time** – If DIP switch #1 is set to ON, the relay on and off time depends on how the timer is set. If DIP switch #1 is set to OFF, the relay on time is fixed at about 1 second, and the relay off time depends on how the timer is set.

6. **Optional Negative Trigger or Closed-Circuit Trigger (Fig. 7):**

If a closed-circuit negative trigger is required, it is necessary to install a 1K (1,000-ohm) resistor as shown (included).

SECO-LARM® U.S.A., Inc.
16842 Millikan Avenue, Irvine, CA 92606
Tel: 800-662-0800 / 949-261-2999 Fax: 949-261-7326
Website: www.seco-larm.com
E-mail: sales@seco-larm.com

file: MI_SA-025Q_151214
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PITSW1

Installation Manual

ENFORCER®

SA-025Q

Programmable Timer Module

The **SA-025Q** Programmable Timer Module is suitable for a wide range of timed security and access control operations, such as door unlock timing, siren or bell timer, VCR timer, and so on. Auto-sensing of input voltage and DIP switches for programming make installation easy.

Features / Specifications:

- Timer can be set from 1 second to 60 minutes
- Can be triggered via a N.O. positive (+) trigger input signal or a N.C. negative (-) trigger device or by powering up the unit
- Relay can be programmed to activate at the start or at the end of the timing cycle
- Relay can also be set to activate for one second at the end of the timing cycle
- Relay can be programmed to pulse (flash) or be steady on
- Built-in reset function to manually reset timing cycle
- Form-C relay, contacts rated 8A@120VAC/24VDC
- LED indicates relay is energized
- 12VDC/24VDC operation (auto sensing)
- Current draw – Less than 1mA (standby) or 50mA (relay energized)
- Dimension $3^{1}/_{4}$"x$2^{11}/_{16}$"x$1^{1}/_{16}$"(83x68x27.5 mm)
- Functions programmed via DIP switches – no jumpers to cut

Wiring:

- **TRG** – N.O. Positive (+) trigger input signal or
  – N.C. Negative (-) trigger input signal (1K ohm resistor required - included)
- **(-)** – Ground input
- **(+)** – +12VDC to +24VDC input
- **NO** – Relay output (normally open)
- **COM** – Relay output (common)
- **NC** – Relay output (normally closed)

DIP Switch Settings (Programming):

The SA-025Q is programmed via a series of six DIP switches which can be turned on or off. See Fig. 1.

Fig. 1 – DIP switch settings

Switch	Off	On
#1	Fixed 1 sec. Relay output time	Variable Relay output time
#2	Relay energizes at start of timing cycle	Relay energizes at end of timing cycle
#3	REPEAT timing cycle	SINGLE timing cycle
#4	Time in MINUTES	Timing in SECONDS
#5	Timing controlled by TRG input	Timing controlled by Power Up
#6	Counter begin at START of TRG	Counter begin at END of TRG

Note: Text on SA-025Q PCB is abbreviated for space considerations.

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Setting the Timer:

The relay output time can be programmed for either 1 to 60 seconds, or 1 to 60 minutes, using the round, black thumbwheel:

1. Determine and set DIP switch #4 according to whether the timing should be measured in seconds or minutes (see DIP Switch Settings above).
2. Turn the thumbwheel on the SA-025Q clockwise to increase time, and counter-clockwise to decrease time.
3. Test the time, and make adjustments as needed.

NOTE – You should carefully test the time period once it is set.

Sample Installations for Common Timer Applications:

NOTE – The following only represents a few of the many possible ways to use this Timer Module. For your specific application, it may be necessary to experiment with the DIP switch settings.

Fig. 2 – Momentary trigger, no delay

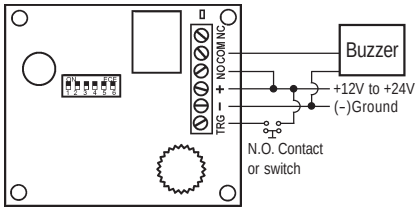


Fig. 3 – Momentary trigger, no delay

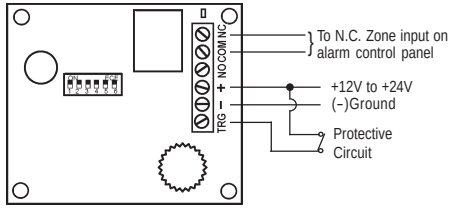


Fig. 4 – 1-time mom. trigger, no delay

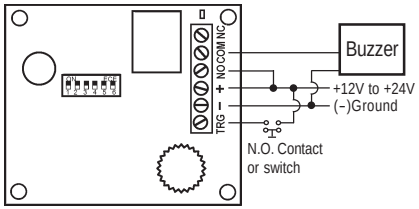


Fig. 5 – Latched output, delayed

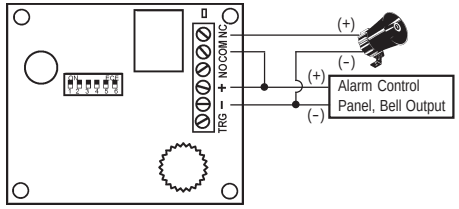


Fig. 6 – Pulse/flash o/p, instant/delay

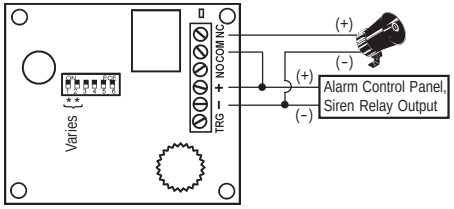
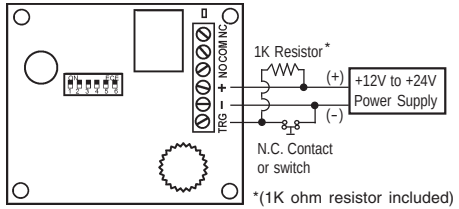


Fig. 7 – Optional negative or closed-circuit trigger



Note: regarding DIP switch #1:
Sometimes DIP switch #1 will function as an instant/delay control, but when it is ON, its actual function depends on how DIP switch #3 is set.

DIP #1 setting	Function
OFF	1-sec. momentary relay output
ON (DIP #3 ON)	Relay output latches on
ON (DIP #3 OFF)	Relay output equals 1 sec.

1. **Momentary trigger, no delay** (for timed annunciator or supervisory circuit) **(Fig. 2):**
   a. **DIP** switch settings:

1 – ON	3 – ON	5 – OFF
2 – OFF	4 – Timer setting (ON or OFF)	6 – OFF

   b. **Action** – If the TRG terminal is connected to (+) momentarily, the relay output immediately turns on. The output stays on for the time set by the timer, after which it turns off regardless of whether the trigger is connected or disconnected.

   NOTE – If the momentary trigger time is less than the time set by the timer, the relay output is triggered only once. If the trigger time is longer than the timer time, the relay will be activated a second time when the trigger is removed.

   c. **N.O. vs. N.C. output** – For a timed door annunciator, connect a buzzer or chime to the N.O. and COM outputs. For a closed-loop supervisory circuit, connect a dialer or transmitter to the N.C. and COM outputs.

2. **Momentary trigger, no delay** (for swinger eliminator) **(Fig. 3):**
   a. **DIP** switch settings:

1 – ON	3 – ON	5 – OFF
2 – OFF	4 – Timer setting (ON or OFF)	6 – ON

   b. **Action** – If the TRG terminal is connected to (+) momentarily, the relay output immediately turns on, and stays on for as long as the TRG terminal is connected to (+). Once the TRG connection is broken, the relay output remain activated for as long as the time period set by the timer, and then turns off.

   c. **Triggering by powering unit up** – If DIP switch #5 is set to ON, the output works the same, but instead of triggering via the TRG terminal, the SA-025Q is triggered by powering it up. Once powered up, the relay remains activated for the time set by the timer, or until power is removed, whichever comes first.

3. **One-time 1-sec. momentary trigger, no delay (Fig. 4):**
   a. **DIP** switch settings:

1 – OFF	3 – ON	5 – OFF
2 – OFF	4 – Timer setting (ON or OFF)	6 – ON

   b. **Action** – If the TRG terminal is connected to (+) momentarily, the relay output immediately activates for about one second. To reset the SA-025Q, the TRG must be disconnected from (+) for at least two seconds. The timer has no effect.

   c. **Triggering by powering unit up** – If DIP switch #5 is set to ON, the output works the same, but instead of triggering via the TRG terminal, the SA-025Q is triggered by being powered up.

4. **Latched Output, delayed (Fig. 5):**
   a. **DIP** switch settings:

1 – ON	3 – ON	5 – OFF
2 – ON	4 – Timer setting (ON or OFF)	6 – OFF

   b. **Action** – If the TRG terminal is connected to (+) for the time set by the timer, the relay activates and remains activated. To reset the latched relay, connect the TRG terminal momentarily to (+) again.