



*In or Out... we make it Easy!®*

## Features

- 5 Modes of Operation:
  - > Delay on Operation
  - > Delay on Release
  - > Latching
  - > Pulsing
  - > Toggling
- Time range adjustable from 1 second to 34 hours
- 12 or 24VDC operation
- DPDT Relay output rated for 5A @ 24VDC
- LED status indicator relay
- Quartz controlled microprocessor
- Negative Trigger

## Instructions

1. Mount the timer board in a suitable location using the supplied double-sided adhesive.
2. Set DIP switches for settings and time delay requirements before applying power.
3. If 24VDC operation is required cut resistor as shown in FIG#1.
4. Wire power, trigger and relay wiring as needed. (See Application Notes for details)
5. Test relay and time delay operation by activating trigger while monitoring LED status indicator for proper operation.

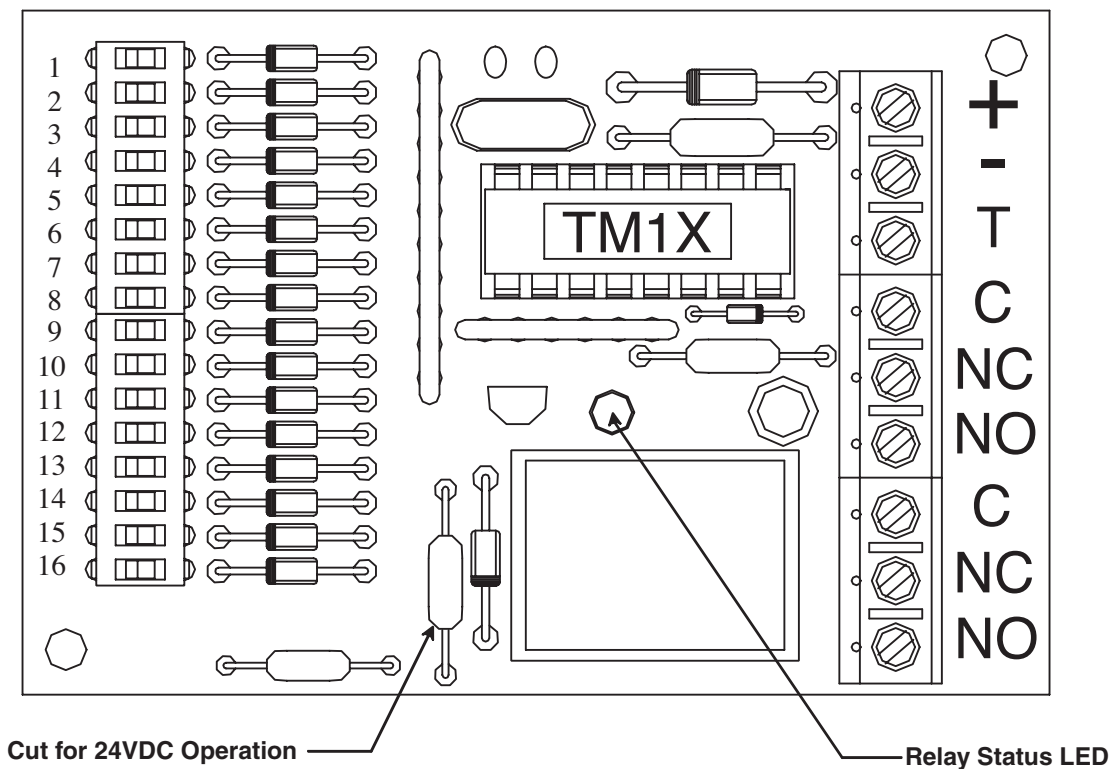


FIG. 1 – TM1X Timer Board

# TM1X Installation Instructions (Continued)

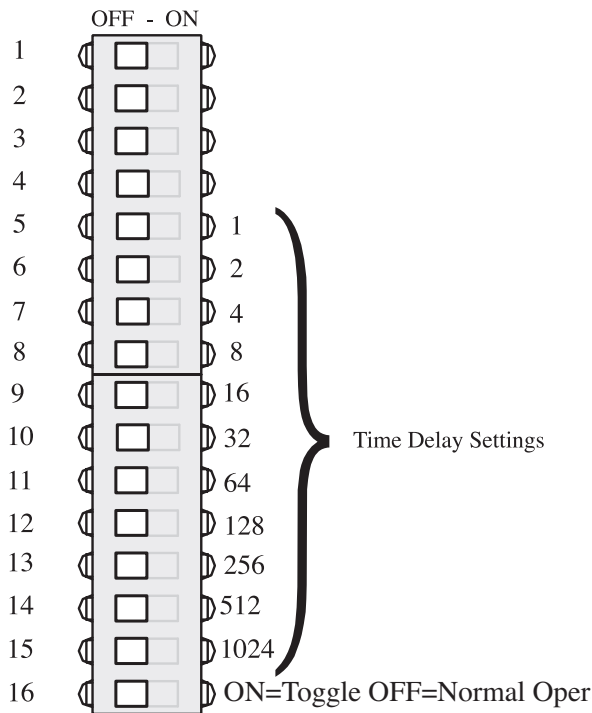


FIG. 2 – TM1X DIP Switch Settings

- S1 - OFF** = Relay active during time delay  
**ON** = Relay active after time delay
- S2 - OFF** = Timer starts when trigger is grounded  
**ON** = Timer starts when trigger is released from ground
- S3 - OFF** = Time in seconds  
**ON** = Time in minutes
- S4 - OFF** = Timer cycles once  
**ON** = Timer cycles continuously
- S16 - OFF** = Timer operates normally  
**ON** = Relay cycles 1sec on, 1sec off for the amount of time set

**Note** If the time is set to zero and **S16** is **ON** the relay cycles indefinitely.

## Specifications

### MECHANICAL:

Dimensions:  
Length: 3.000" 76mm  
Width: 2.000" 51mm  
Height: 0.875" 22mm

### ELECTRICAL:

Current Consumption - Active: 60mA  
Current Consumption - Idle: 12mA  
Relay Rating: 5A @ 24VDC

### ENVIRONMENTAL:

Product is not for use in outdoor environments.

## Timer Troubleshooting Guide

### PROBLEM

*Relay does not trigger when powered.*

### SOLUTION

The relay sits at idle when powered up. To start the timing sequence, the Trigger terminal (T) must be shorted to Ground (-) momentarily.

*Timer board appears to be quietly "squealing" when triggered.*

Timing for the TD1 is controlled by a quartz crystal that oscillates. This is not serious; occasionally quartz crystals emit a sound when oscillating. This will not damage the timer or hinder its operation.

# TM1X Installation Instructions (Continued)

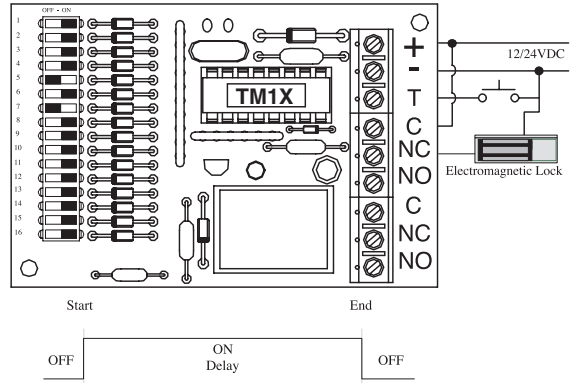
## Application Notes

### USAGE

#### Instant Unlock – Delayed Auto Relock (Operates as RCI TD3)

Upon the actuation of a momentary switch (e.g. push button, keyswitch, keypad), the door unlocks immediately and automatically relocks after a preset (adjustable) amount of time has elapsed. (Shown set with a delay of 5 seconds)

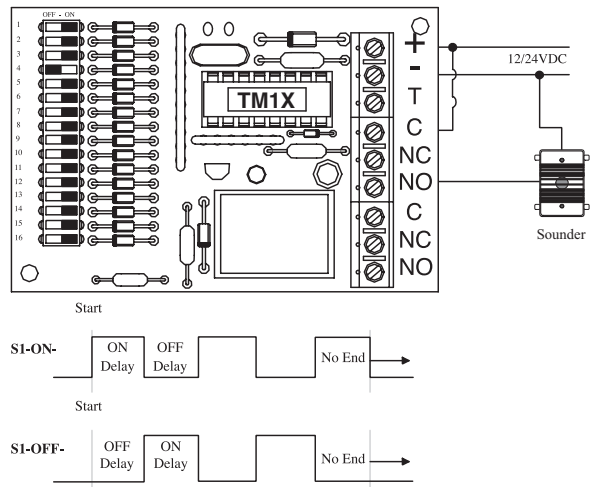
### EXAMPLE



#### Visual or Audible Annunciator (Pulsing Function)

Applying power to the timer (no Trigger required) will cause the output relay to cycle **ON** and **OFF**. Both the ON and OFF portions of the cycle will last for the amount of time set via the DIP switches.

**NOTE:** Setting **S1** to **ON** will allow the relay to energize at the beginning of the cycle. Setting **S1** to **OFF** will force the relay to activate at the end of the first time delay.



# INSTALLATION

# TM1X

## Wire Gauge Selection



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Total One Way Length of Wire Run (ft.)	Load Current @24V							
	1/4A	1/2A	3/4A	1A	1-1/4A	1-1/2A	2A	3A
100	24	20	18	18	16	16	14	12
150	22	18	16	16	14	14	12	10
200	20	18	16	14	14	12	12	10
250	18	16	14	14	12	12	12	10
300	18	16	14	12	12	12	10	--
400	18	14	12	12	10	10	--	--
500	16	14	12	10	10	--	--	--
750	14	12	10	10	--	--	--	--
1000	14	10	10	--	--	--	--	--
1500	12	10	--	--	--	--	--	--

Total One Way Length of Wire Run (ft.)	Load Current @12V							
	1/4A	1/2A	3/4A	1A	1-1/4A	1-1/2A	2A	3A
100	20	18	16	14	14	12	12	10
150	18	16	14	12	12	12	10	--
200	16	14	12	12	10	10	--	--
250	16	14	12	10	10	10	--	--
300	16	12	12	10	10	--	--	--
400	14	12	10	--	--	--	--	--
500	14	10	10	--	--	--	--	--
750	12	10	--	--	--	--	--	--
1000	10	--	--	--	--	--	--	--
1500	10	--	--	--	--	--	--	--

Wire Gauge Chart courtesy of Electronic locking Devices by John L. Schum

### Types of Wire:

Hookup wire is available in both solid and stranded wire types. Stranded wire is the accepted standard for system hookup as it is more flexible and less likely to break. It's made of several small-diameter wires twisted together to form one larger-diameter conductor. To prevent the strands from separating, stranded wire is usually tinned (solder applied to ends of wire). This makes connections easier and prevents the wire from fraying.

### Wire Gauge:

Wire is given a gauge number to classify it by its size or thickness. American wire gauge (AWG) is the most common measurement

for electrical wire size – the lower the wire gauge number, the larger the wire diameter and the greater the current carrying capability.

### Wire Insulation:

The wire insulation should be UL or CSA approved for the maximum voltage to which the wire will be subjected. Normally, the wire rating is three to six times greater than the maximum voltage to be applied to the wire.