INSTALLATION

TM3X
Timer Boards

RUTHERFORD CONTROLS
A DORMA Group Company

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Features

- Three adjustable, microprocessor controlled sequential timers
  - > Trigger Delay – 0-7secs
  - > Timer#1 – 0-63secs
  - > Timer#2 – 0-63secs
- Two separately controlled SPDT relays each rated 2A @ 24VDC
- 12 or 24VDC operation easily selectable by DIP switch
- LED status indicators for each relay
- Negative Trigger

Instructions

1. Mount the timer board in a suitable location using the supplied double-sided adhesive.
2. Set DIP switches for voltage selection and time delay requirements before applying power.
3. Wire power, trigger and relay wiring as needed. (See Application Notes for details)
4. Test relay and time delay operation by activating trigger while monitoring LED status indicators for proper operation.

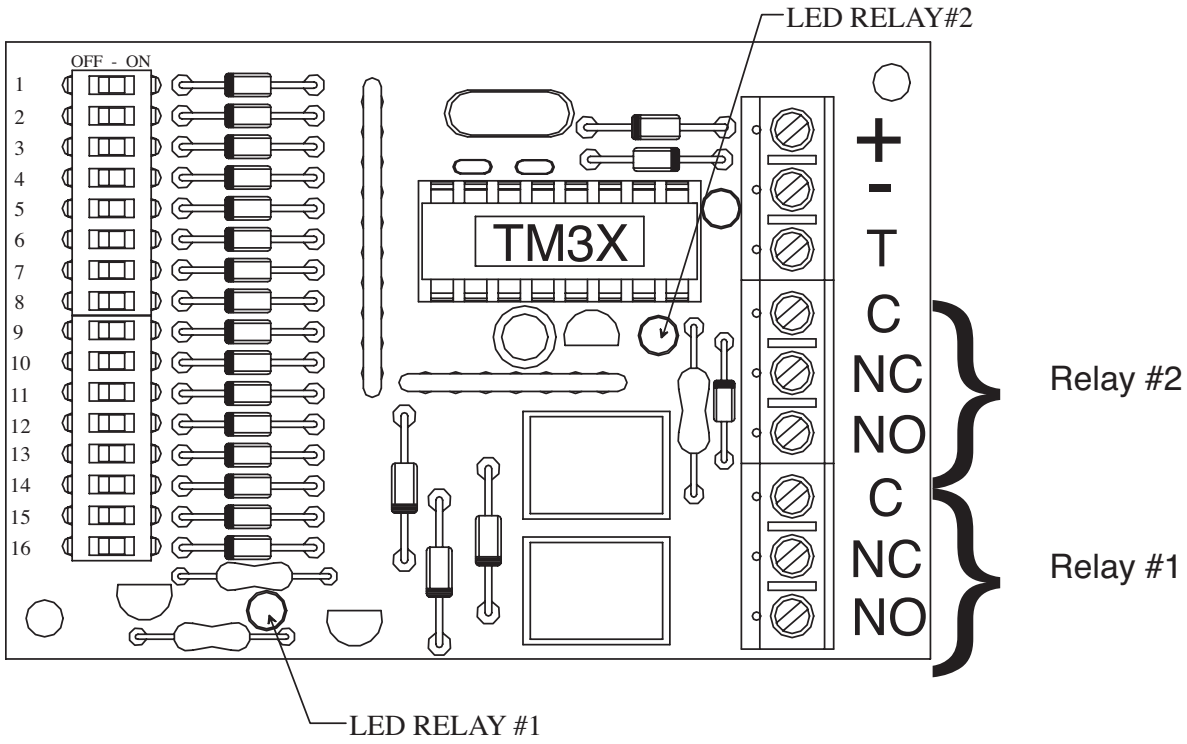

FIG. 1 – TM3X Timer Board

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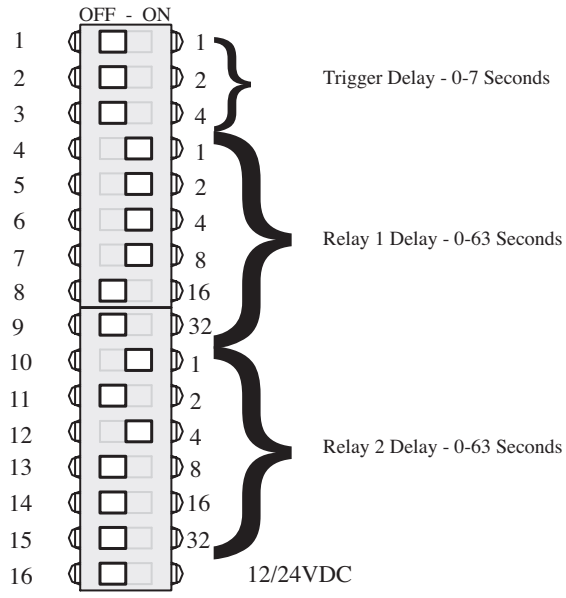


FIG. 2 – TM3X DIP Switch Settings

Timer Example

The timer is required to activate a sounder attached to relay 1 for 15 seconds with no trigger delay. After 15 seconds the timer will activate relay 2 for 5 seconds to unlock the door.

Specifications

MECHANICAL:
Dimensions:
Length: 3.00" 76mm
Width: 2.10" 51mm
Height: 0.65" 22mm

ELECTRICAL:
Current Consumption - Active: 70mA
Current Consumption - Idle: 12mA
Relay Rating: 2A @ 24VDC

ENVIRONMENTAL:
Product is not for use in outdoor environments.

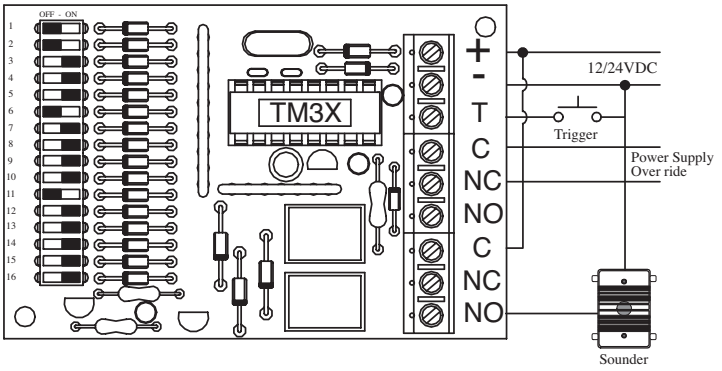
TD3 Timer Troubleshooting Guide

Problem	Solution
Relay does not trigger when powered.	The relay sits at idle when powered up. To start the timing sequence, the Trigger terminal (T) must be shorted to Ground (-) for the amount of time set by trigger delay.
Timer board appears to be quietly "squealing" when triggered.	Timing for the TD3 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.

Application Notes

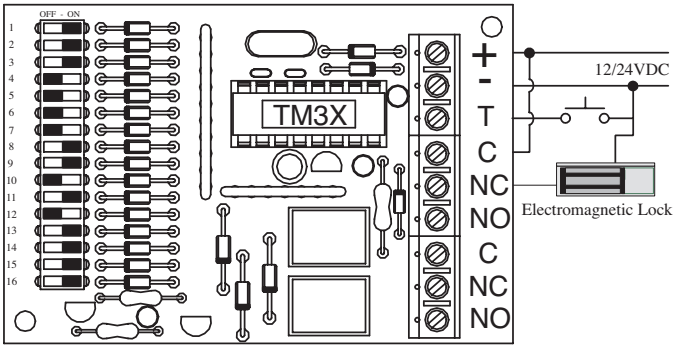
Delayed Unlock with notification
(Operates as RCI TD1)
The actuation of a momentary switch for 3 seconds (e.g. push button, keyswitch, keypad) initiates an irreversible process that will notify the power supply to release the door(s) within 15 seconds.

Setting shown: 3s trigger, 4s sounder, 2s signal to power supply. Note: Sounder will remain on for a total of 6s.



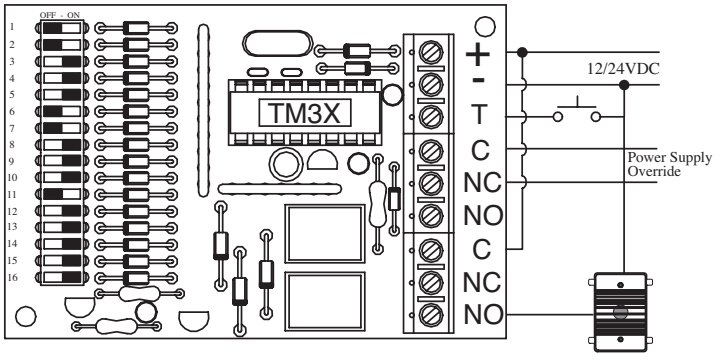
Delayed Unlock - Delayed Auto Relock
(Operates as RCI TD2)
The actuation of a momentary switch (e.g. push button, keyswitch, keypad) initiates an irreversible process that will notify the power supply to release the door(s) within 15 seconds. Relocking of the door is automatic following the 5 second time delay.

Setting shown: 0s trigger (instant), 15s delay, 5s unlock of mag lock



Nuisance Delay
(Operates as RCI TD4)
The trigger input must be active for 3 seconds in order to start an irreversible process that will activate relay within 12 seconds.

Setting shown: 3s trigger, 12s delay with sounder, 2s signal to power supply.



NOTE: Due to varying code requirements from jurisdiction to jurisdiction, RCI recommends that you check with the local authority having jurisdiction (AHJ) before installing any device that can potentially delay egress.

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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.

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