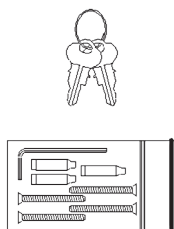
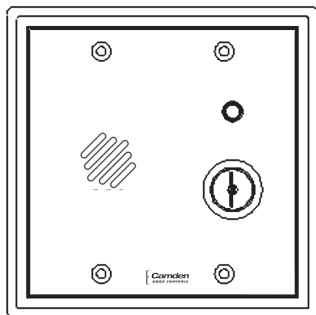


CONTENTS



CX-DA400

DESCRIPTION

The CX-DA400 provides complete monitoring of access control points by offering you prop/door held open and intrusion/door forced open detection. These alarms are designed to complement card reader and access control systems and will interface with electronic locks, produce audible warnings and reduce nuisance alarms by encouraging user compliance with access control procedures.

OTHER FEATURES

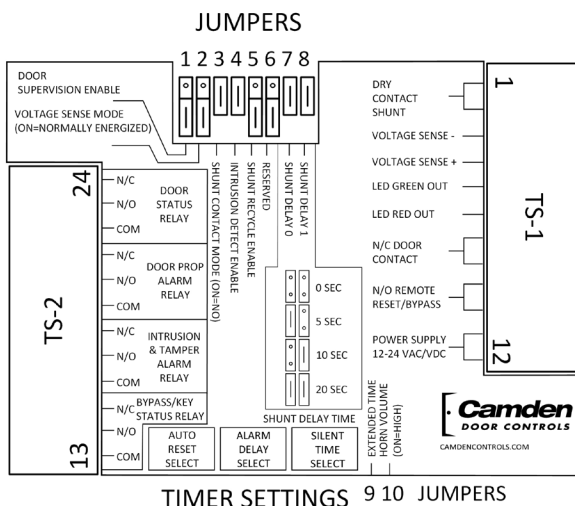
- **Shunt Recycle** - See Step 3. Pg. 4
- **Door Supervision** - See Step 1. Pg. 3
- **Intrusion Detect** - See Step 2. Pg. 3
- **Loud Horn Volume** - See Step 7. Pg. 5
- **Extended Silent Time** - See Step 4. Pg. 4
- **Shunt Delay Timer** - See Step 4. Pg. 4

COMPONENT LOCATION DIAGRAM

OUTPUTS

- **Remote LED** - (located on TS-1)
Output for a remote Bi-color LED, output follows LED on Face Plate.
- **Door Status Relay** - follows the Door Contact Input, regardless of alarm or bypass condition.
- **Door Prop Alarm Relay** - changes state during a Door Prop (Door Held) Alarm condition.
- **Intrusion & Tamper Alarm Relay** - changes state during an Intrusion or Tamper Alarm condition.
- **Bypass/Key Switch Status Relay** - follows Bypass and Key inputs.

Output contacts change state when power is lost.



INPUTS

The inputs are located on Terminal Strip –1 and include:

- **Dry Contact Shunt** - a N/O or N/C Dry Contact, selected using Shunt Contact Mode Jumper 3. See Step 3. Pg. 4
- **Voltage Sense** - Monitors the power wires on an electric lock (i.e.: Mag-lock or Door Strike). Senses change in voltage as valid user. See Step 3. Pg. 4
- **Door Contact** - a Closed Loop (N/C) Dry Contact which opens when the monitored door opens. See Step 1. Pg. 3
- **Bypass** - Connect to a N/O Dry Contact from a remote location to bypass the unit. See Step 7 Pg. 5
- **Power** - 12 to 24 VAC/DC @ 250 mA. The terminals are not polarity sensitive. See Step 5. Pg. 4

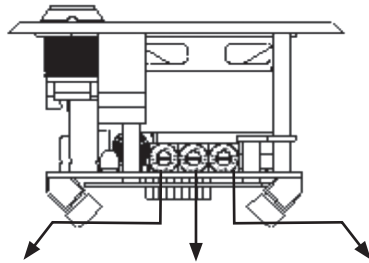
JUMPER	CONFIGURES
1 Door Supervision (Part of Tamper circuit)	TS1-7&8 Door Input
2 Voltage Sense Mode (Senses Lock Voltage as Valid User Input)	TS1-3&4 Voltage Sense Input
3 Shunt Contact Mode (Senses Dry Contact as Valid User Input)	TS1-1&2 Shunt Contact Input
4 Intrusion Detect Enable (Explained on reverse)	Intrusion or Free Access selection
5 Shunt Recycle Enable (Explained on reverse)	Shunt Recycle feature selection
6 RESERVED (Factory Diagnostic)	Factory Use Only Leave Jumper OFF
7 & 8 Shunt Delay Timer (Set same as Lock Time)	Access Time prior to opening door
9 Extended Time	Select Ext. Silent Time 3-90 Min.
10 Horn Volume	Select 96db or 103db

TIMERS

- **Silent Time** - "Open Door" Time - 0-2.5 min. in standard mode, 3 - 90 min. in Extended mode (selected by Jumper 9).
- **Alarm Delay** - "Warning" Time - 0-5 min. and "Infinite." Local Beeping Warning Audible sounds during this time.
- **Auto Reset** - "Alarm" Time - 0-5 min. and Manual Reset. Constant Alarm Audible sounds during this time.
- **Shunt Delay** - Valid Access Time prior to reset if Door is unopened. 0, 5, 10, or 20 seconds (set with Jumpers 7 & 8).

TIMER SETTING TABLE

SIDE VIEW



SET	SILENT TIME SELECT (Extended Silent Time Jumper)		ALARM DELAY TIME SELECT	AUTO RESET TIME SELECT
	NORMAL Jumper OFF	EXTENDED Jumper ON		
0	0 Sec	3 Min	0 Sec	0 Sec
1	3 Sec	3.5 Min	3 Sec	3 Sec
2	5 Sec	4 Min	5 Sec	5 Sec
3	7 Sec	4.5 Min	7 Sec	7 Sec
4	10 Sec	5 Min	10 Sec	10 Sec
5	12 Sec	6 Min	12 Sec	12 Sec
6	15 Sec	7 Min	15 Sec	15 Sec
7	20 Sec	8 Min	20 Sec	20 Sec
8	25 Sec	9 Min	30 Sec	30 Sec
9	30 Sec	10 Min	45 Sec	45 Sec
A	35 Sec	20 Min	1 Min	1 Min
B	45 Sec	30 Min	2 Min	2 Min
C	1 Min	40 Min	3 Min	3 Min
D	1.5 Min	50 Min	4 Min	4 Min
E	2 Min	60 Min	5 Min	5 Min
F	2.5 Min	90 Min	INFINITE	MANUAL

TAMPER CIRCUIT- Alarm is not reset with key. (CX-DA401 only)

- **TAMPER SWITCH** - Switch is located on stand-off under spring steel actuator. (Cut cable tie to Enable switch)
- **DOOR SUPERVISION** - Enable with Jumper 1. Requires resistors on Door Switch. (Schematic on Step 1 Pg.3)

OPERATION

VALID ACCESS / PROPPED DOOR OPERATION

ARMED STATE - Red LED (Green if Intrusion Detect is Off)

VALID USER INPUT - Shunt or Voltage Sense Input

LED - Changes to Green

DOOR - Opened by user, Silent Timer begins

DOOR - Closed by user, Returns to Armed State, or

- **SILENT TIME TIMER** - expires, then

AUDIBLE WARNING - Beeps to alert user locally

LED - Flashes Green

DOOR - Closed by user, returns to Armed State, or*

- **SHUNT RECYCLE** - 2nd Valid User Input (*if enabled)

SILENT TIME RESET - Silent Timer begins again

DOOR HELD/PROPPED - Alarm Delay Times out

LED - Flashes Red

AUDIBLE - Constant tone, Auto Reset (AR) Timer begins

OUTPUT - Door Prop Alarm relay toggles

DOOR CLOSED - After Door Prop Alarm exists

AUDIBLE - On until Auto Reset (AR) Time expires

LED - Flashes Red for AR Time

OUTPUT - Relay held for duration of AR Time

INTRUSION OPERATION

ARMED STATE - Red LED

DOOR Opened by invalid entry

LED - Flashes Red

AUDIBLE - Constant tone, Auto Reset (AR) Timer begins

OUTPUT - Intrusion/Tamper Alarm relay toggles

- **DOOR CLOSED**

LED - Flashes for duration of AR Time

AUDIBLE - Continues for duration of AR Time

OUTPUT - Changed for duration of AR Time

- **REARM** - After AR time expires OR by Manual reset

LED - Red (Armed State)

TAMPER OPERATION (CX-DA401 only)

ARMED STATE - Red LED (Door Supervision Enabled)

- **TAMPER** (Door circuit open/shorted, or if unit is removed from wall)

LED - Flashing Red

AUDIBLE - Constant tone

OUTPUT - Intrusion/Tamper Alarm relay toggles

- **RESET** - Door normal, and Tamper switch closed

LED - Red (Armed State)

STEP BY STEP INSTRUCTIONS FOR EASY CONFIGURATION

THE DEFAULT SETUP IS FOR ACCESS CONTROLLED, AND EMERGENCY EXIT APPLICATIONS.

- This unit may be connected to power and a closed-loop Door Input and be ready to work immediately for the Default application.
 - A Voltage Sense input used with a Mag-Lock, and/or a N/C Dry Contact Shunt input will require additional jumper configuration (J2 and/or J3 respectively) and is covered in Step 3 Pg. 4.
 - The unit is easily configured for a **stand-alone Door Prop application** by removing the Intrusion Detection jumper.
- (LED will always be Green when Intrusion Detection is disabled.)

TIMER SETTING DEFAULTS: (Step 4 Pg.4)

- Silent Time 5 seconds;
- Alarm Delay Time 5 seconds
- Auto Reset Time 5 seconds
- Shunt Delay 20 seconds

See text for Feature Description and Setup info.

TERMS USED IN THIS INSTRUCTION

N/C DOOR CONTACT - is a "closed-loop" circuit which goes open when the door is opened.

SHUNT INPUT - is a dry contact Valid User Input provided by an Access Control System or a PIR / REX device.

DMA - Door Management Alarm (i.e.: CX-DA400)

Normally Energized - in reference to a Mag-Lock or other locking device where power is removed to unlock.

Normally De-energized - in reference to a Door Strike or other locking device where power is applied to unlock.

1 DOOR SUPERVISION, AND TAMPER

- Connect N/C **Door Contact** to TS1 7&8.
- If resistors are installed for **Door Supervision**:
 - A) place Jumper 1 ON and put resistors at door switch as shown in Figure 1.
 - B) If unused, leave Jumper OFF and use a closed-loop Door Switch circuit.

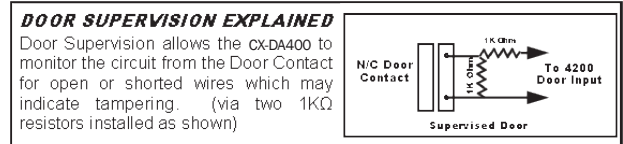
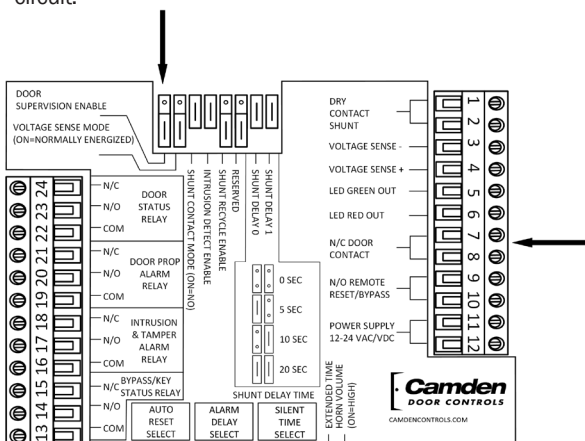
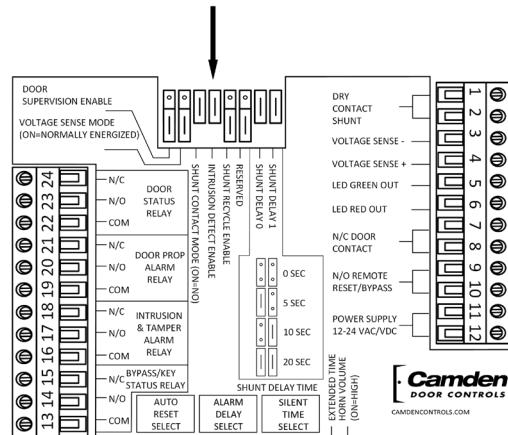


Figure 1

- **Tamper Alarm** (cannot be reset or bypassed)
 - A) To Enable feature cut cable tie on Tamper Switch located on standoff (Component Location on reverse. (CX-DA401 only)

2 INTRUSION DETECTION

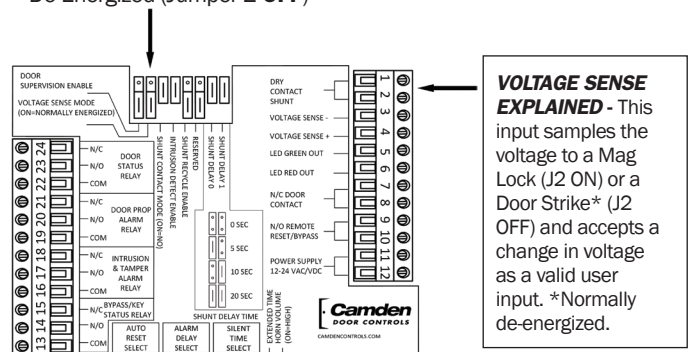
- A) Jumper 4 is **ON** for Access Control and Emergency Exit Only applications.
- B) Jumper 4 is **OFF** for Door Prop/Held applications without Access Control.



NOTE: If OFF, LED is Green except during a Door Prop Alarm. If OFF, Go to Step 4-Timer Settings. (Skip Step 3)

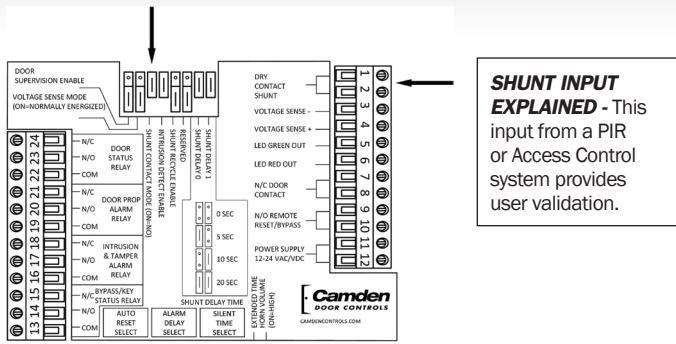
3 ACCESS CONTROL

- **VOLTAGE SENSE** monitors Lock Power as "Valid User" input on TS1 (3&4)
 - A) If unused, Jumper 2 must be **OFF**.
 - B) If used, select: Normally Energized (Jumper 2 ON); or, Normally De-Energized (Jumper 2 **OFF**)

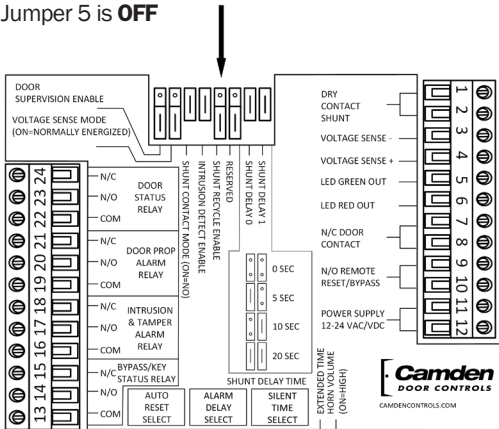


VOLTAGE SENSE EXPLAINED - This input samples the voltage to a Mag Lock (J2 ON) or a Door Strike* (J2 OFF) and accepts a change in voltage as a valid user input. *Normally de-energized.

- **SHUNT INPUT** detects a Dry Contact input for each valid access.
 - A) If unused, Jumper 3 must be **ON**
 - B) If used, Select: Jumper 3 **ON** for N/O input; or Jumper 3 **OFF** for N/C input



- **SHUNT RECYCLE** (see description below)
 - A) Jumper 5 is ON
 - B) Jumper 5 is OFF

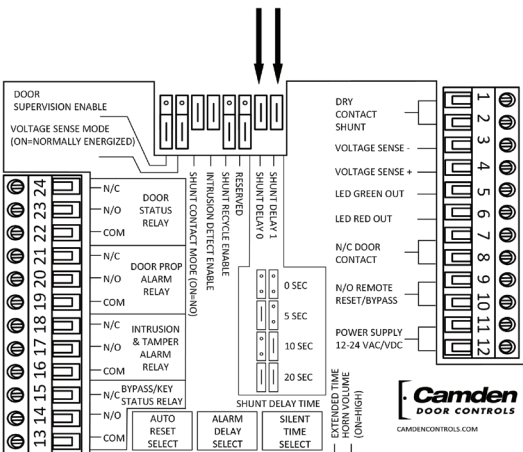


SHUNT RECYCLE EXPLAINED -

- When Shunt Recycle is Enabled (ON), a Shunt Contact or Voltage Sense Input during the Alarm Delay warning period (beeping) will reset the Silent Time Timer. Shunt Recycle gives the User the ability to Hold the door indefinitely by repeating a valid input during each Alarm Delay warning.
- When disabled, only a Key or Bypass input will reset the DMA.

4 TIMER SETTINGS SEE TABLE ON REVERSE

- The **SHUNT DELAY TIMER** begins after a Valid User input (prior to door being opened) and **if door is not opened** the DMA will reset when timer expires. Cancels upon door opening.
 - A) Shunt Delay works only with Intrusion Detection enabled.
 - B) See table on Back Plate for Jumper 7&8 setting detail.



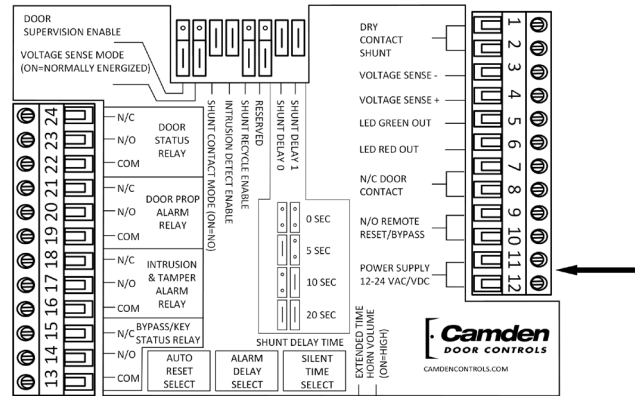
- **SILENT TIME SELECT** begins **when the door is opened** by a valid user. (see **Timer Setting Table** on reverse)
 - A) Timer has **two ranges** selected with **Jumper 9**;
 - **Normal** - 0 seconds to 2.5 minutes (Jumper OFF)
 - **Extended** - 3 minutes to 90 minutes (Jumper ON)
 - B) After selecting appropriate range, turn dial to **SET #** for the Silent Time period desired for your application.
- **ALARM DELAY SELECT** begins **on the expiration of the Silent Timer**. Warning Alarm sounds locally to alert user.
 - A) Turn dial to **SET #** on table (see reverse) for the time you want the Warning (beeping) alarm to sound (prior to triggering the Door Prop Alarm Horn and Relay).
- **AUTO RESET TIME SELECT** is the minimum time the Horn, LED and Relays are on following an alarm condition.

NOTE: Alarm will continue for as long as the door is open

- A) Turn the dial to SET Timer (0 seconds to 5 minutes, or Manual).

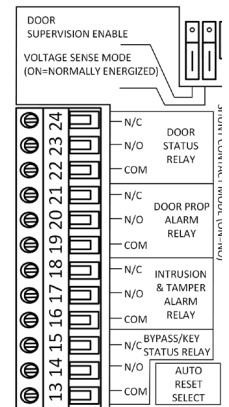
5 POWER

- **POWER** - Connect 12-24 VAC/DC to TS1 11&12. Not polarity sensitive.



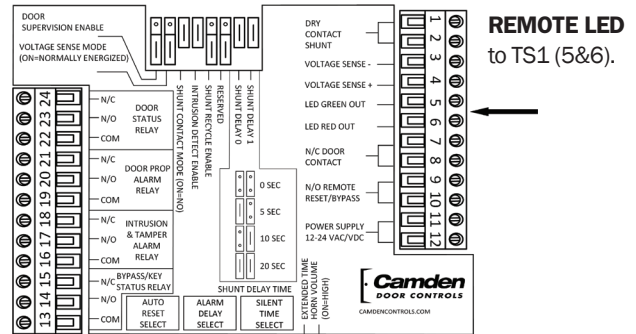
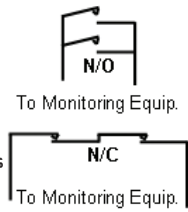
6 OUTPUTS (FORM-C)

- **DOOR STATUS RELAY**
TS2-22,23,24 changes state when the Door Input changes. Used to monitor changes in Door Contact status.
- **DOOR PROP ALARM RELAY**
TS2-19,20,21 changes state when a door is held open beyond the Silent and Alarm Delay time, combined.
- **FORCED DOOR/TAMPER ALARM RELAY**
TS2-16,17,18 changes state when a door is forced or a tamper condition exists (Door Supervision/Tamper Switch).
- **BYPASS/KEY SWITCH STATUS RELAY**
TS2-13,14,15 changes state during Bypass (TS1 9&10) and Key Switch Inputs. Used to monitor for changes in Bypass status.



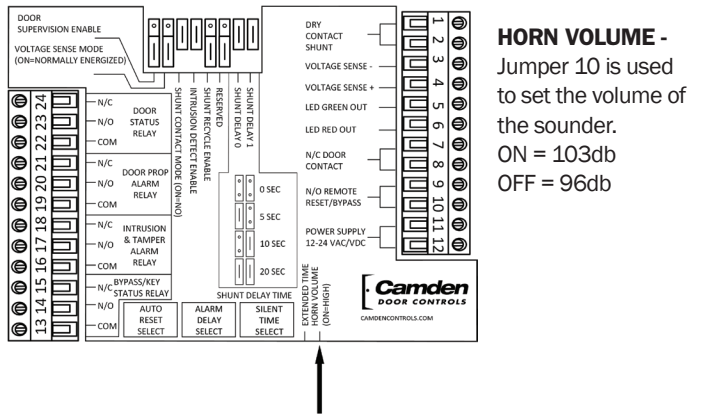
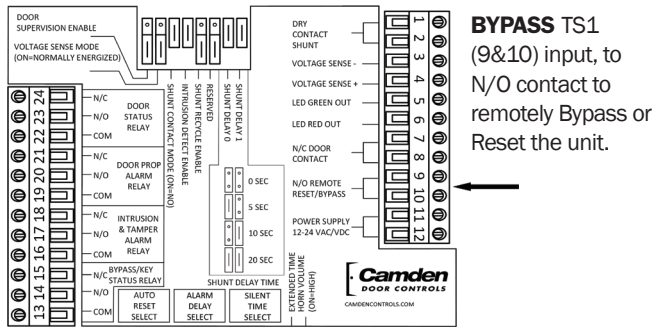
ADDITIONAL OUTPUT INFORMATION

- Each of the Output functions offers the availability of monitoring a Normally Open or a Normally Closed Dry contact.
- Each contact's state will change to follow the status of the monitored function.
- To combine multiple outputs, connect N/O contacts in parallel, or N/C contacts in series. See diagrams at right. The use of any/all Outputs is optional.
- If power is removed from the CX-DA400, each contact in it's normal state (powered), will change state. Example: Door Status will appear as if the door has been opened; Alarm and Bypass contacts will appear as if an alarm or bypass condition exists.



7 ADDITIONAL FEATURES

SEE COMPONENT LOCATION DIAGRAM ON PAGE 2

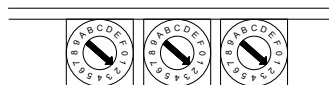
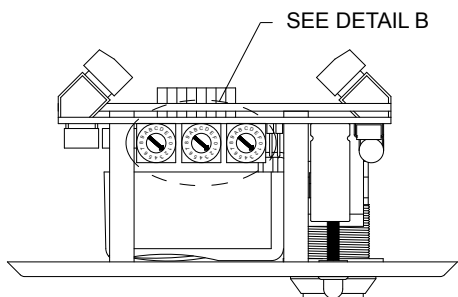


TROUBLE SHOOTING TIPS

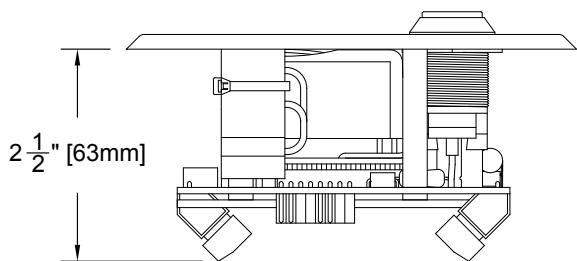
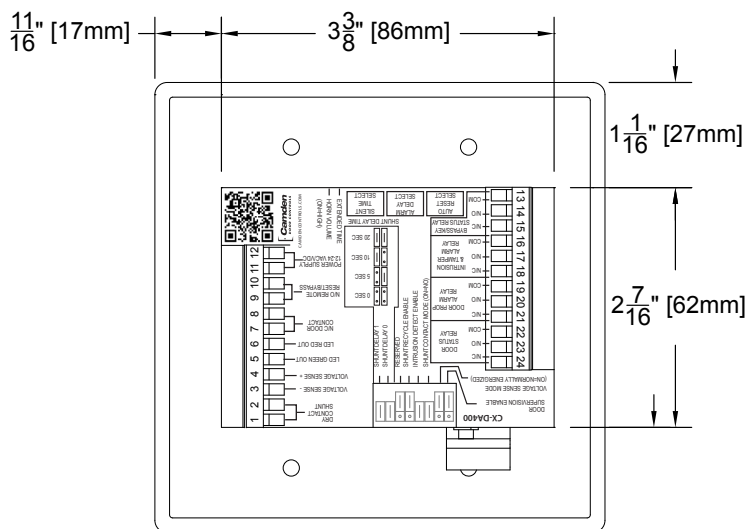
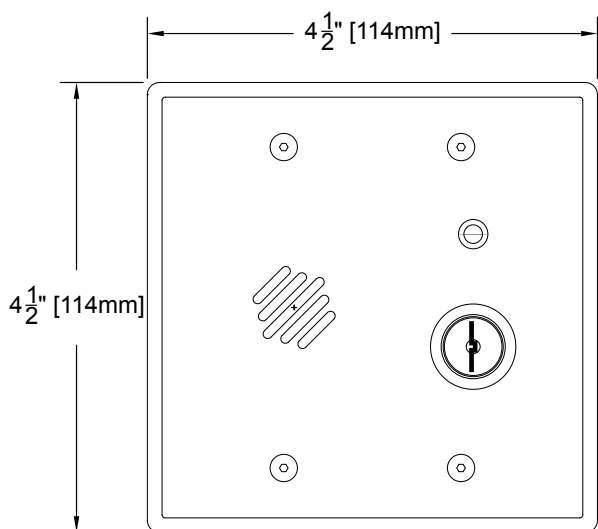
- Horn won't Reset** - Verify Tamper Switch is closed; Verify Door Supervision Jumper is correct for application; Check Door Contact Resistors are installed as per Step 1 if Door Supervision is enabled.
- LED always Green** - Normal condition when Jumper 4 is OFF; Verify Shunt Contact & Voltage Sense jumpers are correct for your application; Verify Key Switch is Vertical and Bypass Input is open.
- Alarm when Door Opens** - Verify that S0&S1 Jumpers and Silent Time are set greater than 0 sec.; Verify Intrusion Jumper is set correctly for application.
- Clicking Output Relays** - Verify Jumper 6 (Reserved) is OFF.

ELECTRICAL SPECIFICATIONS				
	VOLTS	AMPS	N/O	N/C
Power	12-24 VAC/DC	250mA	N/A	
Voltage Sense	12-24 VAC/DC	15mA		
Shunt Input	Dry Contact		Jumper Select	
Bypass Input	Dry Contact		✓	
Door Input	Dry Contact			✓
Output Relays	Dry Contact	1 Amp@ 30 VDC	✓	✓
MECHANICAL SPECIFICATIONS				
<ul style="list-style-type: none"> The CX-DA400 mounts flush in a 2.5" (63 mm) deep, 2-Gang electrical box. 				

TECHNICAL DRAWING



DETAIL B
SET TO #2
3X



Push Buttons



Keypads



Strikes



Magnetic Locks



Key Switches



Relays & Timers



Access Control