INSTALLATION INSTRUCTIONS FOR EAX-3500 ALARM

Dwg #: 104900

Table of Contents   Page

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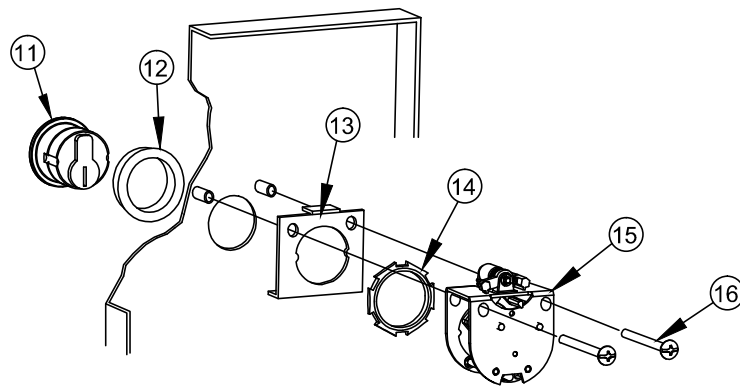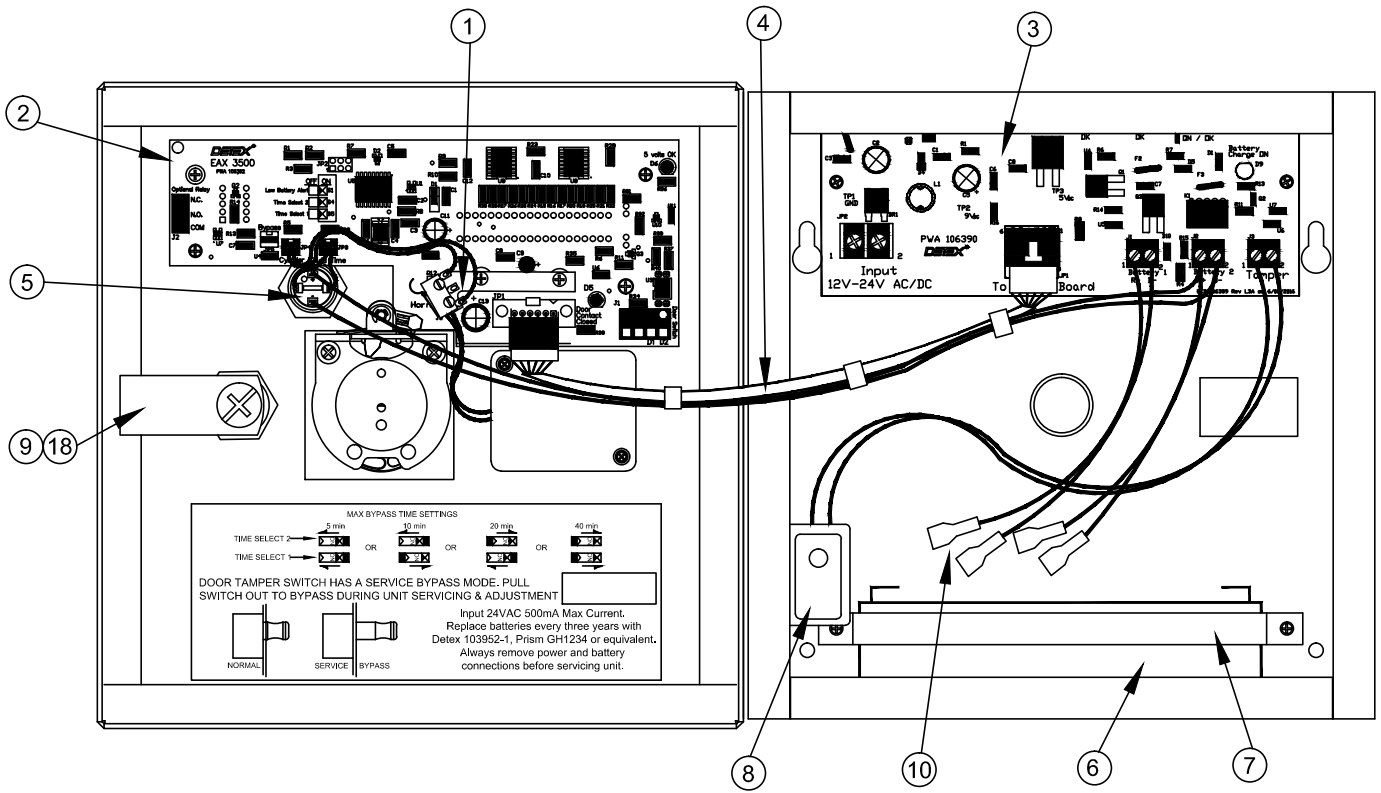
**For WARRANTY information,
scan code below or
go to www.detex.com/warranty**

**For device installation videos,
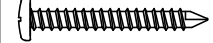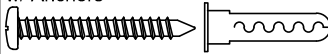scan code below or
go to www.detex.com/videos**

Owner's Copy

DETEX®
EAX-3500

RESET

ACTIVATE
TIMED BY-PASS

TO ACTIVATE TIMED BY-PASS:
1) Rotate key counterclockwise (CCW), light bar meter flashes, then release key.
2) To add By-Pass time, press "ACTIVATE TIMED BY-PASS" button, Light bar illuminates gradually as more bypass time is added.
3) Release button. Single green LED turns ON indicating By-Pass time is set.
4) Remove key and prop open door.

NOTE: Alarm automatically arms and resets if door closes before time expires.

TO ADD ADDITIONAL BY-PASS TIME:
1) Insert key and rotate CCW until green LED turns off. Release key.
2) Press "ACTIVATE TIMED BY-PASS" button. Light bar meter illuminates gradually as more By-Pass time is added.

NOTE: If By-Pass time expires while door is open, alarm will sound.

TO SILENCE ALARM: Close door, insert and rotate key CCW.

DETEX
EAX 3500
PBA 106392

Optional Relay
N.C.
N.O.
COM

Low Battery Alarm
Time Select 2
Time Select 1

Input
12V-24V AC/DC

To   Board

PWA 106390

MAX BYPASS TIME SETTINGS

TIME SELECT 2   5 min   10 min   20 min   40 min
              OR   OR   OR
TIME SELECT 1

DOOR TAMPER SWITCH HAS A SERVICE BYPASS MODE. PULL
SWITCH OUT TO BYPASS DURING UNIT SERVICING & ADJUSTMENT

NORMAL   SERVICE   BYPASS

Input 24VAC 500mA Max Current.
Replace batteries every three years with
Detex 103952-1, Prism GH1234 or equivalent.
Always remove power and battery
connections before servicing unit.

104952   page 2

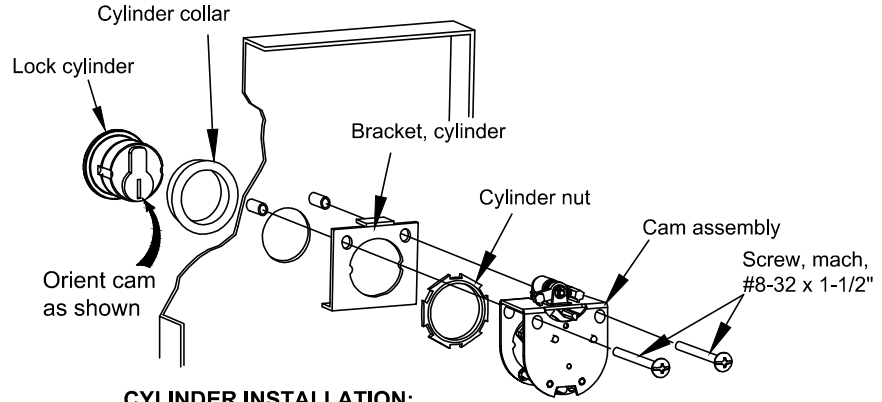| PARTS BREAKDOWN		
Item	**Order Part #**	**Description**
1	103990	Switch assembly, reset, EAX-3500
2	106392	PWA, logic board, EAX-3500
3	106390	PWA, power board, EAX-3500
4	106385	Wiring harness, logic board to power board
5	106740	Switch assembly, add time, EAX-3500
6	103952-1	Battery, 6V 3.4ah (2 required)
7	103963	Battery strap
8	103965	Tamper Switch Assembly, EAX-3500
9	102966	Cover lock and key
10	103958	Cable, Battery, EAX-3500 (2 required)
11	102281-7	Lock cylinder MC-65
	103800-626	Lock cylinder IC7
12	103303	Cylinder collar
13	103970	Bracket, cylinder, EAX-3500
14	100783	Cylinder nut
15	102680	Cam assembly
16	102627-15	Screw, mach, #8-32 x 1-1/2" truss head
17	103951	Transformer, Plug-in, 120/24VAC/20V-amp
18	CL-1	Cover lock keys (replacement)
19	106383	S&R EAX-3500 Board replacement kit

Fastener Table

Fastener Type	Fastener P/N	Drill Bit	Comments
Self-drilling Screws	P/N: 103276-41 #10 x 1" PPH	NOT REQUIRED	Metal Applications
Sheetmetal Screws w/ Anchors	P/N: PP-5183-68 #10 x 1" PPH	1/4"	All other Applications

Tools Required

Power Drill	Safety Glasses
Screw Driver	Pencil
Hammer	Tape Measure
Center Punch	
Jewelers (Small) Screwdriver	

Mortise Cylinder with standard Yale cam required (not supplied)

.313"

.715"
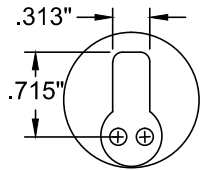
Approx. dimensions

Cylinder collar

Lock cylinder

Bracket, cylinder

Cylinder nut

Cam assembly

Screw, mach, #8-32 x 1-1/2"

Orient cam as shown
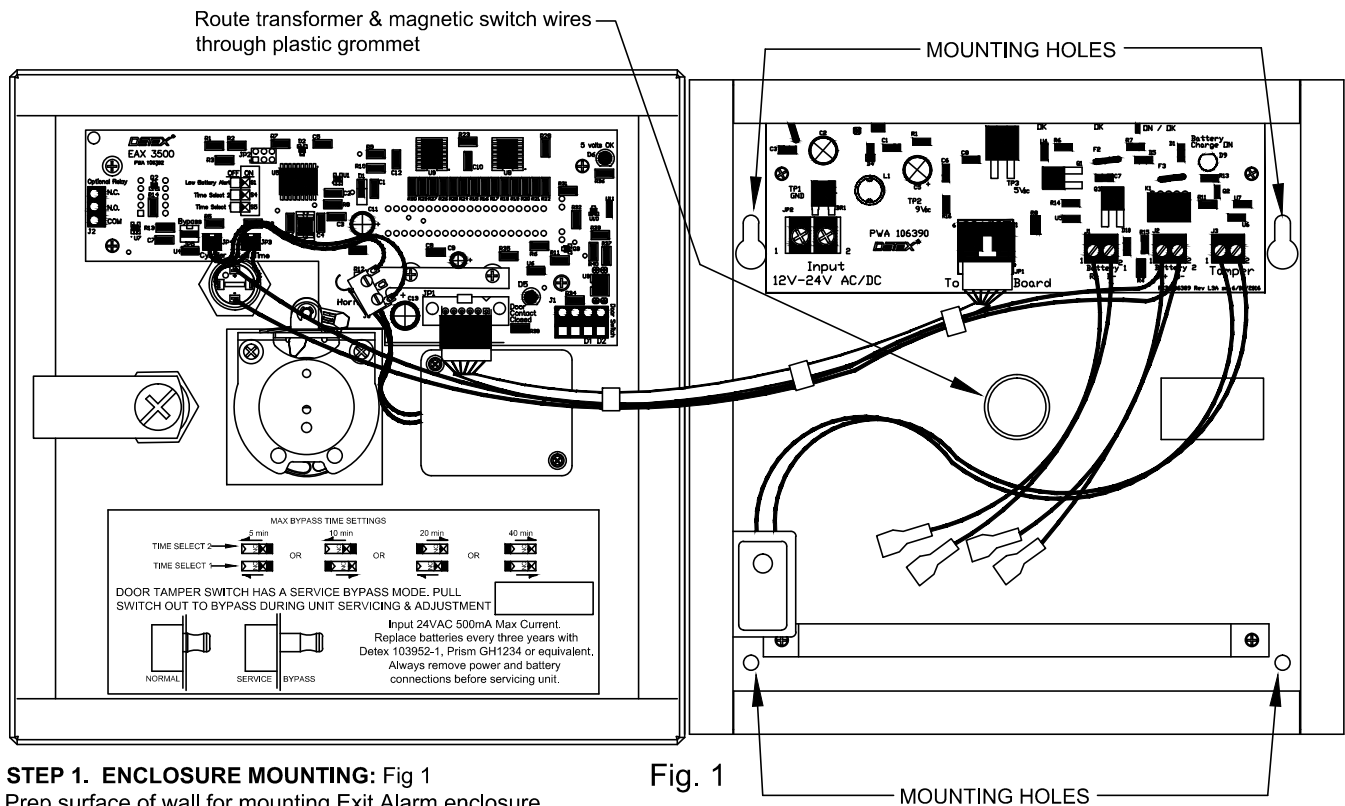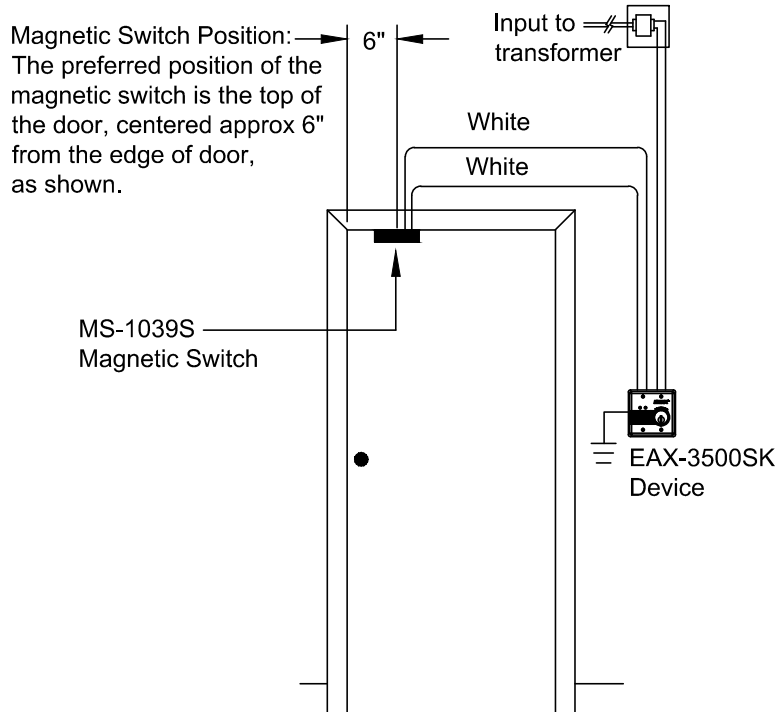
CYLINDER INSTALLATION:
Unlock enclosure and open hinged panel.
To install cylinder (if not already provided) remove cam assembly.
Reassemble cylinder into cam assembly as shown above.

Magnetic Switch Position:
The preferred position of the
magnetic switch is the top of
the door, centered approx 6"
from the edge of door,
as shown.

6"

Input to
transformer

White

White

MS-1039S
Magnetic Switch

EAX-3500SK
Device

Route transformer & magnetic switch wires
through plastic grommet

MOUNTING HOLES

DETEX
EAX 3500

5 volts OK

Input
12V-24V AC/DC

Battery
Charge ON

PWA 106390 DETEX

To   Board

Tamper

MAX BYPASS TIME SETTINGS

	5 min	10 min	20 min	40 min
TIME SELECT 2		OR		OR	
TIME SELECT 1					

DOOR TAMPER SWITCH HAS A SERVICE BYPASS MODE. PULL
SWITCH OUT TO BYPASS DURING UNIT SERVICING & ADJUSTMENT

Input 24VAC 500mA Max Current.
Replace batteries every three years with
Detex 103952-1, Prism GH1234 or equivalent,
Always remove power and battery
connections before servicing unit.

NORMAL   SERVICE   BYPASS

MOUNTING HOLES

**STEP 1. ENCLOSURE MOUNTING:** Fig 1

Fig. 1

Prep surface of wall for mounting Exit Alarm enclosure.
Enclosure is designed for all wires to be routed through grommet in rear hole.
Route wires from transformer and magnetic switch through rear hole **BEFORE** mounting enclosure.

Mount enclosure using mounting screws supplied in hardware kit.
Mounting kit options: Option 1 - #10 sheet metal screws
& #10 plastic anchors.
Option 2 - #10 self-drilling screws
NOTE: Enclosure must be earth grounded per NEC requirements.

Self-drilling Screws
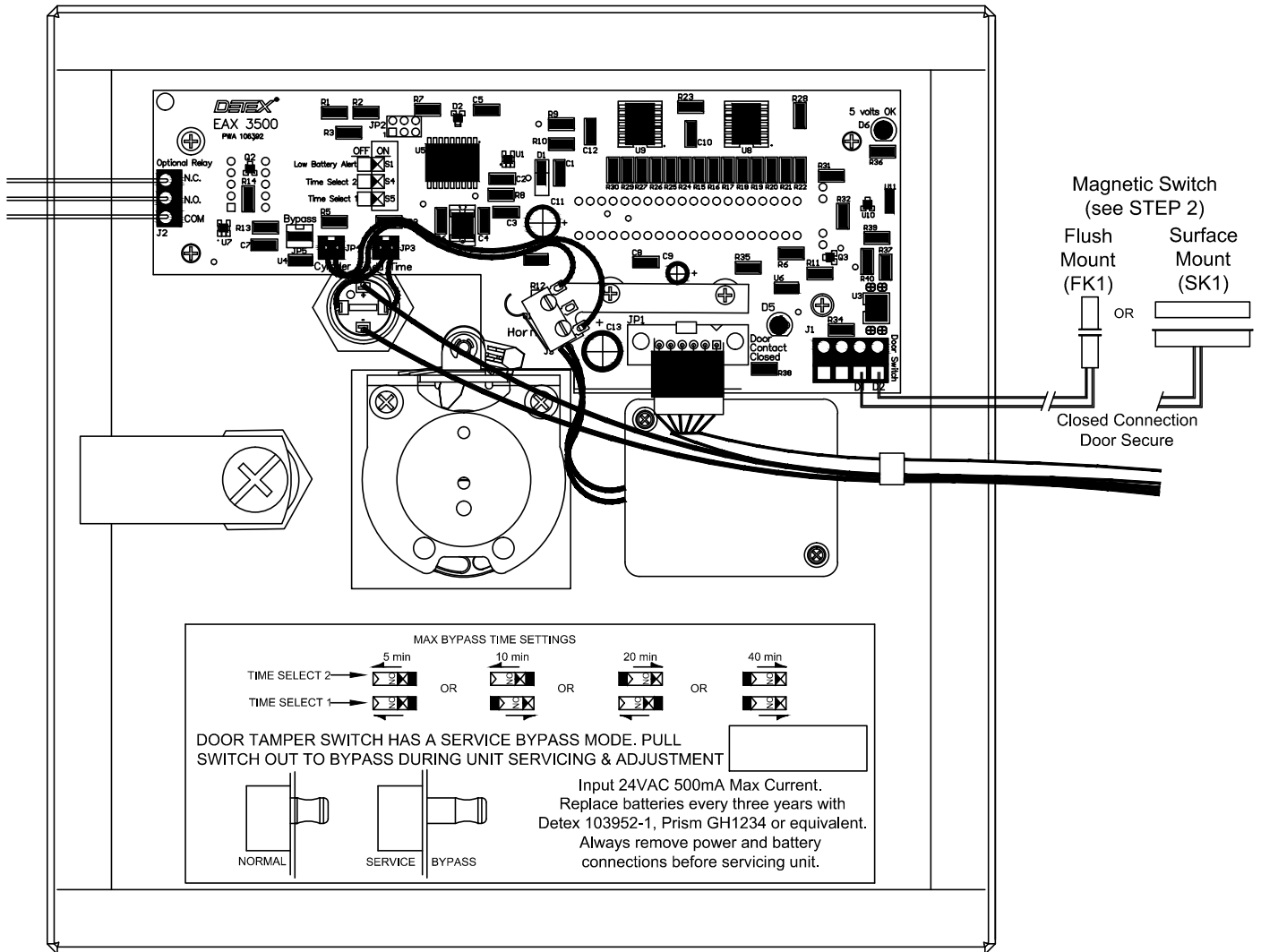
Sheetmetal Screws w/ Anchors

OR
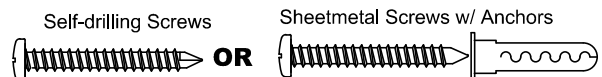
Fig. 2

STEP 2. MAGNETIC SWITCH INSTALLATION: Fig. 2
Install magnetic contact switch onto door using magnetic switch instructions.
For wire requirements, see Manufacturer's Recommendation Chart.
Route wires to Exit Alarm location:
Magnetic Contact Switch: Within 6 feet: 2 conductor cable, 22AWG minimum
                                  20 feet or less: Twisted wire pair, 20AWG minimum
                                  50 feet or less: Twisted wire pair, 18AWG minimum

Connect magnetic switch wires to LOGIC DISPLAY pc board located on enclosure door. See Fig 2.
Examples shown are for Detex magnetic switches. Magnetic switches are required and can be purchased separately.

STEP 3. TRANSFORMER WIRING: Fig. 3 (*DO NOT* PLUG IN TRANSFORMER AT THIS TIME)
Connect power wires to the two terminals on the 12V or 24V AC/DC transformer (500mA minimum). Wires are not polarity sensitive.
Route wires to Exit Alarm location per applicable building code(s).

Power Leads from Transformer to Exit Alarm:
20 feet or less: 20AWG minimum
50 feet or less: 18AWG minimum

Connect power wires to the two place terminal block located on lower left corner of POWER SUPPLY pc board.
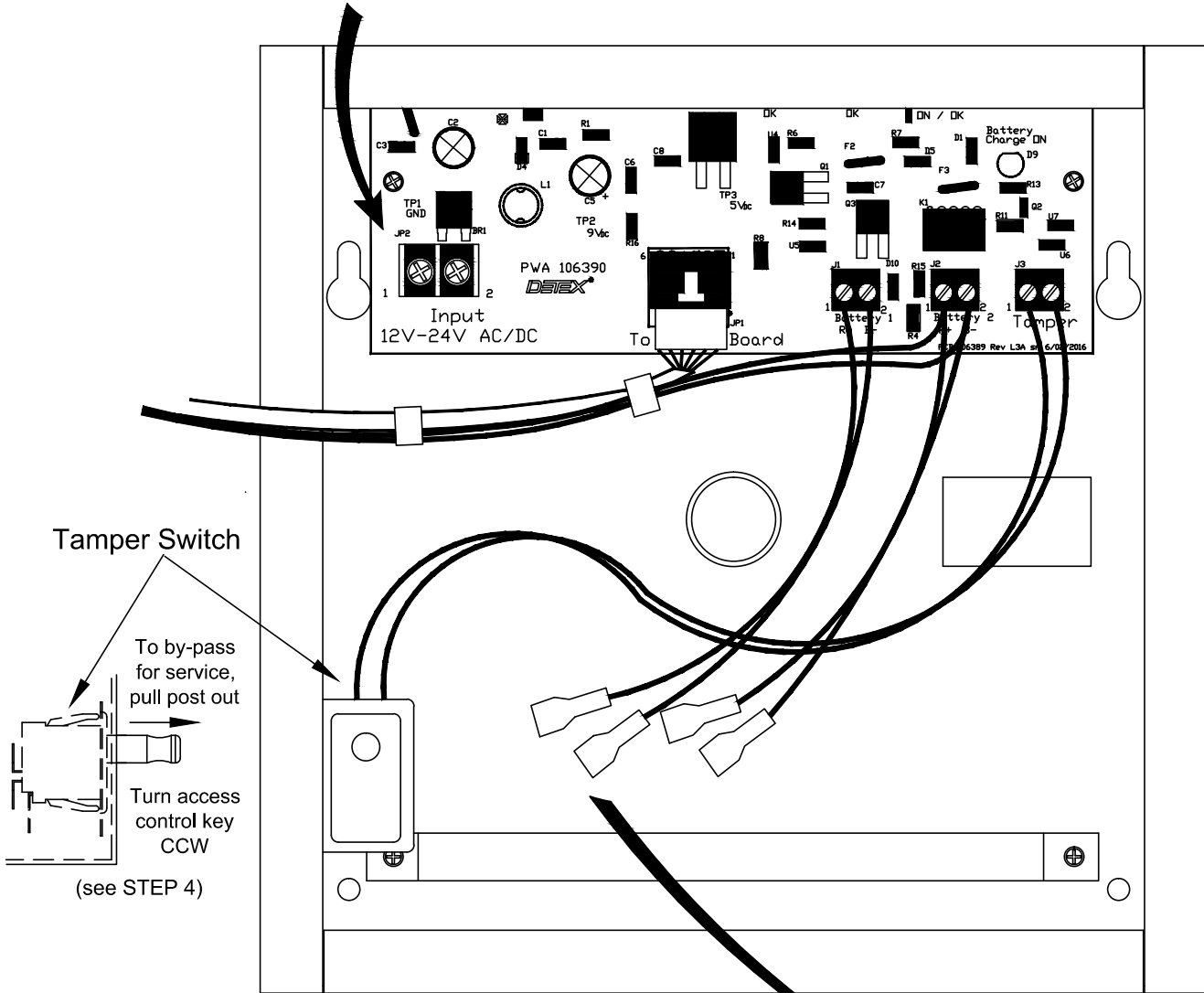Wires are not polarity sensitive.

Tamper Switch

To by-pass
for service,
pull post out

Turn access
control key
CCW

(see STEP 4)

Fig. 3

STEP 4. INSTALL BATTERIES: Fig. 4
Before installing batteries, pull out the post of the tamper switch.
Once batteries are installed & connected, alarm will sound if
magnetic switch is not closed & tamper switch plunger is not extended.

Install batteries (supplied with unit).
Remove plastic protectors from the polarity sensitive battery terminals.

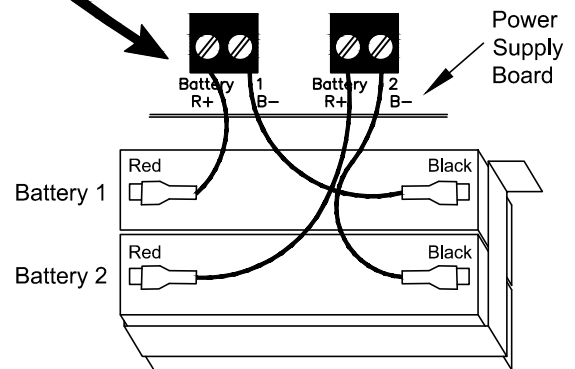Plug wall mounted transformer into wall outlet and secure.

Power
Supply
Board

Battery 1

Battery 2

Red

Black

Red

Black

Fig. 4
(see STEP 4)

LED CHART FOR LOGIC BOARD		
LED color	BOARD LOCATION	LED **ON** INDICATES:
RED	D5	DOOR CONTACT CLOSED
GREEN	D6	5 VOLTS OK

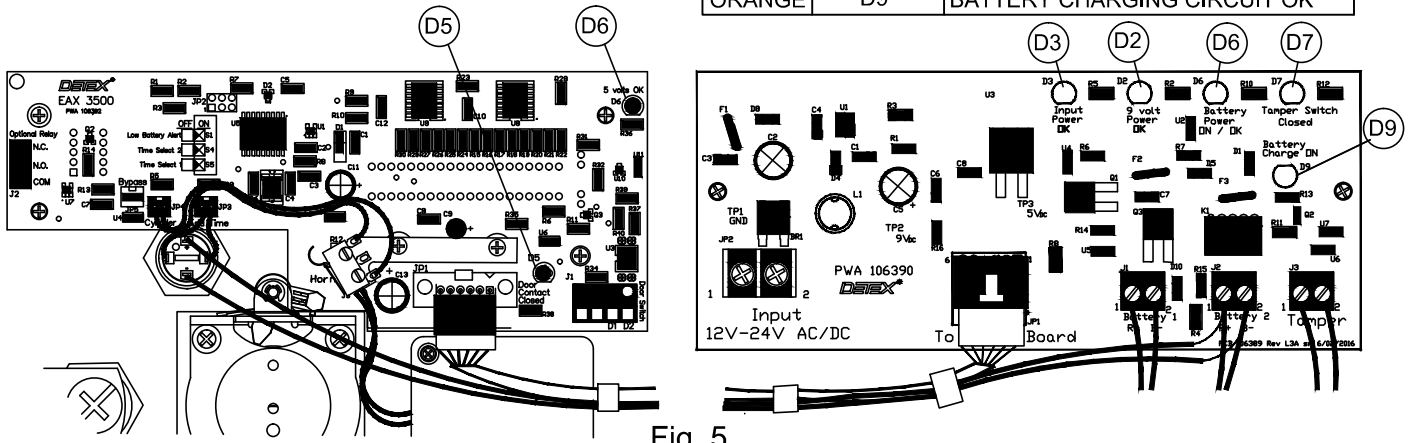| LED CHART FOR POWER SUPPLY BOARD		
LED color	BOARD LOCATION	LED **ON** INDICATES:
GREEN	D2	9 VOLT POWER SUPPLY OK
RED	D3	POWER INPUT OK
ORANGE	D6	BATTERY BACKUP ON, VOLTAGE OK
YELLOW	D7	TAMPER SWITCH CLOSED
ORANGE	D9	BATTERY CHARGING CIRCUIT OK

Fig. 5

DEVICE OPERATION: (Reference Fig. 5 for the following)
Pull the plunger on tamper switch. Confirm that LED D7 (Yellow) is on before continuing, or alarm will sound.

(Reference Fig. 6 for the following)
Turn access control key counterclockwise (CCW) 1/4 turn and HOLD for 5 seconds. LIGHT BAR METER will turn OFF and ALARM is reset. Close hinged panel and secure cover lock. Alarm will sound. To silence alarm, rotate access control key CCW.

The single red LED located next to light meter bar will turn ON indicating device is powered and in the armed mode. Alarm will sound if magnetic contact switch on door is opened. To silence alarm close magnetic contact switch on door and turn control key CCW.

TO ACTIVATE TIMED BYPASS:
Rotate key counterclockwise (CCW) until light bar meter flashes, release key.

To add By-Pass time press and hold
'ACTIVATE TIMED BY-PASS' button.
Light bar illuminates gradually as more By-Pass time is added.

Release button.
Single green LED turns ON indicating By-Pass time is set.

Remove key and prop door open.

NOTE: Alarm automatically arms and resets if door closes before time expires.

ADD ADDITIONAL TIMED BYPASS:
Insert key and rotate CCW single green LED turns off.
Release key.

Press and hold 'ACTIVATE TIMED BY-PASS' button.
Light bar illuminates gradually as more By-Pass time is added.

Note: If By-Pass time expires while door is open, alarm will sound.

TO SILENCE ALARM: Close door, insert and rotate key CCW.

To service device, pull plunger on tamper switch as shown in Fig 3. Rotate access control key CCW.
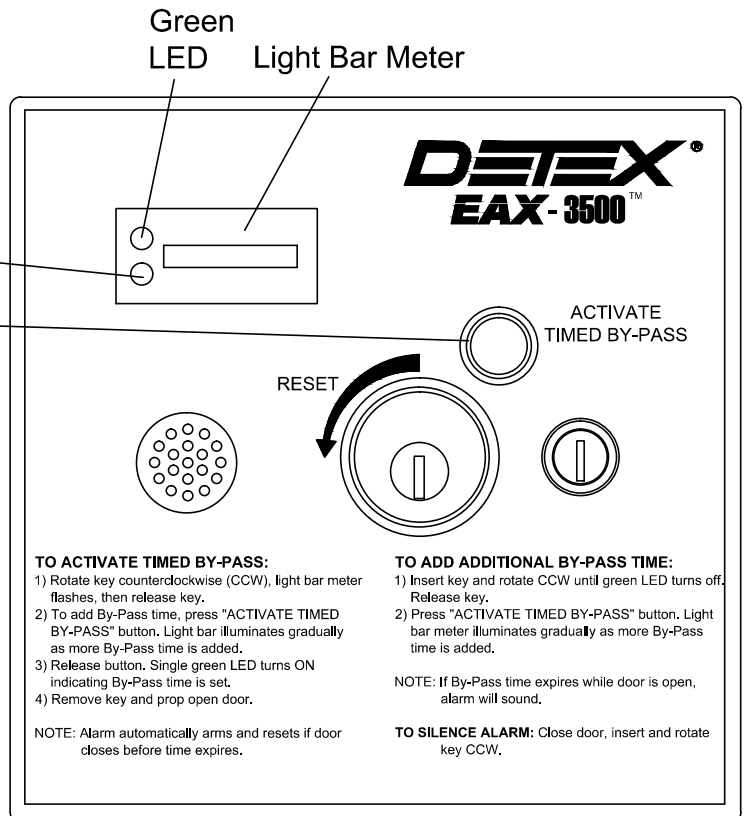

Green LED   Light Bar Meter
Red LED
Illuminated Red ring

TO ACTIVATE TIMED BY-PASS:
1) Rotate key counterclockwise (CCW), light bar meter flashes, then release key.
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TO ADD ADDITIONAL BY-PASS TIME:
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NOTE: If By-Pass time expires while door is open, alarm will sound.

TO SILENCE ALARM: Close door, insert and rotate key CCW.
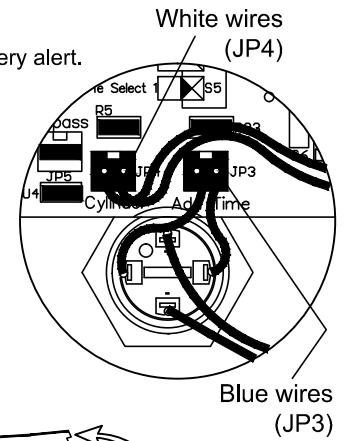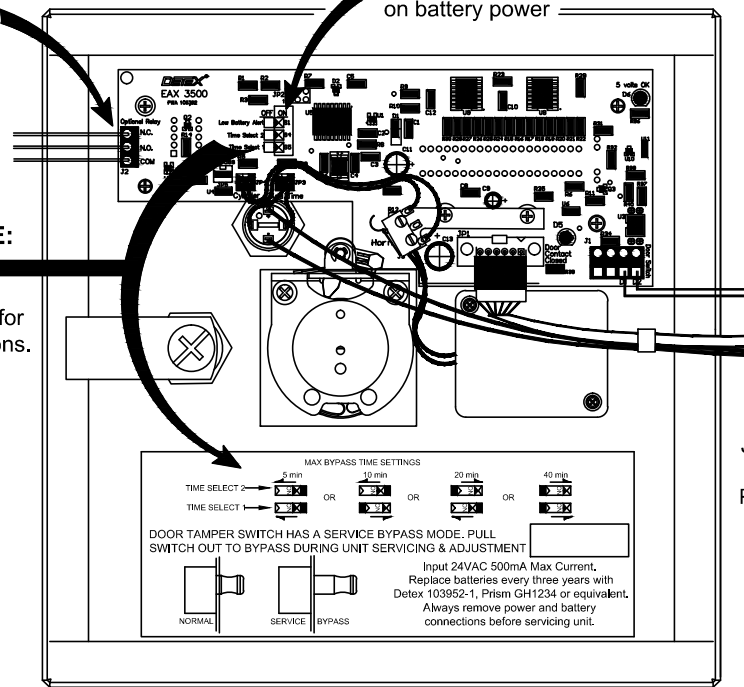
Fig. 6

Use this relay for signaling a remote system.
The alarm relay will change states once the EAX-3500 goes into alarm.
This is a dry contact.

LOW BATTERY ALERT:
Set S1 switch to 'ON' to enable low battery alert.
ONLY ACTIVE when unit is operating on battery power

White wires (JP4)

Blue wires (JP3)

SETTING BY-PASS TIME:
By-Pass time is factory set for 5 minutes.
See label on enclosure door for additional By-Pass time options.

MAX BYPASS TIME SETTINGS

	5 min	10 min	20 min	40 min
TIME SELECT 2		OR	OR	OR
TIME SELECT 1				

DOOR TAMPER SWITCH HAS A SERVICE BYPASS MODE. PULL SWITCH OUT TO BYPASS DURING UNIT SERVICING & ADJUSTMENT

Input 24VAC 500mA Max Current.
Replace batteries every three years with Detex 103952-1, Prism GH1234 or equivalent.
Always remove power and battery connections before servicing unit.

NORMAL   SERVICE BYPASS

JP1 Cable (at Logic Board side)

PIN #	COLOR	FUNCTION
1	Black	Tamper Sensor
2	Blue	Ground
3	Red	Low Battery
4	Orange	5vcc
5	Yellow	Ground
6	Brown	9v

Troubleshooting:

Symptom:	Probable cause / Fix
Key cylinder is loose or sticks out.	Tapered collar not installed. Hex nut is not secure. 103970 cylinder bracket not installed or installed backwards (Flange goes towards the cover).
Does not arm, key requires high effort to rotate.	Incorrect cam on mortise cylinder. Should be Yale type cam. Self adjusting switch cam mounting screws overly tight.
Unit in constant alarm mode. Turning key CCW does not reset alarm. (LED D5 is <u>NOT</u> on, see chart)	Magnetic switch misaligned or connected to the wrong terminals on the PWA. Wrong type of switch contact. Must be closed contact with the door closed and magnet in correct position.
Unit goes into alarm when service requires opening the front cover. (LED D7 is <u>NOT</u> on, see chart)	Pull tamper switch plunger fully out, turn key CCW. Make sure door is closed during initial opening of the cover.
Not enough bypass time when set at max.	Change switch positions as needed. See label on inside front cover for options.
Goes into alarm when trying to set time.	Turn key CCW and release. Then press the 'Activate Timed By-Pass' button.
Unit does not reset once in alarm mode. (LED D5 is <u>NOT</u> on, see chart)	Make sure door is fully closed. Make sure wiring to the magnetic switch is not damaged or cut.
Unit chirps approximately every 45 seconds. (LED D3 is <u>NOT</u> on, see chart) This is a low battery indication.	Check AC power to the device, and that building power is present at the outlet. Make sure optional plug-in transformer is plugged in and the holding screw installed. Check for damaged wiring between the transformer and the EAX-3500. The battery should be replaced every three years