Positioning

Position the PIR to have the best coverage possible for your situation.

Accutech recommends ceiling mounting the PIR (Figure 9.2) to assure complete and focused coverage of the opening.

Wall mounting the PIR may result in detection beyond the desired area. Do not wall mount the PIR.

While positioning the PIR, keep in mind:

- The more precisely you place and focus the PIR, the less likely you are to get a nuisance alarm on a simple pass-by instead of on a true egress.
- The maximum coverage area of a PIR wall-to-wall curtain is 50'L x 60'W
- The PIR must be pointed at an object (e.g. the floor) to be able to detect.
- Do not point the PIR at reflective surfaces such as mirrors or windows, as this may distort the coverage pattern or reflect sunlight directly into the PIR.
- The movement of air caused by an operating elevator can cause nuisance PIR detection. When mounting a PIR close to an elevator, you can avoid nuisance detection by locating the PIR at an adequate distance away from the elevator doors.

Mounting

To mount the PIR, refer to figure 9.2 and use the following instructions:

1) Push in the tab at the bottom of the case and pull the cover straight out at the bottom.
2) Loosen the PCB screw and push the board up as far as it will go.
3) Using a small screwdriver, remove the appropriate knockouts for the mounting screws.
4) Remove the left and/or right wiring entrance knockouts located at the top of the backplate.
5) Mount the backplate to the wall using the screws supplied. Note: for wall and ceiling installation, use the two knock-outs at the back of the base. For corner or 45 degree mounting, use the knock-outs on the angled sides. The unit must be fastened securely to the mounting surface to avoid possible vibrations.

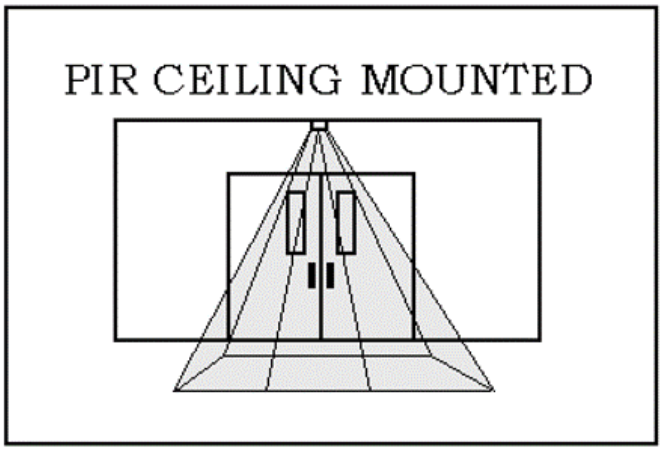

Figure 9.2 - Ceiling-mounted PIR

Wiring

You will need 22 AWG, 4-conductor cable (supplied with the door wire kit) for the installation.

To connect the PIR to the IO board, refer to figure 9.3 (or to figure 9.4 for PIR in-series).

Note: Use UL-approved, plenum-rated cable.

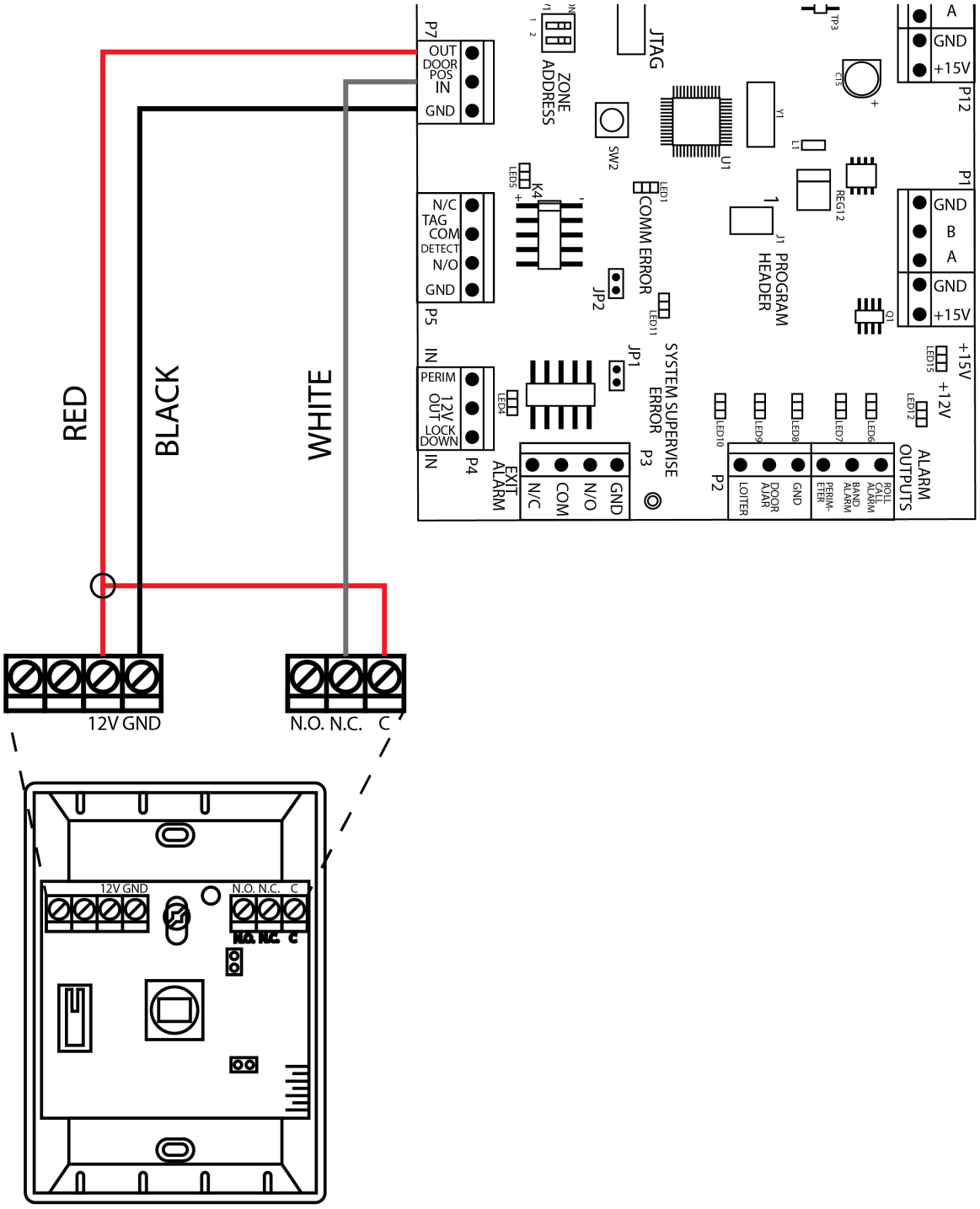

Figure 9.3 - Wiring the PIR to the Controller

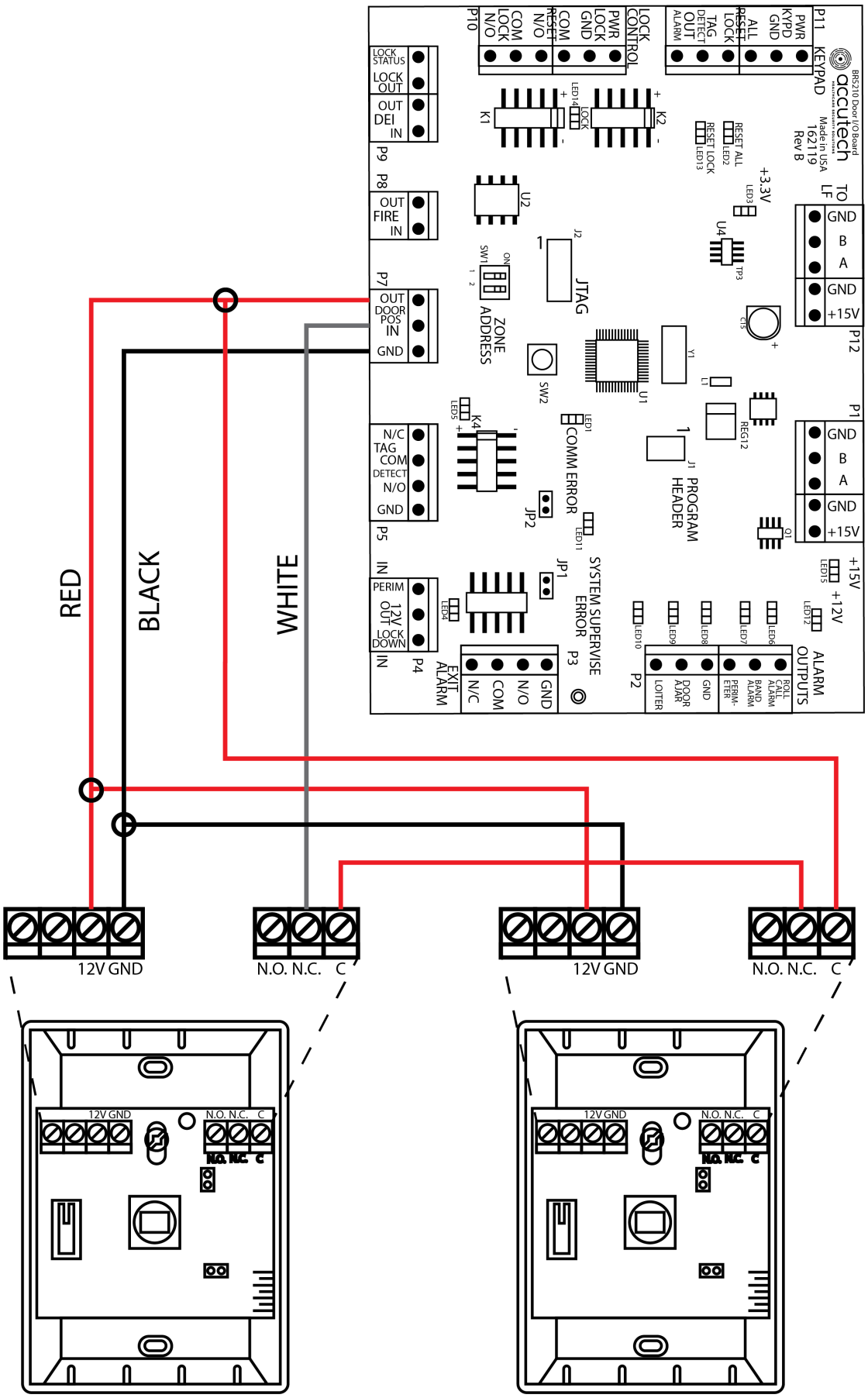

Figure 9.4 - Wiring the PIR in-series to the Controller

PIR “Masking”

If you have adjusted the PIR beam angle and the area covered is still too large and is overlapping into undesired areas, use the following “masking” method to reduce the effective area of the beams:

1) The PIR has 3 “beams”. The low beam reaches about 10’. The middle beam reaches about 30’. The high beam reaches between 40-60’. “Masking” a PIR means covering one or more of the beams to reduce the PIR’s range.

2) Place one strip of electrical tape horizontally across the top of the PIR lens (see figure 9.5). This will cover the high beam.

3) Test the range of the PIR.

4) If necessary, place another strip of tape horizontally in the middle of the PIR lens; this will cover the middle beam.

5) Test the range of the PIR.

6) Optional: if the PIR is extending too far outward (to the sides), place stripes of tape vertically on the sides of the PIR lens (see figure 9.6). This will cover all outward beams producing a narrower coverage area.

7) Test the range of the PIR.

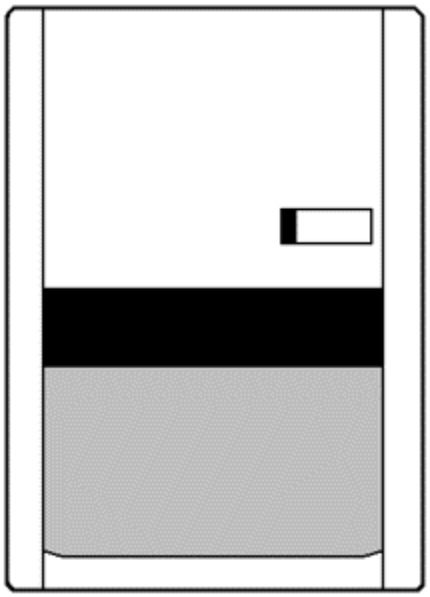

Figure 9.5 - PIR Masking Horizontal Example

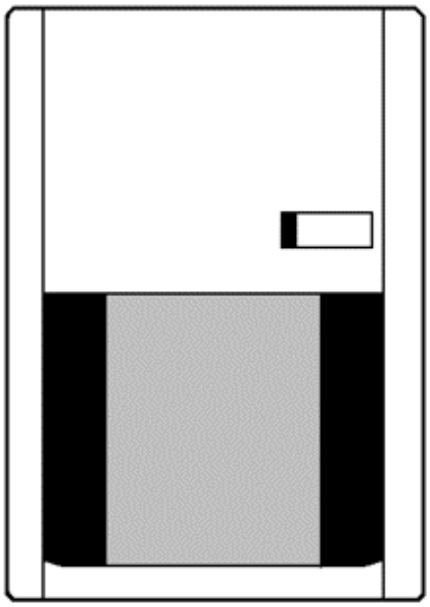

Figure 9.6 - PIR Masking Vertical Example

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Chapter 10
Magnetic Locks

Magnetic Locks

- Operation
- What is Delayed Egress Circuitry?
- 3101 Series Magnetic Locks

Each Magnetic Lock is comprised of 3 basic components: a lock housing, an electromagnetic coil and an armature.

The coil and housing assembly mounts rigidly to the door frame while the armature mounts to the door in a manner that allows it to pivot slightly to compensate for door irregularities.

When the door is closed and the lock is energized the armature is magnetically bonded to the lock face, thus securing the door without utilizing any moving parts.

Figure 10.1 - The 3101 Magnetic Lock
Part Number: 700228

Operation

The Magnetic Lock will engage when a Tag is on the TX Activation Field. The Lock remains engaged as long as a Tag is in the Field.

Once locked, the Lock will disengage when any of the following conditions occur:

- All Tags leave the Field and the preset Delay Times out (0-120 seconds; set by S1 LOCK/ ELEV DELAY. Minimum time should be set to 15 seconds. Do not set lower than 5 seconds)
- A Keypad Reset.
- A PBO is activated.
- The facility's Fire Alarm is activated.
- The removal of power, for any reason, will de-energize the lock allowing the door to be opened.
- DELAYED EGRESS CIRCUITRY (3101 SERIES LOCKS ONLY) - When a maintained force (less than 15 pounds required) is applied to the door for an adjustable period of time (1 to 3 seconds).

What is Delayed Egress Circuitry?

In compliance with the N.F.P.A 101 Life Safety Codes 5-2.1.6.1, Accutech's 3101 Magnetic Locks feature Delayed Egress Circuitry.

This means that even though the door will Lock when an active Tag approaches, the door can still be opened after 15 seconds (this includes the 1-3 second nuisance delay) of constant pushing on the door.

If the Lock is engaged (meaning the ES unit has detected an active Tag in the zone) and the person pushes on the door, the Lock will release within 15 seconds (this includes a 1-3 nuisance delay) whenever a maintained force (less than 15 pounds required) is applied to the door.

An audible tone enunciates both countdown and release. When the Lock releases, the red Led will turn solid green and the alarm will sound continuously.

To reset the zone after an alarm, close the door and enter a valid code into the zone Keypad.

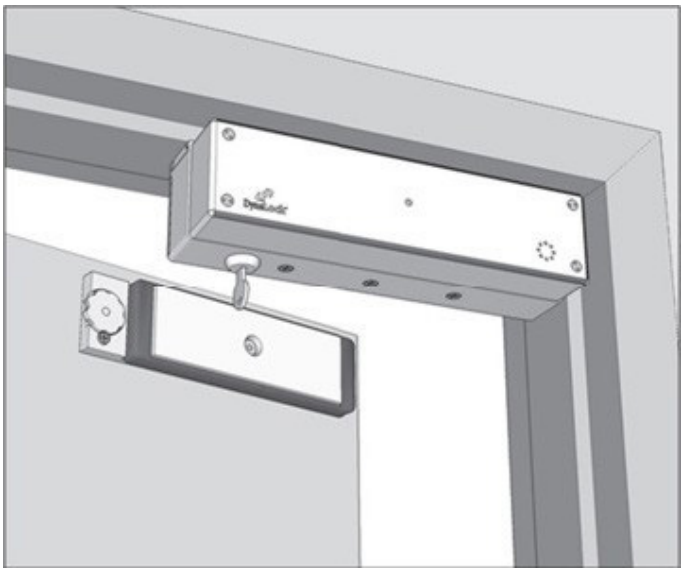


Figure 10.2 - Mounted Lock Example

3101 Series Magnetic Locks

- 3101 Magnetic Lock Specifications
- Lock Jumper
- Mounting
- Wiring
- Terminals
- Adjusting the Sensor Wheel
- Changing the Lock Nuisance Delay Time
- Changing the Egress Alarm Delay Time

The 3101 Magnetic Lock (Part # 700228) features 1200 pound holding force, Delayed Egress Circuitry, NFPA101 Life Safety Codes conformity, a selectable nuisance delay and an Accutech custom-designed electromagnetic coil.

Our custom-designed electromagnetic coil, only available through Accutech, results in lower current draw (12VDC required).

Specifications

Electrical:

Operating Voltage: 12VDC
Current Consumption: 300 mA
Cable: non-shielded 18-gauge, 6-conductor

Mechanical:

Lock Size: 3" x 2 ¾" x 11"

Armature Size ½" x 2-5/16" x 7-3/8"

Standard Finish: Satin Aluminum-US28

Weight: 11 US pounds

Environmental:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

Duty Cycle:

Rated for continuous use.

Operating Characteristics:

Holding Force: 1200 pounds

Once locked, the Lock will disengage when any of the following conditions occur:

- All Tags leave the Tx Activation Field
- A Keypad Reset
- A PBO is activated or key switch at lock location
- The facility's fire alarm is activated.
- Power is removed from the Lock.
- The Central Override is activated.
- When a maintained force (less than 15 pounds required) is applied to the door for an adjustable period of time (1-3 seconds).

ANSI/UL294 Access Control Sys. Units:

- FWAX.SA9532
- Auxiliary Locks listed 2N98
- Special Arrangements listed 1M59
- BOCA National Building Code

Mounting

To mount the 3101 Magnetic Lock, follow the DynaLock Corp. Mounting and Operating Instructions that came with the Lock.

Wiring

Note: Follow the wiring instructions in this manual only. Terminal connections and functions vary from the locks original design and documentation.

All wiring connections must be done in accordance with NFPA 70. All wire must be UL approved/recognized. Use UL-approved, plenum rated cable.

State codes require that all lock and elevator deactivation circuitry be wired into the facility's fire alarm system (see Chapter Fire Panel Interface). This is done so that in case of a fire, any lock or elevator deactivation unit disengages, allowing for free egress or ingress.

You will need 18-gauge, 6-conductor plenum-rated cable for this connection.

To connect the 3101 Magnetic Lock, consult the Connections and Operation section as well as Figures 11.1 and 11.2.

Important: Due to a firmware change, pin 5 must be jumped to pin 8 for any Accutech Gen 2 3101C lock with Rev 2K10.6. firmware.

Failure to place this jumper will prevent a lock bypass or lock reset.

This does not change typical wiring schemes to the lock from the LC, LS, or ES Controllers.

Terminals

This section quickly explains the functions of Lock pins 1-6.

Lock Power

Pins 1 and 2 require a constant 12-volt AC which is supplied by P10 of the ES Controller.

Lock Trigger

A Tag Detection will cause P10 LOCK COMM and LOCK NO to close. Pins 3 and 4 of the lock need to see a closure for the lock to energize.

Keypad Reset

When a Keypad Reset is initiated, RESET COMM and RESET NO on P10 closes. Pins 5 and 6 of the lock need to see a closure for the lock to de- energize.

With the Lock engaged, if Delayed Egress is initiated and the Tag leaves the Tx Activation Field before the door is opened, the Lock will automatically reset after the "Lock Hold timer" times out. The Lock will not reset is if the door is opened by anyone during the Lock hold time. If the door is opened while the Lock is in Delayed Egress, or during the Lock Hold time after the egress sequence is complete, the Lock will latch into egress and the Keypad must be reset to return the Lock to its normal non-locked state.

Lock Status

The Door Status monitor, lock pins 14, 15, when connected to P9, will monitor the status of the lock.

Delayed Egress Input

Upon a Delayed Egress initiation from the lock, Pins 26 and 27 will signal DEI, P9, that the lock has begun the Delayed Egress function. This feature is not standard and must be ordered.

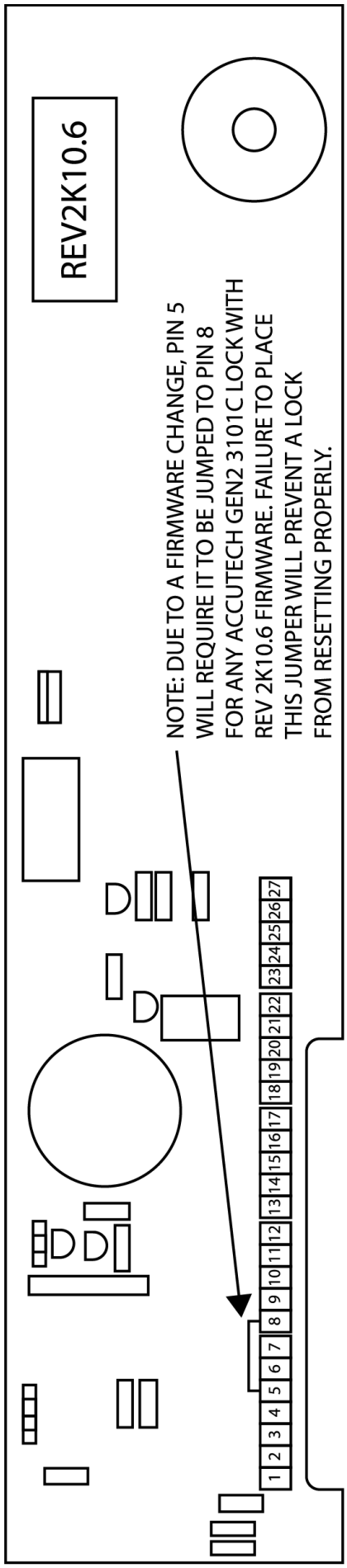


Figure 10.3 - The 3101 Magnetic Lock

Adjusting the Egress Sensor Wheel

Accurate adjusting of the Egress Sensor Wheel will help prevent nuisance alarms from slight disturbances and small vibrations such as someone bumping into the door or someone shutting a door nearby.

To adjust the Sensor pin, refer to Figure 11.3 and use the following instructions:

1) With the door closed and latched apply input power to terminals 1 &2. Slide selector switch (S3) #1 to the ON position to activate the Set-Up mode. The 3101 should now be unlocked (LED1-OFF).

2) Open the door. Temporarily remove the Adjustment Wheel Stop from the Armature Mounting Place and close the door. Set aside for re-installation later.

3) With the door closed and testing with and active Tag, observe the bi-color LED (LED1) on the circuit board. It should be lit red. If it is not, rotate the adjustment wheel counter-clockwise as necessary to ensure that it will contact and fully depress the ball plunger on the lock. Rattle the door to ensure the LED remains lit.

4) With the door closed and LED1 lit red, unlatch and slowly open the door. The LED will shut off as soon as the door opens far enough for the ball plunger to fully project.

5) With adjustment completed, re-install the adjustment wheel stop to lock-in the adjustment. Close the door, slide selector (S3) #1 back to the OFF position.

6) Unlatch and push the door until delay egress triggers (1-3 seconds). The audible will sound and the LED1 will flash red. After 15 total seconds the lock will release. If Delayed Egress triggers too soon, or fails to trigger, re-adjust the sensor adjustment wheel for desired sensitivity.

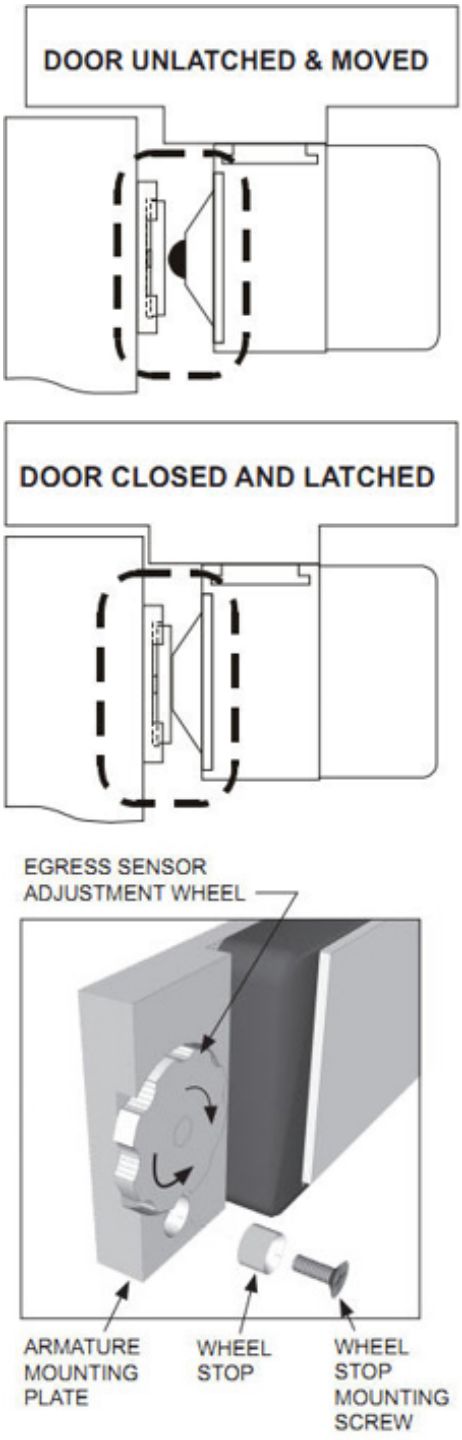
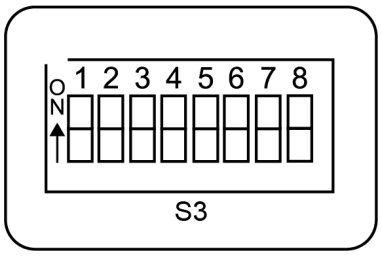


Figure 10.4 - Adjusting the Lock Sensor Pin



SWITCH	FUNCTION	MODE SETTINGS	
		OFF	ON
1	SYSTEM SET-UP	**NORMAL**	SET-UP MODE
2	BYPASS AUDIBLE	**DISABLED**	ENABLED
3	NUISANCE DELAY	**1 SEC.**	3 SEC.
4	EGRESS DELAY	**15 SEC.**	30 SEC.
5	MASTER AUDIBLE	**ENABLED**	DISABLED
6	PATIENT WANDERING INPUT	**NORMALLY OPEN**	NORMALLY CLOSED
7	EGRESS SENSOR	**ENABLED**	DISABLED
8	UNUSED SPARE	-	-

Figure 10.5 - S3 Dipswitch

Changing the Lock Nuisance Delay Time

The Lock Nuisance Delay Time prevents nuisance alarms by requiring a door disturbance to be sustained for a set length of time before registering an alarm.

The Delay Time is set by Position 3 on the System Selector Switch (S3) on the Lock PCB (see Figure 10.5).

- The OFF position results in a 1-second delay
- The ON position results in a 3-second delay

Changing the Egress Alarm Delay Time

The Egress Alarm Delay Time requires a door disturbance to be sustained for a set length of time before unlocking the door and allowing egress.

The Delay Time is set by Position 4 on the System Selector Switch (S3) on the Lock PCB (see Figure 10.5).

- The OFF position results in a 15-second delay
- The ON position results in a 30-second delay

Setting the FAC or Patient Wandering Input

Verify position 6 of the System Selector Switch (S3) is set to Normally Closed (see Figure 10.5).

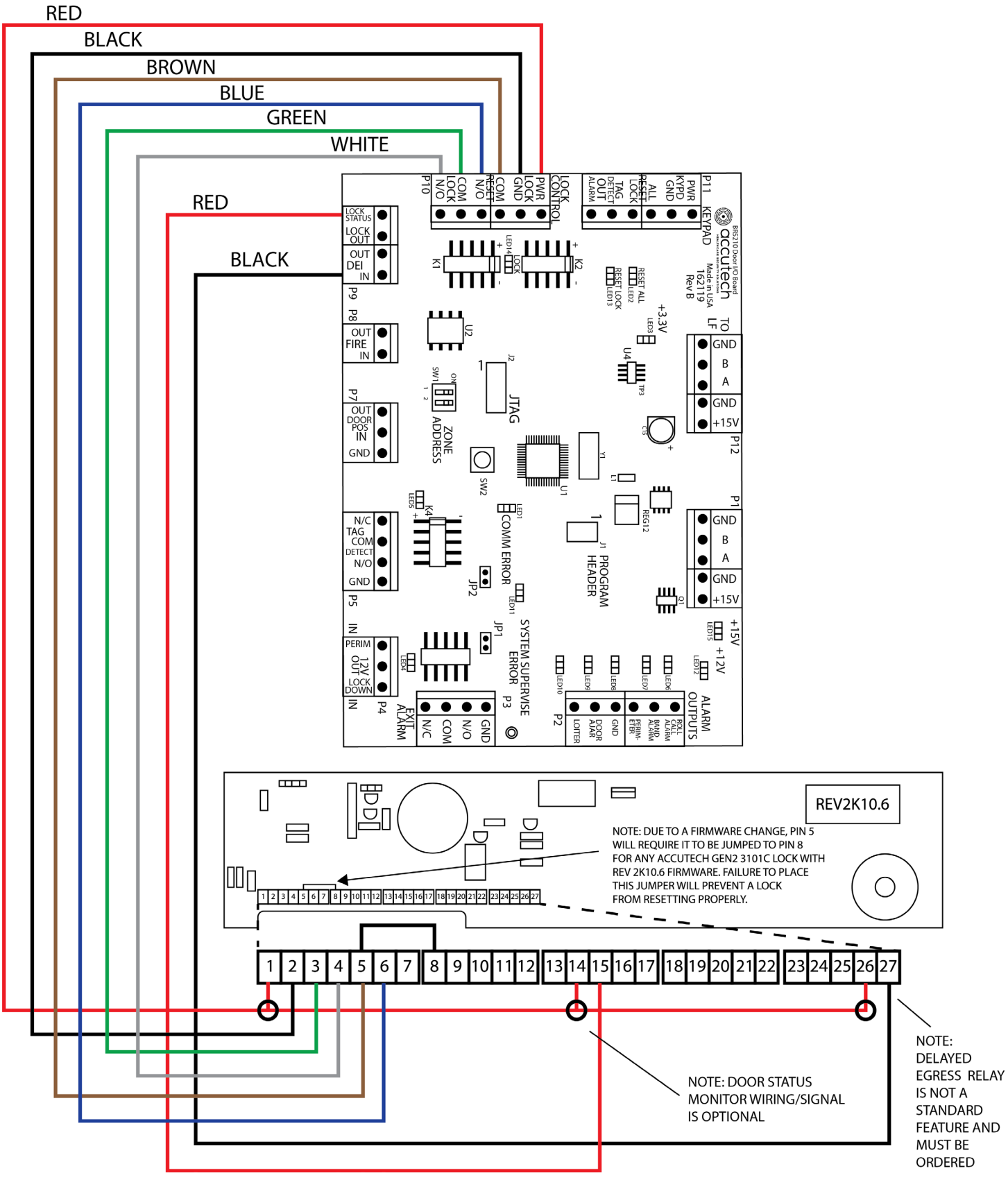


Figure 10.6 - Wiring the Magnetic Lock to the IO Board

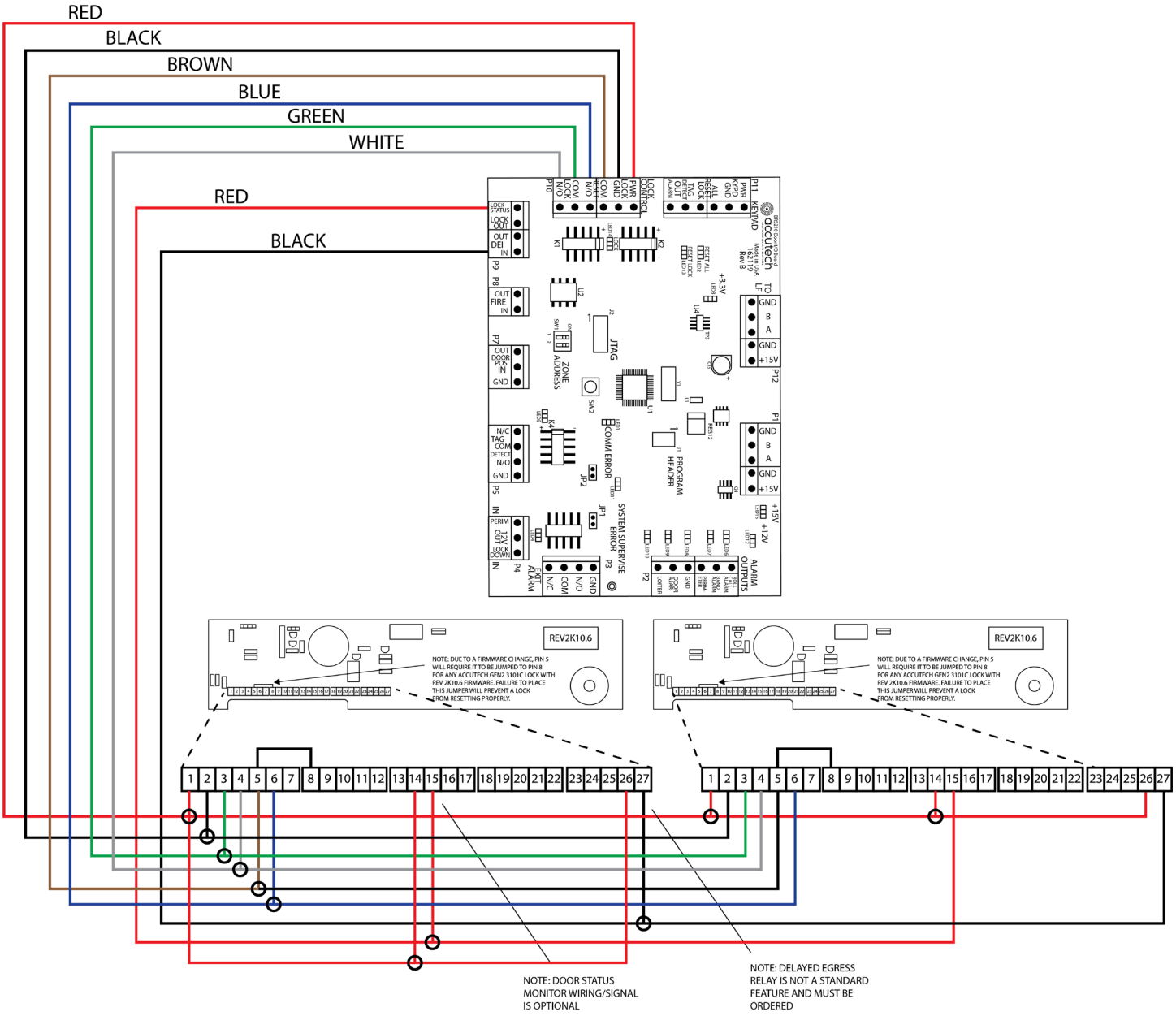


Figure 10.7 - Wiring Two Magnetic Locks to the IO Board

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Chapter 11
Fire Panel Interface (FPI)

Fire Panel Interface

- Specifications
- Positioning
- Mounting
- Before Connecting the FPI
- Wiring

State codes require that all Lock and Elevator Deactivation Circuitry be wired into the facility's fire alarm system so that they disengage in the event of a fire and allow free egress or ingress.

For more information on this policy, check your local codes.

For each Fire Panel Interface (Part #700013) used, you will need one set of dry contacts from the facility's fire panel. Each FPI unit provides dry contacts.

In addition, the FPI unit can provide:

- Optional Central Override—allows the facility to disable all Locks and/or elevator deactivation units controlled by that FPI. Each FPI requires its own override switch. Remove JP1 if installing an external override switch. The switch must be closed during normal operation and to allow the locks to energize.
- Optional Fire LED—alerts staff that the locks and/or elevator deactivation units are disengaged and cannot be reengaged. This is typically connected to the Staff Alert or Graphic panel(s).
- Auto Reset—a jumper at JP2 re-engages the locks and/or elevator deactivation units when the fire alarm is reset. This jumper can be replaced by a manual switch that must be pressed once the fire alarm is reset.

Specifications

Electrical

Operating Voltage: 12 VDC
Current Consumption: 120 mA maximum
Contact Rating: 1 A/12 VDC
Cable: needs minimum 22-gauge, 2-conductor non-shielded to each Controller

Mechanical

Enclosure size: 6.29" x 5.68" x 2.00"
Weight: 25 ounces

Operating Characteristics

Fire Panel Alarm State: Open contacts
Contact State: N.O. during alarm state
N.C. during operating state

Environmental

Operating Temperature: 32º to 120º Fahrenheit Intended for indoor use only.

Positioning

The FPI is located in an equipment room or IT closet. Use appropriate hardware for the weight and mounting surface.

Mounting

The FPI is mounted in an equipment room or IT closet onto a custom server rack mounting plate (BR52PSFPMP). See figure 11.2.

Mount to plate using #6-32 screws.

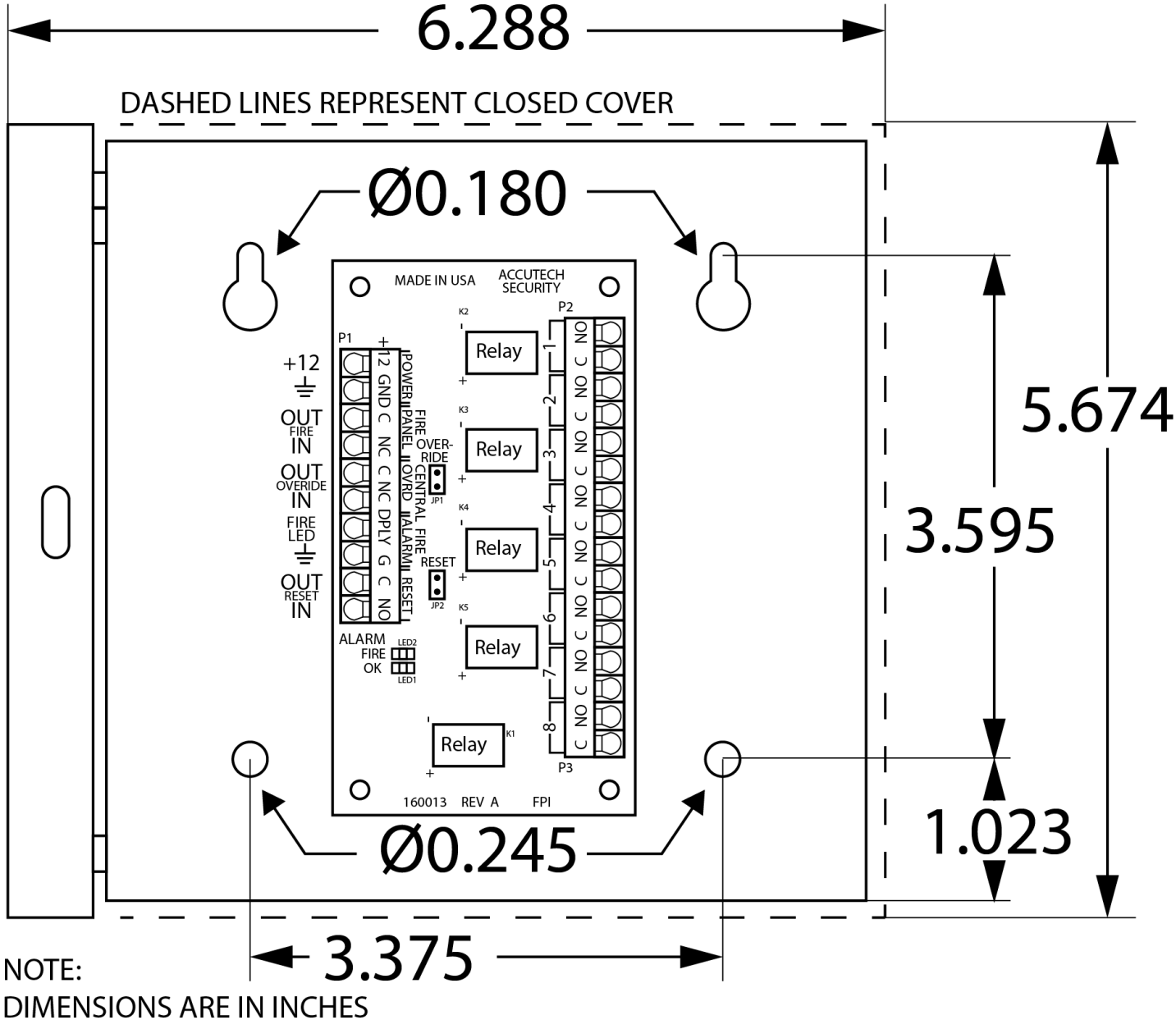

Figure 11.1 - Fire Panel Interface

Before Connecting the FPI

The facility must provide an unused dry contact in the fire alarm system for each FPI unit. This contact must be closed during a non-alarm state and must OPEN in case of a fire alarm or loss of fire alarm function.

Wiring

For information on wiring the FPI to the IO board, see figure 11.3.

All wiring connections must be done in accordance with NFPA 70.

Note: Use UL-approved, plenum-rated cable.

Verifying the Fire Alarm Dry Contacts

Caution: Before you test the system, notify the facility and the local fire department that you will be testing the fire alarm system.

To verify the operation of the fire alarm dry contacts, use the following instructions:

1) Connect an ohmmeter across the dry contacts. There should be continuity in the non-alarm state. (Contact should be closed.)

   Note: There should never be voltage on this contact.

2) Trip the fire alarm to verify that the contacts change state. You should now see an OPEN on your meter.

3) Reset the fire alarm and verify the contacts go back to their closed state.

Connecting the FPI

Because of the variety of possible mounting locations, and therefore distances between signals and sources, it is recommended that you use no less than 18-gauge plenum-rated wire and cable for connecting the FPI unit.

You must use a separate dry contact for each Controller that controls a Lock or Elevator Deactivation unit.

This dry contact may come directly from the facility's fire panel, or from the Accutech Fire Panel Interface (FPI) unit. The FPI unit will allow you to connect multiple Controllers to the facility fire panel. (See Figure 11.3)

To connect the FPI to the IO Board, refer to Figure 11.3 and use the following information about the FPI pins:

Pins 1 and 2 (Power)

You will need a separate 2-conductor cable to run from a power supply (+12V DC) and ground, pins 1 & 2, respectively.

Pins 3 and 4 (Fire Voltage)

The dry contacts from the fire panel connect to pins 3 ("C") and 4 ("NC") of P1 on the FPI.

Pin 3 is simply +12 VDC that is sent out through the fire alarm contacts. Pin 4 is the return of the voltage and should only be present when the fire alarm system is working properly and the fire alarm is not engaged.

Pins 5 and 6 (Central Override)

Pins 5 ("C") & 6 ("NC") of P1 on the FPI are for the Central Override contacts.

If this option is not used, JP1 will be on. When using more than one FPI, each FPI central override switch or wired in series together.

Pins 7 and 8 (Fire Alarm Indicator)

Pins 7 (“DPLY”) & 8 (“G”) of P1 on the FPI are the Auxiliary Output that are typically used to power a Fire Alarm indicator LED at a Staff Alert or Graphic Panel.

Pin 7 is the signal, and pin 8 is the Ground.

Pins 9 and 10 (Reset)

Pins 9 (“C”) & 10 (“NO”) of P1 on the FPI are the Reset pins.

A shorting jumper at JP2 on the PCB allows for automatic reset, which will re-engage the locks and elevator deactivation units after the fire alarm is reset. If a manual reset is desired, the jumper on JP2 can be removed and can be replaced by an external push button connected across pins 9 and 10.

Note: On the FPI, connector P2 has 8 pairs of contacts for each of 8 IO boards that can be connected to the FPI. Connect to P8 FIRE IN FIRE OUT.

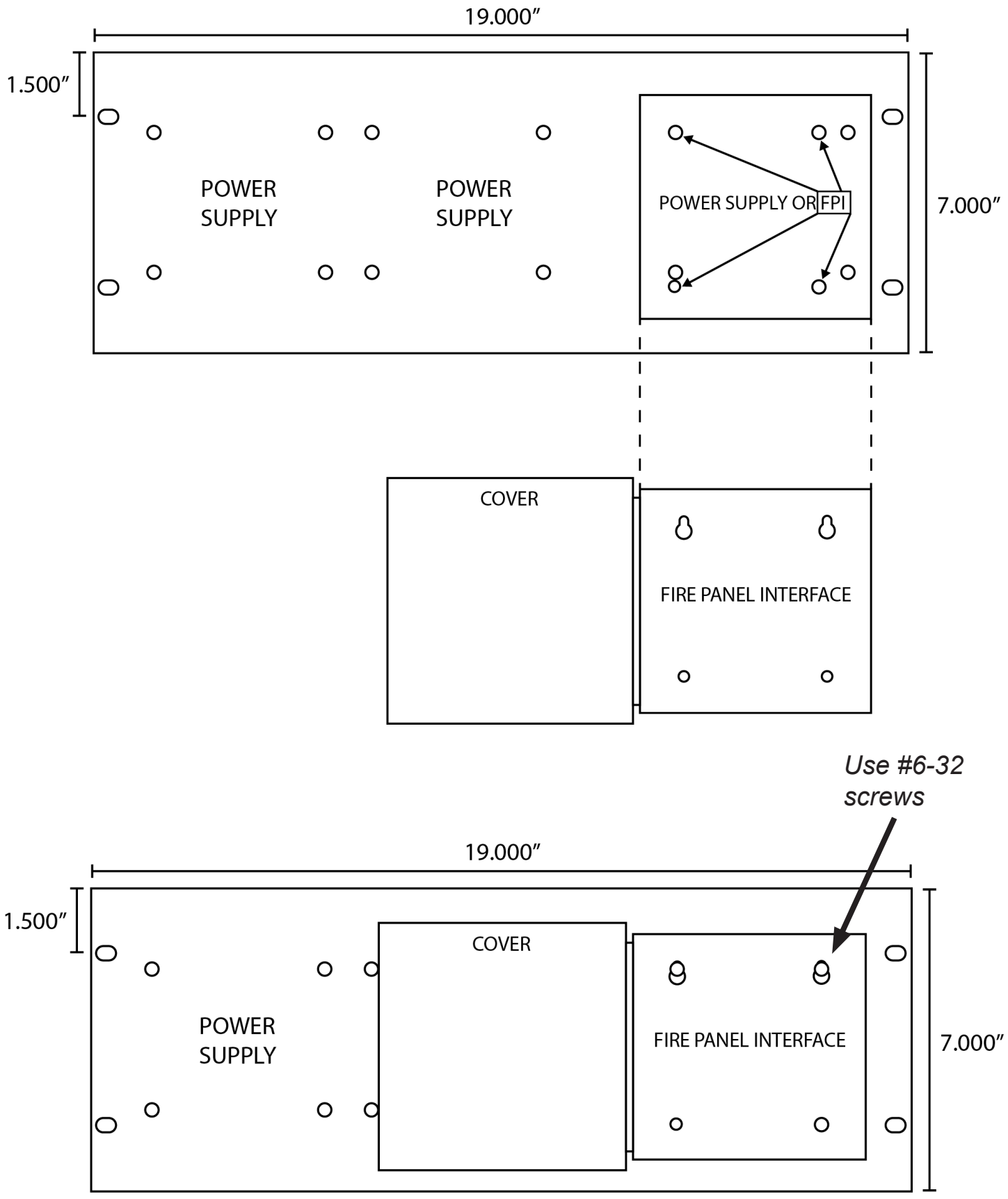

Figure 11.2 - FPI mounting to server rack via BR52PSFPMP plate

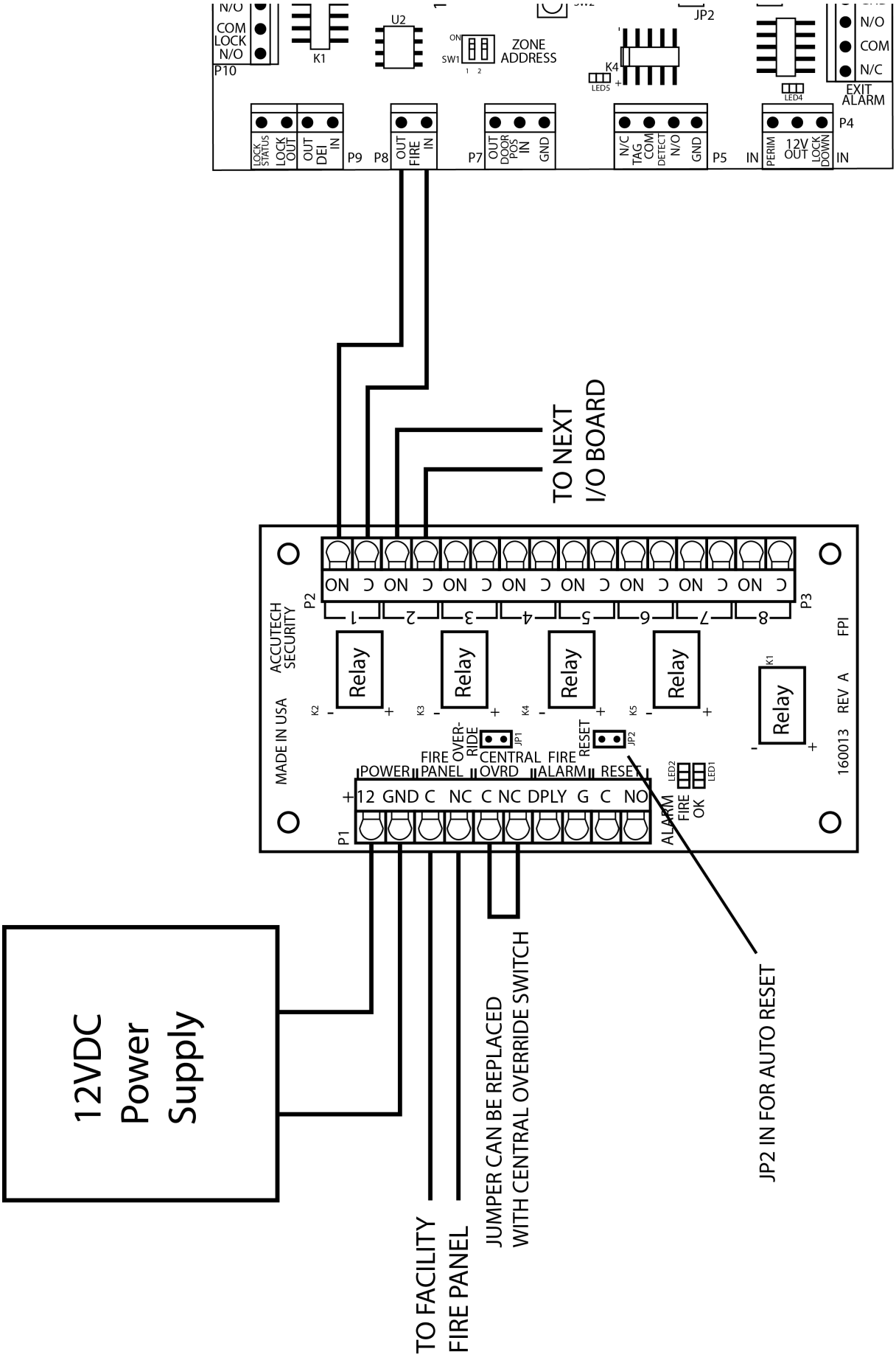

Figure 11.3 - Wiring the FPI to the IO Board

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Chapter 12
Alarm Output Devices

Alarm Output Devices

- Alarm Definitions
- Alarm Output Capability
- Alarm Output Connector
- The Local Alarm
- Speakers

Accutech Systems alert facility personnel of alarms using a variety of audial and visual devices.

Alarm Definitions

There are five different types of alarm outputs:

- Exit Alarm
- Door Ajar alarm
- Loiter Alarm
- Perimeter Alarm
- Band Removal alarm
- Roll Call alarm

Exit Alarm

In this manual, Egress alarms are referred to as “Alarms.” These alarms do not automatically reset once the Tag leaves the monitored zone or the door has been closed. They are “latched” once they have been triggered. This has been done, by design, to ensure that all alarm conditions are investigated and corrected by facility staff.

An alarm (i.e., an Egress alarm) occurs whenever a Tag enters a monitored zone and the door is opened or a PIR is triggered. To clear this alarm remove the Tag from the zone, close the door and enter a valid code into the Keypad.

Door Ajar alarm

A Door Ajar alarm occurs when a door is open for longer than the preset time. The door must be closed and a Keypad Reset. Or it can be set to auto reset in the software.

Loiter Alarm

A Loiter Alarm occurs when a Tag lingers in the Tx Activation Field. Remove all Tags from the Field and then enter a Keypad Reset. Or it can be set to auto reset in the software.

Perimeter Alarm

A Perimeter alarm occurs when the IO board has been configured to alarm any time the door is open without authorization and will remain latched until a Reset All occurs. A Tag does not have to be in the zone for a Perimeter alarm to occur. On P4, Jump 12V OUT to PERIM.

Band Removal Alarm

A Band Removal alarm occurs when the BR52 Tag/band is removed or tampered with in any way.

Roll Call Alarm

A Roll Call alarm occurs when a BR52 Tag is removed, shielded or no longer seen by the system.

Alarm Output Capacity

The alarm outputs of the IO Board and their capabilities are as follows:

- The Exit Alarm : 10.95VDC @ 50mA
- The Loiter Alarm: 10.95VDC @ 50mA
- The Door Ajar alarm: 10.95VDC @ 50mA
- The Perimeter Alarm: 10.95VDC @ 50mA
- The Band Alarm: 10.95VDC @ 50mA
- The Roll Call alarm: 10.95VDC @ 50mA

If you need more voltage or current than the Controller can offer to trigger an independent signaling device (not from Accutech), use a relay with a coil that will respond to what the Controller can offer plus separate power and ground for the device.

The Alarm Output Connector

The Alarm Output connector (Figure 12.2) is P2 on the IO board for Band Alarm, Roll Call alarm, Perimeter Alarm, Door Ajar alarm and Loiter Alarm.

For Exit Alarm, Use Alarm Out on P11.

The Local Alarm

- Local Alarm Specifications
- Mounting the Local Alarm
- Connecting the Local Alarm
- Composite Cable

The Local Alarm (Figure 12.1; System Sensor MHW Mini-Horn), a piezo-signaling device, is intended to attract attention near the monitored zone only.

Figure 12.1 - The Local Alarm
Part Number: 700216

Local Alarm Specifications

Electrical:

Nominal Voltage: 12VDC OR 24VDC
Operating Voltage Range: 8-33
Input Terminals: 12 to 18AWG

Mechanical:

Dimensions: 4.6”L x 2.9”W x .45”D
Weight: 2.67 oz
Mounting:

Surface: deep single-gang back box
Flush: Standard 4”x4” back box

Operating Characteristics:

- 3kHz Sounder Frequency (nominal)
- Rotary switch on back for setting selection
- High and low volume settings
- Temporal and non-temporal tones
- Listed for ceiling or wall mounting
- Listed to Underwriter’s Laboratories Standard UL 464

Environmental:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

Sounder Current Draw (ma RMS)

SWITCH SETTING	SOUND PATTERN	VOLUME	8-17V		16-33V	
			DC	FWR	DC	FWR
1	TEMPORAL	HIGH	12	10	17	15
2	TEMPORAL	LOW	10	9	14	13
3	NON-TEMPORAL	HIGH	22	17	29	25
4	NON-TEMPORAL	LOW	17	13	21	19

Sounder Output (dBA) Reverberant

SWITCH SETTING	SOUND PATTERN	OUTPUT LEVEL	8 VDC	8 VFWR	12 VDC	12 VFWR	16-33 VDC	16-33 VDC
1	TEMPORAL	HIGH	68	67	71	70	78	76
2	TEMPORAL	LOW	66	65	69	68	76	75
3	NON-TEMPORAL	HIGH	72	71	75	74	80	79
4	NON-TEMPORAL	LOW	70	69	73	72	78	77

Mounting the Local Alarm

Use a standard 2-1/2” deep single-gang box to mount the Local Alarm with the two mounting screws supplied.

Connecting the Local Alarm

You will need 22-gauge, 2-conductor plenum-rated cable for installation.

Note: Use UL-approved, plenum-rated cable.

To connect the Local Alarm to the IO Board, refer to Figure 12.2 and use the following instructions:

1) Using the RED wire, connect the positive (+) terminal of the Local Alarm to P11-pin6 (Alarm Out) of the IO Board.

2) Using the BLACK wire, connect the negative (-) terminal of the Local Alarm to P11-pin2 (Ground) of the IO Board.

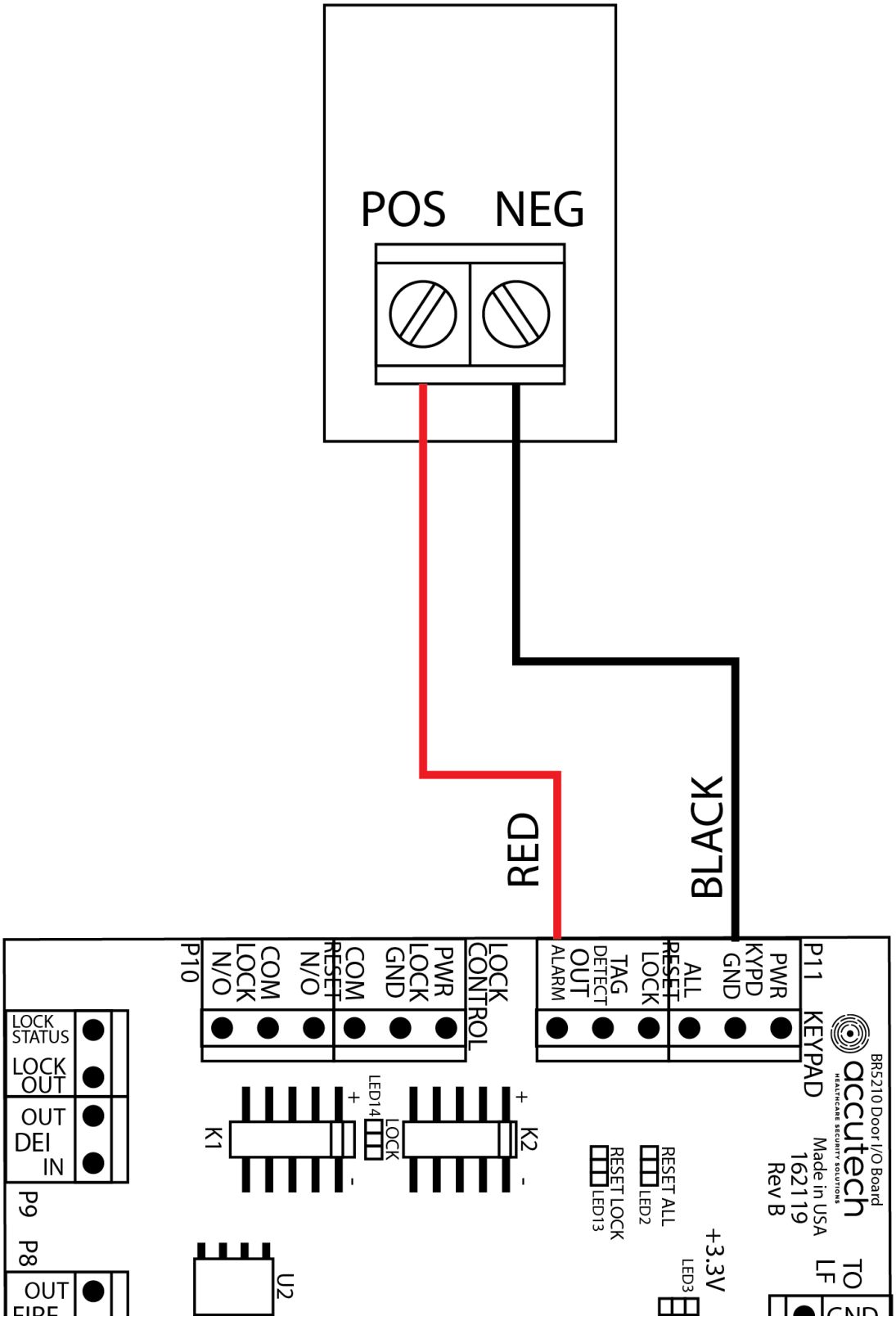

Figure 12.2 - Connecting the Local Alarm

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Chapter 13
Elevator Deactivation

Elevator Deactivation

- What to expect
- Working with the Elevator Company
- Elevator Deactivation Specifications
- Positioning the Elevator Deactivation
- Unit Weight and Dimensions
- Mounting the Elevator Deactivation Unit
- Wire and Cable
- Wiring the Elevator Deactivation Unit
- Summary of Elevator Deactivation for the Elevator Company

Elevator Deactivation (Part #700027) prevents a Tag from using an elevator.

There are two conditions where Elevator Deactivation would be engaged.

The first condition is if the system detects a Tag at a monitored elevator landing, the Elevator Deactivation prevents the elevator from being called to that floor by deactivating the elevator's call button at that floor.

The second condition is if the system detects a Tag and the elevator is at the floor or en route, the alarm will sound, the elevator doors will remain open and the call button will be deactivated.

What to expect

As soon as a Tag is detected, the elevator's Call Button for that floor/landing is deactivated.

The Call Button will remain deactivated for as long as the Tag is in the Tx Activation Field, and for an adjustable period of time (a delay) after the Tag leaves.

If a delay is used with the Call Button, that delay will "fool" the system into thinking a Tag is present longer than it actually is. This means that if the door is opened during this delay, the system will go into alarm.

Once that time expires and there are no Tags in the zone, the Call Button will resume operation.

Furthermore, if an elevator is already on its way to that floor (because it was called before the Tag entered the zone) the elevator will continue to that floor. If the Tag leaves the Field before the elevator doors open, the zone will not go into alarm and the elevator will function as if the Tag had never been there.

Finally, if the doors open while a Tag is present, the system will go into "alarm" and the elevator will be deactivated. This deactivation will take place only for the elevator at that zone. The alarm is "latched", meaning that it will not automatically reset itself once the Tag has left the area. A Keypad reset is required to reset the zone and reactivate the elevator.

Working with the Elevator Company

It will be necessary to work with the facility's elevator company in order to connect the Elevator Deactivation Circuitry. The Accutech system contains most of the circuitry needed to deactivate the elevators; however, the elevator company will need to be provided with relays. The Elevator Deactivation cabinet is used for this purpose.

Specifications

Electrical

12VDC @ 120mA maximum
Contact Rating: 10A / 250VAC
Cable: need minimum 22-gauge, 6-conductor

Mechanical

Construction: Metal case
Enclosure size: 7.80" x 8.25" x 3.75"
Enclosure weight: 3.5 US pounds

Environmental

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

Operating Characteristics

- Dry Contacts supplied by Elevator Company for door switch
- 12V DC Alarm Voltage energizes K1 Relay to deactivate the Car when a Tag is detected and the elevator door is open.
- 12V DC Tag Detect Voltage energizes K2 Relay to deactivate the Call Button when a Tag is detected.

Duty Cycle

Rated for continuous use.

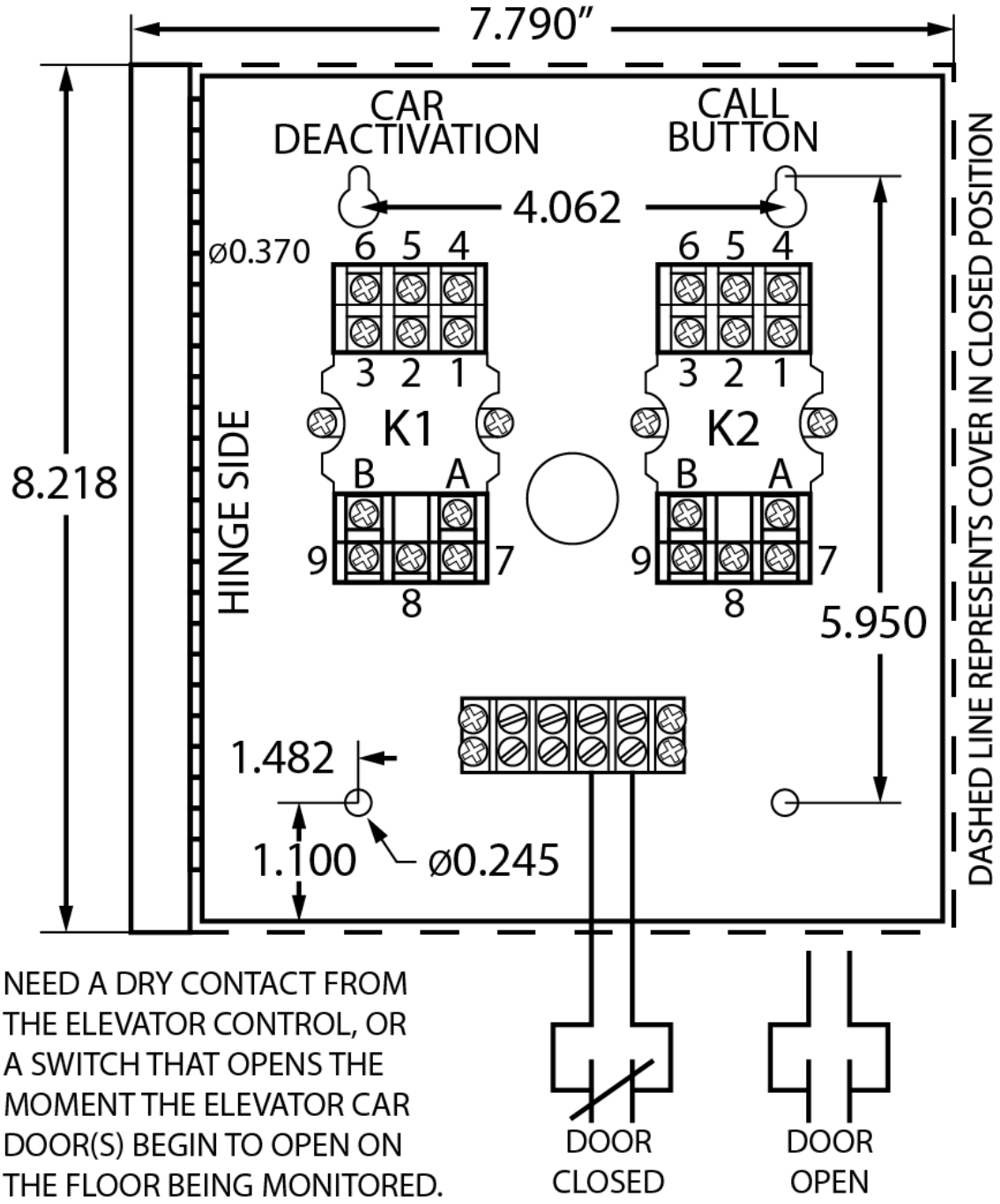

Figure 13.1 - Elevator Deactivation Unit
Part Number: 700027

Positioning the Elevator Deactivation

The cabinet containing the relays for the Elevator Deactivation Circuitry (Figure 13.1) should be located in the room containing the elevator controls.

Mounting the Elevator Deactivation Unit

To mount the Elevator Deactivation cabinet, use the following instructions:

1) Choose your location and appropriate mounting hardware.

2) Open the Elevator Deactivation cabinet and locate the four mounting holes.

3) Mark-out and drill four holes corresponding to the holes in the back of the cabinet.

4) Push out one of the knock-outs in the cabinet for wire/conduit access.

5) Connect conduit or strain relief fittings.

6) Position the cabinet over the holes you drilled and secure the cabinet to the mounting surface

---

Note: The first condition is the presence of a Tag at a monitored zone. The second condition, in the case of elevator deactivation, is an indication of an open door at a monitored zone.

If a door position switch, typically dry contacts from the elevator control or some form of magnetic switch, is not available, then a Passive Infrared Reader (PIR) is focused near the monitored opening.

Wire and Cable

We recommend using an 22-gauge, 6-conductor cable for hookup between the relay cabinet and the Controller.

Note: Use UL-approved, plenum-rated cable.

Local or State Code may require the wire to be run in conduit. Be sure to check your requirements before beginning work.

Note: State codes require that all lock and elevator deactivation circuitry be wired into the facility's fire alarm system. This is done so that in case of fire, any lock or elevator deactivation unit disengages, allowing for free egress or ingress. Be sure to check your local codes and see Chapter on Fire Panel Interface Units.

Wiring the Elevator Deactivation Circuitry

For wiring the Elevator Deactivation use 22 AWG (CL2-P), 6-conductor non-shielded Plenum cable.

Note: Use UL-approved, plenum-rated cable.

To wire the Elevator Deactivation, refer to Figure 13.2.

At the Second Condition Source:

If the second condition source is provided by the elevator controls, Use the previously wired terminals on the 4- position screw terminal strip in the Elevator Deactivation Relay cabinet to hookup to the dry contract. (See diagram 12.1)

If the second condition source is a locally mounted Passive Infrared Reader (PIR) unit, wire them to the IO Board. See PIR chapter.

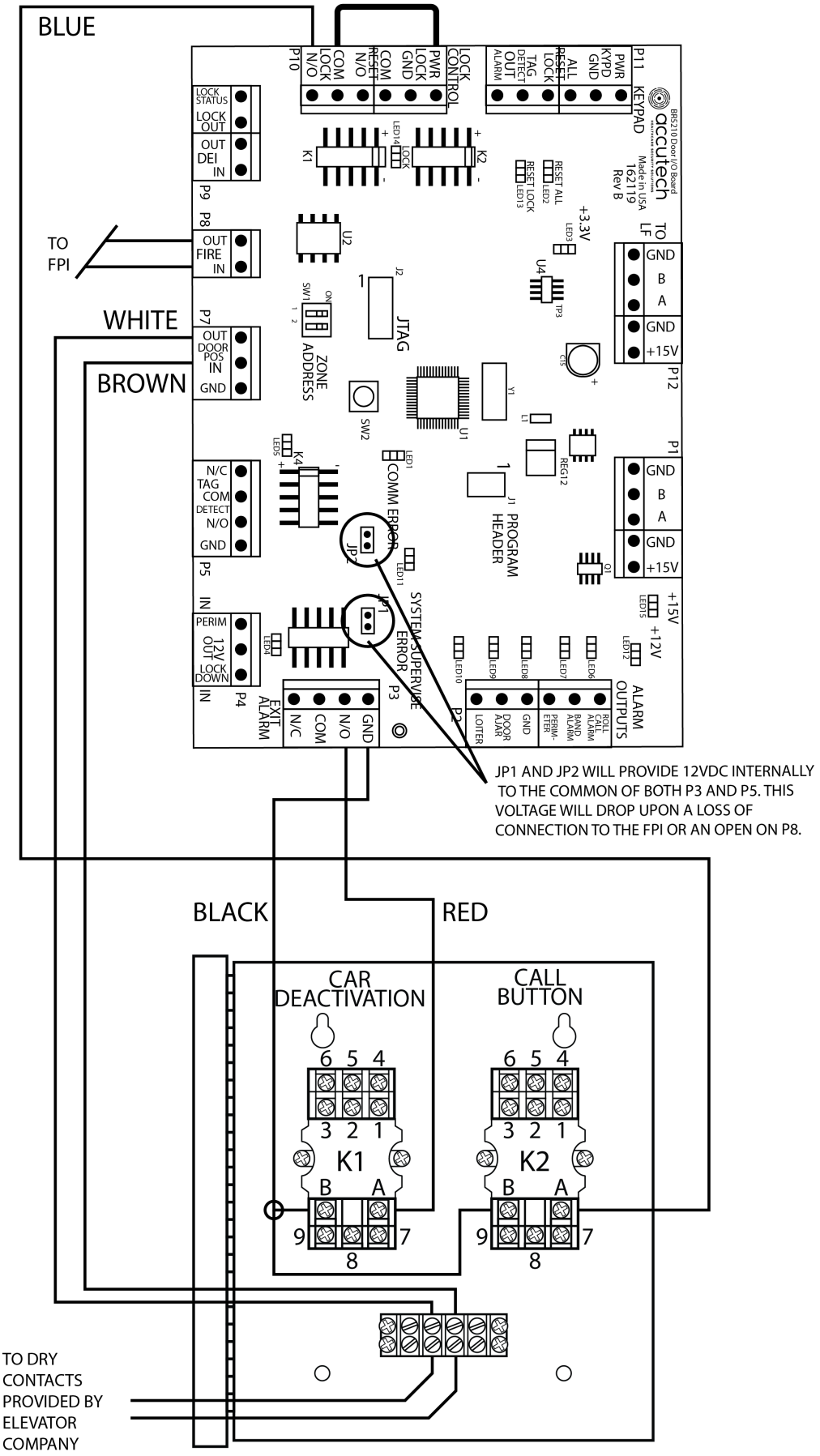

Figure 13.2 - Connecting the Elevator Deactivation Unit to the IO Board

Summary of Elevator Deactivation for the Elevator Company

- Call Button Deactivation
- Elevator Car Deactivation

The following is a brief summary of Elevator Deactivation that can be given to the Elevator Company.

Call Button Deactivation

When a Tag is detected in the monitored Elevator zone, the Accutech system energizes Relay K2 and the Call Button for that Elevator zone is deactivated.

When the K2 Relay is de-energized, the Call Button is reactivated.

Elevator Car Deactivation

When a Tag is detected in the monitored Elevator zone and the second condition is met, the Accutech System energizes Relay K1.

If the elevator car is at the floor (with doors open) the elevator will be deactivated.

If the elevator car is on its way to that floor, it will continue to that floor and upon arrival (with doors open) will be deactivated.

As long as relay K1 is energized, the elevator doors will remain open preventing the car from leaving the floor.

When Relays K1 is de-energized, the Elevator will return to normal operation.

Band Removal/Roll Call Alarm

When a Tag creates a Band Removal alarm or a Roll Call alarm, the software can configure the IO board to lock down the elevator via P10.

This will remain latched until the alarm is cleared temporarily at the keypad or by the software when the alarm event has been addressed. See software configuration settings.

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Chapter 14
Power Supply

Power Supply

- Power Supply Specifications
- Positioning the Power Supply
- Mounting the Power Supply
- Connecting the Power Supply

BR52PS195 Power Supply

Part Number: 500255

Specifications

Electrical

Input: 120VAC, 5A on Emergency Power
Output: 19.5VAC @ 5A

Mechanical

Construction: Metal Case
Enclosure size: 4.83” x 3.075” x 6.60”
Weight: 4.81 pounds

Environmental

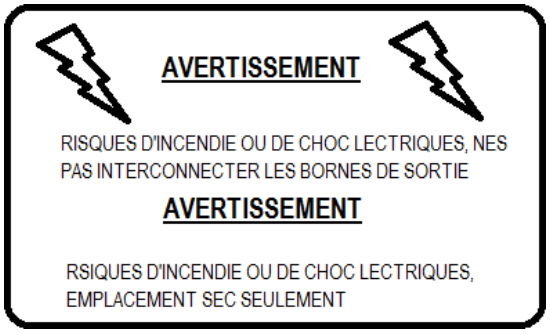
A Power Supply operates best in an ambient temperature between 35 and 90 degrees Fahrenheit. Operation outside of this range may cause unexpected or undesirable results, including premature failure.

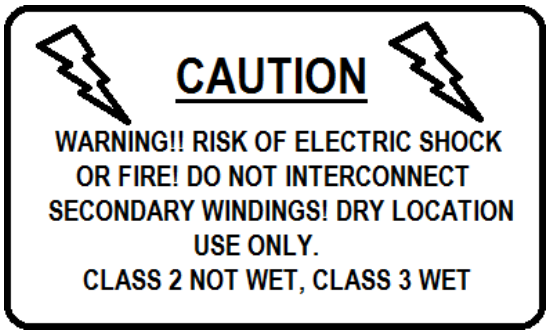
Intended for indoor use only.

Duty Cycle

Rated for continuous use.

- ULXXX and CSA XX.X #XXX Class 2 Power Supply
- Input: 120VAC, 60 Hz, 2A with a 2A resettable circuit breaker
- Each BR52PS195 Power Supply comes with a grounded 6-foot power cord for ease of installation.
- A three-prong 120-Volt outlet with emergency back-up should be located within 6 feet of each Power Supply.





Positioning the Power Supply

The Power Supply is located in an equipment room or IT closet near a 120V AC dedicated power outlet. Use appropriate hardware for the weight and mounting surface.

Mounting the Power Supply

The Power Supply is mounted in an equipment room or IT closet onto a custom server rack mounting plate (BR52PSFPMP). See figure 14.1.

Mount to plate using #6-32 screws.

Connecting a Power Supply

For all connections to the Power Supply, use 18-gauge, 2-conductor wire. For distances longer than 100 feet, increase the wire gauge accordingly. To connect a Power Supply, refer to Figure 14.2 and the respective components:

- To a BR5200 Controller

Using the RED and BLACK wire, connect the 19.5VAC between the Power Supply and J1 of the IF Board.

Note: Use UL-approved, plenum-rated cable.

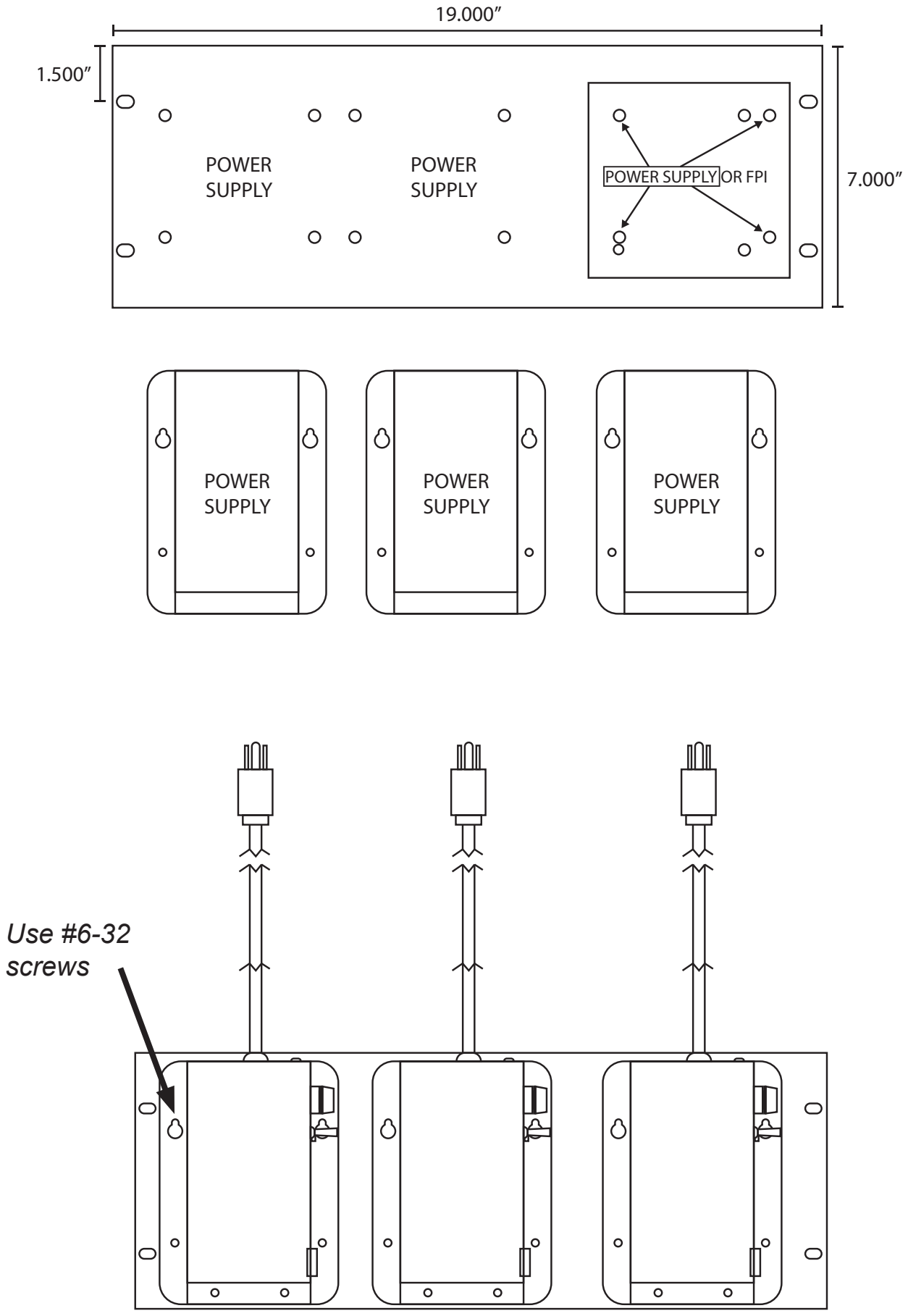


Figure 14.1 - Server Rack Mounting Plate for the Power Supply

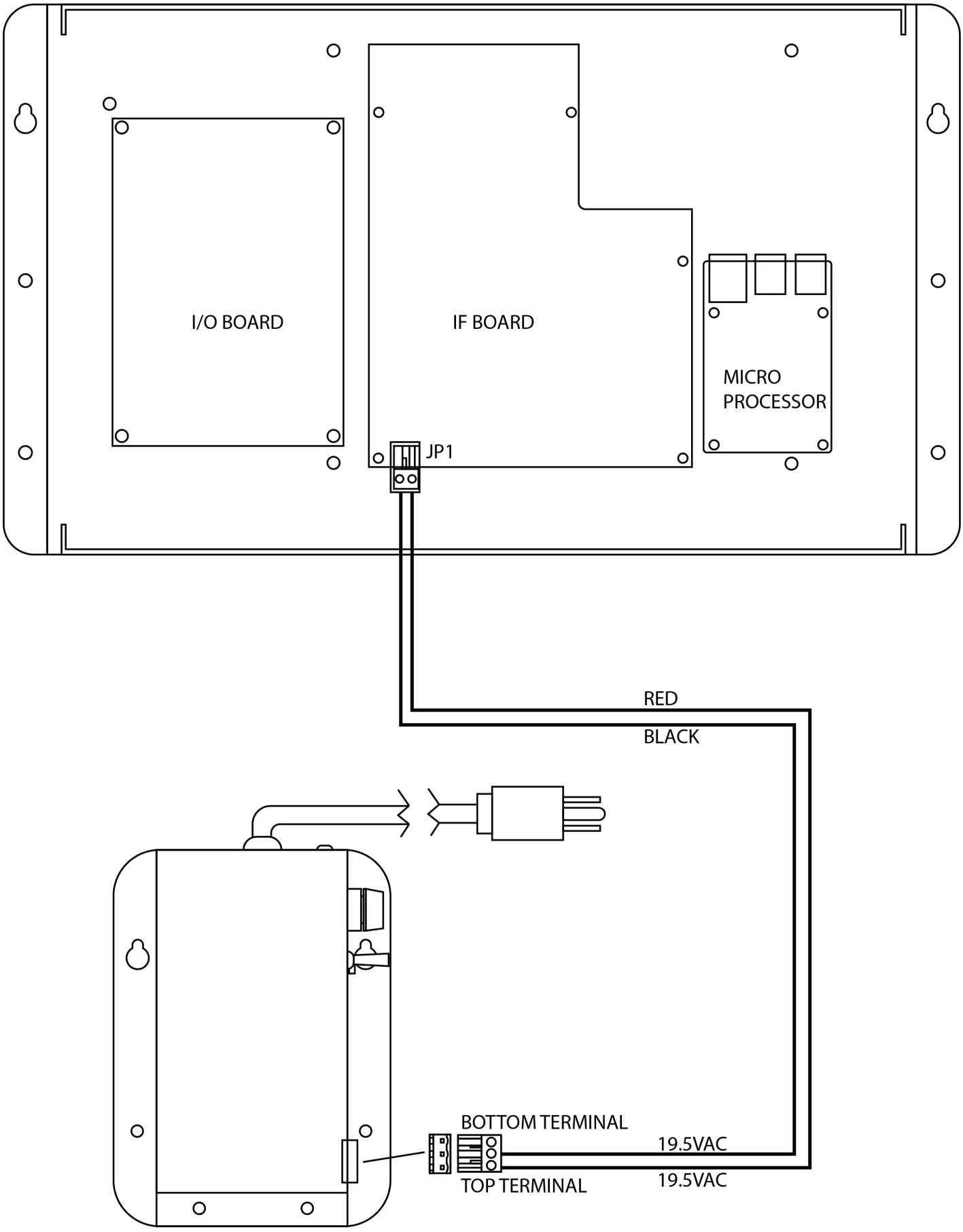


Figure 14.2 - Power Supply Wiring to IF Board

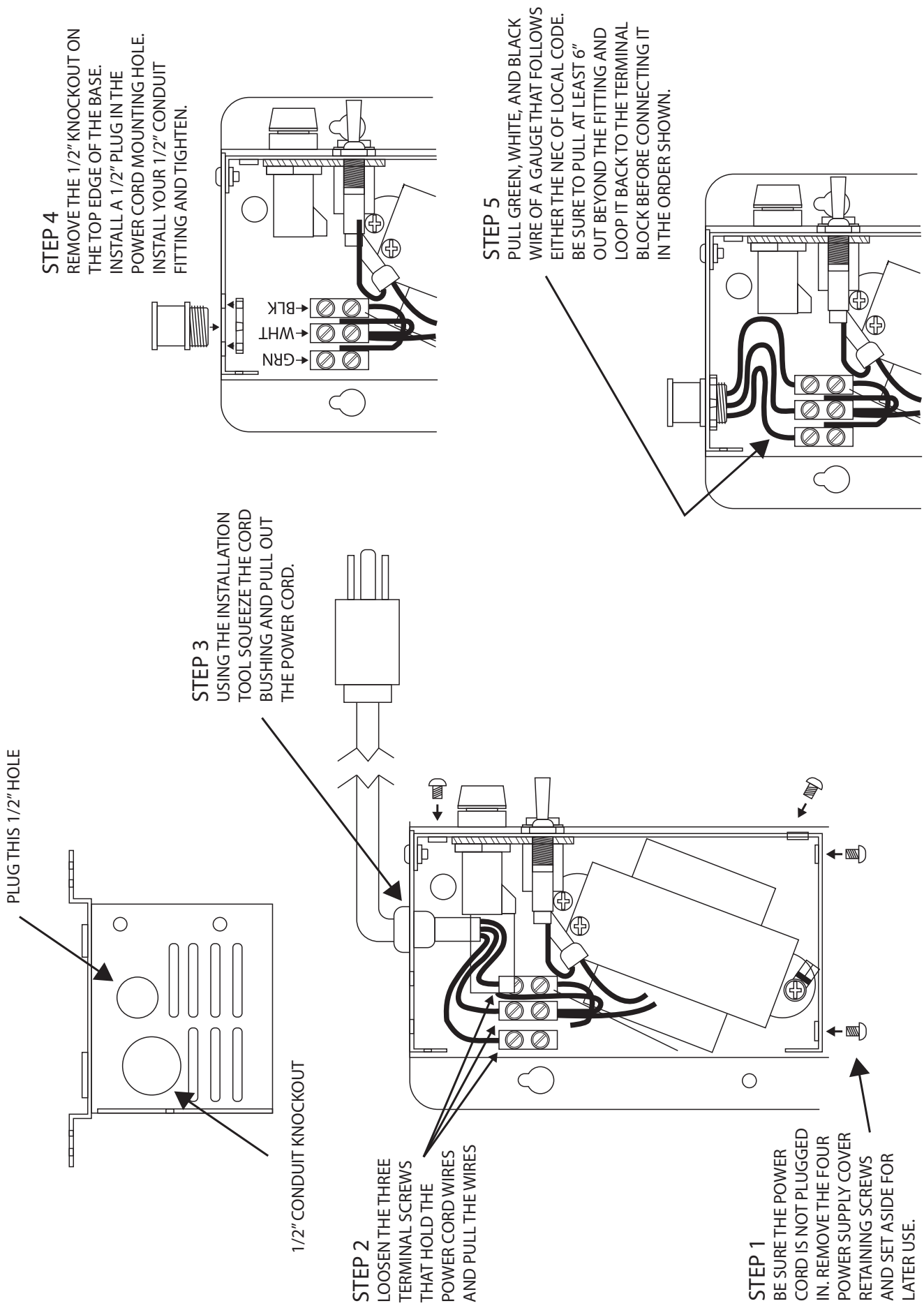


Figure 14.3 - Hardwiring the Power Supply

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Chapter 15
Controller Maintenance Software

Controller Maintenance Software

- Installation
- Selecting a Controller
- TX Field Configurations
- Global Configurations
- Remote Exit Door Configuration
- Port View
- Tags View
- IO/TX View
- Alarm View
- Interface View
- Remote Control View
- Roll Call Test
- Enable/Disable Ports

The Accutech Controller Maintenance Software allows for easy system configuration, testing, and troubleshooting. The software provides real-time information on system components and settings.

For full information on software functions and information, see the Controller Maintenance Software Manual.

Installation

Use the following instructions to install the Controller Maintenance Software.

1) Open setup.exe file. Wait for the setup wizard to load.

Figure 15.1 - Setup.exe Desktop Icon

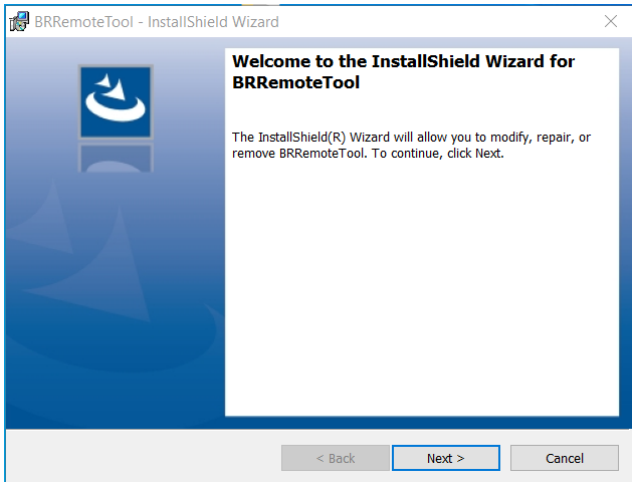

Figure 15.2 - Installation Wizard

2) Click Next >, then Install.

3) If prompted with a window asking for permission to make changes to your device, click Yes.

4) Wait for the installation to complete, then click Finish.

5) Open the software via the Cuddles Controller Config Desktop shortcut.

Figure 15.3 - Desktop Shortcut

Selecting a Controller

Select a Controller you want to configure by using the dropdown menu at the top of the screen.

Controller names in the menu are formatted as ATControllerXXXXX where XXXXX is the Controller's address as set by the dip switches on the IF board.

For example, if a Controller's address is 1, its name in the dropdown menu will be ATController000001.

Included next to the Controller's name is the Controller's IP address and firmware version.

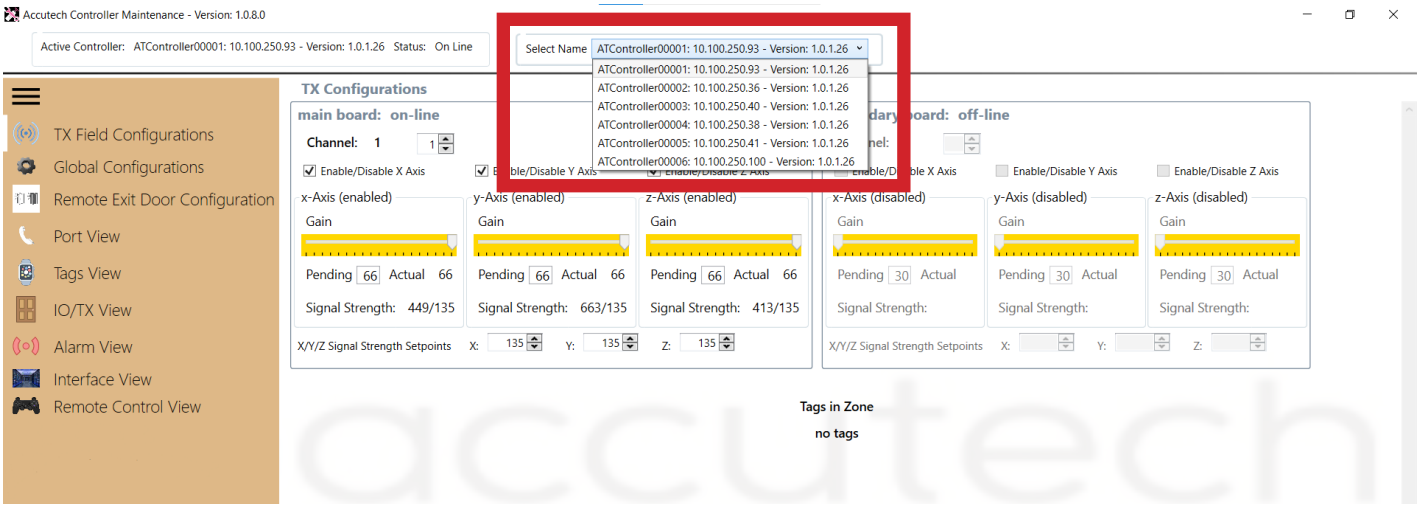

Figure 15.4 - Software Window with Open Controller Dropdown Menu

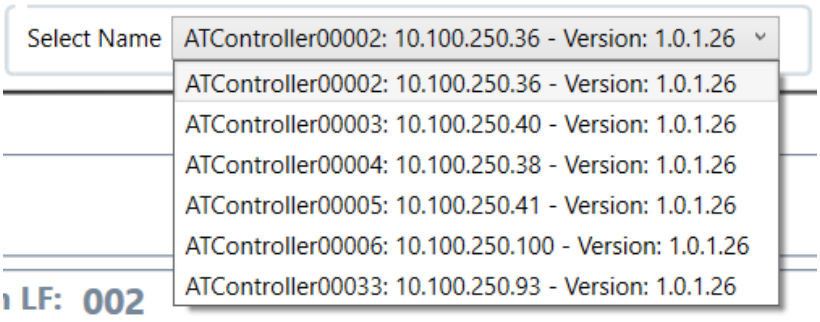

Figure 15.5 - Controller Selection Dropdown Menu

TX Field Configurations

Figure 15.6 - TX Field Configurations in Menu

The TX Field Configurations tab allows you to configure the LF Antennas connected to the Controller. The window displays real-time settings of all LF Antennas connected to a selected Controller.

To select the LF Antennas that you would like to configure:

1) Open the Select Name dropdown menu at the top of the screen.

2) Select the Controller for the zone at which the LF Antennas you want to configure are installed.

3) The screen will show the settings of the LF Antenna(s) connected to that zone's Controller. It will also show a list of Tags present within the LF Antenna's TX field(s).

In this window, you can:

- Set the antenna's channel in the software.

Note: if the channel is changed in the software, it must also be configured to that same channel via dip switches on the LF Antenna's circuit board. See chapter X for more information.

- Enable/Disable Signal Axis'
- Adjust the signal field strength via the yellow Gain sliders.
- Verify the signal strength of the TX fields, which must be well above 143.
- Use the Tags in Zone list to test the visibility of Tags within the field.

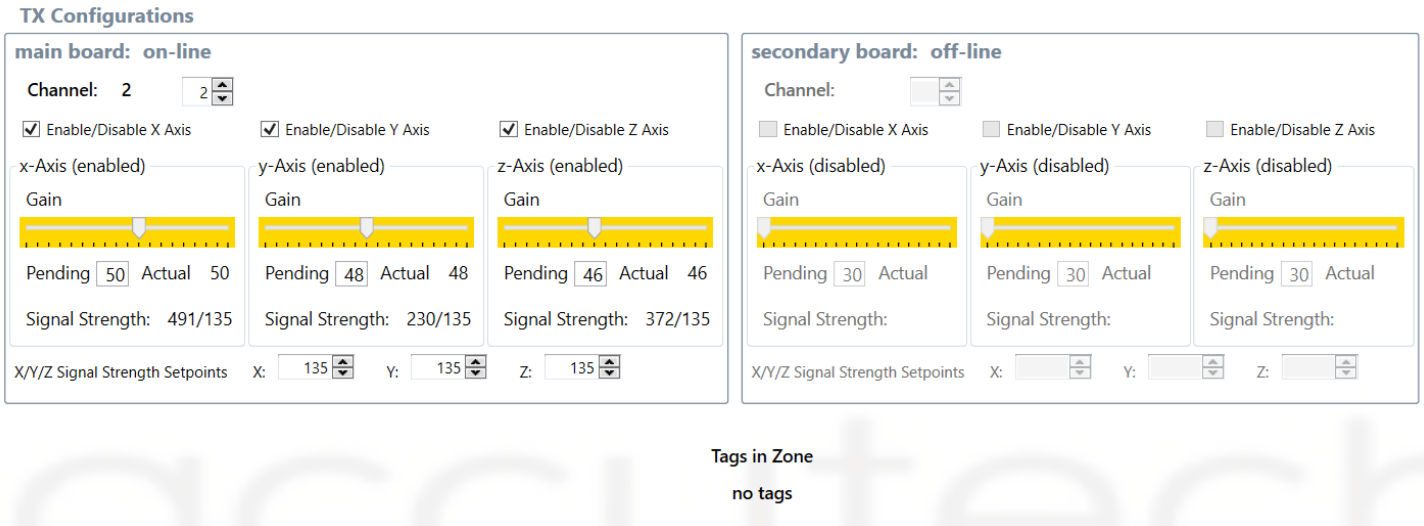

Figure 15.7 - TX Configuration Screen

Global Configurations

Figure 15.8 - Global Configurations in Menu

The Global Configurations tab allows you to view and adjust the following settings:

- Duration of Delay Timers
- Enable/Disable Controllers
- Enable/Disable Auto Clear
- Off-Line Band Alarm Configuration
- Perimeter Alarm and Mode Settings
- Miscellaneous Settings

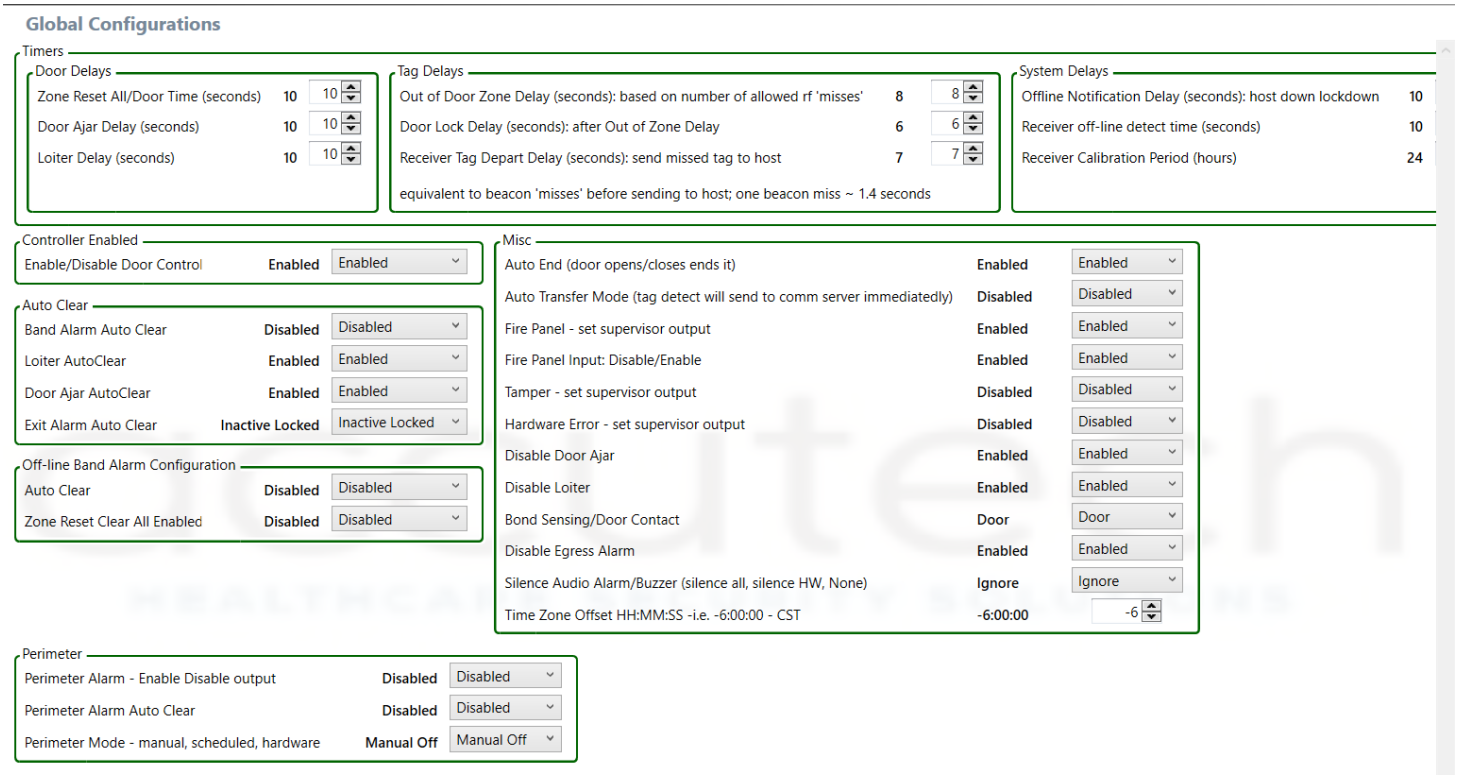

Figure 15.9 - Global Configurations Screen

Remote Exit Door Configuration

Figure 15.10 - Remote Exit Door Configuration in Menu

The Remote Exit Door Configuration section allows you to select additional doors to lock when an Exit Alarm occurs at the selected Controller.

Note that these other exit doors will lock, but will not generate Exit Alarms unless they also detect a Tag and generate an Exit Alarm themselves.

To select additional zones to lock down:

1) Use the Select Name dropdown menu at the top of the screen to select the Controller you want to configure.

2) Click Refresh List.

3) Check the box in the Lock on Exit Alarm column next to each Controller you would like to lock down when an Exit Alarm occurs at the selected Controller.

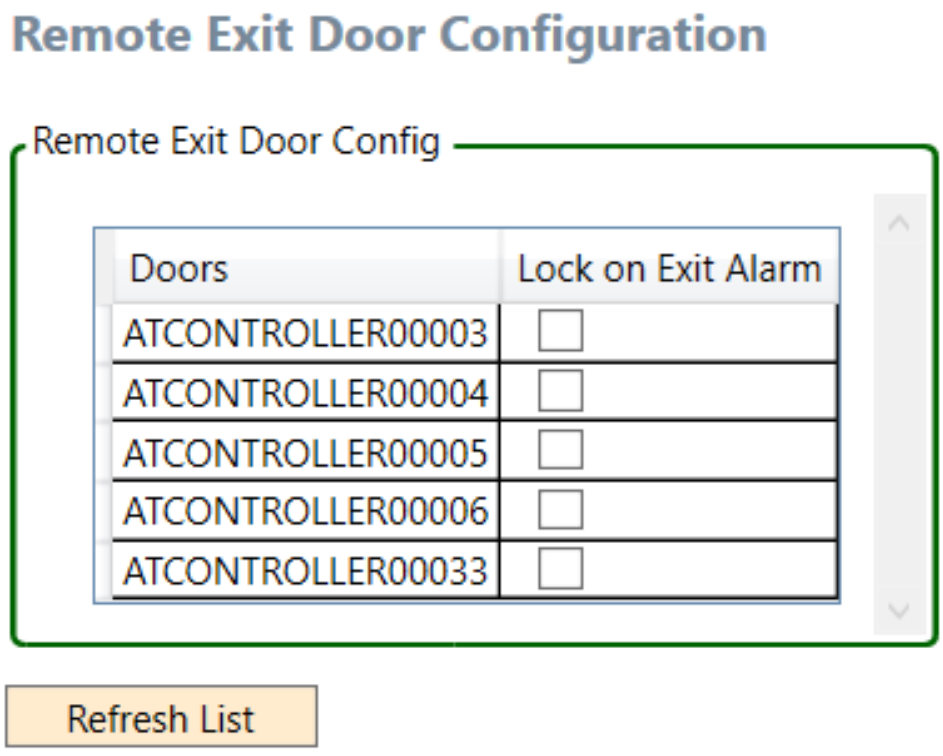

Figure 15.11 - Remote Exit Door Configuration Screen

Port View

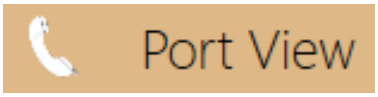

Figure 15.12 - Port View in Menu

The Port View tab displays the Receivers connected to the selected Controller. It also shows which port on the IF board or IO board those Receivers are connected to.

The port table section shows what each port on the IF board is connected to. For example:

FTDI-A10K7Z49 – attached to controller, allocated by: controller

FTDI-A10K7Z49 = communications port serial number (from FTDI chip)

Attached to controller = this port is connected to the Controller's IO Board.

Allocated by: controller = this port is allocated by the Controller's IO Board

The Active Receivers section shows each Receiver Pair attached to the Controller. For example, the following represents a Receiver Pair:

Receiver 0

Component-1 RS485 Address: 1, HW Status 1: [0], HW Status 2: [0], FW Version: 0.18.0

Receiver 0 - The Pair Address of the Receiver

Component-1 = the first Receiver in the pair

RS485 Address: 1 = Receiver RS485 address, which can be any number between 1 and 15.

HW Status 1: [0] = Bit representing RX errors. See software manual for more information.

FW Version: 0.18.0 = Firmware version 0.18.0

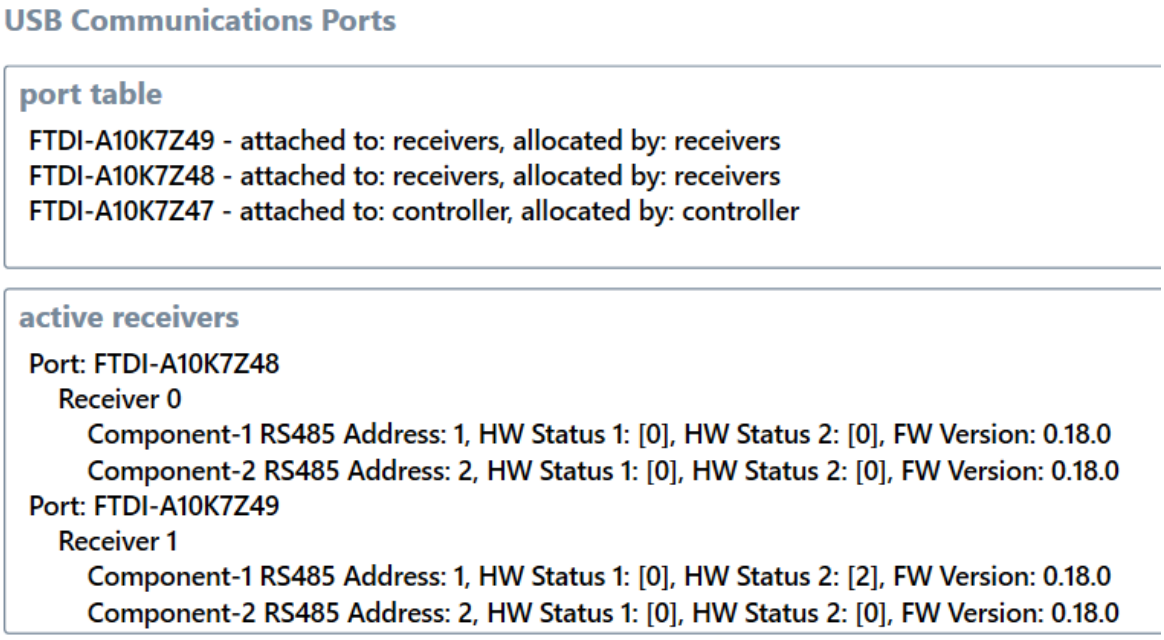

Figure 15.13 - Port View Screen Example

Tags View

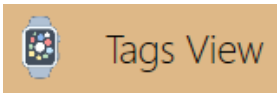

Figure 15.14 - Tags View in Menu

The Tags View tab shows a Tag's communication with a zone's Receivers when that Tag is in a zone's TX field.

The Tags Seen By Receiver section shows which Receivers the Tag is sending a signal to. For example

Tag: 85
Receiver-0, Tag Status: 0, RSSI: -82dB

Tag: 85 = The Tag's number is 85

Receiver-0 = The Tag is communicating with Receiver 0 in a Receiver Pair.

Tag Status: 0 = byte value indicating status of Tag. See software manual for more information.

RSSI: -82dB = Received signal strength indicator.

The Tags detected at the door with LF section shows what Tags are in that zone's TX field, their Loiter status, and the LF Antenna the Tag is reacting to. For example:

Tag: 85, loiter active, LF: 1

Tag: 85 = The Tag's number is 85

Loiter active = The Tag set off a Loiter Alarm

LF: 1 = The Tag is in the field of an LF Antenna at Zone Controller 1.

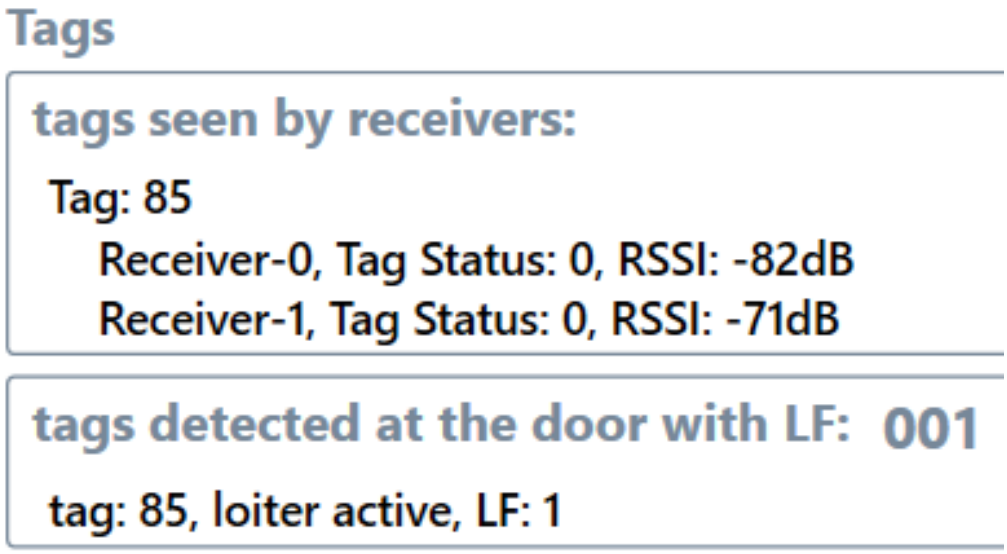

Figure 15.15 - Tags View Screen Example

IO/TX View

Figure 15.16 - IO/TX View in Menu

The IO/TX View tab displays a variety of information about the system's various components and statuses. See the Software manual for information on each status.

The following are some statuses and their meanings:

Active and Clear – Often used for Reset functions, active means that a function is being executed, and Clear means that it is not being executed.

For example, Reset All: 0 means no zone reset is currently occurring. Reset All: 1 means a zone reset is occurring.

1 and 0 – Often used to display the status of inputs and outputs on a board. 1 means an input/output is active, and 0 means it is inactive.

For example, if Tag Detect is listed as 1, it means that the Tag Detect input on the IO board has been activated when a Tag entered the zone's TX field. If Tag Detect: 0, it means that input has not been activated because there is no Tag detected in the zone's TX field.

ALARM and Clear – often used for alarms, ALARM means that alarm type is occurring, and Clear means that alarm type is not occurring.

For example, Door Loiter: ALARM means a Loiter Alarm is occurring. Door Loiter: Clear means a Loiter Alarm is not occurring.

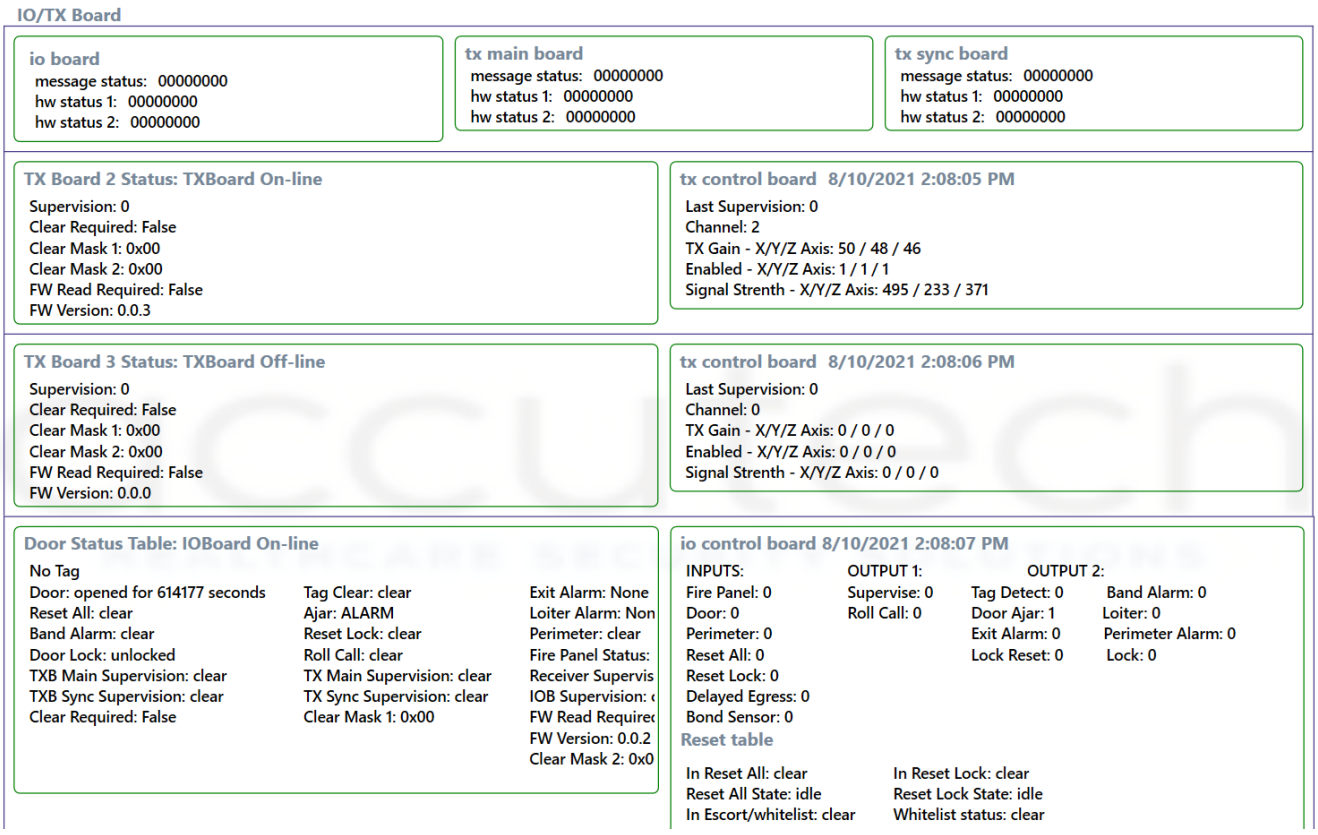

Figure 15.17 - IO/TX View Screen Example

Alarm View

Figure 15.18 - Alarm View in Menu

The Alarm View tab shows current and logged system activity, such as alarms, zone resets, cleared alarms, and Tag activations/ deactivations.

Active alarms are alarms that are currently active. Logged alarms are logs of all activities, including alarms.

Each event shows the date and time, followed by additional information relative to the event, such as the zone at which an event occurred, or the number of a Tag that was involved in the event.

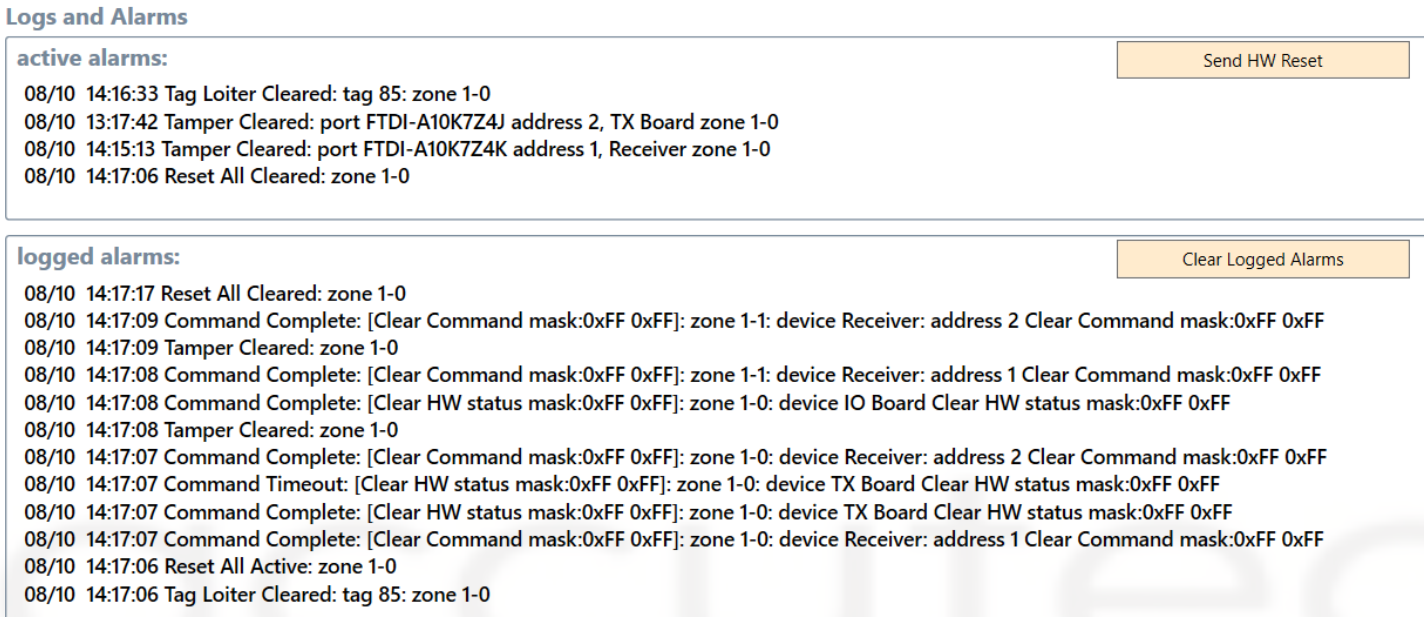

Figure 15.19 - Alarm View Screen Example