Installation Manual

Chapter 8:

The Push Button Override (PBO)

The Push Button Override (PBO)

- PBO Specifications
- Positioning the PBO
- Mounting the PBO
- Connecting the PBO to the Keypad
- Connecting the PBO to the Controller

The Push Button Override (PBO) (Figure 8.1) triggers the Keypad's Escort function; this option overrides the presence of a Tag in the zone to allow free access through the doorway (no locks or alarms) from the non-Keypad side of the door.

The PBO uses three LEDs:

- The Green LED indicates power.
- The Red LED indicates an alarm.
- The Yellow LED indicates the PBO has been activated and the allotted escort time is in progress. The time allotted to pass through the doorway or zone is the same as the Escort time on the Keypad.

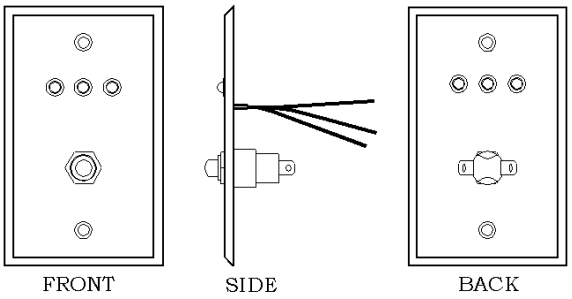


Figure 8.1 Push Button Override (PBO)

PBO Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC @ 55 mA

NOTE: The PBO triggers the Keypad; therefore, the PBO current draw is based on the Keypad used.

Temperature

The PBO 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.

Weight

A PBO weighs approximately 4.3 ounces.

Positioning the PBO

The PBO should be positioned on the side of the door opposite the Keypad. In other words, if the Keypad is on the inside of the door, the PBO should be on the outside of the door. The PBO can be flush mounted or surface mounted using the appropriate mounting box and hardware.

Mounting the PBO

The PBO is designed to be surface mounted using the back box provided.

To surface mount the PBO use the following instructions:

1. Using a screwdriver, separate the PBO from the back box.
2. Push out the back knock-out.
3. Using the back box as a template, mark the mounting holes.
4. Drill the necessary holes in the mounting surface.
5. Secure the back box to the mounting surface with appropriate hardware.
6. Make any and all wire connections that require the PBO to be unmounted.
7. Replace the PBO to the back box.

Connecting the PBO to the Keypad

You will need 22 AWG, 4 –conductor Plenum-rated cable for installation.

NOTE: The following instructions assume that the Keypad and Controller are already wired. See Chapter 7, page 7-4 for these instructions.

To connect the PBO to the Keypad, refer to Figure 8.2 and use the following instructions:

1. Remove the Keypad from the white back box.
2. Remove the Controller cover.
3. Using the RED wire, connect (with a spade crimp connector) the left prong of the PBO plug to pin 5 of the Keypad.
4. Using the GREEN wire, connect (with a butt splice) the positive (+) of the Green LED to the GREEN wire that connects the Keypad and the Controller.

Connecting the PBO to the Controller

You will need 22 AWG, 4 –conductor Plenum-rated cable for installation.

NOTE: The following instructions assume that the Keypad and Controller are already wired. See Chapter 7, page 7-4 for these instructions.

To connect the PBO to the Keypad and Controller, refer to Figure 8.2 and use the following instructions:

1. Remove the Keypad from the white back box.

2. Remove the Controller cover.

3. Jumper all negatives (-) of the three LEDs together, then to the right prong of the PBO plug (with a spade crimp connector), and finally to the BLACK wire that connects the Keypad to the Controller.

4. Using RED wire, connect the positive (+) of the Red LED to the RED wire that connects the Keypad and the Controller.

5. Using the GREEN wire, connect the positive (+) of the Yellow LED to the GREEN wire that connect the Keypad and the Controller.

6. Using the WHITE wire, connect (using a butt splice) the positive (+) of the Red LED to the WHITE wire that connects the Keypad and the Controller.

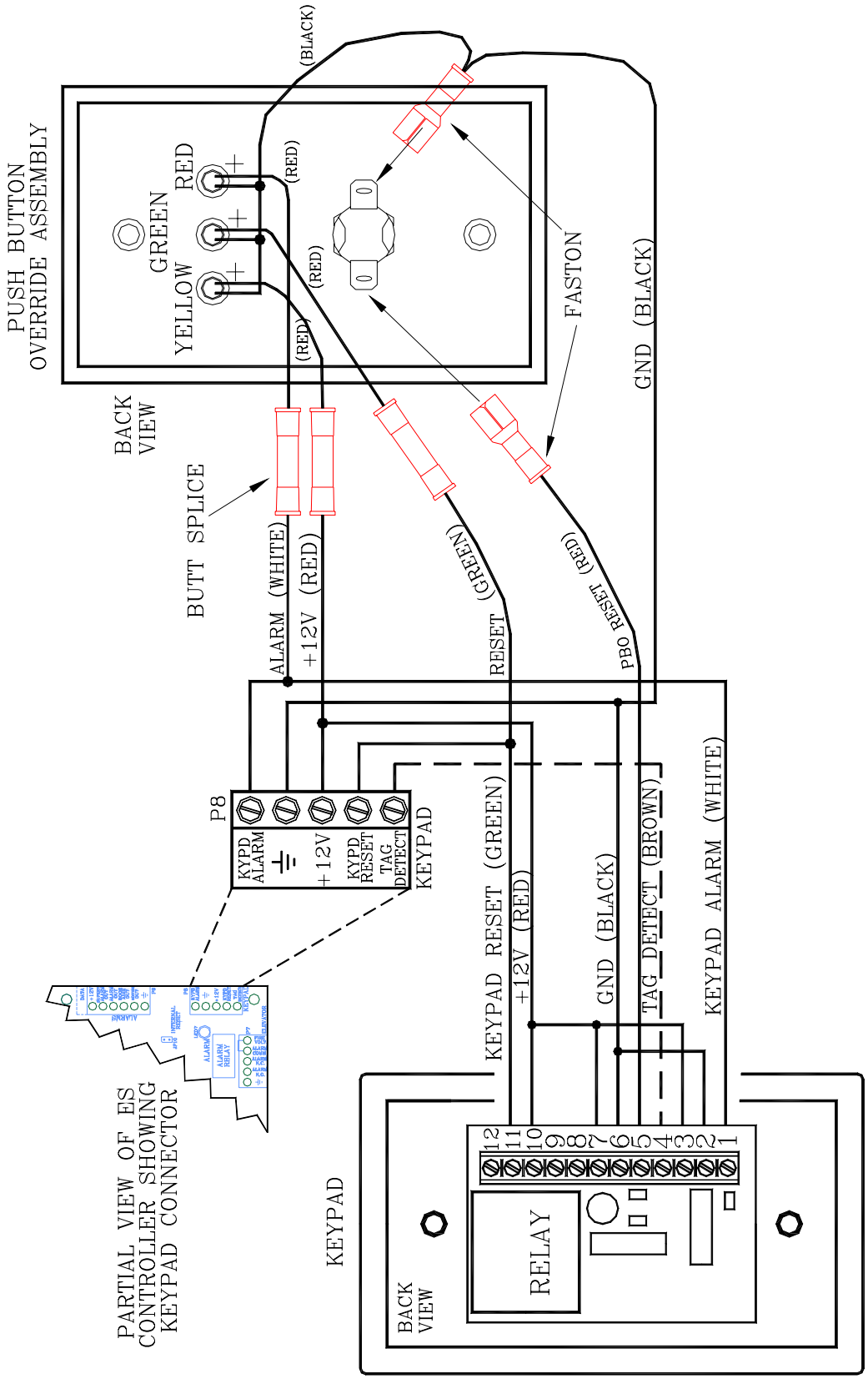


Figure 8.2 Connecting the PBO to the Keypad and Controller

Installation Manual

Chapter 9:

The Magnetic Switch

The Magnetic Switch

- Magnetic Switch Specifications
- Positioning the Magnetic Switch
- Mounting the Magnetic Switch
- Connecting to the Controller
- Double Door Applications
- Door Ajar delay time
- Door Ajar Reset

Magnetic Switches (Figures 9.1-9.2; *GRI 29 Series*) are used on doors where alarm activation is not desired unless the door is opened when a Tag is in the Tx Activation Field.

Magnetic Switch Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

No power required;
dry contacts rated for 175V DC

Temperature

Magnetic Switches operate 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.

Weight

A Magnetic Switch weighs approximately 1.0 ounce.

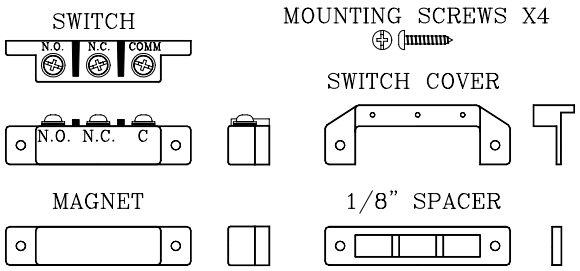


Figure 9.1 Magnetic Switch parts

Positioning the Magnetic Switch

Magnetic Switches are usually located at the top of the monitored door on the doorstop. The part that contains the Switch is mounted on the header or doorframe, while the part that contains the activating Magnet is mounted on the door itself (see Figure 9.3). A recessed model is also available.

For simplicity, in this manual the term "Magnetic Switch" will reference the entire Switch as a unit, not just the parts that contain the contacts.

Position the Magnetic Switch so that it is nearest the latch side of the door. If a Magnetic Lock is used, mount the Switch closest to the latch side and then the Lock immediately after it.

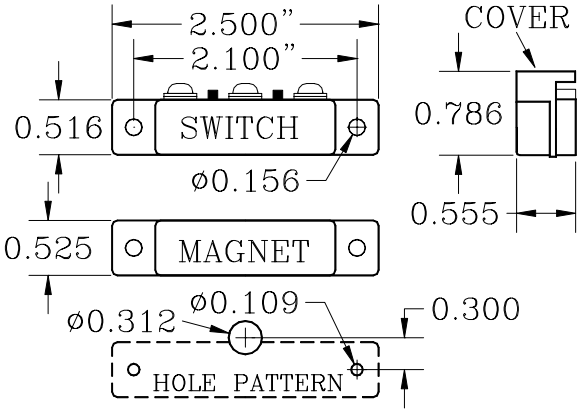


Figure 9.2 Magnetic Switch Dimensions

Mounting the Magnetic Switch

To mount the Magnetic Switch, refer to Figure 9.3 and use the following instructions:

1. After choosing your location, following the hole pattern shown in Figure 9.2, drill two 7/64" (0.109) mounting holes in the doorframe to accommodate the Switch. This size hole also coincides with the self-tapping screws provided with the Switch. Be careful not to drill these holes oversize.

2. Drill a 5/16" (0.312) pass-through hole in the doorframe to accommodate the wire from the Controller to the Switch. **NOTE:** This door frame hole should be drilled so that the wire will come up just under the middle screw terminal (N.C.) of the switch. This hole can be drilled a little smaller, but not larger. If this hole is drilled too far out from the body of the Switch, then the Switch cover will not be able to hide this hole. **Be sure to "de-burr" this hole.**

3. Fish the 2-conductor/22-gauge wire through the large hole and strip enough insulation to make a good connection to the switch.

4. Connect the **RED** wire to the "**COM**" terminal of the Switch.

5. Connect the **BLACK** wire to the "**N.O.**" terminal of the Switch.

6. Gently guide the excess cable back through the hole in the frame, while moving the Switch into position over its mounting holes.

7. While positioning the Switch, insert a mounting screw through each hole and secure the Switch in place. **NOTE:** Be careful not to pinch the wires when tightening.

8. Using the spacer provided in the kit, position the Door Magnet as shown in Figure 9.3 and mark where the mounting holes (7/64") will be drilled.

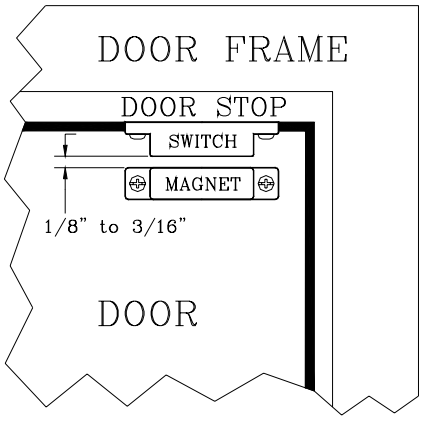


Figure 9.3 Mounting the Magnetic Switch

9. After you have marked and drilled your holes, mount the magnet with the 1/8" spacer in between the magnet and the door.
   NOTE: Remember, if the door frame is metal, you **must** install the spacer in between the magnet and the door or the magnet will lose effectiveness.

Connecting to the Controller

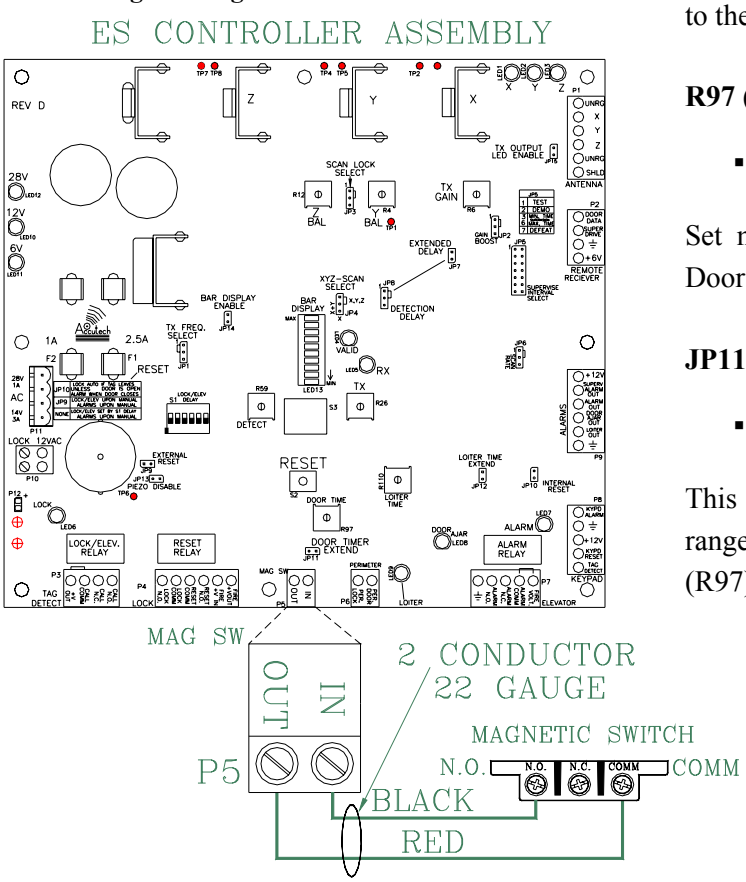
To connect the Magnetic Switch to the Controller, refer to Figure 9.4 and use the following instructions:

1. Using the **RED** wire, connect "COM" on the Switch terminal to "OUT" (P5-1) on the Controller.

2. Using the **BLACK** wire, connect "N.O." on the Switch terminal to "IN" (P5-2) on the Controller.

NOTE:
If composite cable is used, from the junction box to the Switch use **RED** and **BLACK** colored wires. From the junction box to the Controller, use composite cable and follow the wire color code outlined in Chapter 2.

Figure 9.4
Connecting the Magnetic Switch to the Controller



Double Doors Applications

For double doors applications, connect the Switches in series (Figure 9.5) so that one Switch will open when either door is opened.

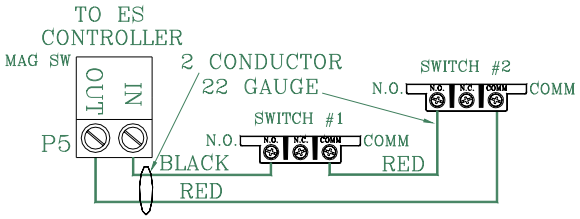


Figure 9.5
Connecting Two Magnetic Switches in Series

Door Ajar delay time

A Door Ajar alarm occurs when a door is open for longer than the preset time. By setting a delay using R97 and JP11, you can adjust the time (from 10 to 110 seconds) necessary before a Door Ajar alarm occurs preventing nuisance Door Ajar alarms from air flow or slight bumps to the door.

R97 (Door Ajar Delay)

- Factory Set to 15 seconds

Set mid scale or as desired to delay onset of Door Ajar alarm.

JP11 (Door Timer Extend Disable)

- Factory Installed IN

This jumper (Table 9.1) determines the timing range of the Door Ajar Time potentiometer (R97).

Table 9.1 JP11 Settings

Position	Time Range
In	10-60 seconds
Out	65-110 seconds

Door Ajar Reset

JP16 (Table 9.2) determines if the Door Ajar automatically resets once the door is fully closed.

Table 9.2 JP16 Settings

Position	Door Ajar Automatically Resets?
In	Yes
Out	No

Installation Manual

Chapter 10:

The Passive Infrared Reader (PIR)

The Passive Infrared Reader (PIR)

- PIR Specifications
- Positioning the PIR
- Mounting the PIR
- Connecting the PIR
- Adjusting the PIR beam angle
- PIR "Masking"

Passive Infrared Readers (PIRs) (Figure 10.1) are sensitive to changes in infrared energy caused by an object moving across a PIR's field of view. Detection depends on the difference between the infrared energy trasmitted by the moving object and the temperature of background objects.

The PIR Accutech provides (*DSC Bravo Series*) is for indoor use only. Its intended use is to detect movement through doors, corridors, and passageways. The relay contacts provided by the PIR (which control detect validation) can be set to trigger on programmable timer between a duration of 1 to 7 seconds.

A typical use for a PIR is a hallway, where there is no door to mount a Magnetic Switch to, or an elevator, where placing anything on the door or frame of the car might be undesirable.

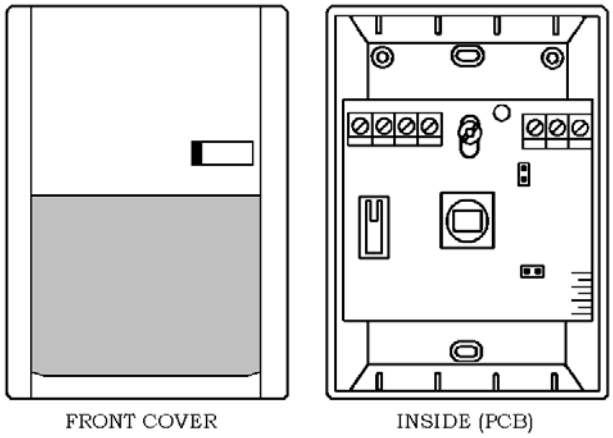


Figure 10.1 The Passive Infrared Reader (PIR)

PIR Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC; contact rating: 100 mA @ 24V DC

Temperature

A PIR 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.

Weight

A PIR weighs approximately 2.8 ounces.

Positioning the PIR

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

Accutech recommends ceiling mounting the PIR (Figure 10.2) to assure complete and focused coverage of the opening.

Wall mounting the PIR may result in detection beyond the desired area (Figure 10.3). If you decide to wall mount the PIR, "mask" the PIR to reduce the range.

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 a true egress.
- The maximum coverage area of a PIR wall-to-wall curtain is 50'L x 60'W.
- The PIR **must** be 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.
- 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. The movement of air caused by an operating elevator can cause nuisance PIR detection.

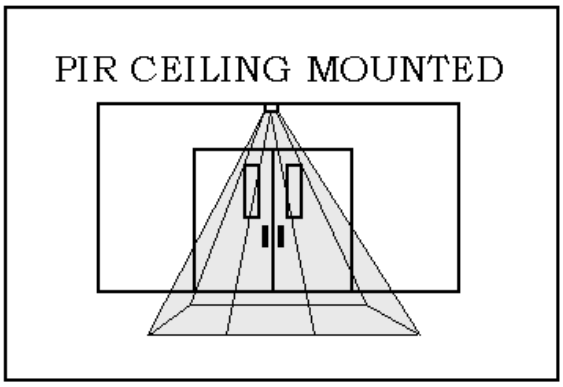


Figure 10.2 Ceiling-mounted PIR

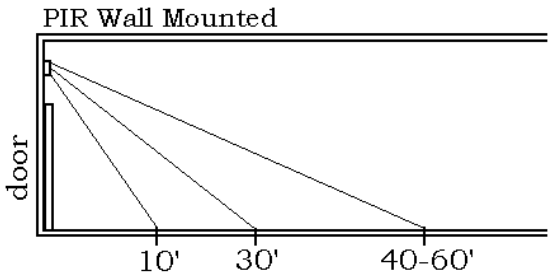


Figure 10.3 Wall-mounted PIR

Mounting the PIR

To mount the PIR, refer to Figure 10.1-10.3 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 installations, use the two knock-outs at the back of the base. For corner or 45º mounting use the knock-outs on the angled sides. The unit must be fastened securly to the mouting surface to avoid possibe vibrations.

Connecting the PIR

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

To connect the PIR to the Controller, refer to Figure 10-4 (or for PIR in series refer to 10-5) and use the following instructions:

1. Using the WHITE wire, connect (C) of the PIR to P5-pin1 (Out) on the Controller.

2. Using the GREEN wire, connect (N.C.) of the PIR to P5-pin2 (In) on the Controller.

3. Using the BLACK wire, connect (GND) of the PIR to P8-pin2 (Ground) on the Controller.

4. Using the RED wire, connect (+12V) of the PIR to P8-pin3 (+12V) on the Controller.

Adjusting the PIR beam angle

To change the angle of the PIR beam, use the following instructions:

1. Loosen the PCB screw and move the board up or down. The scale on the lower right side of the board indicates the angle.

2. Moving the PCB *down* will *increase* the far range and move the near beams farther out from the mounting wall.

3. Moving the PCB *up* will *reduce* the far range and bring the near beams closer to the mounting wall.

4. When finished adjusting, tighten the adjustment screw in place.

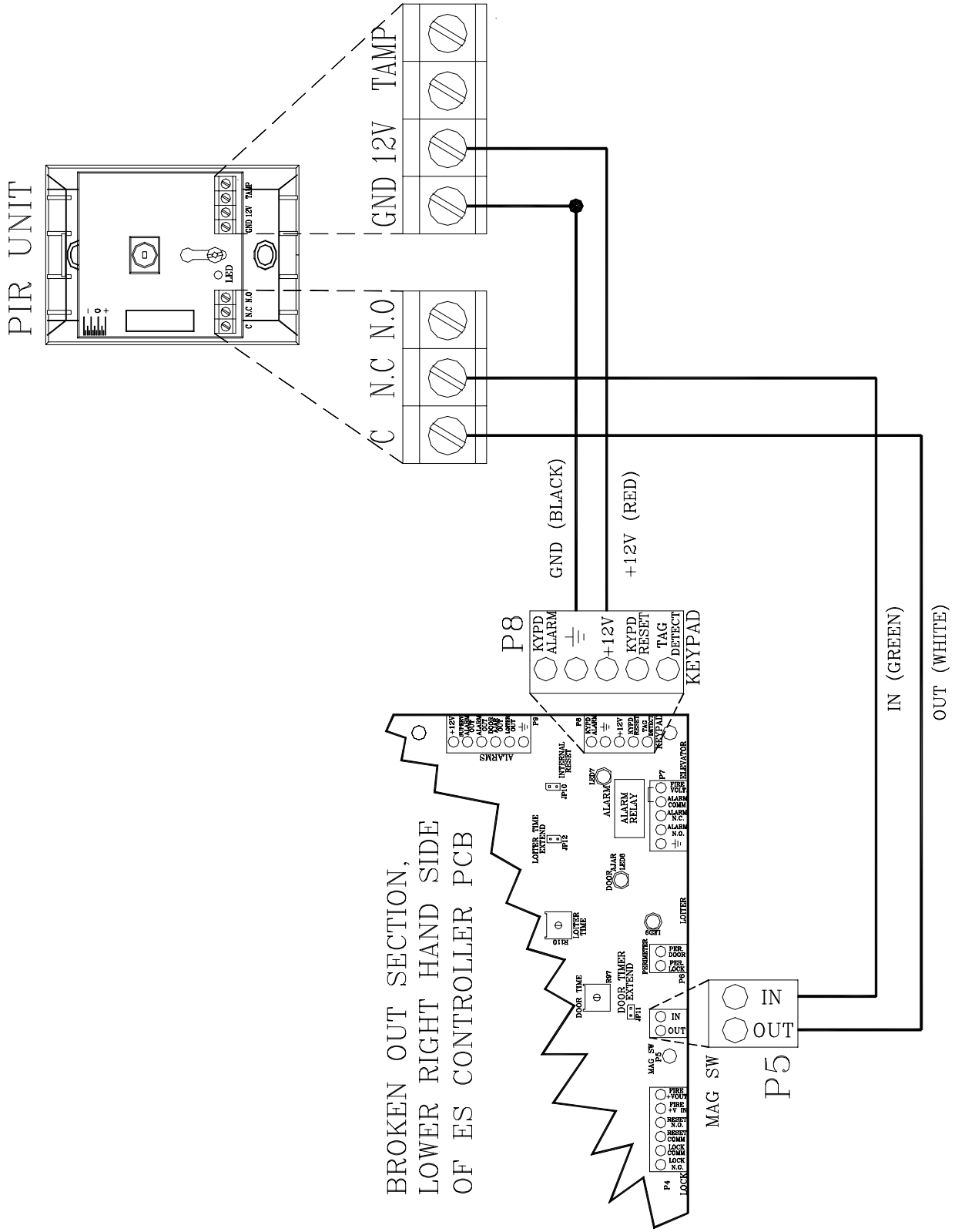


Figure 10.4 Wiring the PIR to the Controller

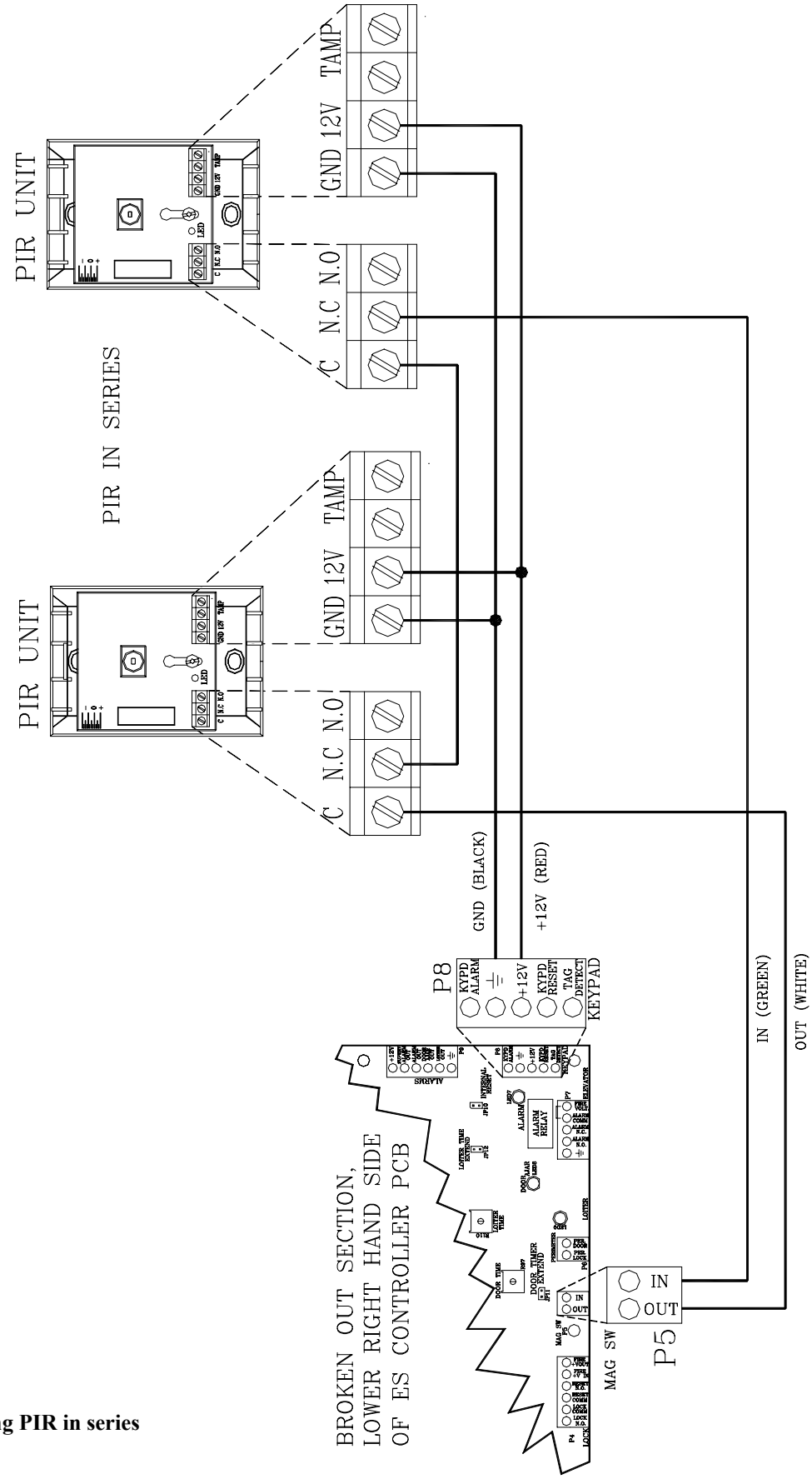


Figure 10.5 Wiring PIR in series

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', and the high beam can reach 40-60' (see Figure 10.3). "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 10.6); 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 10.7); this will cover all outward beams producing a narrower coverage area.

7. Test the range of the PIR.

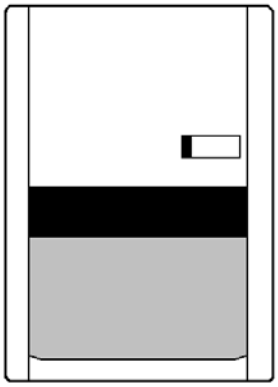


Figure 10.6 PIR Masking horizontal example

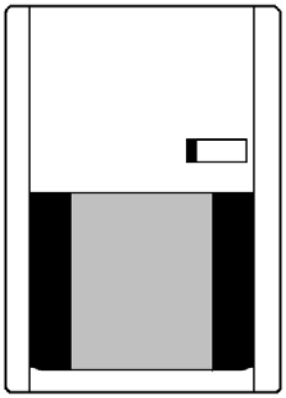


Figure 10.7 PIR Masking vertical example

Installation Manual

Chapter 11:

Magnetic Locks

Magnetic Locks

- Perimeter Door Applications
- Operation of the Magnetic Lock
- 3101 Series Magnetic Locks
- 3000 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.

JP9 (External Reset) selects which device will control the resetting of the Lock after it has been energized (locked). With the jumper in, a Keypad reset is required to reset the Lock to its unlocked state. With the jumper out, the Lock will return to its unlocked state after the time delay set on switch S1 expires. In either case, all Tags must be removed from the monitored zone for the Lock to be reset.

Perimeter Door Applications

The Lock can be used as an Access Control device. In normal state, the door will be closed and locked. Entering a valid code into a Keypad or activating a PBO will open the door. When closed again, the door will reset after the adjustable set period of time.

Operation of the Magnetic Lock

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. JP9 (External Reset) selects which device will control the resetting of the Lock after it has been energized (locked). With the jumper in, a Keypad Reset is required to reset the Lock to its unlocked state. With the jumper out, the Lock will return to its unlocked state after the time delay set on switch S1 expires. In either case, all Tags must be removed from the monitored zone for the Lock to be reset.

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

- All Tags leave the Field and the switch S1 time delay expires (JP9 must be out).
- A Keypad Reset (JP9 is in).
- 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.
- The Central Override is activated (Optional).
- **3101 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).

3101 Magnetic Locks

The 3101 Magnetic Lock features 1200 pound holding force, Delay 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 (only 12V AC/DC required).

3101 Magnetic Lock Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V AC/DC

Temperature

3101 Magnetic Locks operate 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.

Weight

The 3101 Magnetic Lock weighs 11 U.S. pounds.

Lock Jumper

The 3101 Lock has one jumper on it, the Fire Panel Jumper (Figure 11.2). By default it is placed in position 2-3. You ***must*** move this jumper (and leave it) into position 1-2 (the left two pins) before you install the Lock.

Mounting the 3101 Magnetic Lock

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

Connecting the 3101 Magnetic Lock

IMPORTANT:

Follow the WIRING INSTRUCTIONS in THIS MANUAL ONLY! Terminal connections and functions vary from the locks original design and documentation.

You will need 18-gauge 6-conductor non-shielded cable for installation. If you are using composite cable, see Chapter 2 for color codes.

NOTE:
State codes require that all lock and elevator deactivation circuitry be wired into the facility's fire alarm system (see Chapter 12: 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.

To connect the 3101 Magnetic Lock, consult Figures 11.1 and 11.2.

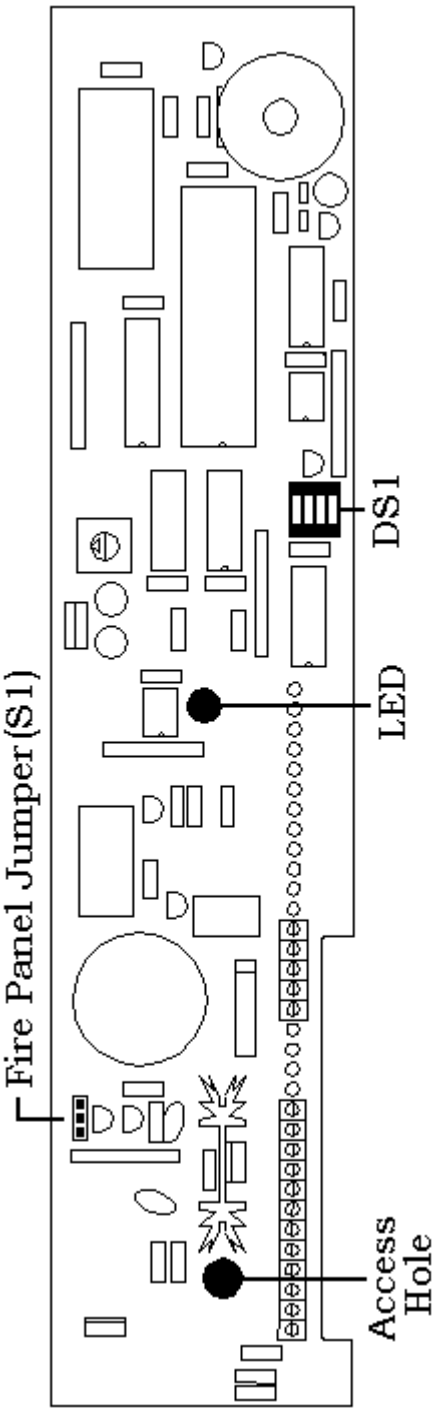


Figure 11.1 3101 Magnetic Lock PCB

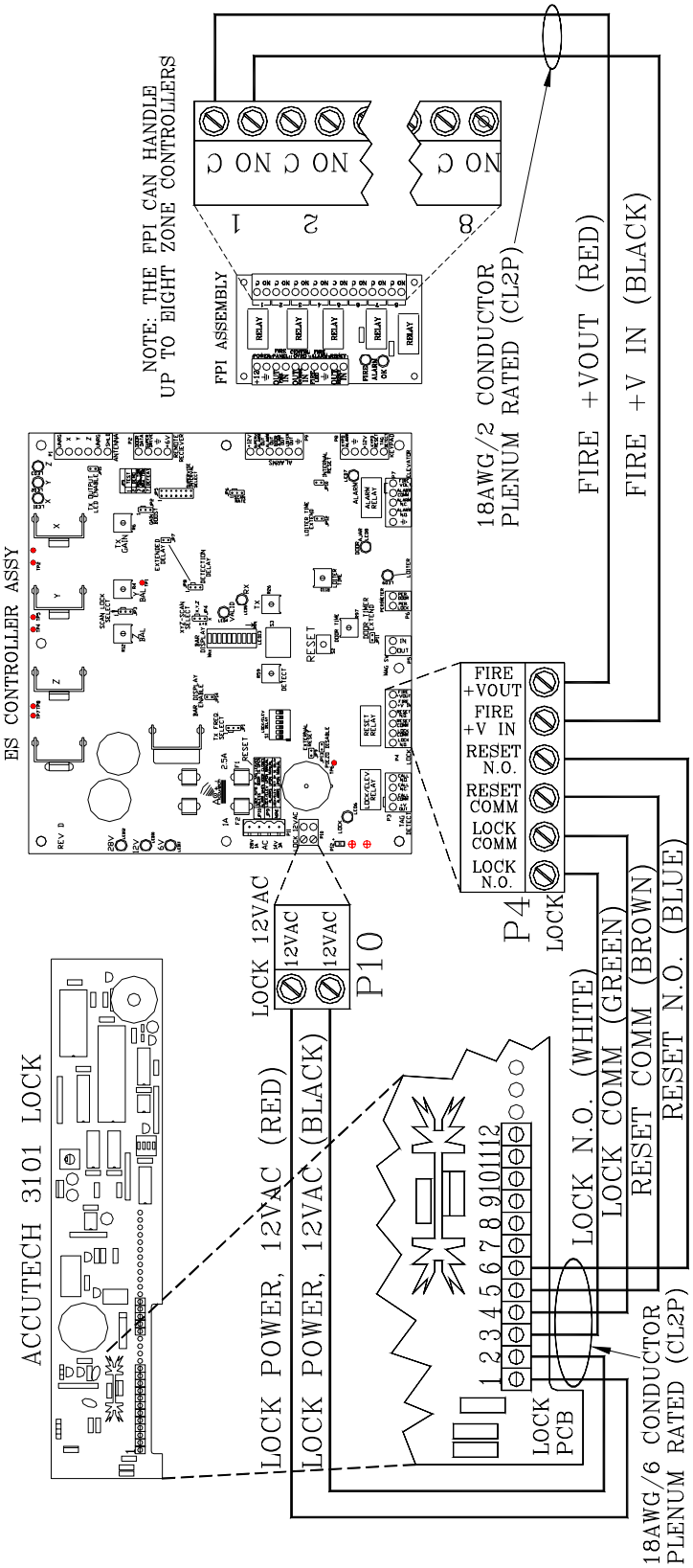


Figure 11.2 Connecting the 3101 Magnetic Lock

Connections and Operation

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

Lock Power, pins 1 and 2 require a constant 12-volt AC/DC which is supplied (AC) by the Controller at connector P10.

Lock Trigger, at the Controller and upon Tag detection, the contacts at pins 1 and 2 P4 will close (Lock N/O. & Lock Comm). When connected to pins 3 & 4 of the Lock, this will engage the lock.

Lock Reset, when a reset is initiated, either by the reset button on the Controller, or an external reset from either the PBO, or the Keypad, the contacts at pins 3 and 4 of P4 will close (Reset Comm & Reset N.O.). When connected to pins 5 & 6 of the Lock, will reset the Lock.

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.

Adjusting the Sensor Pin

Accurate adjusting of the Sensor pin 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 Figures 11.3 and use the following instructions:

1. Remove power from the Lock by powering down the Controller.
2. Remove the cover to the Lock housing.
3. Remove the Fire Alarm Control jumper (see Figure 11.2).
4. Make sure DS1 (the Lock selector switch) Position 3 is in the **OFF** position (see Figure 11.2).
5. Move DS1 Position 1 to the **ON** position (see Figure 11.2).
   NOTE: The ON position denotes "set-up" mode.
6. Be certain that the Set screw in the Sensor Ring is loose and will **not** make contact with the Sensor pin. (see Figure 11.3)
   WARNING: Failure to follow this step can damage the threads of the Sensor pin as you make adjustments.
7. Start with the Sensor pin adjusted out as far as possible while still solidly threaded into the Sensor ring.

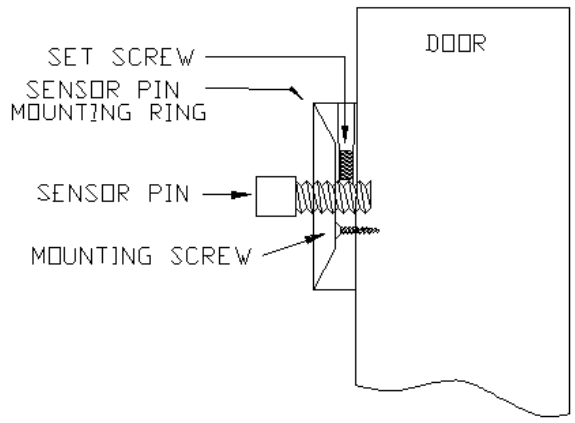


Figure 11.3 Adjusting the Sensor Pin

8. Apply power to the Lock by powering up the Controller. The Lock LED will light up both Green and Red (kind of Yellow) while it goes through its power up sequence (about 5 seconds) (see Figure 11.2).

9. When the power up sequence is over, the LED will either turn solid Red (Door closed and locked) or the LED will turn off (Door open and unlocked). You want the door to be closed and locked.

10. With the door closed and locked, apply as much pressure to the door as needed to fully deflect the door, and while holding it in this position, adjust the Sensor pin with the included ¼ Allen wrench until the (Red) LED goes out on the Lock.
    NOTE: For slight adjustments, there is a Sensor pin access hole in the PCB of the Lock (see Figure 11.2) However, depending on how the internal lock wires are situated this may not be feasible. If this is the case, it is recommended that you deflect the door farther until you can adjust the Sensor pin directly with the Allen wrench.

11. When you have completed the adjustment, gently allow the door to be pulled by the weight of the door.
    NOTE: When the door is closed the LED will be Red, when the door is open the LED will be Off.

12. Remove power from the Lock by powering down the Controller.

13. Tighten the set screw with the Allen wrench provided. This will prevent the Sensor pin from coming out of adjustment.
    NOTE: Be careful not to over tighten.

14. Replace the Fire Alarm Control jumper into the **N.C.** position (pins 1-2) (see Figure 11.2).

15. Move DS1 Position 1 into the **OFF** position (see Figure 11.2).
    NOTE: This will take the lock out of set-up mode and into normal operation mode.

16. Move DS1 Position 3 into the **ON** position (see Figure 11.2).

17. Replace the cover to the Lock housing.

18. Apply power to the Lock from the Controller and test the function of the Lock.

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 Selector Switch (S1) on the Lock PCB (see Figure 11.2).

- 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 Selector Switch (DS1) on the Lock PCB (see Figure 11.2).

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

3000 Magnetic Locks

3000 Magnetic Lock Specifications

Power Requirements

12V or 24V AC/DC

Temperature

3000 Magnetic Locks operate 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.

Weight

The 3000 Magnetic Lock weighs 9 U.S. pounds.

Mounting the 3000 Series Magnetic Lock

To mount the 3000 Magnetic lock, follow the DynaLock Corp. Mounting and Operating Instructions that came with the Lock.

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 a fire, any lock or elevator deactivation unit disengages, allowing for free egress or ingress. Be sure to check Local, State and Federal Codes as well as Chapter 12: Fire Panel Interface (FPI).

Connecting the 3000 Series Magnetic Lock

You will need 18-gauge 2-conductor non-shielded cable to make your connections.

The basic operation of this Lock will center on supplying power to the Lock coil whenever a Tag is detected in the zone, and removing that power when there are no Tags detected in the zone.

To connect the 3000 Series Magnetic Lock to the Controller, refer to Figure 11.4 and use the following instructions:

At the Lock:

1. Connect the RED wire to pin 1 on the Lock terminal strip.

2. Connect the BLACK wire to pin 2 on the Lock terminal strip.

At the Controller:

1. Connect the open end of the RED wire to pin 1 (+12V AC) of P10.

   NOTE: This will provide half of the AC power connection for the Lock. Furthermore, the Lock Trigger contacts at the Controller will close upon Tag detection. By using these contacts, you can open and close the other half of the AC power connection for the lock.

2. Connect the open end of the BLACK wire to pin 1 (Lock N.O.) of P4. **NOTE:** This contact will close whenever there is Tag detection.

3. Using a short piece of BLACK wire, connect one end to pin 2 (+12V AC) of P10 to pin 2 (Lock Comm) of P4.

4. Make your connections from the Fire Panel to pins 5 & 6 of P4.

5. Apply power to the Controller and test the Lock.

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 Selector Switch (S1) on the Lock PCB (see Figure 11.3).

- The OFF position results in a 1-second delay

- The ON position results in a 3-second delay

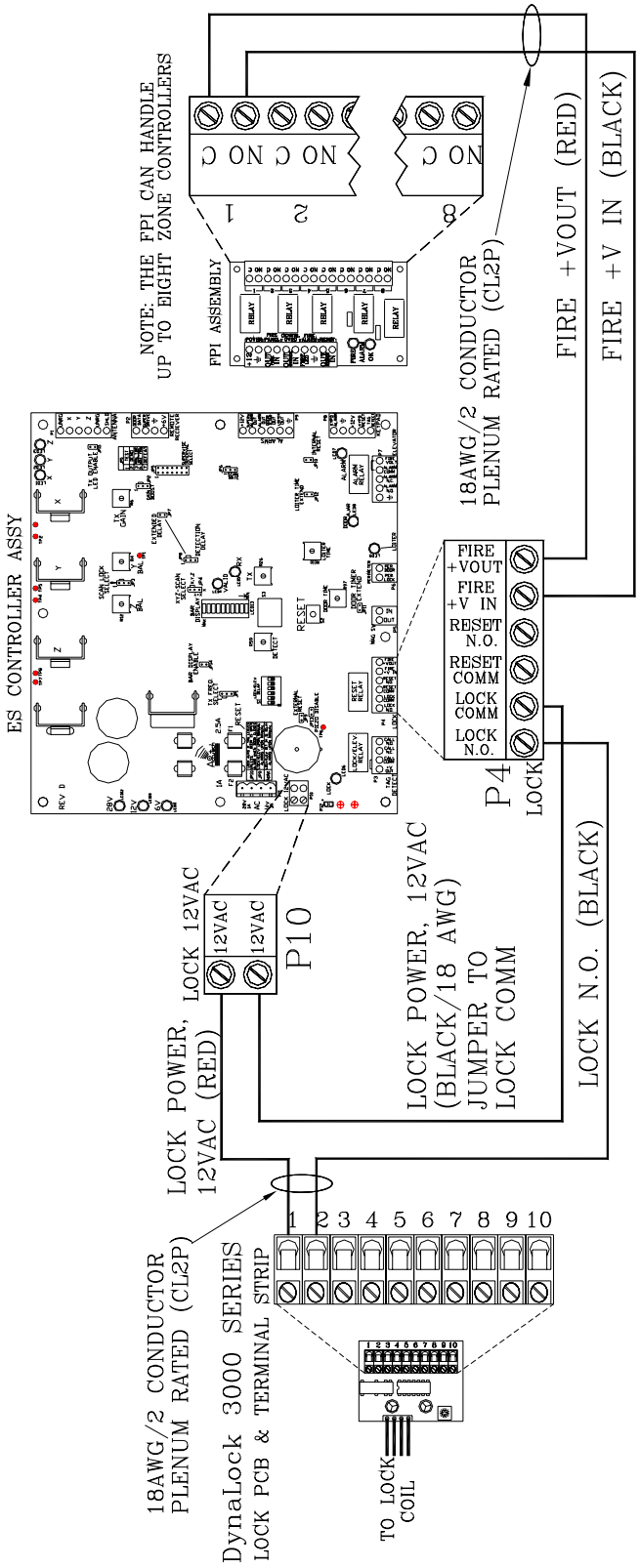


Figure 11.4 Connecting the 3000 Magnetic Lock

Installation Manual

Chapter 12:

Fire Panel Interface (FPI)

Fire Panel Interface (FPI)

- FPI Specifications
- Positioning the FPI
- Before Connecting the FPI
- Connecting the FPI to the Controller

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 a fire, any Lock or Elevator Deactivation unit disengages, allowing for free egress or ingress. For more information on this policy, check your local codes.

For each FPI unit (Figure 12.1) used, you will need one set of dry contacts from the facility's fire panel. Each FPI unit provides dry contact outputs for up to 8 Controllers.

In addition, the FPI unit can provide:

- An Optional **Central Override**, which allows the facility to disable all Locks and/or Elevator Deactivation units controlled by that FPI. Each FPI requires its own override switch.
- A **Manual Reset**, which will re-engage the Locks and/or Elevator Deactivation units after the fire alarm is reset. This switch can be replaced with a jumper that will make the reset process automatic once the fire alarm is reset.
- An **Auxiliary Output** (+12VDC) for alerting staff that the Locks and/or Elevator Deactivation units are disengaged. This is typically connected to the Staff Alert or Graphic Panel(s).

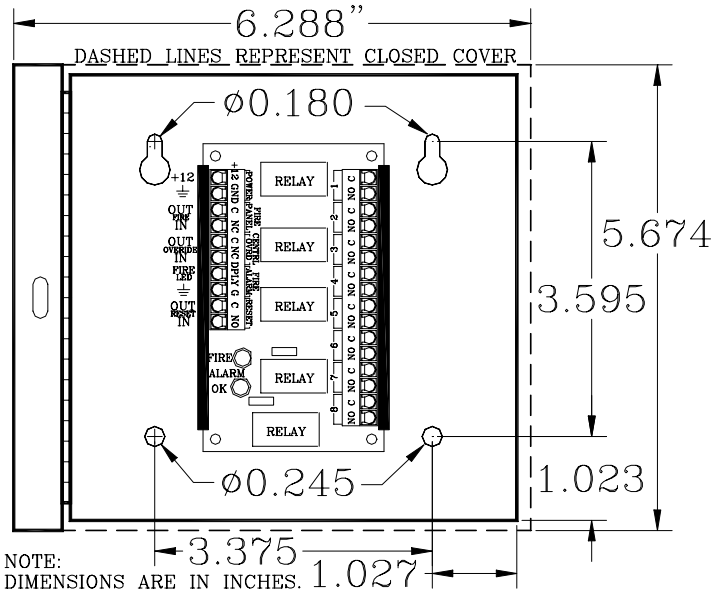


Figure 12.1 The FPI with cabinet

FPI Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC

Temperature

The FPI 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.

Weight

The FPI (including cabinet) weighs approximately 1 pound.

Positioning the FPI

The FPI can be located:

- Near a GDP
- Near a Nurse Station
- Near a Multiplexer
- In an equipment room

Before Connecting the FPI

- Verifying the Fire Alarm Dry Contacts

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.)

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

- Pins 1 and 2
- Pins 3 and 4
- Pins 5 and 6
- Pins 7 and 8
- Pins 9 and 10

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 Figures 12.1-12.2)

To connect the FPI to the Controller, refer to Figure 12.2 and use the following information about the FPI pins:

Pins 1 and 2 (Power)

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

At the Controller, you can use either the Alarms terminal (P9) or the Keypad terminal (P8) as your source for these signals.

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 +12V DC 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, you will see a shorting jumper between these two points or you need to place one.
- When using more than one FPI, each FPI should have its own shorting jumper or central override switch.

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. The push button switch in the cover of the FPI is connected to these two points. If an automatic reset is desired this switch can be replaced by a jumper from pin 9 to 10.

NOTE: On the FPI, connector P2 has 8 pairs of contacts for each of 8 Controllers that can be connected to the FPI.

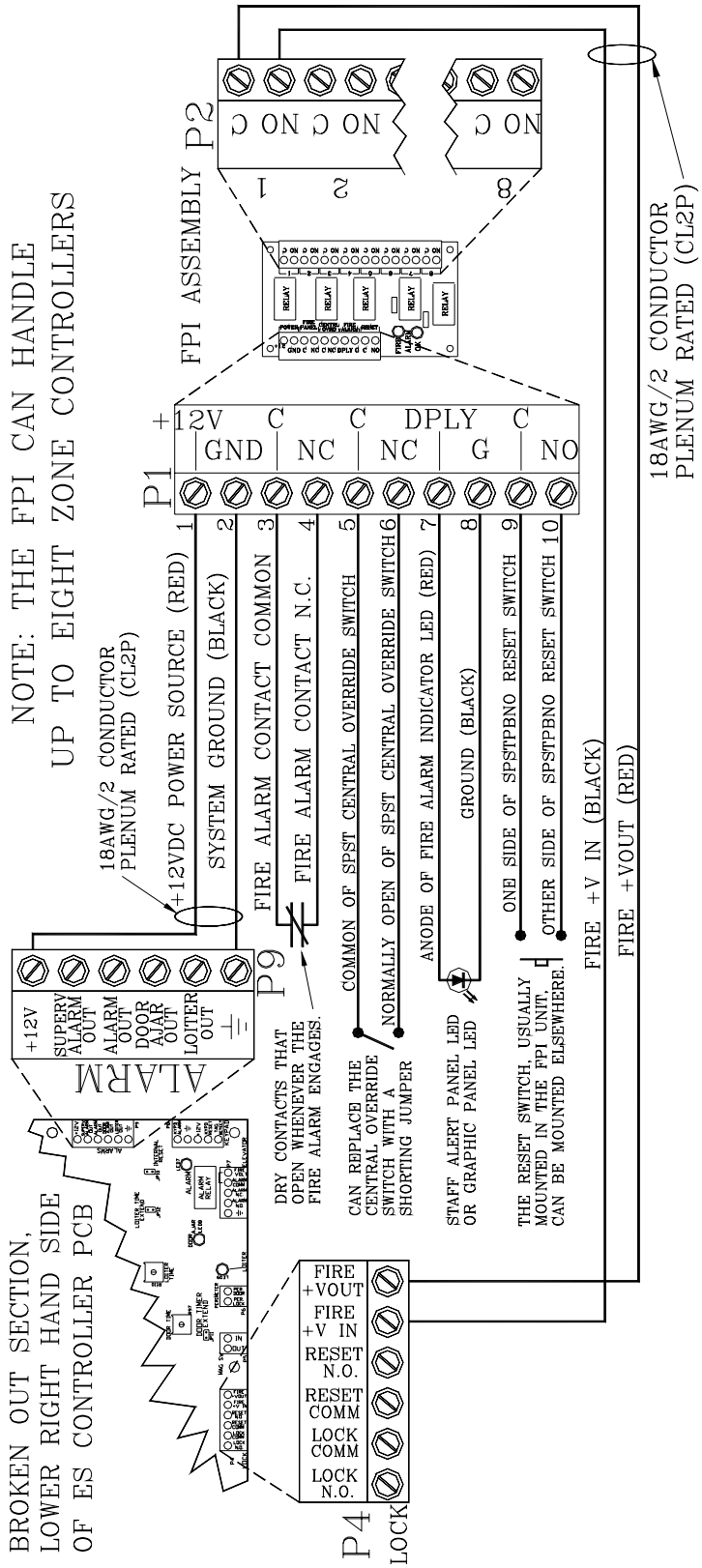


Figure 12.2 Connecting the FPI to Controllers

Installation Manual

Chapter 13:

Alarm Output Devices

Alarm Output Devices

- Alarm Definitions
- Alarm Output Capability
- Alarm Output Connector
- The Local Alarm
- The Central Alarm
- The Speakers
- The SAP
- The GDP

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:

- Egress alarm
- Door Ajar alarm
- Loiter alarm
- System Supervisor
- Band Removal Alarm

Egress 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* JP16 (Door Ajar Reset) is in place to clear this alarm.

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* JP10 (Loiter Reset) is in place to clear this alarm.

System Supervisor

A Supervisor alarm occurs when the performance of the system has been altered due to tampering or inadvertent acts such as cut wires, antenna damage or interference, etc. The alarm will reset when the condition is corrected. See page 3-6 for complete information.

Band Removal Alarm

A Band Removal alarm occurs when the BR42 Tag/band is removed or tampered with in any way.

Alarm Output Capability

The alarm output connector on the Controller is P9 on the printed circuit board.

The alarm outputs capabilities are as follows:

- The Egress Alarm: 11.2V DC.
- The Loiter Alarm: 10.2V DC
- The Door Ajar Alarm: 10.2V DC
- The System Supervise Alarm: 10.3V DC

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 13.1) is P9 on the Controller.

Pin 1 is +12V, Pin 2 is Supervisor Alarm out, and so on.

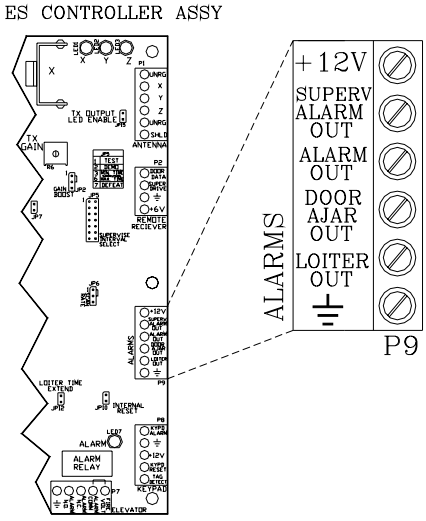


Figure 13.1 The Alarm Output connector

The Local Alarm

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

The Local Alarm (Figure 13.2; *System Sensor PA400 Series*), a 90db at 10 feet piezo-signaling device, is intended to attract attention near the monitored zone only.

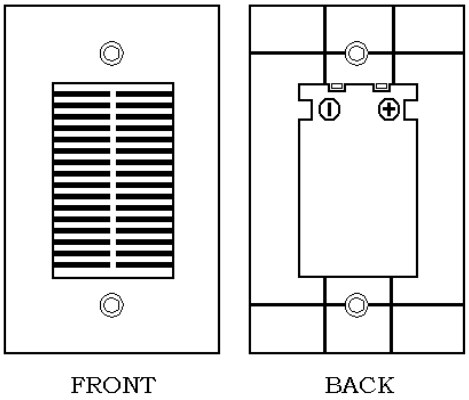


Figure 13.2 The Local Alarm

Local Alarm Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC

Temperature

The Local Alarm 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.

Weight

The Local Alarm weighs approximately 2.5 ounces.

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.

To connect the Local Alarm to the Controller, refer to Figure 13.3 and use the following instructions:

1. Using the RED wire, connect the positive (+) terminal of the Local Alarm to P9-pin3 (Alarm Out) of the Controller.

2. Using the BLACK wire, connect the negative (-) terminal of the Local Alarm to P9-pin6 (Ground) of the Controller. **NOTE:** If you are using composite cable, the WHITE 22-gauge wire from the composite, will connect to the RED 22-gauge wire from the Local Alarm inside the junction box. The BLACK wire from the Local Alarm can tie to the common ground BLACK 22-gauge wire from the composite.

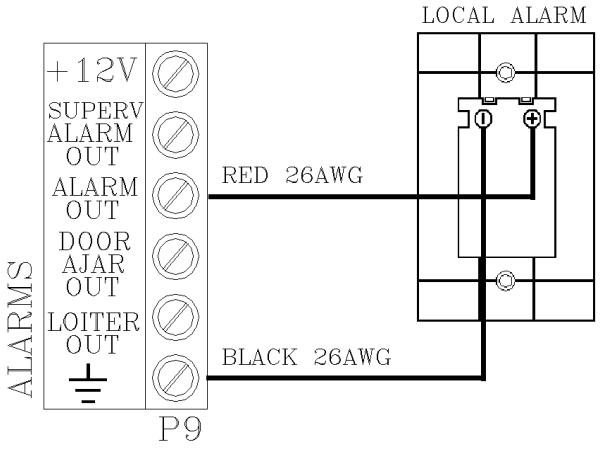


Figure 13.3 Connecting the Local Alarm

The Central Alarm

- Central Alarm Specifications
- Mounting the Central Alarm Unit
- Connecting the Central Alarm

The Central Alarm (Figure 13.4) is located in its own enclosure and contains its own Power Supply, a Tone board, a Relay board and three terminal strips.

One of the terminal strips is used for the factory installed AC power cord. Another terminal strip is used for connecting speakers to the central alarm. A third terminal strip connects to the various alarm tones offered by the tone board.

Central Alarm Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

120V AC, 15 amp circuit from self-contained Power Supply

Temperature

The Central Alarm 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.

Weight

The Central Alarm weighs approximately 12 U.S. pounds.

Mounting the Central Alarm

Use hardware appropriate for the weight, size and mounting surface.

Connecting the Central Alarm

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

The Alarm Output device from each Controller can connect to any of the 8 alarm inputs at the "Zone Alarm Terminal Strip" on the Central Alarm.

In addition, a common ground from each Controller connected to the Central Alarm is required.

To connect the Central Alarm, refer to Figure 13.4 and use the following instructions:

1. Using the BLACK wire, connect one of the ground terminals on the Zone Alarm Terminal Strip of the Central Alarm unit to P9-pin6 (Ground) terminal of the Controller you are connecting.

2. Using the RED wire, connect one of the terminals on the Zone Alarm Terminal Strip in the Central Alarm unit (with a diode in-between the RED wire and Central Alarm; Figure 13.5) to P9-pin3 (Alarm Out) of the Controller you are connecting.

NOTE: Sometimes a different tone is used for each zone to distinguish one zone from another. If you wish to use the same sound for one of more zones, you will need to put a 1W diode (1N400X) in parallel with each signal that will share a tone, and have their common cathodes connect to the same terminal on the Zone Alarm Terminal Strip.

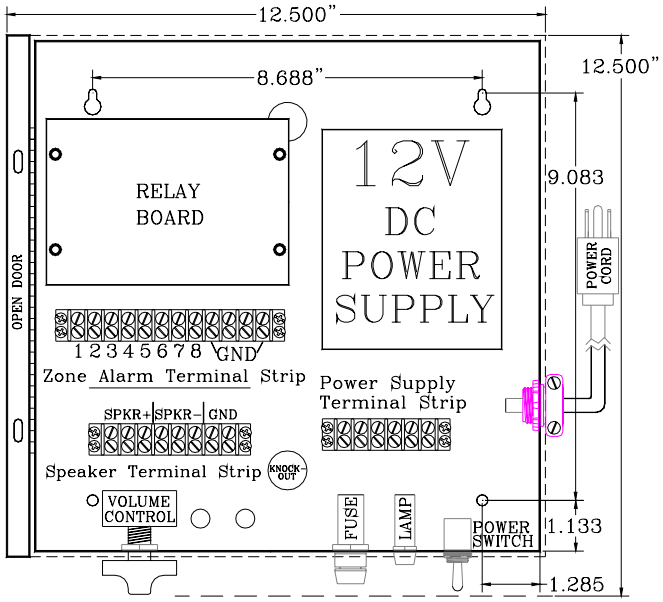


Figure 13.4 The Central Alarm

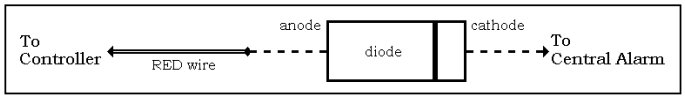


Figure 13.5 Diode orientation

About the Speakers

- Speaker Specifications
- Positioning the Speakers
- Mounting the Speakers
- Connecting Speakers to the Central Alarm
- Speaker Volume Control

The Speakers (Figure 13.6) provided by Accutech (*Sentrol/Moose MPI Series*) are 8-ohm speakers. The tone board works with as little as 4 ohms.

When wiring the Speakers to the Central Alarm unit, it is best to find a combination of series and parallel connections that keep the total load of the Speakers as close to 8 ohms as possible. You may wish to consult with an Accutech technical support person to verify your load.

Speaker Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC

Temperature

Speakers operate 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.

Weight

Speakers weigh approximately 6 ounces.

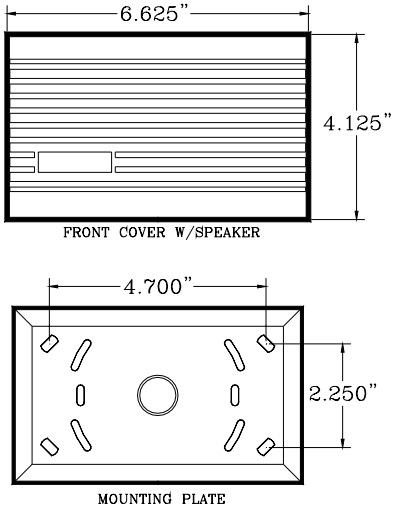


Figure 13.6 The Speakers

Positioning the Speakers

Speakers should be located where they can be heard in several directions (such as hallway intersections) to allow staff to hear alarms as they occur.

Mounting the Speakers

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

To mount a Speaker(s), use the following instructions:

1. Using a small screwdriver, pry off the bottom of the Speaker case.

2. Push out the knockouts for the mounting holes.

3. Mark and drill the mounting holes.

4. Use appropriate hardware, secure the Speaker to the mounting surface.

NOTE: The access slots in the Speaker mounting plate should be large enough to get the 2-conductor Speaker cable through the opening. If it is not, drill the proper size hole, or knock out the center knockout.

Connecting Speakers to the Controller

NOTES:
When using 3 Speakers, wire them in series.
When using 5 Speakers, wire them in parallel.
Up to 5 Speakers can be associated with one Central Alarm unit.

To connect a Speaker to the Controller, use the following instructions:

1. Using RED wire, connect the positive (+) of the Speaker to the positive (+) of the Speaker Terminal Strip on the Central Alarm.

2. Using BLACK wire, connect the negative (-) of the Speaker to the negative (-) of the Speaker Terminal Strip on the Central Alarm.

Speaker Volume Control

To adjust Speaker volume, use the potentiometer located on the bottom end of the Central Alarm .

About the SAP

- SAP Specifications
- Mounting a SAP
- Connecting a SAP to a Controller (up to 8)

A SAP (Figure 13.7), typically located at a staff station, notifies staff when an alarm occurs in a monitored zone through a piezo buzzer and alarm-specific LEDs. The LEDs in the *left* column will flash and the LEDs in the *right* column will light steady.

As indicated on the SAP:

- A **Flashing Red** LED means an **Alarm**
- A **Flashing Yellow** LED means a **Check System** (System Supervisor alarm)
- A **Steady Red** LED means a **Door Ajar** alarm.
- A **Steady Yellow** LED means a **Loiter** alarm.

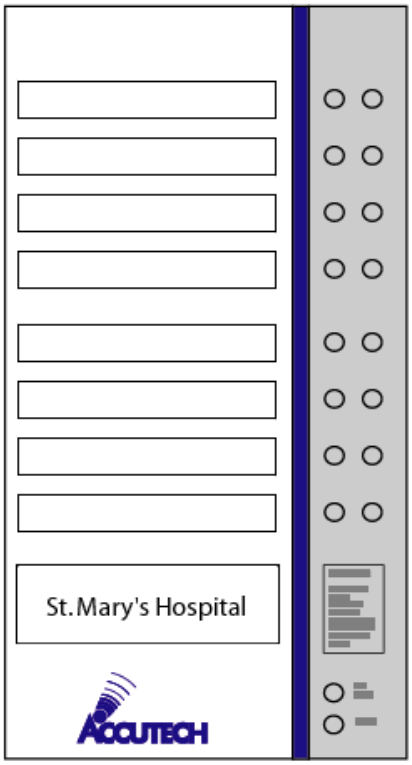


Figure 13.7 A SAP example

SAP Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC

Temperature

A SAP 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.

Weight

A SAP weighs approximately 1 pound.

Mounting a SAP

To mount a SAP, use the following instructions:

1. Remove the front panel from its frame.
2. Using the SAP frame as a template, mark the four mounting holes on the mounting surface.
3. Drill the mounting holes.
4. Secure the SAP frame to the mounting surface using appropriate hardware and replace the front panel.

Connecting a SAP to the Controller

NOTE:
On the 8-zone panel, P1 is for Zone 1, P2 is for Zone 2 and so on.

To connect a SAP to the Controller, refer to Figure 13.8 and use the following instructions:

1. Run a separate 6-conductor unshielded cable for *each* SAP that is connecting to a Controller. The wire gauge will be based upon the distance it will run (see page 2-4).
2. For each zone, connect the appropriate alarm outputs into their respective pins. For consistency and ease of troubleshooting use the color code shown in Table 13.1.
3. A SAP only needs the use of 5 of these wires for all but one zone. That zone will be the one that provides power to connector labeled P9 near the bottom of the SAP circuit board.

If you have locks or elevator deactivation, you need to run a 2-conductor cable from the Fire Panel Interface (FPI) for the fire alarm indicator.

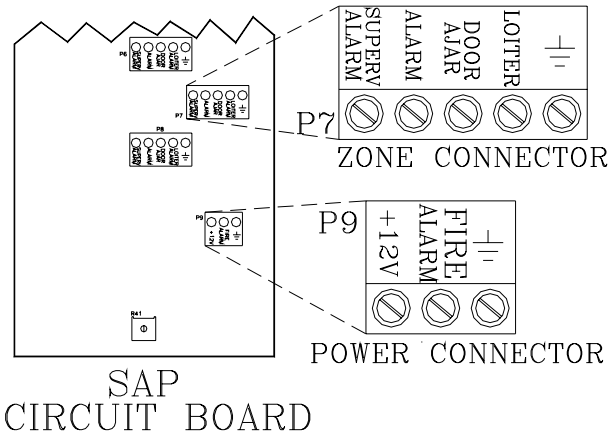


Figure 13.8 Connecting a SAP to the Controller

Table 13.1 SAP Wire Color Code	
Color	**Use for**
RED	+12v (from one Controller only)
BLACK	All Ground connections
BLUE	All Supervise connections
WHITE	All Alarm (Egress) connections
GREEN	All Door Ajar connections
BROWN	All Loiter connections

The GDP

- GDP Specifications
- Positioning and Mounting a GDP
- Connecting an ESGDP (ES 2200 systems only)
- Connecting a GDP
- BR Alarm filtered by HUB

The GDP (Graphic Display Panel; Figure 13.9) provides the staff with a visual representation of the floor being monitored. GDPs are custom-made to a facility's floor plan and notify staff when an alarm condition occurs in a monitored zone through a piezo buzzer and alarm-specific LEDs. Up to 16 Receivers (i.e., 16 zones) can be linked to a single GDP.

NOTE: ES 2200 Systems use ESGDPs. To use a GDP in an ES 2200 System you will need to replace your ES 2200 Receivers. Contact your Accutech Representative for more information.

GDPs display these alarms (or events):

- Alarm (Egress)
- Loiter
- Door Ajar
- Supervisor
- Fire Alarm
- Band Removal (BR 4200 Systems only)

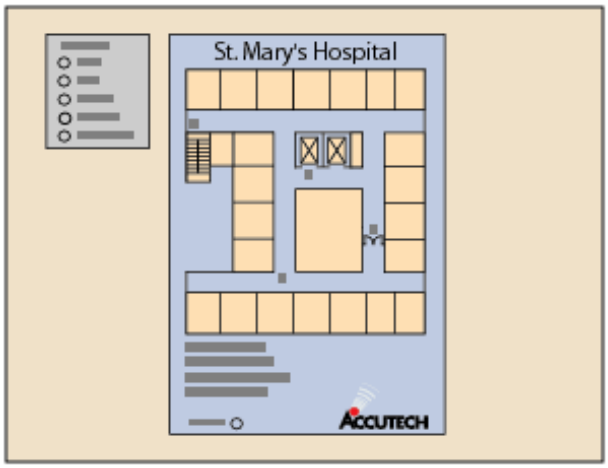


Figure 13.9 A GDP example

GDP Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC

Temperature

A GDP 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.

Weight

Dependant on facility size and floor layout.
A typical GDP weighs approximately 2 pounds.

Positioning and Mounting a GDP

Position the GDP near a centralized staff location.

To mount a GDP, use the following instructions:

1. Open the front hinge panel.
2. Using the GDP frame as a template, mark the mounting holes on the mounting surface.
3. Drill the mounting holes.
4. Secure the GDP frame to the mounting surface using appropriate hardware and replace the front hinge panel.

Connecting an ESGDP (ES 2200 systems only)

To connect an ESGDP, refer to Figure 13.10 and use the following instructions:

1. Connect the "+12V" and "Ground" from the ESGDP to their respective pins on the Power Supply.

2. For each Controller linked to the ESGDP, connect all data pins of P9 (except +12V) to their respective pins on a zone connector of the ESGDP. **NOTE:** Up to 8 Receivers (i.e., 8 zones) can be linked to a ESGDP.

3. Connect the "Fire" from the ESGDP to the Fire Panel Interface (FPI) or the facility Fire Panel.

Connecting a GDP

NOTE: To use a GDP in an ES 2200 system, you will need to replace your ES 2200 Receivers. Contact your Accutech Representative for more information.

NOTE: Up to 16 Receivers (i.e., 16 zones) can be linked to a single GDP board. Multiple GDP boards can be housed within a GDP frame. If more than one GDP board is present, perform all steps on GDP board 1.

To connect a GDP, use the following instructions.

Refer to Figure 13.11 for steps 1-3.

1. Connect the "+12V" and "Ground" from the GDP to their respective pins on the Power Supply.

2. For each Receiver linked to the GDP, connect the "Status" and "GND" pins of P2 to a zone data input of the GDP.

3. Connect the "Fire" from the GDP to the Fire Panel Interface (FPI) or the facility Fire Panel.

BR Alarm filtered by HUB *Required for All BR Systems

Refer to Figure 13.12 for steps 4-10.

4. Remove jumper JP7 from the GDP.

5. Remove jumper between "INT" and "FROM HUB" on P7 of the GDP.

6. Connect P15-4 (Alarm N.O.) to P12-1 (+V) of the Multiplexer **or** to 12V DC of the Power Supply.

7. Connect "IN-9-10"-Pin6 (C 3-4) to P12-2 (-V) of the Multiplexer **or** to GND of the Power Supply.

8. Connect the COM of the Momentary Push Button to "IN 9-10"-Pin5 (GP4) of the GDP.

9. Connect the N.O. of the Momentary Push Button to P1 (+12V) of the GDP.

10. For connections to a Multiplexer, see page 17-4.

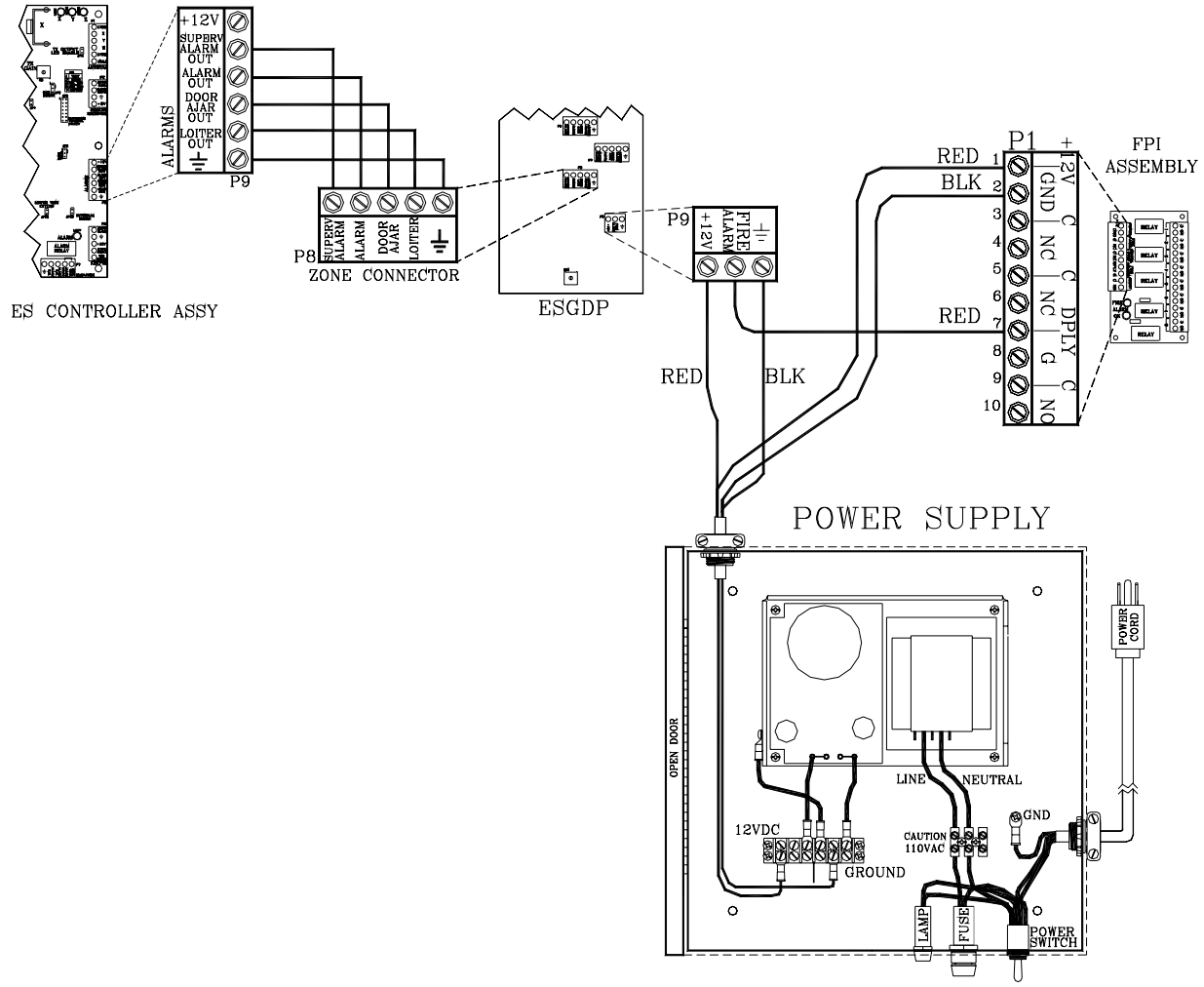


Figure 13.10 Connecting an ESGDP (ES 2200 systems only)

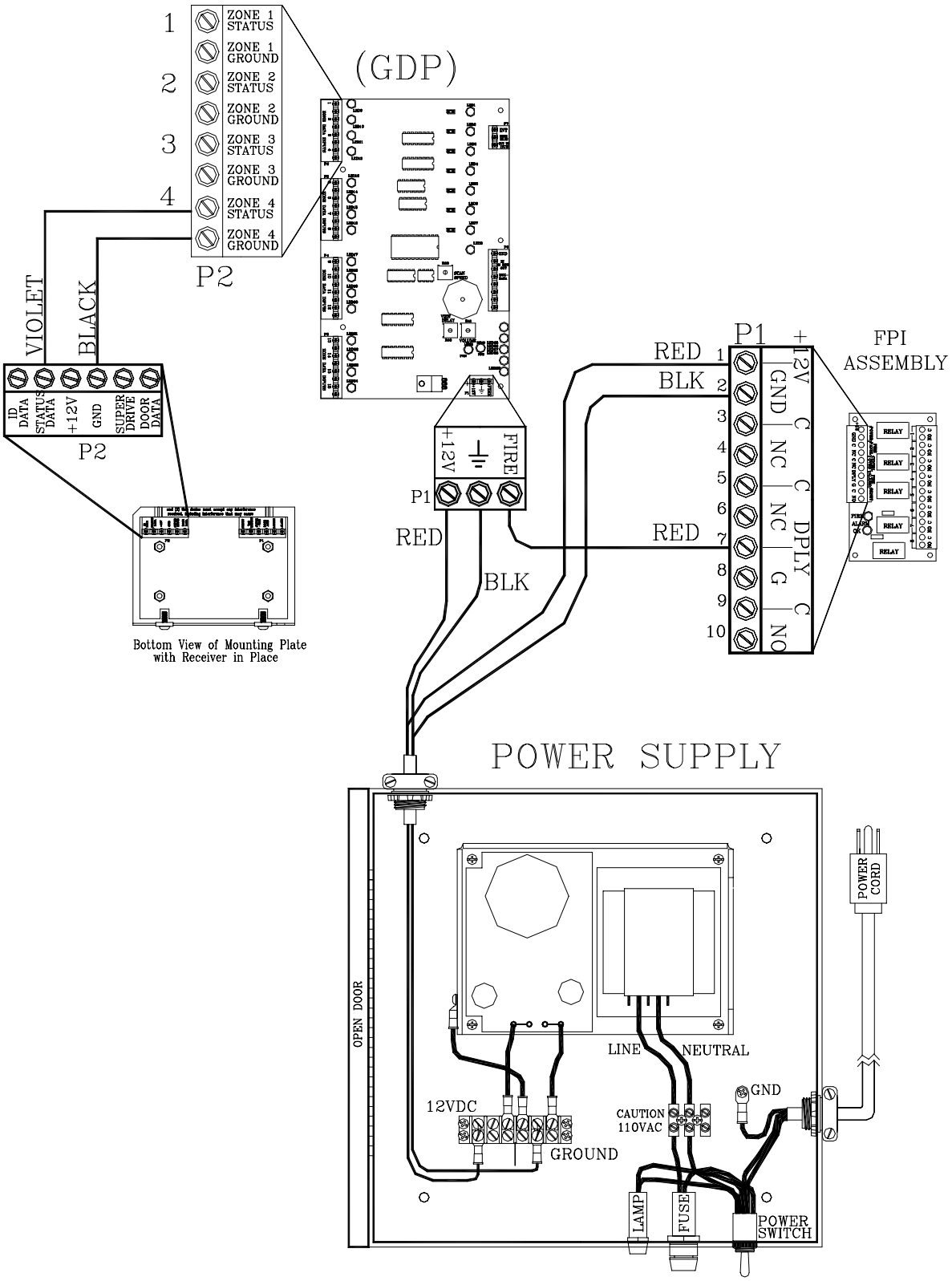


Figure 13.11 Connecting a GDP – Graphic 1 of 2

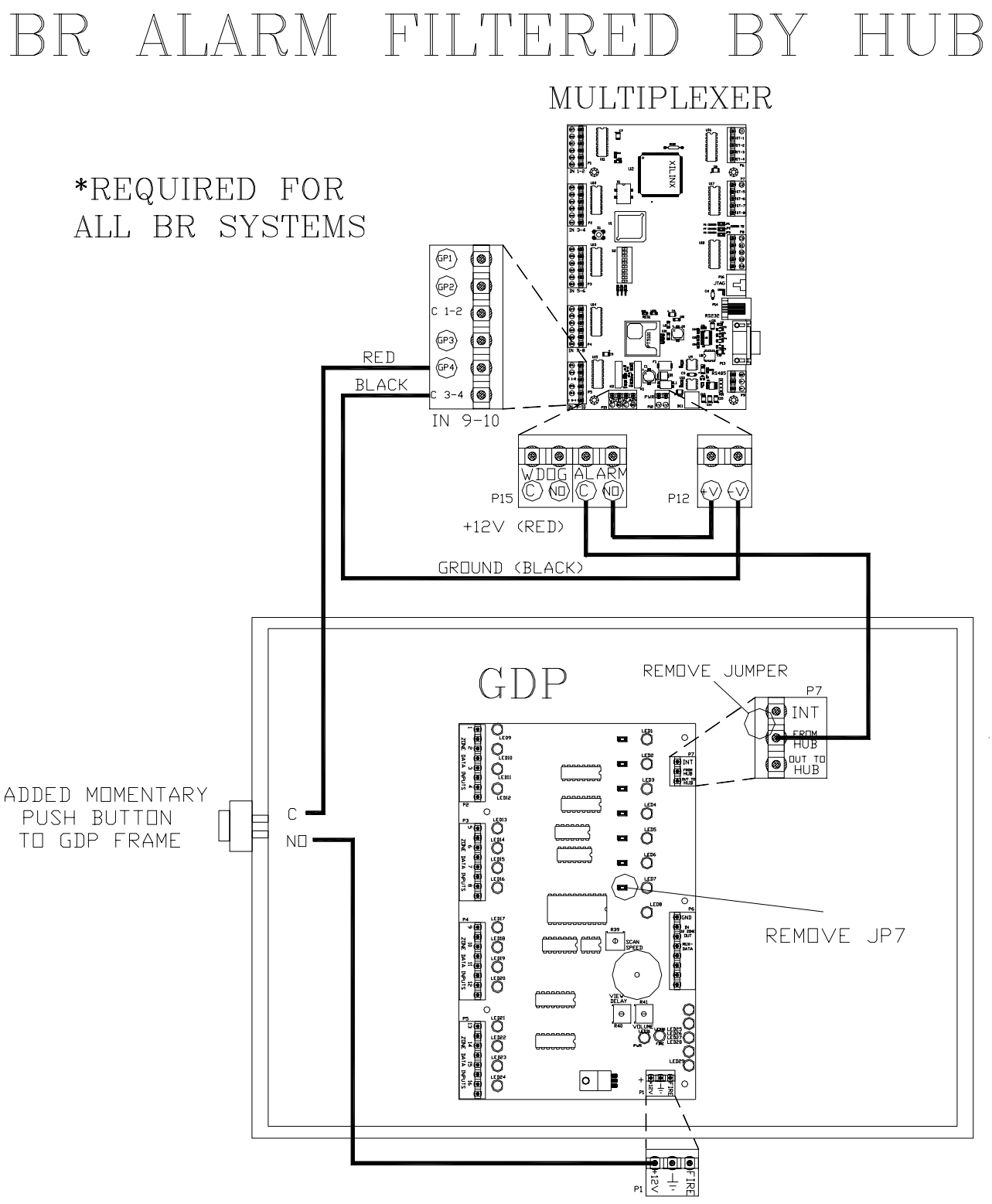


Figure 13.12 Connecting a GDP – Graphic 2/2

Installation Manual

Chapter 14:

Elevator Deactivation

Elevator Deactivation

Elevator Deactivation 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.

Elevator Deactivation Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC

Temperature

The Elevator Deactivation unit 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.

Weight

The Elevator Deactivation cabinet weighs 3.5 U.S. pounds.

Positioning the Elevator Deactivation

The cabinet containing the relays for the Elevator Deactivation Circuitry (Figure 14.1) should be located in the room containing the elevator controls.

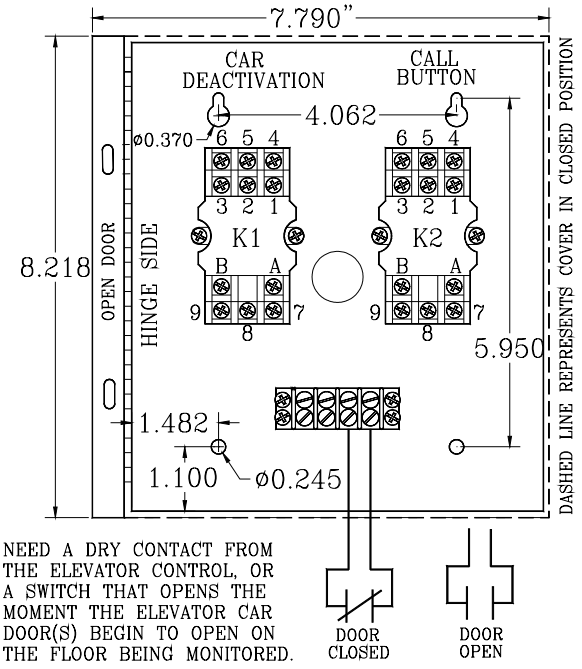


Figure 14.1 The Elevator Deactivation unit

Mounting the Elevator Deactivation cabinet

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.

NOTES:

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. (see Chapter 10)

Wire and Cable

We recommend using an 18-gauge, 6-conductor cable for hookup between the relay cabinet and the Controller.

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 12 on Fire Panel Interface Units.

Wiring the Elevator Deactivation Circuitry

For wiring the Elevator Deactivation use 18 AWG (CL2-P), 6-conductor non-shielded Plenum cable.

To wire the Elevator Deactivation, refer to Figure 14.1 & 14.2 and use the following instructions:

1. Using the RED wire, connect K1 (Car Deactivation) Relay terminal marked "A" (coil +) to P7-pin2 (the "Alarm N.O." terminal) of the Controller.

2. Using the BLUE wire, connect K2 (Call Button Deactivation) Relay screw terminal marked "A" (coil +) to P3-pin4 (the "Call N.O." terminal) of the Controller.

3. Using BLACK wire, place a jumper wire between the "B" terminals (Coil-) of the K1 and K2 Relays.

4. Using the BLACK wire, connect the screw terminal marked "B" of one of the Relays to P7-pin1 (the GROUND terminal) of the Controller.

5. Using the BROWN wire, connect the right most screw terminal of the 4 position terminal strip located in the bottom of the cabinet to P5-pin2 (the "IN" terminal) of the Controller.

6. Using the WHITE wire, connect the second from the right screw terminal of the 4 position terminal strip to P5-pin1 (the "Out" terminal) of the Controller. **NOTE:** These two terminals in steps 5 & 6 will be used for hookup of the N.C. dry contact of the second condition source.

7. At the P3 connector add an 18-gauge jumper wire from the "Call Comm" terminal (pin 2) to "+ Volt Out" (pin 1).

8. At the P7 connector add an 18-gauge jumper wire from the "Fire Volt" terminal to the "Alarm Comm" terminal.

9. At P4 pins 5 & 6, connect the fire panel interface contacts (See Chapter 12).

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.

If the second condition source is a locally mounted Magnetic Switch or a Passive Infrared Reader (PIR) unit, wire them to the Controller.

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.

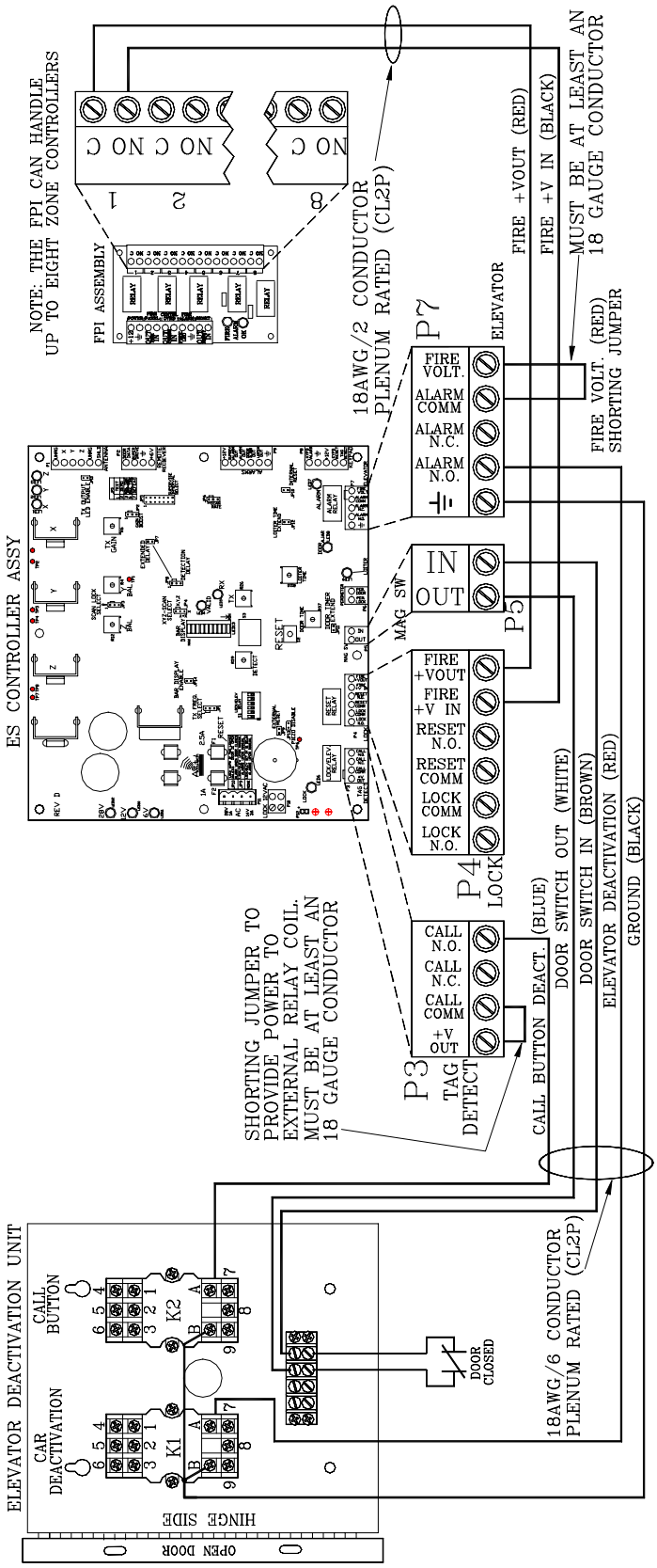


Figure 14.2 Connecting the Elevator Deactivation unit to the Controller

Installation Manual

Chapter 15:

Perimeter Functions

Perimeter Functions

- Perimeter Lock
- Perimeter Door Ajar (Timer Override)
- The Timer
- Perimeter System

Perimeter functions allow the user to monitor and/or lock a door on a timed schedule.

Perimeter Lock

A typical application might be a door that has high traffic during the day but almost no traffic at night. During the day it may make sense to allow the free ingress or egress of staff and visitors, but at night, locking the door will mean added security for staff and residents.

Using a Timer, the door could be locked at the desired time and unlocked at the desired time. During this locked time, the door would function normally. Entering a valid code into a Keypad or activating a PBO would be required to open the door. If a Delayed Egress Lock were used, those functions would operate as they normally do.

Perimeter Door Ajar (Timer Override)

A typical example for a Perimeter Door Ajar would be a door that has high traffic during the day, but has very little traffic at night. If someone were to "prop" the door open, for any reason, and then forget about it, the potential for a Tag egress would exist.

For example, during the day there could be a 90-second delay with the Door Ajar alarm; however, during the evening with the Perimeter Door Ajar function activated, the door would alarm the moment it was opened. The Perimeter Door Ajar function supercedes the normal Door Ajar timer setting.

As always, entering a valid code into a Keypad or activating a PBO would allow free egress through the door.

The Timer

- Timer Specifications
- Positioning and Mounting the Timer
- Connecting the Timer
- Programming the Timer

NOTE: This section only covers functions of the Timer that apply to the Accutech System; for complete information consult the Timer's manual.

The Timer Accutech provides (Figure 15.1) uses military time units and can be set for daily, weekly or block period events.

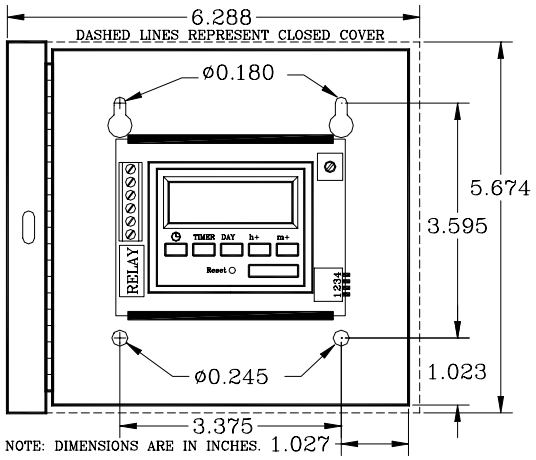


Figure 15.1 The Timer

Timer Specifications

- Power Requirements
- Temperature
- Weight

Power Requirements

12V DC

Temperature

The Timer 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.

Weight

The Timer (including cabinet) weighs 2 U.S. pounds.

Positioning and Mounting the Timer

It is best to position the Timer near the Controller that it will interface with. Use hardware appropriate for the weight, size and mounting surface when mounting the Timer.

Connecting the Timer

You will need 18-gauge, 4-conductor Plenum-rated cable for installation.

To connect the Timer to the Controller, refer to Figure 15.2 and use the following instructions:

1. Using the BLACK wire, connect the "**-**" pin of the Timer to P9-pin6 (Ground) of the Controller.

2. Using the RED wire, connect the "+" pin of the Timer to P9-pin1 (+12V) of the Controller.

3. Using the WHITE wire, connect the "**N.O"** pin of the Timer to both P6 pins of the Controller.

4. Using the GREEN wire, connect the "**C"** pin of the Timer to P9-pin1 (+12V) of the Controller.

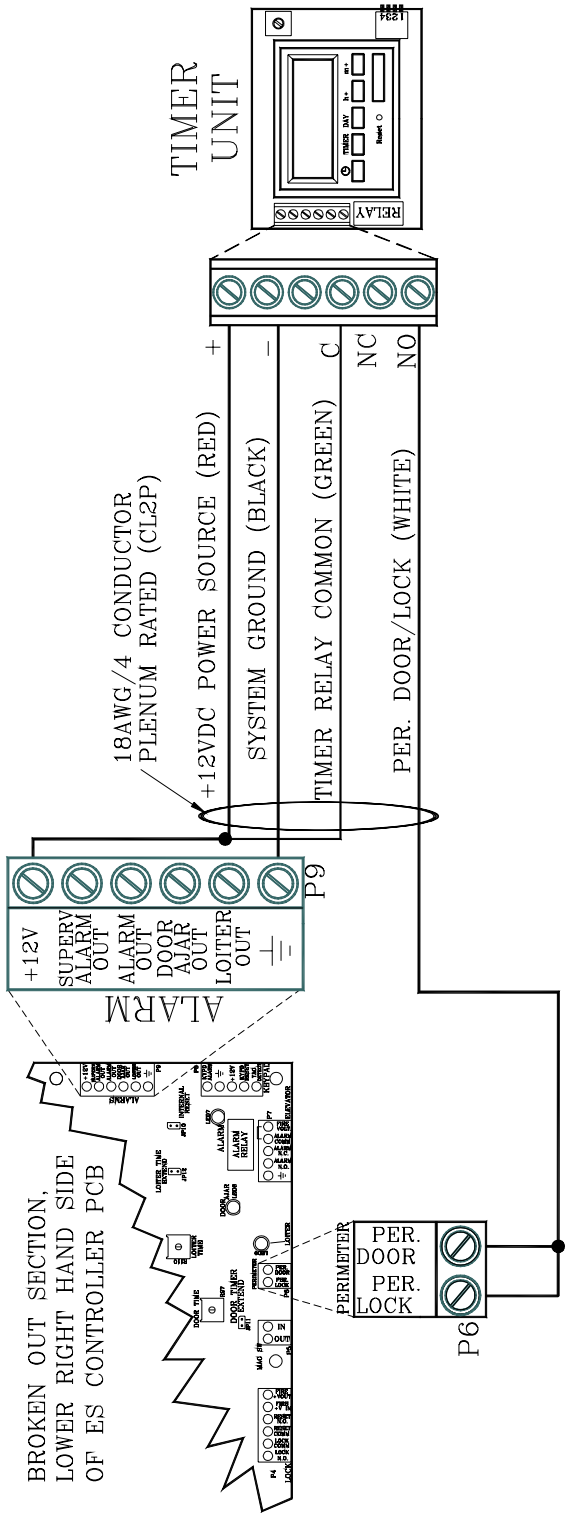


Figure 15.2 Connecting the Timer

Programming the Timer

- Setting the Time
- Programming for a Day and Time
- Programming for all Week
- Setting ON/OFF times

Programming the Timer requires you to set event times and whether to turn the system on or off at those times.

Setting the Time

To set the Timer time, refer to Figure 15.1 and use the following instructions:

1. Activate the Memory Backup Battery by switching mode set dipswitch 1 to ON. **NOTE:** The LCD will come on flashing displaying: Off 00:00
2. Apply system power to the FT-100 unit.
3. Press and *hold* the "clock" button.
4. To set hours, use the button marked "h+".
5. To set minutes, use the button marked "m+".
6. To set day of the week, use the button marked "Day".
7. Release the "clock" button.

Programming for a Day and Timer

To program an ON or OFF instruction for a particular day and time, refer to Figure 15.1 and use the following instructions:

1. Select the desired timer (1 thru 6 ON; 1 thru 6 OFF) using the "Timer" button.
2. Program the desired time and day using the "h+", "m+" and "Day" buttons.
3. Press and release the "clock" button to exit the program mode.

NOTE: If a Day is not selected, the action will occur every day.

Programming for all week

To program an ON or OFF instruction for all week, refer to Figure 15.1 and use the following instructions:

1. Select the desired timer (1 thru 6 ON; 1 thru 6 OFF) using the "Timer" button.
2. Program the desired time using the "h+" and "m+" buttons.
3. Press and release the "clock" button to exit the program mode.

Setting ON/OFF times

To set ON/OFF times for predetermined timer events, refer to Figure 15.1 and use the following instructions:

1. To enter the program mode, press and release the button marked "Timer" once. **NOTE:** The LCD will show: Timer 1 ON --:--

2. Pressing the "Timer" button a second time will set the unit to OFF timer 1. **NOTE:** This sequence will continue for 6 ON timers and 6 OFF timers for a total of 12 timers.

3. Press and release the "clock" button to exit the program mode.

Perimeter System

You can also monitor a perimeter door without the use of a Timer. The door would remain locked at all times and would require a valid code entered into a Keypad (to exit) or activating a PBO (to enter).

To set the Accutech System for this situation, on the Controller, jumper P8-pin 3 (+12V) to P6-pin 1 (Per Lock).

Installation Manual

Chapter 16:

Automatic Door Deactivation

Automatic Door Deactivation

In automatic door applications (doors that open via a motion sensor or push paddle), the Accutech System can deactivate this feature when a Tag enters monitored zone's Tx Activation Field.

Wiring Automatic Door Deactivation

To wire the Controller for Automatic Door Deactivation, refer to Figure 16.1 and use the following instructions:

1. On the Controller, jumper pins 1 (+V Out) and 2 (Call Comm) of P3.
2. Connect pin 1 (Call N.O) of P3 to the positive (+) of the 12V DC Relay.
3. Connect pin 5 (Ground) of P7 to the negative (-) of the 12V DC Relay.
4. Connect 4 (N.O.) and 7 (Comm) to the door equipment.

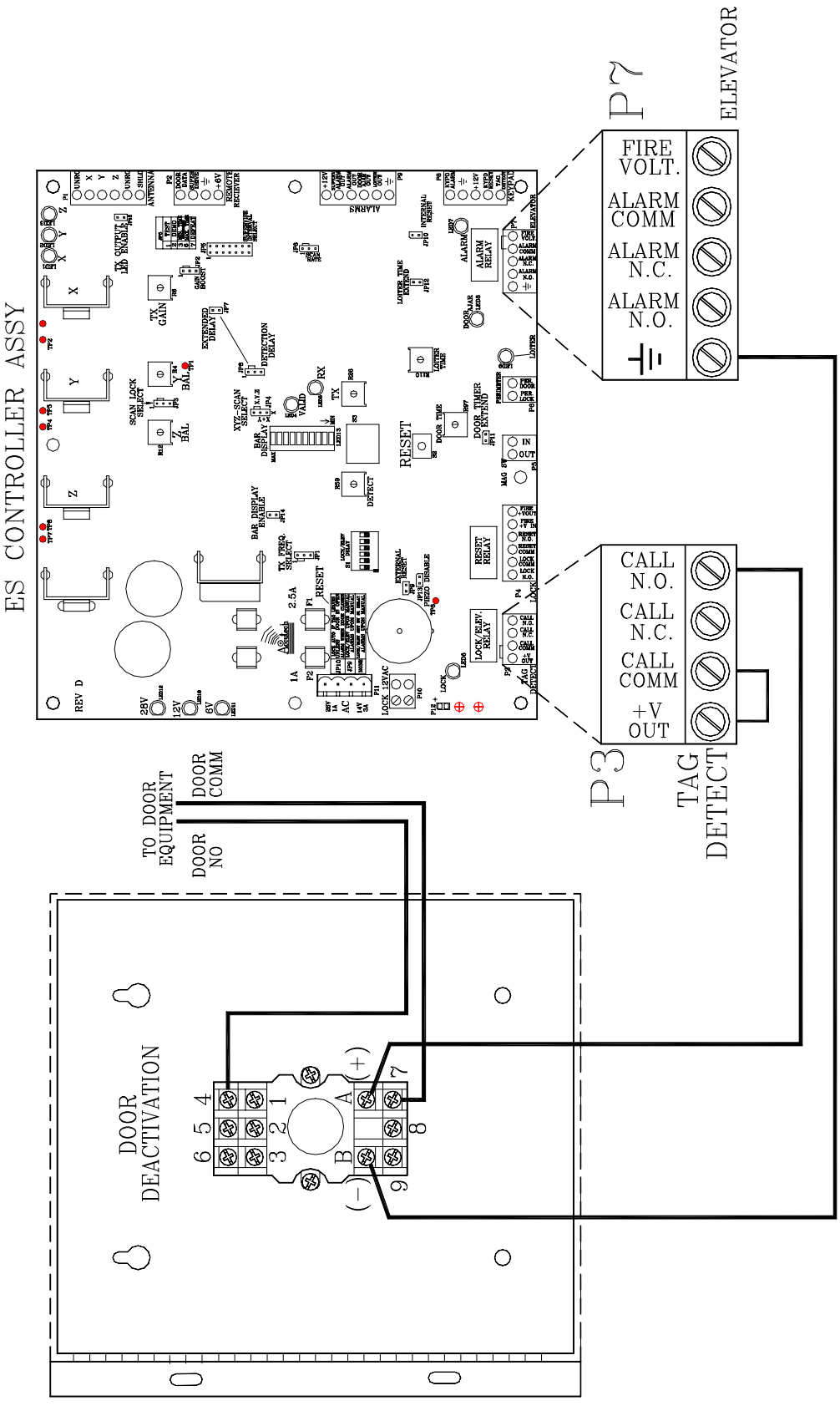


Figure 16.1 Wiring for Automatic Door Deactivation

Installation Manual

Chapter 17:

The Multiplexer

The Multiplexer

The Multiplexer (Figure 17.1), used only in IS 3200 and BR 4200 Systems, decodes and relays information from up to 8 Receivers to GDPs and PCs with the Accutech Software.

The Multiplexer comes inside a Controller case; this case can accommodate up to 2 Multiplexer boards (16 Receivers).

Multiplexer Specifications

Power Requirements

12V DC from Power Supply

Temperature

A Multiplexer 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.

Weight

The Multiplexer (with the Controller enclosure and the maximum 2 Multiplexer contained within) weighs approximately 10 U.S. pounds.

Positioning the Multiplexer

The Multiplexer can be located above the drop ceiling or remotely in a utility closet. However, since Accutech Systems use RS232 cable to connect from the Multiplexer to the PC (at a 19/2 baud rate), 50 feet is the recommended maximum distance from the PC to Multiplexer Board 1 with out any special cabling or converters. Consult your Accutech Representative for special cases.

Mounting the Multiplexer

Multiplexers (up to 2) are housed in a Controller enclosure. Use hardware appropriate for the weight, size, and mounting surface. See Chapter 3 for case mounting instructions.

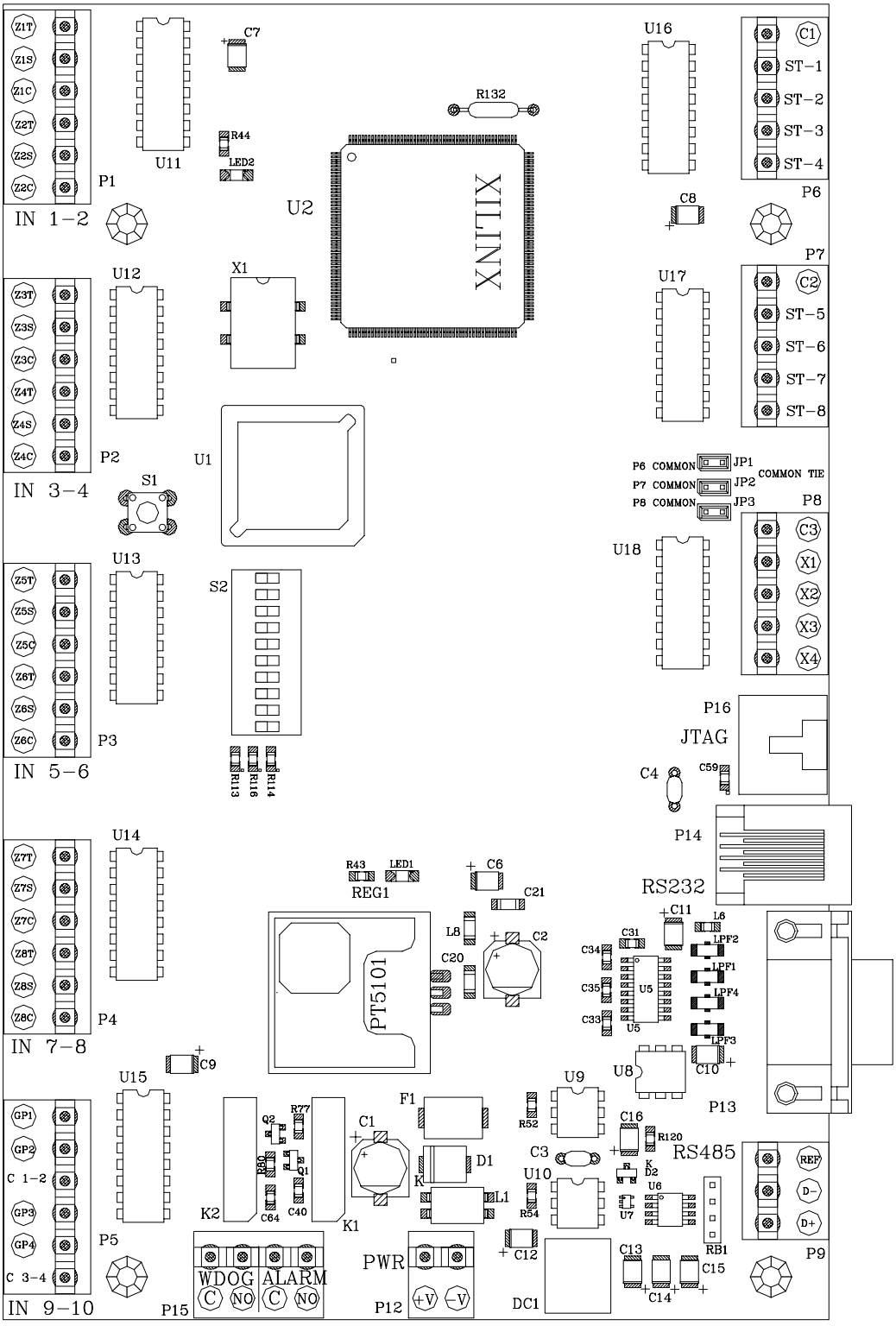


Figure 17.1 The Multiplexer PCB

Multiplexer Jumpers

The three Multiplexer jumpers, JP1-3 (Figure 17.1), should remain in place for the unit to function properly.

Wiring the Multiplexer

- To the Power Supply
- From Receivers
- To GDP
- To PC
- To other Multiplexers

To the Power Supply

Using RED and BLACK wire, connect the +12V and Ground between the Power Supply terminal strip and the Multiplexer (P12 pins 1 and 2).

From Receivers

NOTE: When connecting Receivers to the Multiplexer, their input positions on the Multiplexer are determined by (**and must match)** the software configuration (see the example configuration on page 19-2).

To connect a Receiver to a Multiplexer, refer to Figure 17.2 – 17.3 and use the following instructions:

1. Up to 8 Receivers can be connected to one Multiplexer. Connecting a Receiver to a Multiplexer requires 3 wires.

2. For each Receiver, connect pins 1, 2 and 4 (ID Data, Status Data, and Gnd) to one input zone (Z1T, Z1S and Z1C) on the Multiplexer.
   NOTE: Do not tie Grounds together unless they have the same source.

   For example, the first Receiver (e.g., Zone 1) will connect to Z1T, Z1S, and Z1C; the second Receiver (e.g., Zone 2) will connect to Z2T, Z2S and Z2C, and so on.
   NOTE: Only use IN 1-2, IN 3-4, IN 5-6 and IN 7-8 for inputs; ***do not*** use IN 9-10.

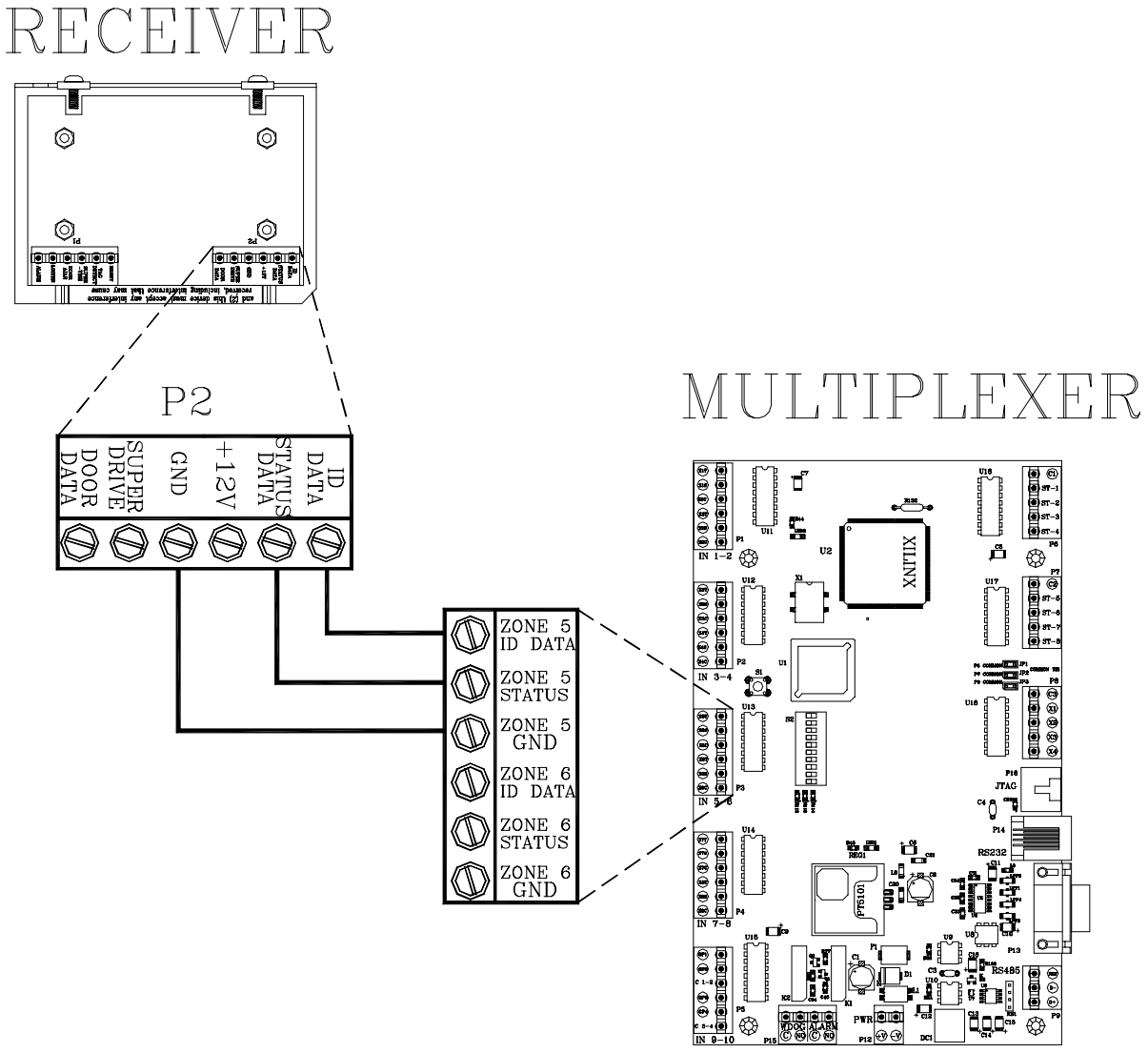


Figure 17.2 Connecting a Receiver to a Multiplexer

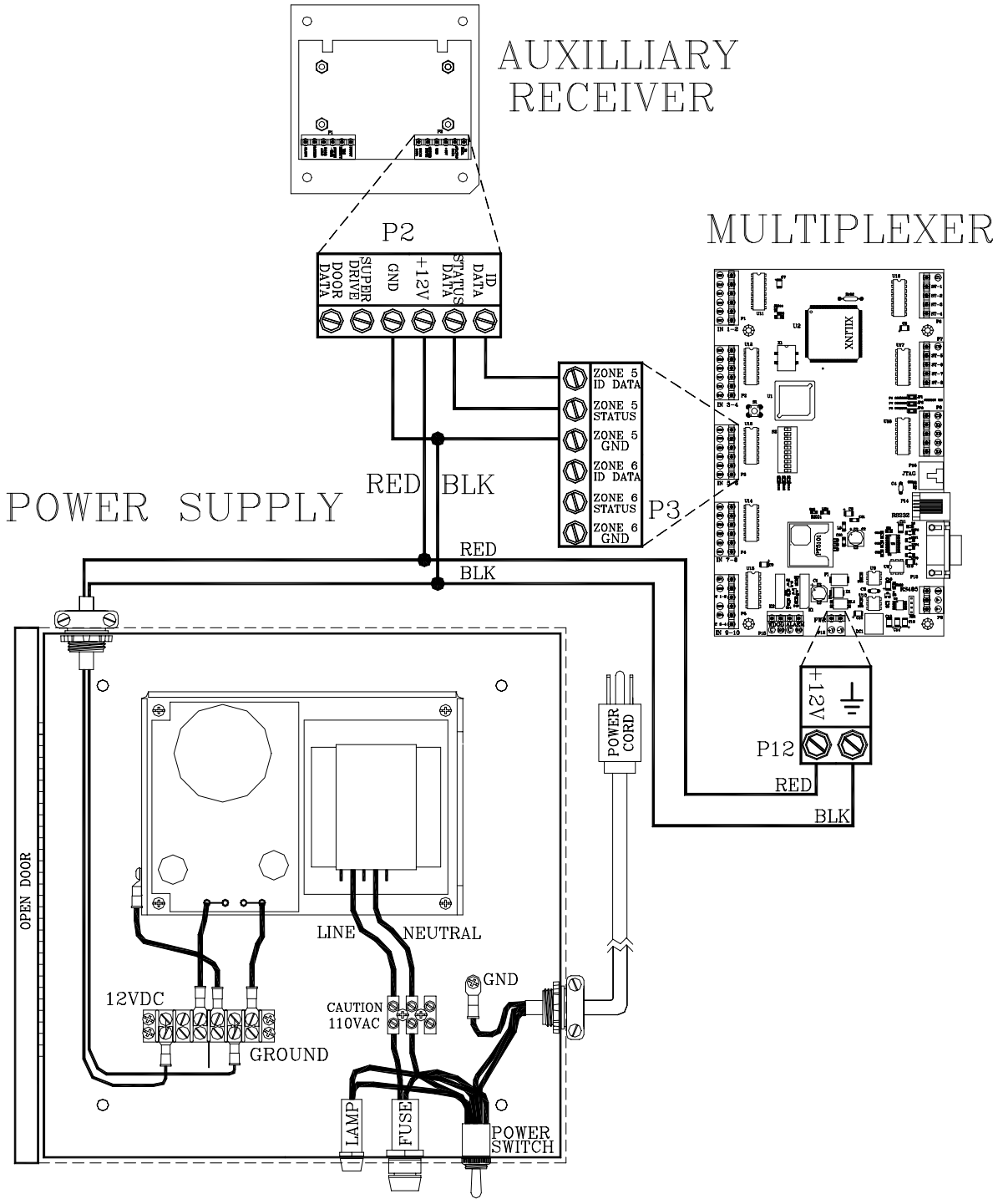


Figure 17.3 Connecting an Auxiliary Receiver