accutech
HEALTHCARE SECURITY SOLUTIONS

Installation Manual

BR5200 System - Base Components

800.356.2671
www.AccutechSecurity.com
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Important FCC Information

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and Receiver.
- Connect the equipment into an output on a circuit different from that to which the Receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help

Canadian D.O.C. Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le present appareil numerique n,emet pas de bruits radiolectriques depassant les limits appliques aux appereils numeriques de Class B prescrites dans le rglement sur le brouillage radiolectrique dicte par le ministere des Communications du Canada.

FCC ID/DOC for the LF Antenna:

FCC ID: JM7-HWHY-662019
IC: 2683A-662019

FCC ID/DOC for the BTAD:

FCC ID: JM7-HWHY-662021
IC: 2683A-662021

FCC ID/DOC for BR5200 System Tags

FCC ID: JM7-HWHY-662020
IC: 2683A-662020

FCC ID/DOC for the BR5200 Receiver

FCC ID: JM7-HWHY-662220
IC: 2683A-662220

Important Notices

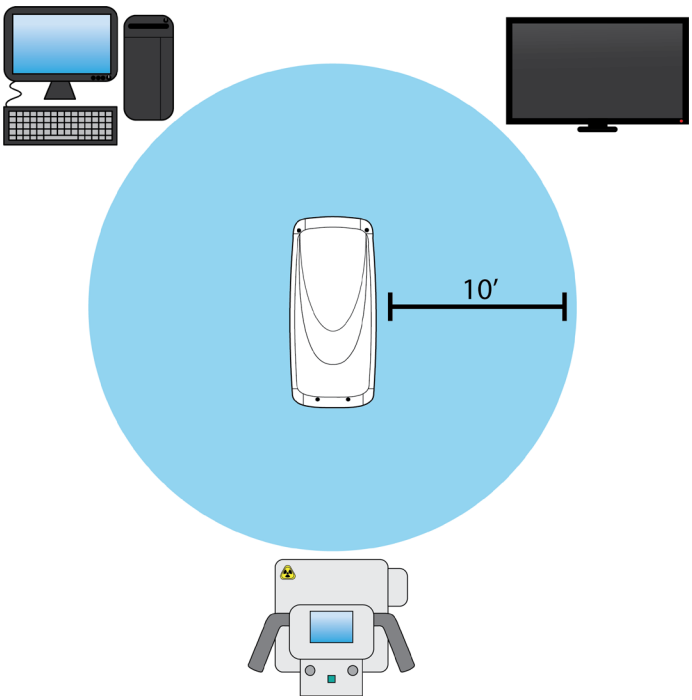
No security system can replace human vigilance

Creating a safe environment requires the combined efforts of personnel, physicians, security, and patients. Global policies, procedures, and processes on patient care must be discussed with and circulated among staff. Staff education, communication, and coordination are crucial. No level of security can replace an informed and knowledgeable staff. Any electronic or physical security system is only a supplemental deterrent that requires hum662019an oversight to be effective.

Keep all electronics, including televisions, computers, and x-ray equipment, at least 10 feet away from the LF Antenna.

This includes equipment located on the other side of walls and doors.

Picture the area around the monitored zone as a big globe with the LF Antenna as the center. Keep all sources of interference outside this globe.



Do not store LF Antennas within 3 feet of any of the sources of electrical noise listed below.

Common sources of interference include:

- Television sets
- Computer monitors
- Medical monitoring equipment
- Electric motors
- Electrical distribution panels and transformers
- Fluorescent lighting
- Some electronic washers and dryers
- X-ray and other imaging equipment
- Unshielded computer cables

This system must be connected to a primary power source that has a backup power/battery system capable of providing a minimum of 4hrs of normal operation.

Summarized levels for Accutech Egress Monitoring System Units	
Access control features	**Levels**
Destructive Attack Level	II
Line Security	I
Endurance Level	IV
Standby Power	I

Accutech Security Limited Warranty

Accutech Security warrants its Accutech™ equipment (Product) against defect in materials and workmanship under normal use for one (1) year from the date of product shipment.

Defective equipment will be either repaired or replaced at Accutech's discretion, free of charge to the Customer during the warranty period. Accutech will supply labor depending on contract to repair or replace defective equipment, free of charge, during the warranty period only if Accutech or an Accutech certified subcontractor hired by Accutech installed such equipment.

In addition, Accutech warrants its Accutech™ LC1200 / ES2200 / IS3200 / BR4200 / LS2400 / CB4200 System Tags against defects in materials and workmanship under normal use and service for a period of one (1) year from the date of shipment, (6) months for Wander Wearable / BR52 / CB52 System Tags.

If a Tag fails during the warranty period due to defects in material and workmanship, Accutech will at its sole discretion, repair or replace the Tag with like quality product free of charge, although overnight shipping charges may apply. Broken BR Tag clasps or broken LT/SB/CB Tag strap slots are not covered by warranty.

Returned merchandise will only be accepted within 30 days of shipping with a valid Return Merchandise Authorization (RMA) number that is requested for full credit towards your account (less a 25% restocking fee) if the product is returned unused, in its original packaging, and not damaged. No product will be accepted for credit after 30 days from shipment date. All Tag sales are final.

Furthermore, the express limited warranty of Accutech shall be the sole and exclusive warranty of Accutech and Accutech hereby disclaims all other warranties, express, implied or statutory, including but not limited, all other implied warranties of merchantability or fitness for a particular purpose. In no way should Accutech be liable for special, incidental, or consequential damages. Accutech reserves the right to change such limited warranty from time to time upon thirty (30) days written notice.

Computers and monitors provided by Accutech shall not be submitted for repair to Accutech but instead shall be submitted directly to their respective manufacturer and serviced under their inherent manufacturer warranty policy present at the time of purchase. Customer shall be responsible for registering any and all warranty requirements.

Accutech assumes no responsibility if any Product shall fail to function during any warranty period by reason of any one or more of the following causes:

- Abuse or misuse of the Product or failure to operate the Product in accordance with operating instructions or specifications.
- Improper preventive maintenance of the Product.
- Alteration or modification of the Product not specifically approved in writing by Accutech.
- Improper installation, repair, modification, or servicing the Product performed by any unauthorized service personnel.
- Equipment or cabling damaged by unauthorized personnel knowingly or unknowingly.
- Use or operation of the Product in conjunction with any accessories or auxiliary equipment not specifically approved in writing by Accutech.
- Acts of God, including, but not limited to, natural disaster, fire, explosions, flood, accidents and the like.

24 hour, 7-days-a-week, 365-days-a-year over the phone technical support at 1-800-356-2671

Model	Voltage	Frequency	Current
BR52PS195	120VAC IN 19.5 VAC OUT	50-60Hz	5A
BR5240RX	15VDC	418mHz	140mA
BR5230LF	15VDC	127-138kHz	350mA
FPI, FPIB	12VDC		120ma
ED	12VDC		100 mA
ADD	12VDC		100 mA
BR5200DC Includes: BR5200MP BR5220IF BR5210IO	19.5VAC 5VDC 15VAC 15VDC		1A 600mA 250mA 60mA
BR5200RXC Includes: BR5200MP BR5200IF	19.5VAC 5VDC 15VDC		850mA 600mA 250mA
BR52	3.0VDC	418mHz	Standby off=1.5uA Standby on=5 uA Transmit (BR)=1.6 mA Transmit activated (all)=3 mA
BTAD	3.7VDC		NSC=20 mA Transmit=(2s)80 mA Lithium Ion 1600mAh
KP103, KP403	12VDC	DC	100mA

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Model	Operation
BR5200DC	Door Controller. Coordinates and controls all of the devices and functions. Consists of an IO, IF and MP board with enclosure
BR5200RX	Required if additional Receivers are needed for coverage. Same as a BR5200DC minus an IO board.
BR5210IO	Input/Output board. Provides output voltages, signals to external devices such as the LF, KP, door contact, Lock and FPI
BR5220IF	Interface Board. Distributes power to MP and IO Board and communication to RX/LF Antennas
BR5230LF	Triaxial transmit wand antenna. Generates a Tag-activating signal near a monitored zone.
FPI, FPIB	Fire Panel Interface. Ensures that in the event of a fire alarm, the Lock and Elevator Deactivator will disengage.
BR5240RX	Consists of a pair of Receivers.
BR5200MP	Microprocessor board. Provides TCP/IP output and communication ports to IF Board and Receivers.
ED	Elevator Deactivator. Prevents monitored residents from using the elevator.
ADD	Automatic Door Deactivator. Prevents monitored residents from using the door.
BR52PS195	19.5VAC 5A Power Supply. Provides power to the BR5200DC or BR5200RXC
LT, SB, BR, CB	Long Term (LT), Slotted Back (SB), Band Removal (BR), Cut Band (CB) Tags, small wristwatch sized device. Activated Tag sends signal via Receiver to the Controller.
BTAD	Secure Tag Activator/Deactivator. Also checks Tag's battery and assists in finding lost Tags.
KP103, KP403	Keypads. Used to reset alarms/locks and provide escort.
Local Alarm	Speaker. Intended to attract attention to monitored zones.

Installation

The control units and accessories are intended to be installed in accordance with the following:

1) The National Electrical Code, ANSI/NFPA 70.

2) Local Authority having Jurisdiction.

3) Manufacturer's installation instructions provided with each unit.

Access Control

1) The minimum system configuration consists of Model BR5200DC, LF, RX, keypad, Local Alarm, or magnetic lock or door/elevator deactivator, Tags BR5200.

2) The system shall be installed in the fail-safe mode and shall release the lock upon loss of power, loss of connection between BR5200DC and fire alarm control panel.

3) The control unit shall be mounted in a protected area.

4) The system does not provide standby power. Backup power is required.

5) All accessories are restricted to be installed in the same room. A room is defined as an enclosed area bounded by walls extending from ceiling to floor, one or more of which may contain an entranceway that is marked with an Exit sign under the requirements of the NFPA code. An enclosed area bounded by walls from drop ceiling to floor is not considered a room but is determined to be part of the room. Rooms having no exit, as defined under the NFPA that are found within a room with exits, as defined by the NFPA, are considered part of the overall room.

6) This equipment is not evaluated as or meant to be installed as a burglary alarm system.

7) The Model ED is not listed as elevator equipment. The fire alarm control panel shall override the ED.

8) Wiring of FPI must be wired to fail-safe in an alarm or loss of power condition.

9) The Passive Infrared Detector for use with this system is not intended to be used as an intrusion detector. It is for monitoring use only.

10) The following components have not been evaluated as a UL Listed access control unit accessory (although they may carry other UL listings): Local Alarm (LA), Central Alarm CA3), Speakers (AS3), Timer (DNT).

11) The detection range for a zone-activated Tag is approximately 8 ft but the actual range shall be determined by the Installation Test (Facility Performance Testing).

12) Models BR5200DC, BR5240RX and BR5230LF are provided with a tamper switch.

13) The Tag's (BR52) battery is not replaceable in the field.

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HEALTHCARE SECURITY SOLUTIONS

Chapter 1
The Accutech BR5200 System

The Accutech BR5200 System

- About this Manual
- About the BR5200 System
- Cut Band System
- How Accutech Systems Work
- Alarms
- System Components
- Component Placement
- Typical System Zone Configurations

About this Manual

Throughout this manual, the term “Tag” is used to represent all possible applications of the system, such as residents, patients, infants, pediatrics, and assets.

The terms “Ingress” and “Egress” are another way of saying “entering and exiting”, respectively.

The term “check-in” refers to a Tag sending a signal out to the system, which indicates that the Tag is present and accounted for in the facility.

The BR5200 System is our platform system and can be easily upgraded as facility needs change and technology advances.

About the BR5200 System

The function of the BR5200 System is to alert facility personnel of the possible abduction or unauthorized egress of a monitored infant.

The system is designed to communicate constantly with active Tags, and to alarm if an active Tag disappears or attempts to move through a monitored egress zone.

The base BR5200 System consists of a Controller, LF (TX) Antenna, Receiver, Door Contact, Keypad, Local Alarm, BR52 Tag, and BTAD (tag activator/deactivator).

Cut Band System

The function of the Cut Band System is to alert facility personnel of the possible abduction of a child. The Cut Band System is the BR5200 System with Cut Band Tags, which will trigger alarms (visual and/or audial) if the band is cut (Band Removal alarm) or tampered with in any way such as shielded (Roll call alarm) to alert facility personnel of a possible infant abduction attempt.

How Accutech Systems Work

- Doors
- Elevators
- Hallways
- Alarms

This section explains how Accutech Systems react to a Tag entering a monitored door zone, a monitored elevator zone, and a monitored hallway zone.

Note: In this manual, Egress Alarms are referred to as “Alarms.” Other alarm types are referred to by name (i.e., Door Ajar, Loiter, Supervisor, Band Removal, Roll Call).

Doors

When a Tag enters a monitored door zone, the system will detect the Tag. At that moment (providing the door has the Magnetic Lock option, the door is closed, and the Lock is unobstructed) the doors will lock and will remain locked as long as the Tag is in the monitored door zone. When the Tag leaves the monitored zone, the door will unlock after an adjustable period of time.

If a Tag enters a monitored door zone (with or without the Magnetic Lock option) and the door is already open (or is opened while the Tag is in the zone), the Accutech System will go into alarm.

If you wish to escort a Tag through a monitored zone, you will need to enter a valid code into the zone's Keypad to activate the Escort function. The Keypad's Escort function will release the Magnetic Lock, silence alarms, and allow the Tag to pass through the monitored door zone for the designated Escort time. The time range is factory set for approximately 1 seconds. The duration of the Escort function is adjustable from 1 to 60 seconds and changed via the software configuration tool, not the KP.

An optional Loiter function is available to alert staff personnel if a Tag is in a monitored zone for too long. The time range is factory set for approximately 10 seconds. The duration of the Loiter function is adjustable from 1 to 60 seconds and changed via the software configuration tool.

An optional Door Ajar function is also available to alert staff personnel if the door in a monitored zone has been held open for too long. The time range is factory set for approximately 10 seconds. The duration of the Door Ajar function is adjustable from 1 to 60 seconds and changed via the software configuration tool.

Elevators

Elevator Deactivation Circuitry is needed to restrict the operation of a monitored elevator from a Tag.

If a Tag enters a monitored elevator zone (with Elevator Deactivation Circuitry), the elevator's call button will be deactivated for as long as the Tag is in the zone.

If the elevator car is en route to that floor and the door(s) open (or if the elevator car door is already open at that floor when a Tag approaches), the system will go into alarm and will not allow the elevator doors to close until a valid code is entered into the zone's Keypad.

If you wish to escort a Tag through a monitored elevator zone, push the call button while the Tag is out of the zone and wait for the car to arrive (when the elevator bell rings). Enter a valid code into the zone's Keypad. Then escort the Tag to the elevator door and you will be able to move the Tag between floors using the elevator.

Hallways

If a Tag enters a monitored hallway zone, the system will detect the Tag and the PIR will detect motion. The system can then sound alarms, trigger visual displays and, in special circumstances, lock nearby doors.

If you wish to escort a Tag through a monitored hallway zone, you will need to enter a valid code into the zone's Keypad to activate the Escort function. This will silence alarms and allow the Tag to pass through the monitored hallway zone for the designated Escort time. The duration of the Escort function is adjustable from 1 to 60 seconds.

Alarms

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.

Other alarm types are referred to by name in this manual. These alarms can be automatically reset once the condition(s) causing the alarm have been corrected.

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 AutoReset) entered to clear.

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 AutoReset) to clear this alarm.

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. Contact the person outlined in your protocol for this type of alarm.

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

A Roll Call alarm occurs when a Tag has been shielded or is no longer "seen" by the system.

System Components

Accutech reserves the right to substitute comparable components.

Since each facility's system is unique to its particular needs, check off the components that your facility's system has below:

- ☐ The BR5200 System Tag (BR52)
- ☐ Cut Band Tag
- ☐ Tag barcodes
- ☐ Tag Activator Deactivator (BTAD)
- ☐ Accutech Configuration Software
- ☐ BR5200DC Door Controller
- ☐ BR5200RXC Controller
- ☐ LF Transmit (Tx) Antenna
- ☐ Receiver
- ☐ Keypad
- ☐ Magnetic Switch
- ☐ Passive Infrared Reader (PIR)
- ☐ The Local Alarm
- ☐ Speakers
- ☐ Power Supply
- ☐ Magnetic Locks
- ☐ Elevator Deactivation Circuitry
- ☐ Fire Panel Interface (FPI)

Component Placement

System Controller

Mounted on the wall near the point of egress, out of sight above a drop ceiling.

Receiver

Mounted on the ceiling near the Door Controller.

LF Antenna

Typically mounted on the wall at the point of egress to activate approaching Tags.

Magnetic switch

Mounted on the door and frame to detect open/closed doors.

Passive Infrared Reader

Mounted above elevator zones and/or hallways to detect approaching residents.

Local Alarm

Mounted at the monitored exit to create an audible sound upon a valid Exit Alarm.

Keypad

Used to clear alarms by entering a valid user code or to provide an escort through a monitored exit without creating an alarm. Typically, located within 10 feet of the monitored exit. Used for ingress or egress.

Power Supply

Mounted in an equipment room on emergency power or UPS. Supplies power to the Door Controller.

Magnetic lock

Mounted on the monitored exit door and frame. The lock will energize if a Tag is present at the monitored exit. The lock will create a Delayed Egress alarm if the lock is energized and the door is attempted to be opened. The lock will also monitor its status if the door is open or closed.

Fire Panel Interface

Mounted in an equipment room. Connected to the facility's fire panel. Prevents all monitored exits with locks from engaging upon a fire alarm.

Elevator Deactivation

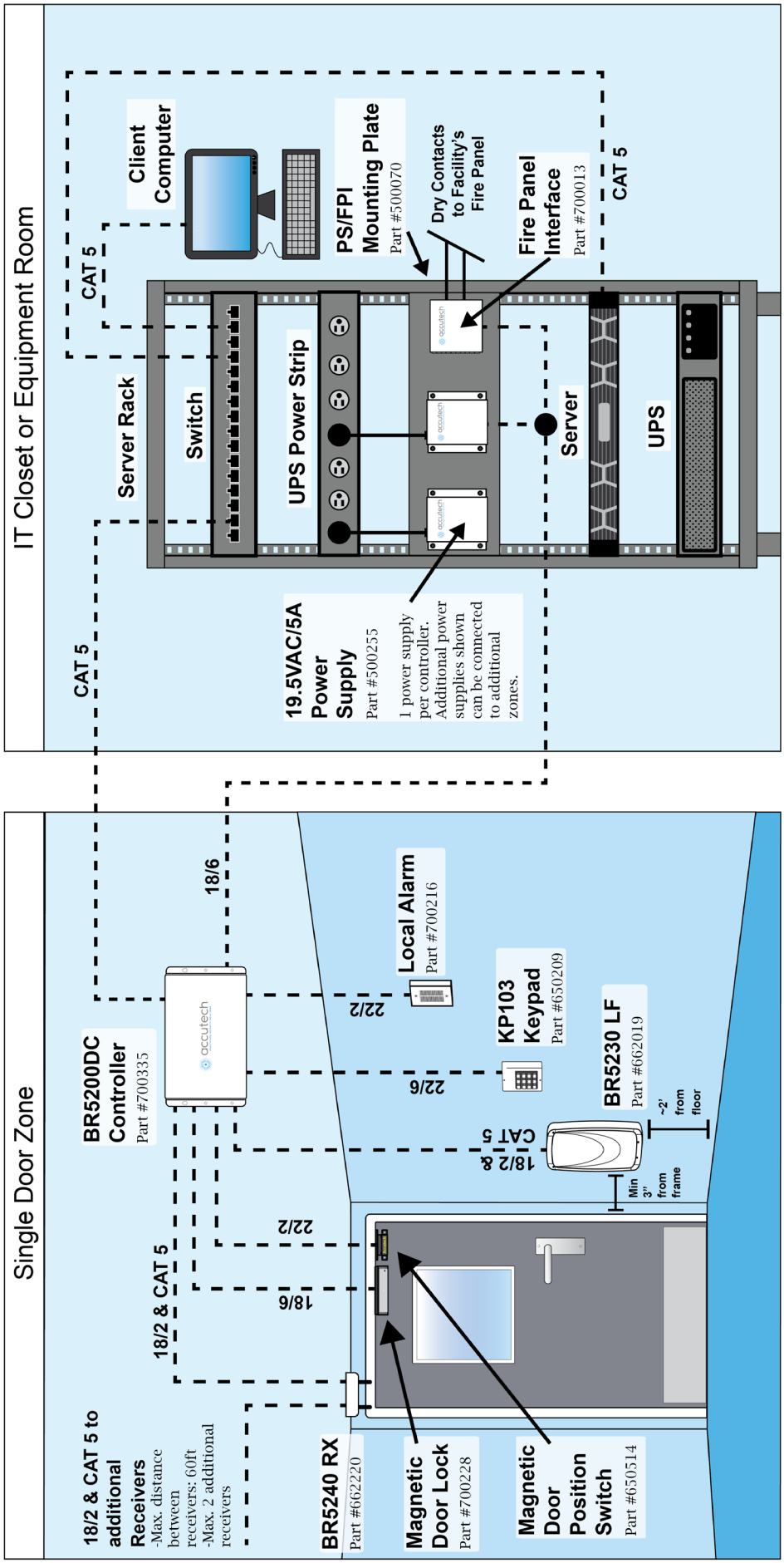
Mounted in the elevator control room. With integration to the elevator Controller, a Tag will deactivate the call button on Tag detection and hold the elevator car on the floor if an Exit Alarm is created.

Typical System Configurations

The following are block diagrams of the more typical zones encountered. They are intended to suggest or recommend as to where the components should be placed in relationship to the opening being covered. They are shown with a "drop" ceiling, where it is typically easy to access an "out of the way" area.

The chapters that follow will more clearly define the parameters used to determine component locations. As always, common sense, local codes, and consultation with your Accutech Representative will go a long way toward answering many of your questions.

Typical BR5200 Configuration - Single Door

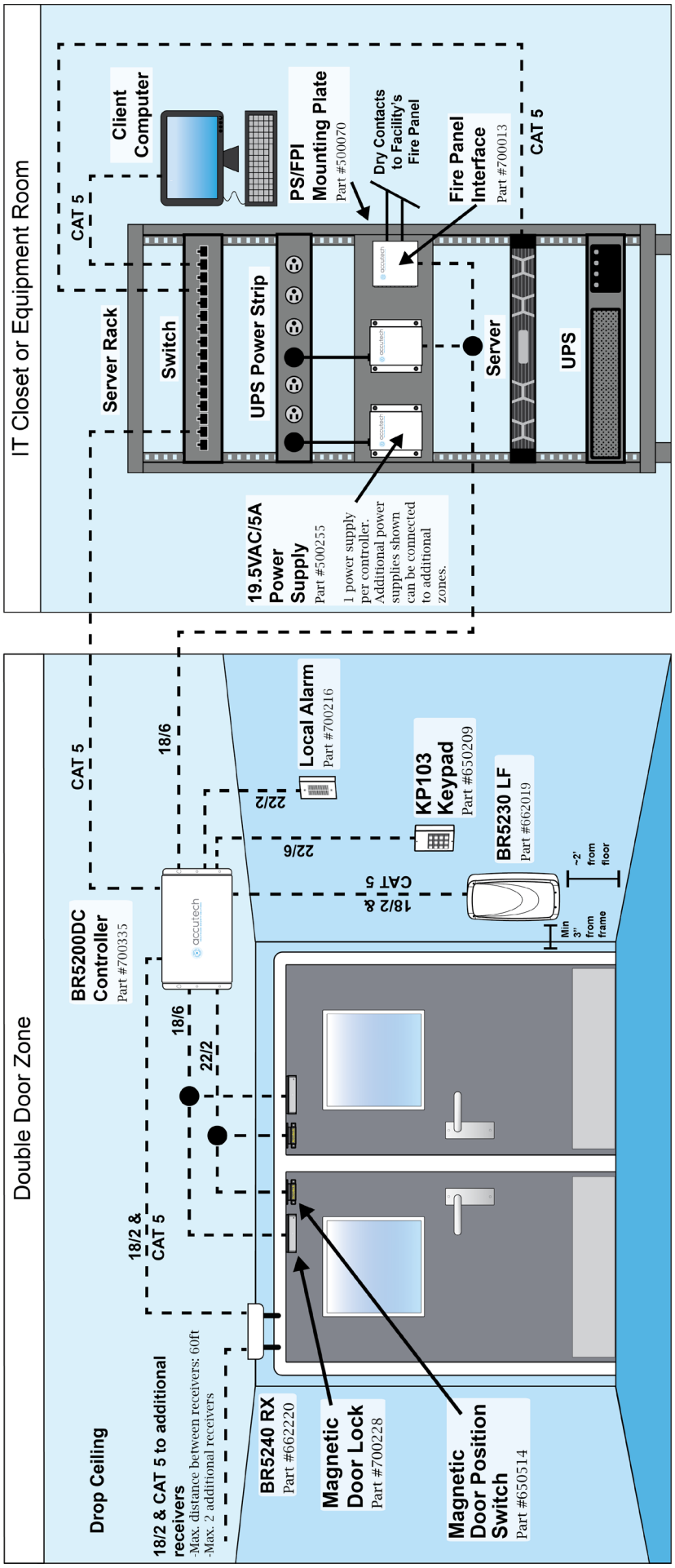


Important:

BR5230 LF (Part #662019):
- Not designed for ceilng mount.
- Position at least 3" away from any metal

Magnetic Door Position Switch (Part #650514):
- Position on latch side of top of door

Typical BR5200 Configuration - Double Door

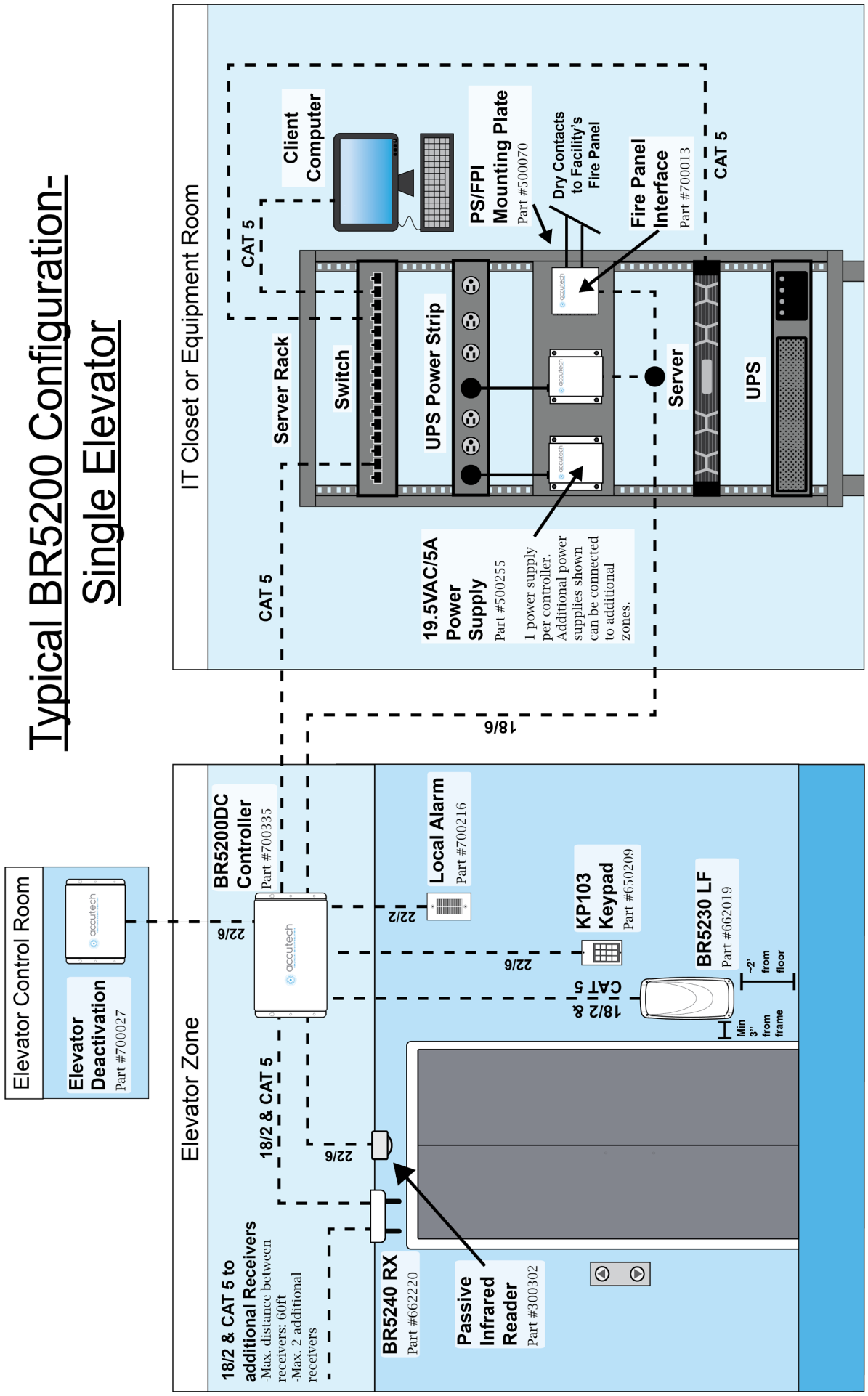


Important:

BR5230 LF (Part #662019):
- Not designed for ceiling mount.
- Position at least 3" away from any metal

Magnetic Door Position Switch (Part #650514):
- Position on latch side of top of door

Typical BR5200 Configuration- Single Elevator

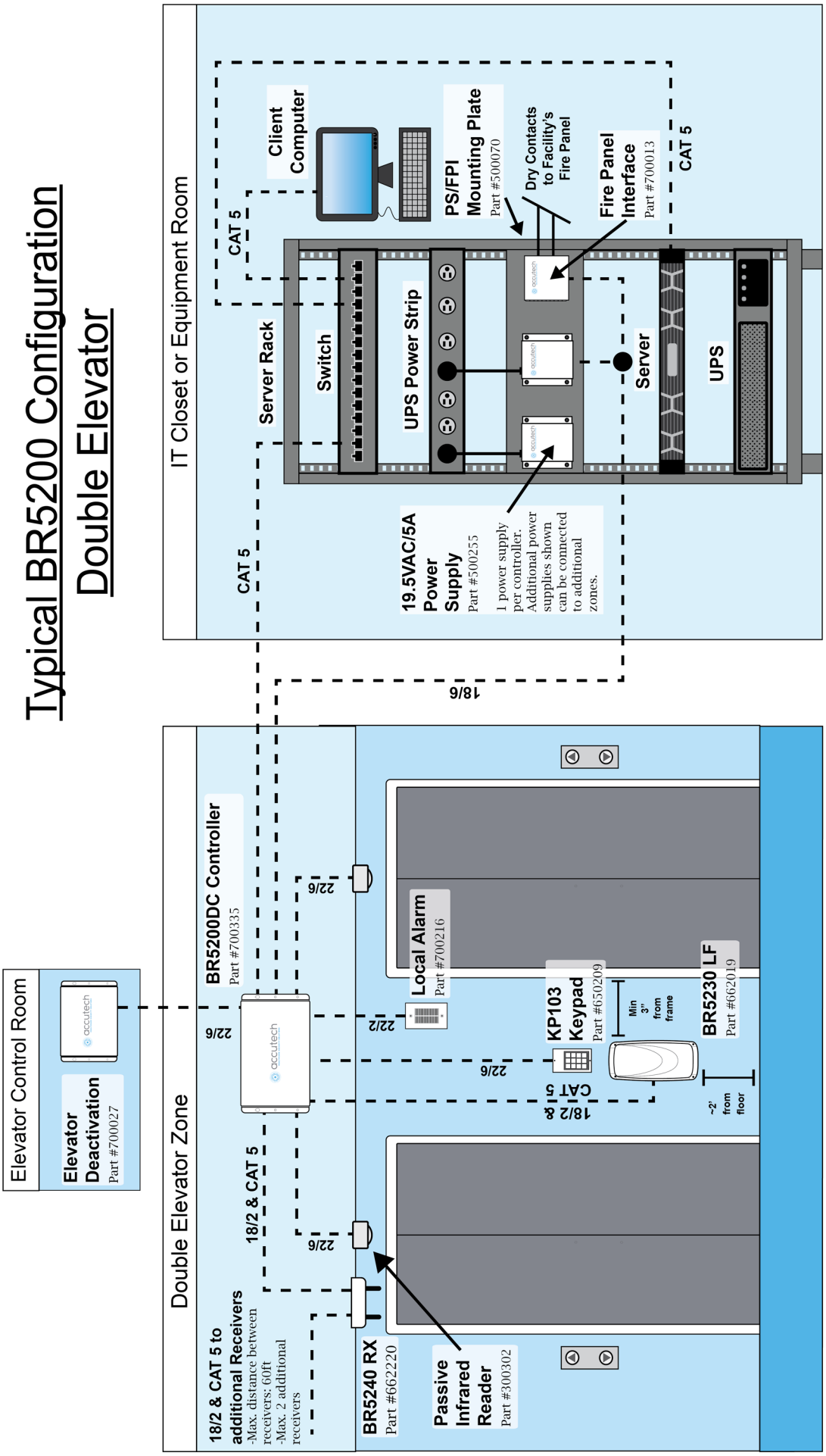


Important:

BR5230 LF (Part #662019):
- Not designed for ceilng mount.
- Position at least 3" away from any metal

Passive Infrared Reader (Part #300302):
- Mount at corner of wall and ceiling
- Mount facing down toward floor

Typical BR5200 Configuration
Double Elevator



Important:

BR5230 LF (Part #662019):
- Not designed for ceilng mount.
- Position at least 3" away from any metal

Passive Infrared Reader (Part #300302):
- Mount at corner of wall and ceiling
- Mount facing down toward floor