



Fiber Power Enclosure

Installation Manual

Effective: October 2015



Safety Notes

Alpha considers customer safety and satisfaction its most important priority. To reduce the risk of injury or death and to ensure continual safe operation of this product, certain information is presented differently in this manual. Alpha encourages special attention and care to information presented in the following manner.



WARNING! GENERAL HAZARD

WARNING provides safety information to reduce the risk of INJURY OR DEATH to the technician or user.



WARNING! ELECTRICAL HAZARD

ELECTRICAL HAZARD WARNING provides electrical safety information to PREVENT INJURY OR DEATH to the technician or user.



WARNING! FUMES HAZARD

FUMES HAZARD WARNING provides fumes safety information to PREVENT INJURY OR DEATH to the technician or user.



WARNING! FIRE HAZARD

FIRE HAZARD WARNING provides flammability safety information to PREVENT INJURY OR DEATH to the technician or user.

There may be multiple warnings associated with the callout. Example:



WARNING! ELECTRICAL & FIRE HAZARD

This WARNING provides safety information for both Electrical AND Fire Hazards.



CAUTION!

CAUTION provides safety information intended to PREVENT DAMAGE to material or equipment.



NOTICE:

NOTICE provides additional information to help complete a specific task or procedure.

ATTENTION:

ATTENTION provides specific regulatory/code requirements that may affect the placement of equipment and /or installation procedures.

The following sections contain important safety information that must be followed during the installation and maintenance of the equipment and batteries. Read all of the instructions before installing or operating the equipment, and save this manual for future reference.

Fiber Power Enclosure

Installation Manual

031-148-C2-001, Rev. A2

Effective Date: October 2015

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Disclaimer

Images contained in this manual are for illustrative purposes only. These images may not match your installation.

The operator is cautioned to review the drawings and illustrations contained in this manual before proceeding. If there are questions regarding the safe operation of this powering system, please contact Alpha Technologies or your nearest Alpha representative.

Alpha shall not be held liable for any damage or injury involving its enclosures, power supplies, generators, batteries or other hardware if used or operated in any manner or subject to any condition not consistent with its intended purpose or is installed or operated in an unapproved manner or improperly maintained.

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FPE Safety Notes

The manufacturer cannot anticipate every circumstance that may involve a hazard, therefore, these warnings are not comprehensive.

Mechanical Safety



WARNING! INJURY HAZARD

- Keep hands and tools clear of fans. Fans are thermostatically controlled and may turn on automatically.
- Power supplies can reach extreme temperatures under load.
- Use caution around sheet metal components and sharp edges.

Electrical Safety



WARNING! ELECTRICAL HAZARD

- Lethal voltages are present within the power supply and electrical boxes. Prior to any installation or removal procedure, always check the circuit with a volt meter with respect to the grounded portion of the enclosure (both AC and DC).
- A licensed electrician is required to install permanently wired equipment.
- Input voltages can range up to 240 Vac. Ensure that utility power is disabled before beginning installation or removal.
- Ensure no liquids or wet clothes contact internal components.
- Hazardous electrically live parts inside this unit are energized from batteries even when the AC input power is disconnected.

Battery Maintenance Guidelines

Follow all battery manufacturer's instructions for battery transportation, installation, storage or maintenance. To prevent damage, inspect batteries every 3 months.



CAUTION!

- Electrolyte (battery emission) is corrosive and may cause injury or equipment damage. Clean and remove all electrolyte in accordance with all federal, state, and local regulations or codes.
- Only trained, authorized personnel should diagnose, service, and replace batteries or battery components.
- Replace batteries that show signs of cracking, leaking or swelling with one of the identical type and rating.
- Replace battery cables showing signs of damage (e.g. fraying, corrosion, etc.).
- Correctly torque and connect all battery connection hardware per manufacturer's recommendations.
- Apply battery manufacturer's specified antioxidant compound on all exposed connections.
- Verify all battery terminals and exposed connection hardware is not within 2" of a conductive surface.
- Ensure adequate enclosure ventilation to prevent an accumulation of potentially dangerous gas.
- Always transport batteries per the manufacturer's specifications.
- Never install old or untested batteries.

Recycling and Disposal Instructions

ATTENTION:

Spent or damaged batteries are considered environmentally unsafe. Always recycle used batteries or dispose of the batteries in accordance with all federal, state and local regulations.

1.0 Overview

1.1 Introduction

Alpha's Fiber Power Enclosure (FPE) Series is flexible and provides modular expandability for Cable TV powering applications. The FPE is designed for one CableUPS power supply and up to eight batteries.

The FPE is a solution for the customers who choose to co-locate an optical (fiber) node and/or a splice enclosure with the power supply.

Enclosure Specifications	
Dimensions:	42"H x 36"W x 32"D (1067mm x 914mm x 813mm) With Pre-Installed Pedestal Mount - 56"H x 36"W x 32"D (1422mm x 914mm x 813mm)
Weight:	145 lbs (66 kg) With Pre-installed Pedestal Mount - 173 lbs (78 kg)
Color:	Seafoam Green, Pine Green, White, Gray
Standard Features:	Enclosure, system ground bar and removable / lockable doors, and module tray
Options:	Strand mount bar and universal mounting bracket for optical node, fiber-loop kit, built in star pattern, and fan kit
Finish:	Durable powder coat exterior
Material:	Aluminum

Table 1-1, Enclosure Specifications

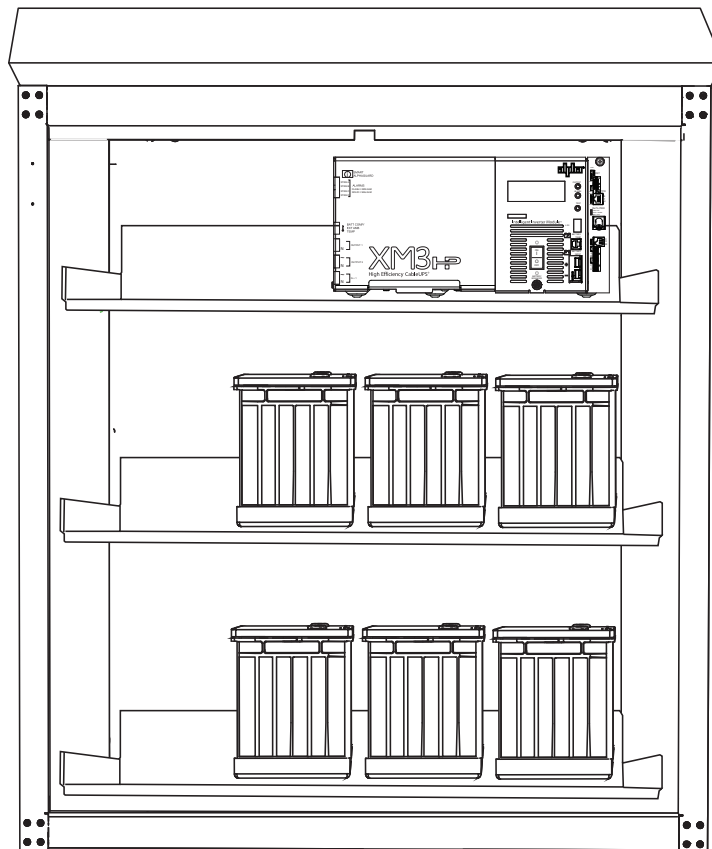
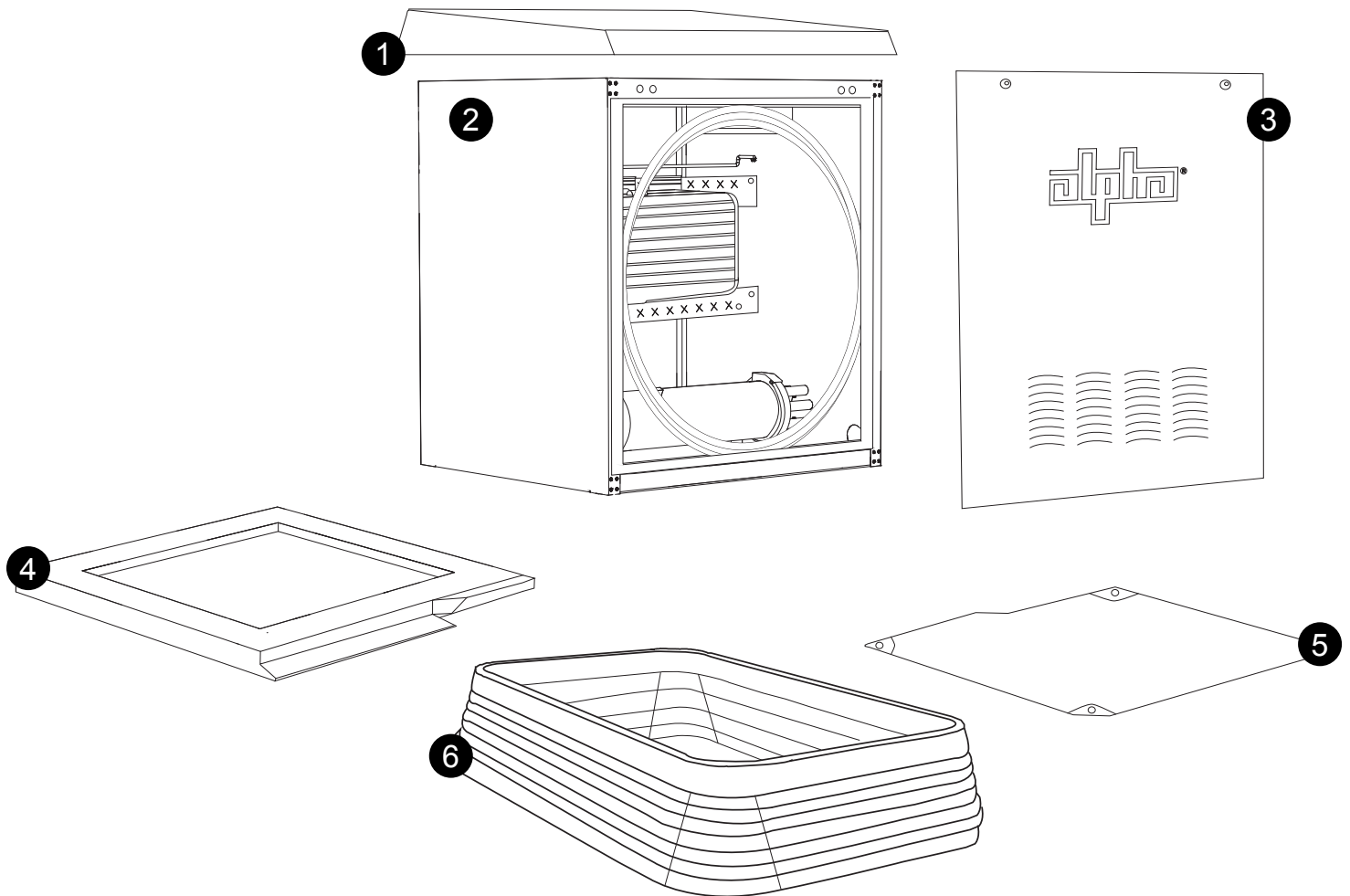


Fig. 1-1, Front View, with Door Removed

1.0 Overview

1.2 Enclosure System and Options



- 1 Removable, reversible lid
- 2 Enclosure (rear view)
- 3 Lockable front and rear doors
- 4 FPE mounting ring
- 5 Precast concrete polymer lid, enclosure section
- 6 Polymer vault
- 7 Precast pad (not shown)

Fig. 1-2, Enclosure System and Options

2.0 Pre-Installation

2.1 Site Considerations

Plan the site to ensure the enclosure receives the necessary air flow. If possible, in areas of extreme heat, position the enclosure so that it will be shaded from the sun. In areas of prevailing winds, the sides of the cabinet should face the winds instead of the doors. This will greatly reduce the buildup of sand or snow against the enclosure's air vents.

In areas of potential flooding, place the concrete pad on a geographical site located above the flood plain.

Place the enclosure where it will be free of obstructions, allowing easy access to the doors for service or equipment access. For ventilation and maintenance, allow a minimum work space of 40 inches in the front and 40 inches in the rear, between the enclosure and other solid structures.

Place the enclosure well away from ground level sources of forced water, such as underground sprinkler systems and direct roadway splash.

The concrete pad drawing provided in this manual contains all of the required mounting details, including electrical service and cable plant entrances.

For ease of installation, lightweight polymer concrete pads are available from Alpha Technologies for all FPE Series enclosures.

The vapor barrier material (such as 30 lb. felt, neoprene pond liner, or heavy grade tar paper) must initially extend at least 6" (152.4 mm) in all directions around the perimeter of the enclosure and be trimmed closer to the enclosure after installation.



WARNING! ELECTRICAL & FIRE HAZARD

Install batteries **AFTER** the enclosure is installed on site. Transporting the unit with batteries installed may cause a short circuit, fire, explosion, and/or damage to the battery pack, enclosure and installed equipment. Damage caused by improper shipping or transporting a unit with batteries installed is not covered by the warranty.

2.0 Pre-Installation

2.2 Pre-Cast Polymer Concrete Pad Dimensions

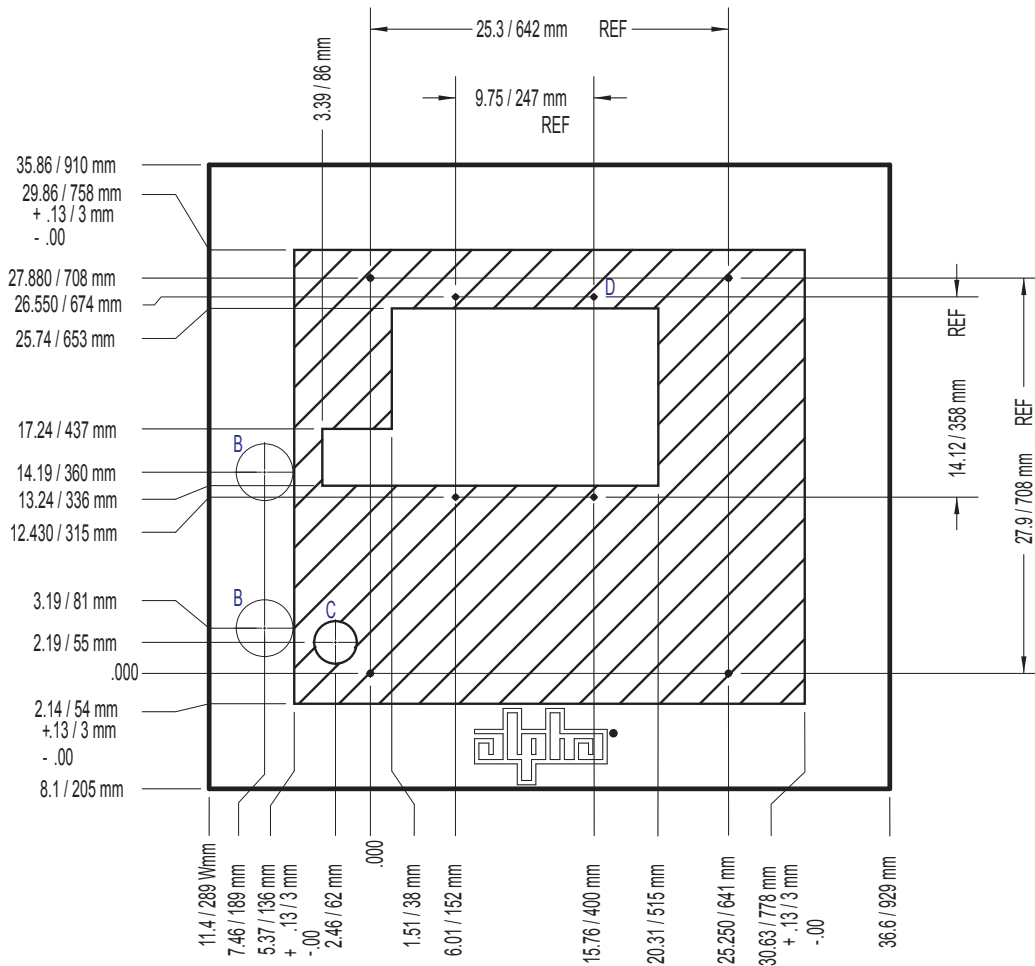
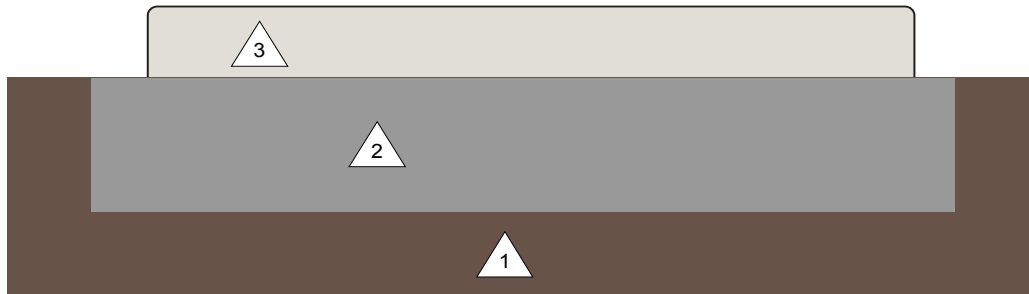


Fig. 2-1, Pad Dimensions in Inches/Millimeters
(Alpha Precast Pad p/n 641-095-10)

2.3 Pre-Cast Pad Foundation



- 1 Undisturbed Ground
- 2 Compacted Gravel (approx. 12" / 304.8mm)
- 3 Pre-Cast Pad (3" to 6" / 76.2 to 152.4mm thick)

Fig. 2-2, Cross-section of Pad Site

2.0 Pre-Installation

2.4 Underground Vault Installation

Hardware Recommendations:

- 7/16" Nut
- Lock washer
- Flat Washer
- Concrete Pad with 7/16" Mounting Studs



CAUTION!

A 25+ year continuous vapor barrier must be used between the enclosure and pad to prevent moisture ingress and possible corrosion caused by metal to concrete contact. The vapor barrier material (such as 30 lb. felt, neoprene pond liner, or heavy grade tar paper) should initially extend at least 6" (152.4mm) in all directions around the perimeter of the enclosure and later be trimmed closer to the enclosure.

1. Unwrap the enclosure and inspect the contents. If items are missing or damaged, contact Alpha Technologies and the shipper immediately.
2. Place the vapor barrier material on the pad.
3. Unbolt the enclosure from the shipping pallet.
4. With no less than two installation personnel, lift the enclosure off the shipping pallet and place over the mounting studs on the pad.
5. Secure the enclosure to the pad using the hardware supplied with the precast pad or pedestal support.
6. Trim the vapor barrier material..

2.0 Pre-Installation

2.5 Grounding and Earth Connection



WARNING! ELECTRICAL HAZARD

Electrical shock can kill. An ungrounded or improperly grounded system increases the risk of electrical shock. Make all ground rod connections with a listed grounding clamp suitable for direct burial or exothermic welding.

A grounding and Earthing system is necessary for the safety of service personnel, operation and protection of the power supply equipment within the network. Lightning strikes, grid switching or other power aberrations on the power line and/or communication cable may endanger service personnel and damage the power and communication systems. An effective ground and Earthing system diverts these unwanted high-energy transients along a low-impedance path to Earth. This prevents such aberrations from reaching high voltage levels, which pose a threat to personnel and equipment.

Lightning protection is best achieved by single-point grounding, meaning components of the grounding system act as a single point of uniform impedance. Ground connection in the enclosure should be a single, bonded electrical connection for all equipment to the enclosure. This point should then be connected to the Earth system where all ground rods are properly bonded.

2.5.1 Safety Ground and Earth Connection

The safety ground and Earth is a two-part system, comprised of the utility service and the Alpha system.

1. Utility service;

As a minimum requirement for the protection of Alpha equipment, the local utility service must provide a low-impedance path for fault current return. In addition, there must be a low impedance bonded path between the Alpha Power Supply and the enclosure.

2. The Alpha grounding system;

The Alpha grounding system consists of a low-impedance connection between the enclosure and an Earth ground (located at least 6' (1.828 m)) away from the Utility Earth connection).

This impedance between the enclosure and Earth must be 5 Ohms or less at 60 Hertz as measured by AMPROBE Model DGC-1000 or equivalent. The measurement should be made on the wire or ground rod after it exits the enclosure.

Local soil conditions dictate the complexity of the grounding system required to meet the 25 Ohm (maximum) resistance. For example, a single 8' (2.438 m) ground rod may be sufficient to meet the requirement. In some cases, a more elaborate system may be required such as multiple ground rods connected by a #6AWG solid copper cable buried 8-12" (0.202–0.305 m) below the surface. Where this is not possible, contact a local grounding system expert for alternate methods that will meet the 25 Ohm (maximum) specification.

2.5.2 Power Output Return

For proper operation, the Service Power Inserter (SPI) must be securely bonded to the enclosure.

2.5.3 Communications Grounding

For an external status monitoring transponder, the transponder chassis is typically bonded via a separate ground wire to the enclosure. For systems using an embedded transponder, the grounding connection is typically made either through a separate chassis ground block bonded to the enclosure or by means of the internal mounting hardware which bonds the transponder through the CableUPS. Please refer to the appropriate communications product manual for installation procedures. Alpha strongly recommends the use of a surge arresting device (Alpha p/n 162-028-10 or equivalent) on communication cables electrically bonded to the Alpha enclosure.

2.0 Pre-Installation

2.5 Grounding and Earth Connection

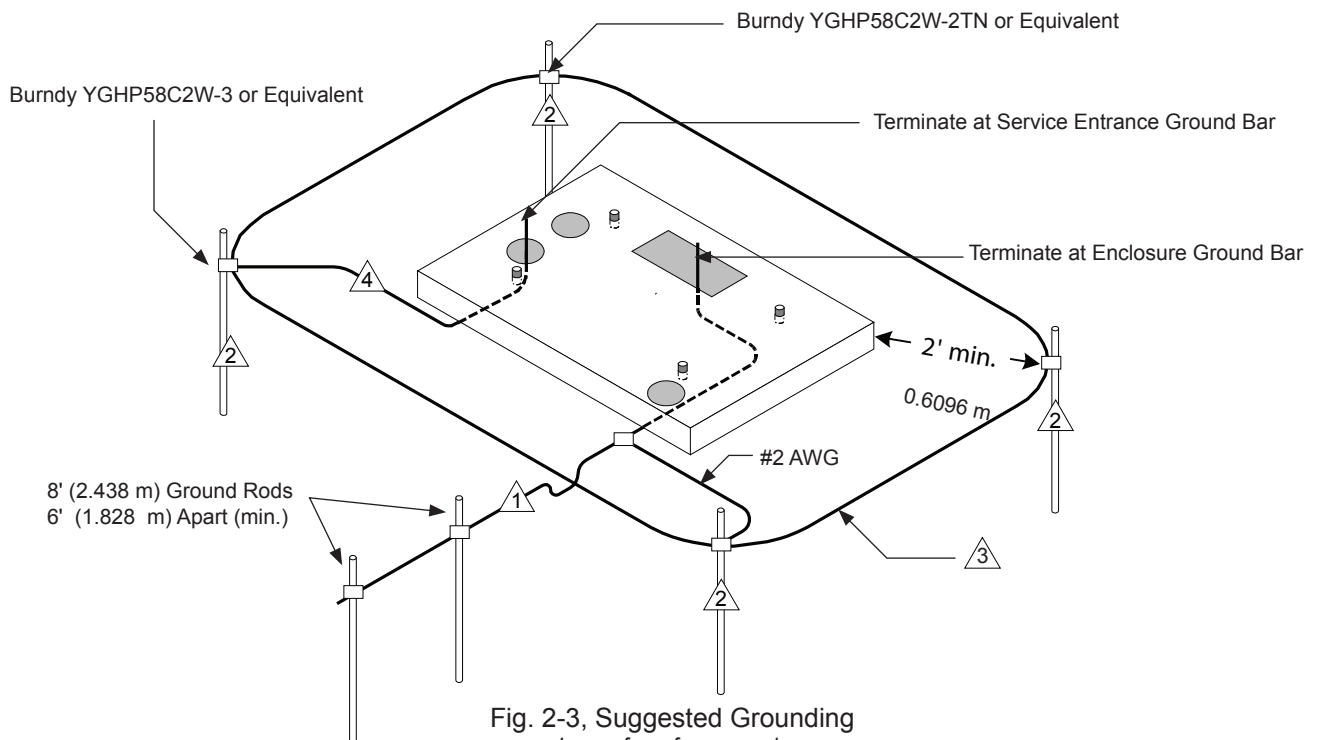
2.5.4 Typical Site Grounding

WARNING! ELECTRICAL HAZARD


Electrical shock can kill. An ungrounded or improperly grounded system increases the risk of electrical shock. Make all ground rod connections with a listed grounding clamp suitable for direct burial or exothermic welding.

NOTICE:




- Alpha generally recommends using the grounding method illustrated below. However, the grounding method appropriate for a particular site depends on local codes, the NEC (National Electric Code), and other site-specific characteristics.
- Alpha Technologies recommends 5 Ohms minimum ground resistance between enclosure and ground rods, in accordance with IEEE 1100-1999 Powering and Grounding Electronic Equipment.
- Alpha Technologies assumes no responsibility or liability for failure of the installer to comply with the requirements of all applicable local and national codes. Where allowed, exothermic welding may be used as an alternative to Burndy clamps and connectors.



Service Grounding (required)

-  #6 bare copper wire from service entrance ground bar, with two 1/2" (12.7mm) X 8' (2.438 m) copper ground rods, driven at least six feet apart.

Lightning Protection (optional)

-  Four 1/2" (12.7mm) X 8' (2.438 m) copper ground rods, driven at least two feet from pad.
-  #6 bare copper wire loop, at least 30" (762 mm) below grade, and terminated at each ground rod.
-  #6 bare copper wire from loop to enclosure ground bar in service entrance.

3.0 Installation

3.1 Enclosure Protection

Alpha Technologies cannot anticipate all of the ways a vehicle may potentially threaten an installed system or the specific type of protection that is appropriate for a particular location. The determination of the threat to the equipment and the means of protection are the responsibility of the end user of the equipment and the authority having jurisdiction. The following installation drawing for Alpha's Standby Power systems are general recommendations and not intended to be a specific guideline for protecting the equipment. The numbers of Bollard posts (or other protection devices) depend upon equipment locations, site surveys, and traffic patterns

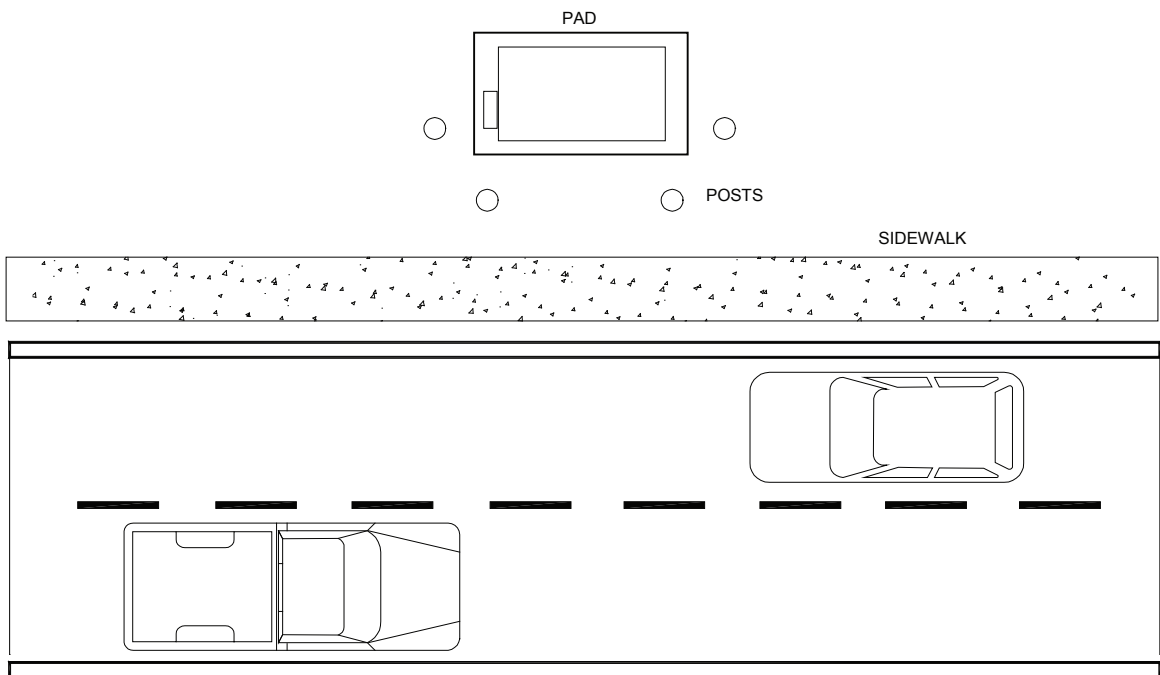


Fig. 3-1, Enclosure Protection

3.2 Transportation and Lifting

The FPE cabinet as shipped weighs approximately 100 lbs. (45.36 kg). A safe means of transportation to the site and a safe procedure for unloading the enclosure is necessary. Do not transport or lift with a device that may not be able to bear the unit's weight, and do not place the unit upon a surface that will not be able to fully support it.

 **NOTICE:**

Enclosure must always remain in the upright position during the shipping, storage and installation process. Damage may result from enclosure being shipped or stored on its side. Electronic modules, batteries or other components must not be installed until the enclosure is securely set in place at its permanent location.

3.0 Installation

3.3 Enclosure Installation

3.3.1 Attaching Enclosure to the Pad

Tools and Materials Required:

Ratchet set with 6" (152.4 mm) extension

Vapor Barrier

Utility Knife



NOTICE:

Some FPE configurations have a pre-installed pedestal mount (Alpha p/n 746-617-20). The enclosure installation method for this pre-installed pedestal mount is identical to the normal installation. The panels on the pre-installed pedestal mount can be removed for service access.

Procedure:

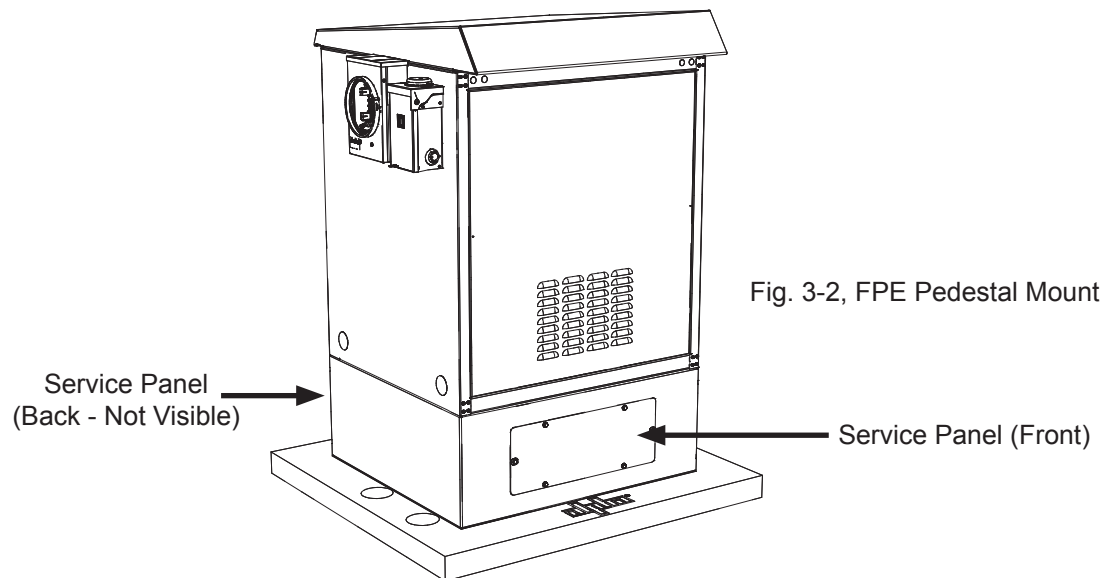
1. Unwrap the enclosure and inspect the contents. If items are missing or damaged, contact Alpha Technologies and the shipper immediately.
2. Place the vapor barrier material on the pad.



NOTICE:

A 25+ year *continuous vapor barrier* must be used between the enclosure and pad to prevent moisture ingress and possible corrosion caused by metal to concrete contact. The vapor barrier material (such as 30 lb. (13.608 kg) felt, neoprene pond liner, or heavy grade tar paper) should initially be extended at least 6" (152.4mm) all directions around the perimeter of the enclosure.

3. Unbolt the enclosure from the shipping pallet.
4. Using an appropriate crane and spreader bar, lift the enclosure off the shipping pallet, and place over the mounting studs on the pad.
5. Secure the enclosure to the pad using four stainless steel flat washers, lock washers, and nuts.
6. Trim the vapor barrier material flush with the enclosure.



3.0 Installation

3.4 Utility Powering

3.4.1 Electrical Service Connection



WARNING! ELECTRICAL HAZARD

Electrical shock can KILL. All electrical service connections must be made by an authorized, trained personnel.



CAUTION!

The following should be performed only by qualified service personnel and in compliance with local electrical codes.

- Verify electrical codes prior to installation. Codes may vary and contain specific conduit and wire sizes for connection to the service entrance.
- Connection to utility power must be approved by the local utility before installing the power supply.
- The enclosure can be equipped with a Square D, rainproof service entrance (SUSE rated). The service entrance is equipped with a 20/15 Amp circuit breaker for a 120/240 Vac, split phase, 3 wire w/GND source.

The XM2 and XM3-HP Power Supplies are powered by either 120Vac or 240Vac (120/240 grounded neutral), attached to an external service entrance. The size of the service conductors must be based upon the actual size of the utility service and be in accordance with applicable electrical code requirements.

The utility conduit may be placed in two locations, depending upon the utility service entrance requirements. Note the optional conduit location for use with meter base and the standard location for entry directly to the load center.

Proper grounding is critical. The enclosure **MUST** have a hardwired ground to the service entrance. A qualified electrician should verify that grounding is in compliance with applicable electrical codes.



NOTICE:

Soil conditions vary and may affect the integrity of the pad. Alpha Technologies recommends that proper steps be taken to ensure that the soil supporting the pad is stable. Improper installation of the pad may cause uneven settling or cracking which is not covered under warranty.

Both standard and EUSERC style meter bases are available for some configurations. Consult Alpha Technologies or your local representative regarding compatibility with your specific application.

Materials Required:

- 1" (25.4 mm) dia. conduit - PVC or Galvanized Steel (threaded)
- #6 AWG - Red /stranded insulated wire
- #6 AWG - Black / stranded insulated wire
- #6 AWG - White / stranded insulated wire
- #2 AWG or larger - Stranded copper ground wire

3.0 Installation

3.4.1. Electrical Service Connection

Tools Needed:

- No. 2 Flat Head Screwdriver
- Adjustable Pliers (Channel-Lock)

Procedure:

1. Locate the service entrance panel on the enclosure (exterior). Remove the cover to access the circuit breaker assembly. If this service panel is to be used as the primary service entrance, neutral must be bonded to ground.
2. Connect one of the black #6 wires to the top of the left circuit breaker (L1), and the remaining black (or red) #6 wire to the top of the right circuit breaker (L2).
3. Connect the #6 white wire to the top of the neutral bus to the right of the circuit breakers.
4. Connect the #6 green ground wire to the large terminal on the ground bar.
5. Notify the electrical inspector to approve the service entrance wiring. Once approved, contact the local power utility for electrical service.

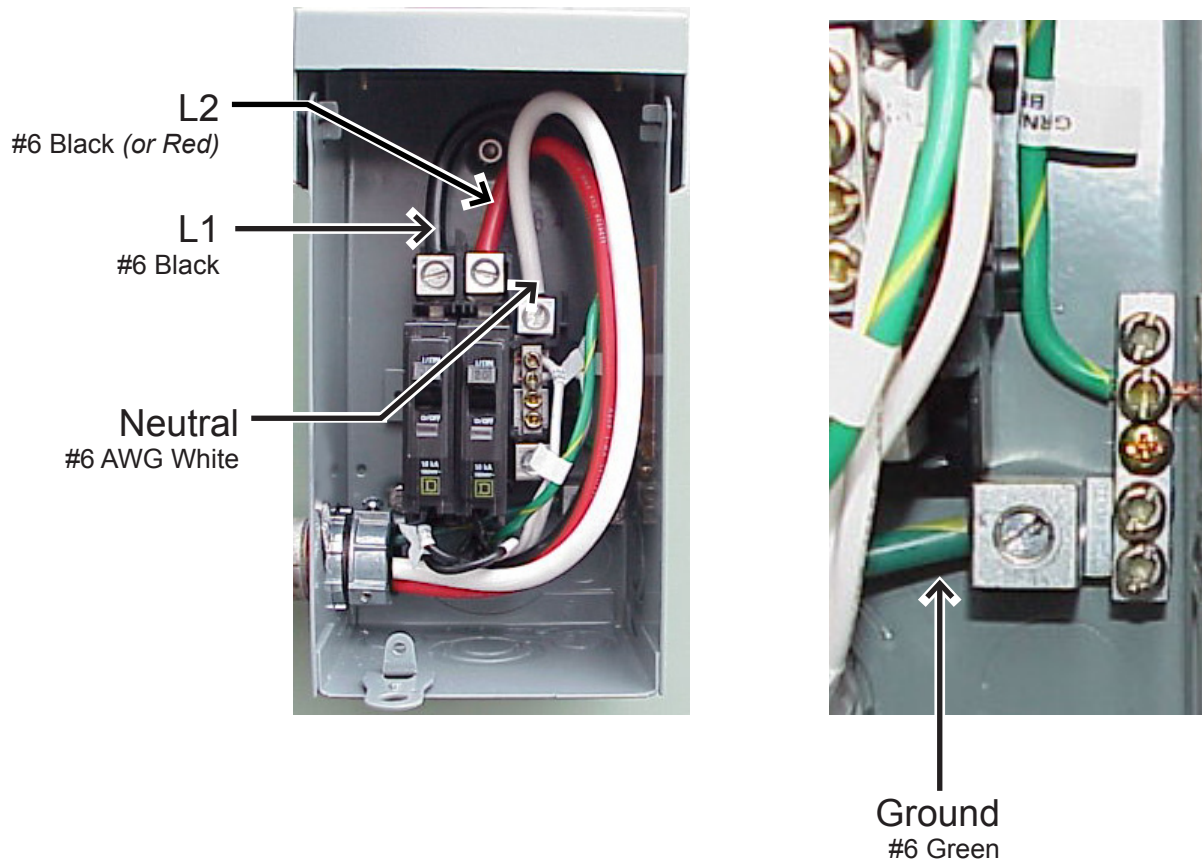


Fig. 3-3, Wiring the Service Entrance

3.0 Installation

3.5 Service Power Inserter

1. The SPI box(es) are mounted on the back wall of the power supply shelf.
2. Remove the two screws on the face of the SPI and lift off the cover to gain access to the seizure screw assembly. (Fig. 3-4)
3. Loosen the seizure screw several turns so that the stinger will pass through the clamp.
4. Insert the coaxial termination into the output port on the bottom of the SPI. Ensure that the stinger goes through the seizure screw assembly. (Fig. 3-5)
5. Tighten the coaxial termination.
6. Tighten the seizure screw to 35.0 in-lbs (47.5 N-m). Replace the SPI cover and screws.
7. Ensure that the switch on the top or the SPI is in the ON position, the AUX position is used only when an alternate power source is connected to the ALT connection on the SPI.

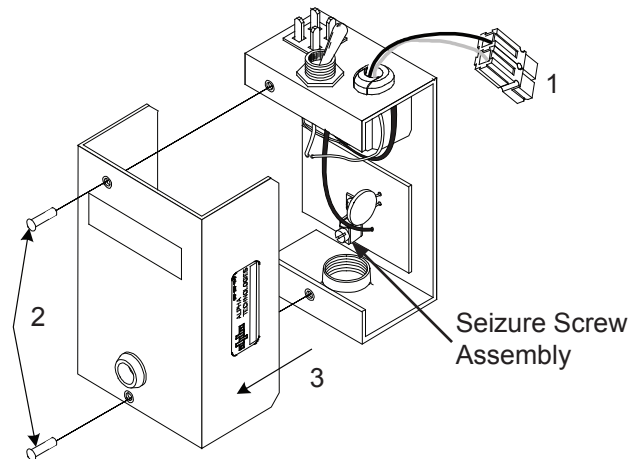


Fig. 3-4, SPI Cover Removal

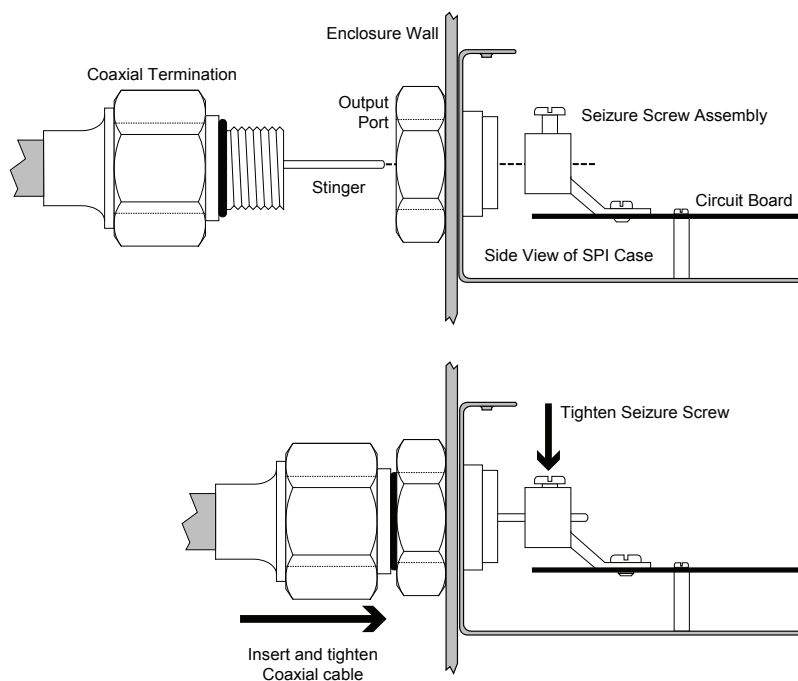


Fig. 3-5, Connecting Coax to SPI Output Port

3.0 Installation

3.6 Battery Installation

WARNING! ELECTRICAL HAZARD

Batteries can deliver **LETHAL VOLTAGES**. Battery installation, maintenance and data collection should be performed by authorized, trained personnel only.

3.6.1. Battery Safety

Battery systems represent a risk of electrical shock and high short circuit currents. The following precautions must be observed when maintaining batteries:

- Remove all personal metal objects (watches, rings, etc.)
- Use insulated tools.
- Wear eye protection and rubber gloves.
- Observe circuit polarities.
- Do not make or break live circuits.
- Do not lay metal tools and hardware on top of the batteries.

3.6.2 Battery Identification

Each battery will be marked with a date code on the label. This 4-digit code indicates the month and year of manufacture (MM/YY format). Record this code in the maintenance log (*MAINTENANCE* manual). If batteries other than those installed by Alpha are used, consult the battery's manufacturers' documentation for date code type and placement.

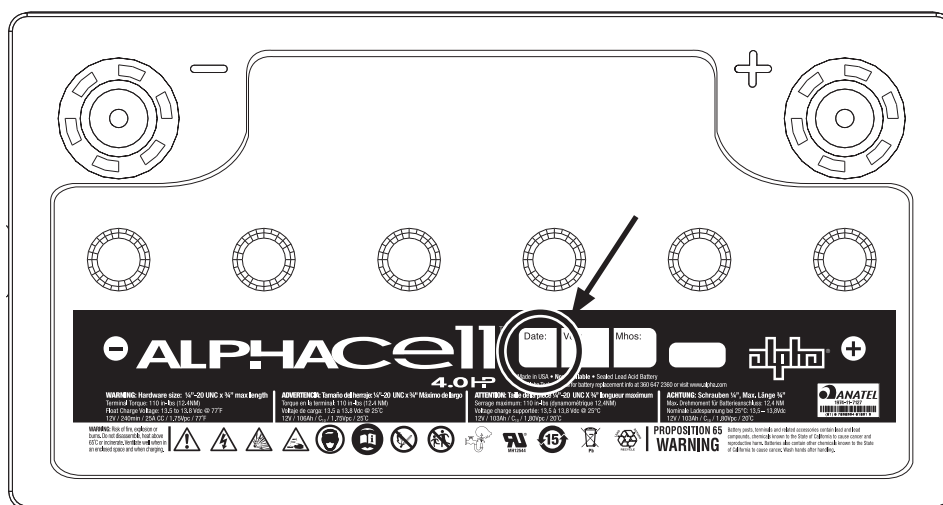


Fig. 3-6, Battery Date Code Location

3.0 Installation

3.6 Battery Installation

3.6.3 Battery Tray Replacement

The battery trays are adjustable in height and removable to facilitate changes in system configurations.

Tools Needed:

7/16" socket or nut driver

Procedure:

1. If multiple battery strings are installed, remove batteries from shelf.
2. Remove the (4) 1/4"-20 mounting screws (2 per side) holding the shelf to the mounting rack.
3. Adjust the height of the shelf (or remove) as necessary and replace the screws.
4. Remove and/or reinstall batteries as dictated by configuration.

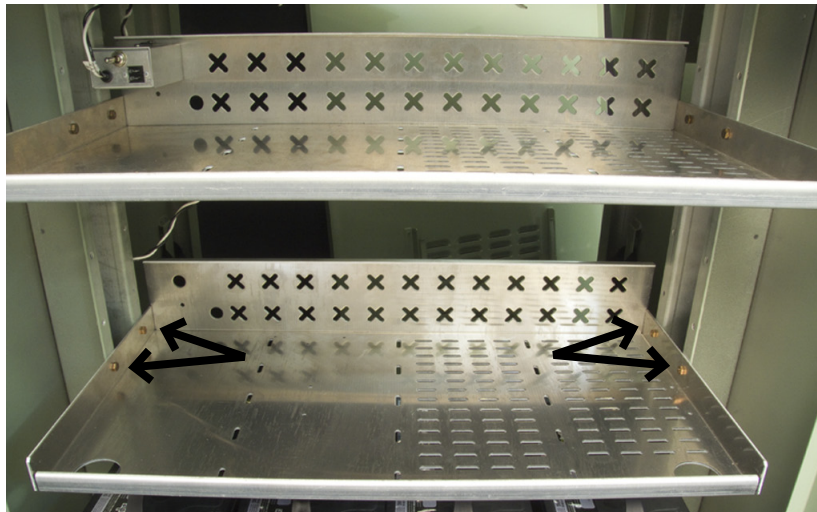


Fig. 3-7, Location of Battery Tray Mounting Hardware

3.0 Installation

3.6 Battery Installation

3.6.4 Battery Terminal Connections

Various types of batteries with different mounting styles and hardware may be shipped with the system. ALWAYS refer to the battery manufacturers' specifications for correct mounting hardware and torque requirements. During maintenance procedures, refer to the manufacturers' specifications for the maintenance torque requirements.

For AlphaCell batteries, use 110 in-lbs (149 N-m).

For the AlphaCell 85GXL, use 25 in-lbs (33.86 N-m).

Mounting hardware requirements may vary with battery manufacturers. Use only the hardware recommended by the battery manufacturer. For AlphaCell Battery hardware, see Fig. 3-8.

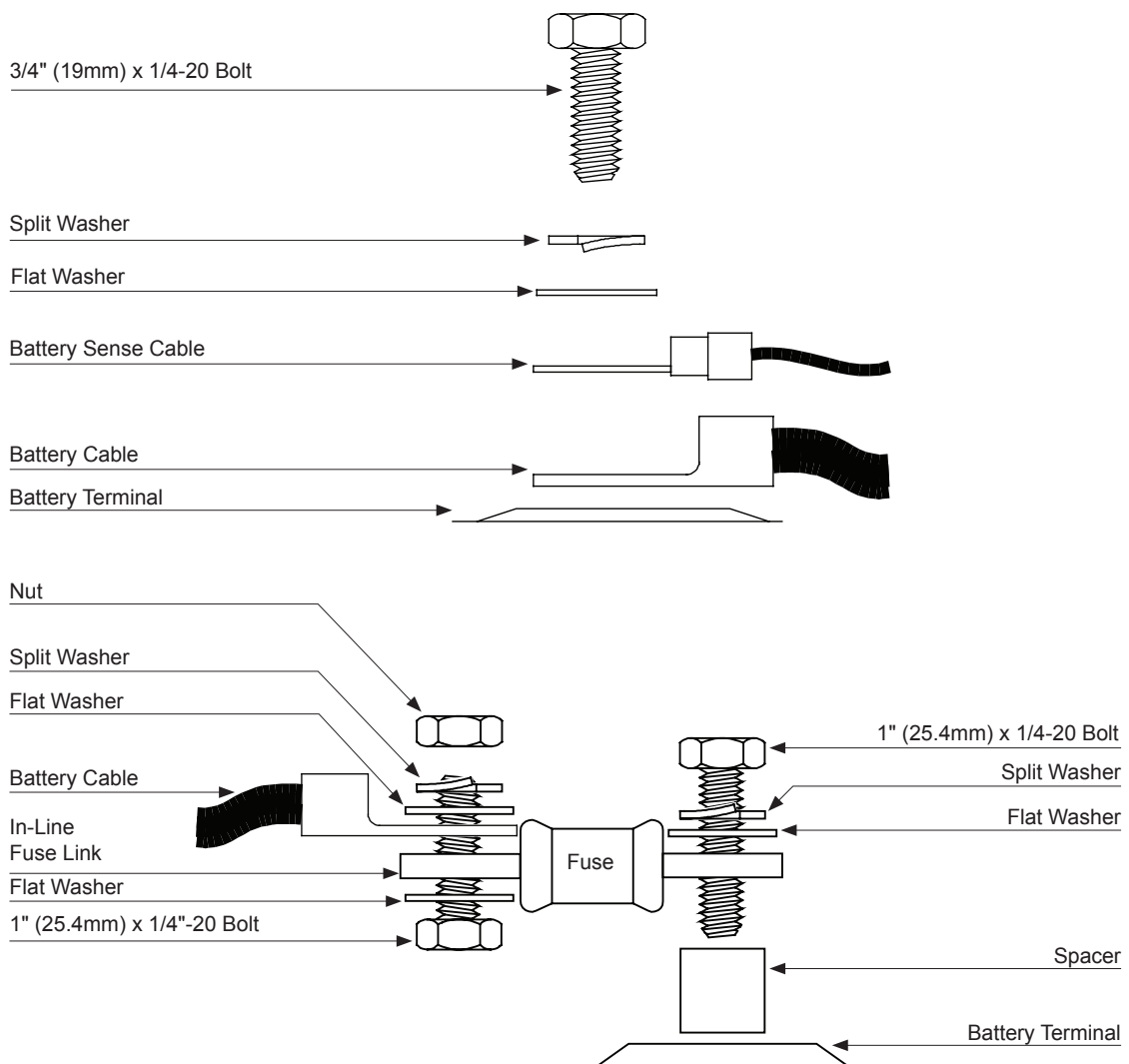


Fig. 3-8, Battery Terminal Assembly

3.0 Installation

3.6 Battery Installation

3.6.5 Battery Connection

Tools Needed:

- (2) 7/16" open end wrenches

Procedure:

1. Connect the battery strings, as shown in Fig. 3-9 or Fig. 3-10.



NOTICE:

This section is for reference only, follow instructions included in the battery cable kit. For XM3 Series power supplies, Precision Temperature Sensor attaches to battery post.

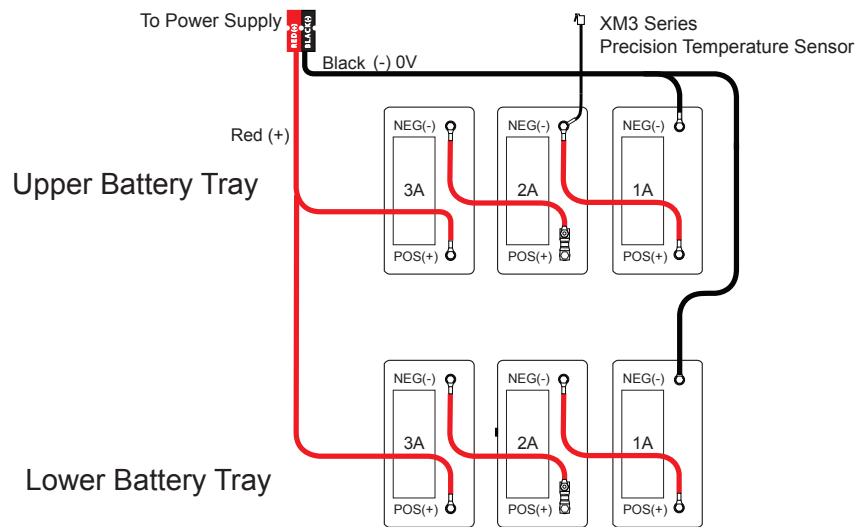


Fig. 3-9, 36V Battery String Wiring

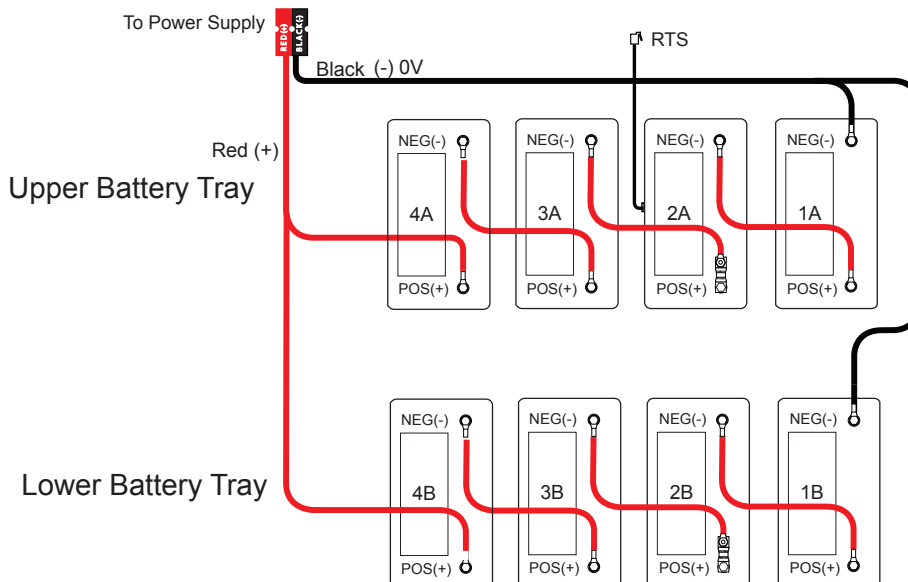


Fig. 3-10, 48V Battery String Wiring

3.0 Installation

3.7 Power Supply Installation

3.7.1 Power Supply Installation

Pictures shown are of the XM3-HP Power Supply.

Tools Needed:

None

Procedure:

1. The power supply is placed on the right side of the top tray, over the vent holes.

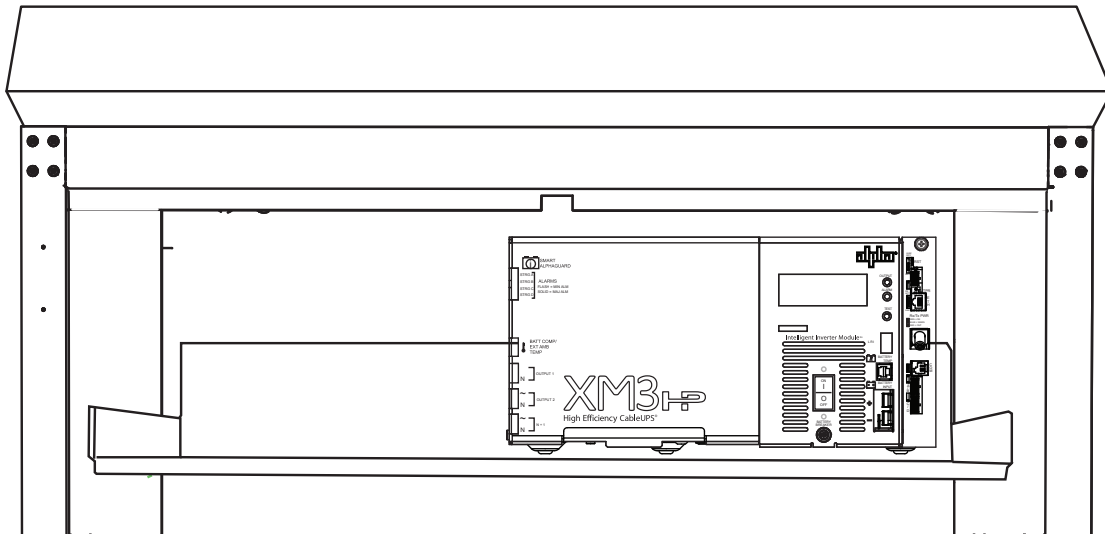


Fig. 3-11, Power Supply Placement

3.0 Installation

3.7.1 Power Supply Installation



NOTICE:

XM3 applications depicted in Figures 3-12 and 3-13.

2. Verify that the Battery Circuit Breaker is in the OFF position. Connect the red and black battery cable to the BATTERY INPUT connection.

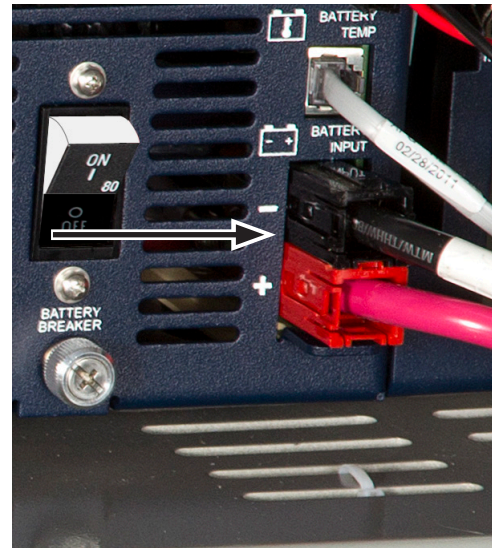


Fig. 3-12, Battery Circuit Breaker and Battery Input Locations

3. Connect the black and white wire to the OUTPUT 1 connection. If a second SPI is installed, connect it to OUTPUT 2. OUTPUT 2 is available when the optional XM3 Dual Output Control (Alpha DOC) is installed.

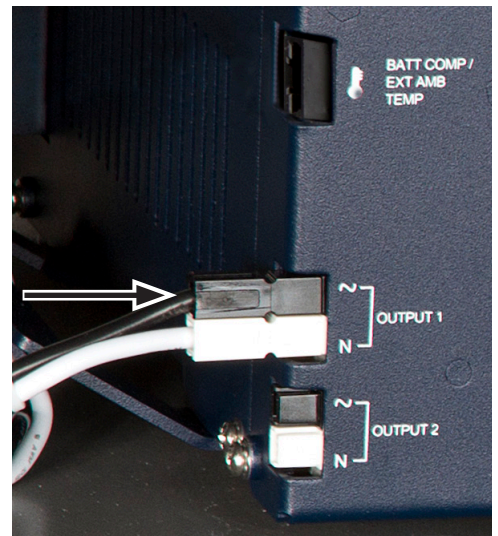


Fig. 3-13, Output Connection

4. Verify that the Input Circuit Breaker in the Service Disconnect Box is in the OFF position. Connect the XM Series' AC power cord to the AC power distribution box on the left wall of the enclosure.



NOTICE:

XM2 applications depicted in Figure 3-14.



Fig. 3-14, Power Cord Connection

3.0 Installation

3.8 Battery Temperature Sensors

The XM3-HP Precision Temperature Sensor (PTS) or Remote Temperature Sensor (RTS) connects to the battery terminal. The XM2 Series Remote Temperature Sensor (RTS) is held in place on the AlphaCell 165, 195, and 220 series batteries by a Battery Spacer Clip. To install, flex the clip and hook the retaining tabs over the top of the battery and slide the sensor into place in the clip as shown below.

✓ **NOTICE:**

For enclosures with multiple battery strings, the PTS/RTS must be located with the **WARMEST** battery string. This ensures proper operation of the battery charger's temperature compensation circuit. Failure to locate the PTS/RTS with the warmest battery string could result in overcharging and premature battery failure.

Procedure:

1. Attach the RTS Probe to the **inner side** of the center battery (The XM3 PTS Probe attaches to the battery post) .
2. The other side of the Temp Probe is attached to the front panel of the XM Series power supply, in the jack labeled **TEMP PROBE**.

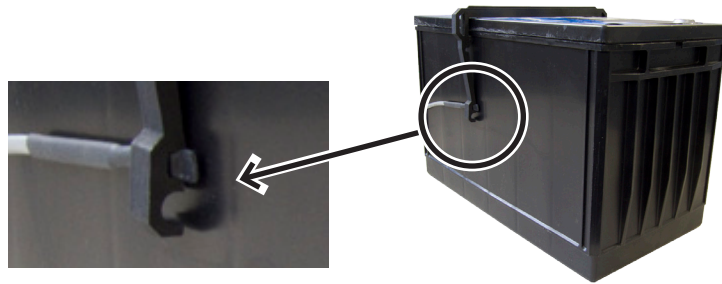


Fig. 3-15, Placement of XM2 Series Remote Temperature Sensor (RTS) on Battery

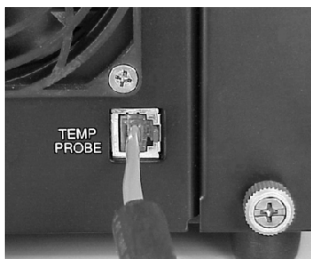


Fig. 3-16, XM2 Series Battery Remote Temp Sensor (RTS) Placement



Fig. 3-17, XM3 Series Precision Temperature Sensor (PTS) Placement

3.0 Installation

3.9 Cooling Fan Intake Filter

The Cooling Fan kit includes two intake filters, located inside the front and rear doors of the enclosure behind the ventilation louvers. The enclosure filters should be inspected every and cleaned when needed as part of the power supply preventative maintenance program.



CAUTION!

If the filters become blocked, thermal failure of the power supply may result.

3.10 Fiber Node Installation

Procedure:



NOTICE:

The strand bar intended for the fiber node stands further away from the sidewall of the enclosure.

1. The Fiber Node is attached to the left strand mount bar, and the splice housing on the right.
2. Refer to node manufacturer's installation instructions.

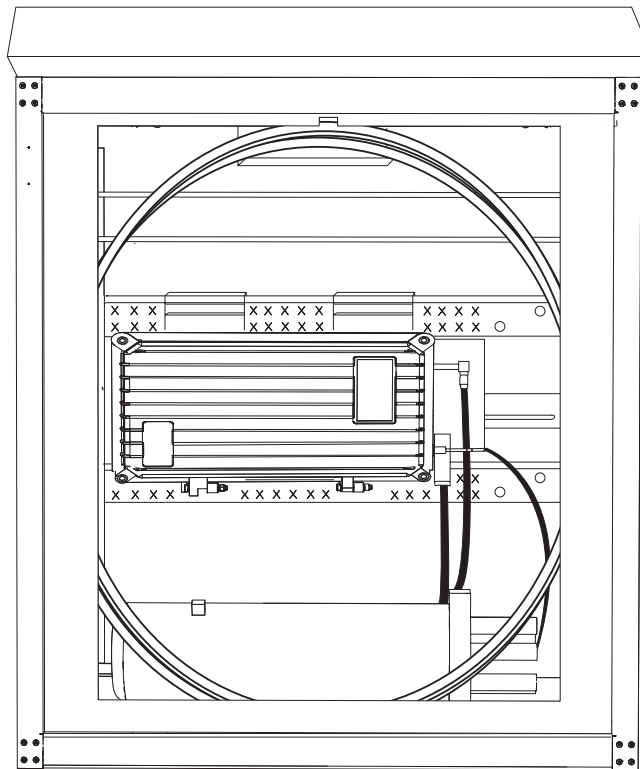


Fig. 3-18, Fiber Node Placement

3.0 Installation

3.11 Optional Lightning Arrester

The Lightning Arrester is available in 120VAC and 240VAC, and is installed by plugging into an Input Power Panel or Duplex Receptacle.

The unit is operating properly when the green LED is lit.

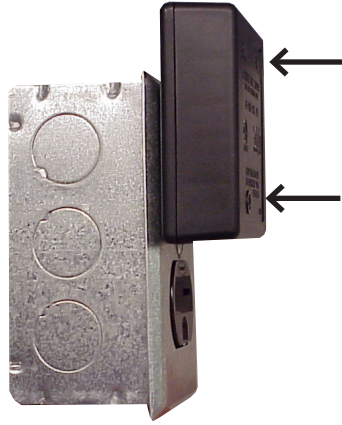


Fig. 3-19, LA-P+ Installed in Duplex Receptacle



Fig. 3-20, Location of LED on LA-P+.

3.0 Installation

3.12 Optional Equipment

Item	Part Number:
Enclosure Options	
Star Lock Security Bolt (X4)	744-897-20
Star Lock Security Key	647-089-10
Kit, Security Bar, FPE, Grey	746-613-30
Kit, Security Bar, FPE, Seafoam Green	746-613-31
Kit, Security Bar, FPE, White	746-613-32
Kit, Security Bar, FPE, Pine Green	746-613-33
Kit, Pedestal, 14"	746-617-20
Precast Pad, 44" x 48"	641-095-10-003
Enclosure Cooling	
Cooling Fan Kit	746-189-20
Replacement Fuse	460-025-10
Replacement Filter	564-234-10
Lightning Arrester	
LA-P+ 120V (L-N, L-G, N-G)	020-098-24
LA-P-120T 120V	162-046-10
LA-PE+ 240V (L1-L2, L1-G, L2-G)	020-098-25
SPI Options	
SPI-RF	021-080-20
SPI-20A	744-279-22
SP-25A	744-789-21

Table 3-1, Enclosure Equipment Options



NOTICE:

Alpha part numbers are correct at the time of printing. As part numbers are subject to change, please contact your Alpha Representative prior to ordering to ensure that numbers are correct.



NOTICE:

For Security Bar Installation, refer to the Installation Template in the Security Bar Kit.

3.0 Installation

3.13 Dimensions



NOTICE:

The FPE is 14" taller if it is pre-installed with the FPE Pedestal Mount (Alpha p/n 746-617-20).

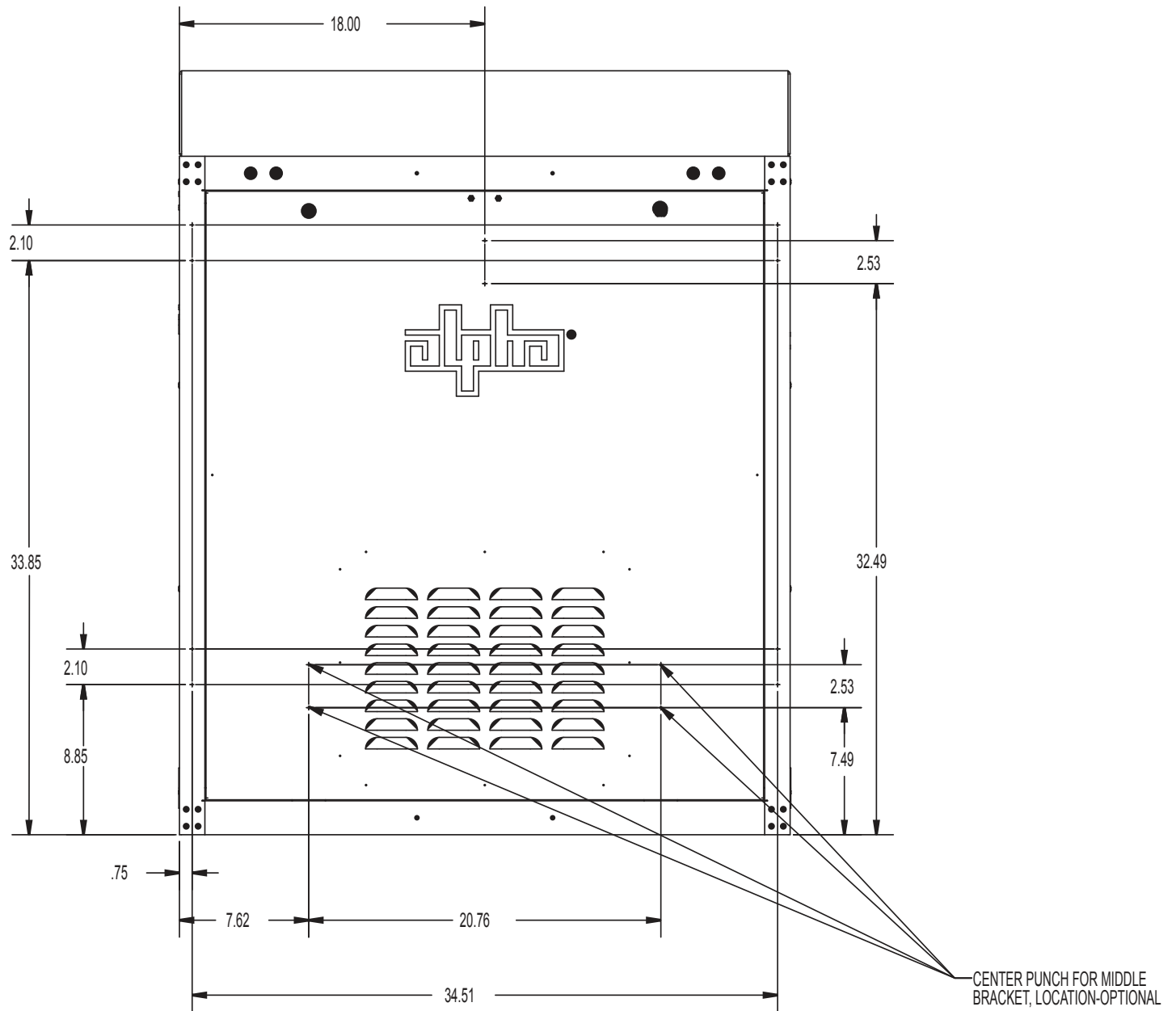


Fig. 3-21, Front View, FPE, Dimensions

3.0 Installation

3.13 Dimensions



NOTICE:

The FPE is 14" taller if it is pre-installed with the FPE Pedestal Mount (Alpha p/n 746-617-20).

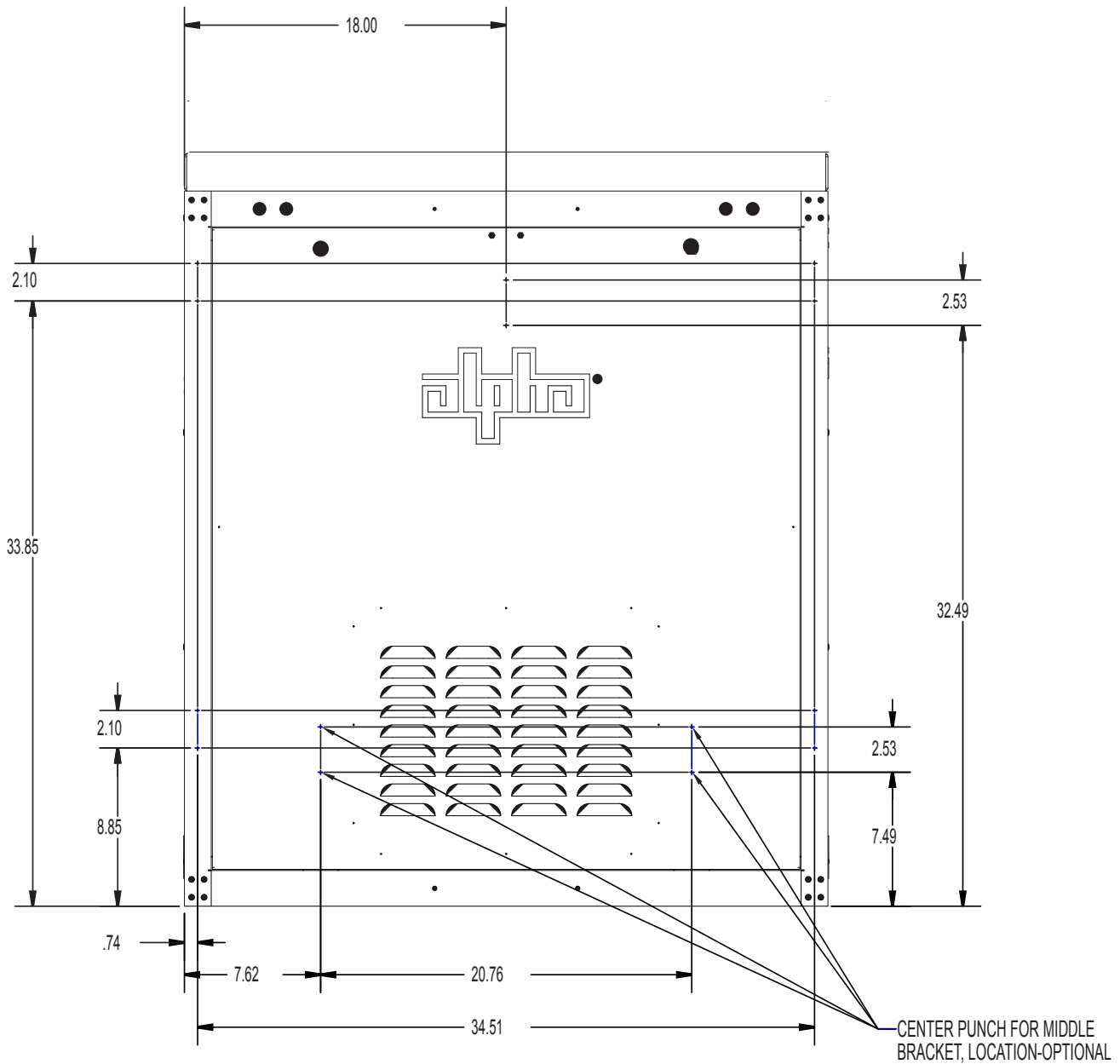


Fig. 3-22, Rear View, FPE, Dimensions

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