

SIEMENS

INSTALLATION INSTRUCTIONS

Models FS-250-ENCL/-R

Enclosures for FS-250

(For indoor use only in dry protected environments)

CAUTIONS

It is recommended that the printed circuit boards be removed for any procedure that may cause dust, metal shavings, grease or any such matter that may affect the circuit boards and/or parts. There may be several sources of power into the control unit. Each source must be disconnected prior to installing or removing modules, connecting or disconnecting wiring, and programming jumpers.

CONTROL UNIT LOCATION

The control unit should be located near an exit at ground level, where the normal ambient temperature is maintained within the control unit specification. The unit should be in an area that is free of dust, vibration, moisture and condensation. Any auxiliary battery box or other accessory not connected through a protective device or a circuit designed for remote connection must be within the same room and connected through electrical conduit.

INSTALLATION

The enclosures must be fastened securely to a clean, dry, shock-free, and vibration-free surface. Consider the following when mounting the box.

- Mounting height for visual and manual access to the Display Board
- Weight and size of backbox
- Local mounting codes

When mounting the backbox, position the backbox clear of obstructions so that the door can open freely and so that indicators and controls are easily accessible.

The fire alarm control unit must be mounted in a properly accessible location as required by applicable codes. Any auxiliary battery box or other accessory not connected through a protective device or a circuit designed for remote connection must be within the same room and connected through electrical conduit.

Installation is to be done only by qualified personnel who have thoroughly read and understood these instructions. The fire alarm control unit must be mounted in a properly accessible location as required by applicable codes.

Install the backbox:

1. Select a clean, dry, shock and vibration free surface.
2. Position the backbox clear of obstructions so that the front door opens freely and the controls and indicators are easily accessible.
3. Mark the locations of the two upper mounting bolts of the backbox on the wall.

Note: There are two key-shaped cutouts on the top of the backbox. Make sure the end with the two key-shaped cutouts is on top when installing the backbox.

4. Drill the two holes located in the previous step and screw in the top bolts, leaving a small gap between the wall and each top bolt.

Note: The screw type and length must be able to support the control unit, options and battery set. You may need a different screw type, depending on the wall material.

5. Place the backbox over the two top bolts and allow it to slide down over the bolts.
6. Mark, drill, and install the two bottom bolts in the backbox.
7. Tighten all four bolts securely against the back wall of the backbox.
8. The PAD-3 Auxiliary Power Supply or battery enclosure may be mounted immediately below the main enclosure, close nipple, allowing a minimum of 1 inch in between the enclosures for clearance between the doors. Keeping the wire run to the control unit short will keep the voltage drop to a minimum.
9. If a semi-flush mount installation is desired, for the FS-250 use the FS-SFT/-R Semi-flush Trim Kit. The back-box can be mounted up to 3 1/2 inches into the wall. Place the semi-flush trim around the back-box and affix to the wall with four #10 x 3/4 inch wood screws (provided with trim).

Note: You may need a different screw type, depending on the wall material.

Note: For semi-flush installations, if the PAD-3 Auxiliary Power Supply or a battery enclosure is required, it may be mounted immediately above or below the main enclosure, close nipple, allowing a minimum of 3 inches in between the enclosures for clearance between the semi-flush trims. Keeping the wire run to the control unit short will keep the voltage drop to a minimum.

Remove Knock-Outs

1. Prepare the enclosure for electrical wiring, break out the appropriate conduit entry points. Segregation is required between power limited and non-power limited conductors. In order to maintain the minimum separation, the following wire routing is illustrated. Separation of at least a 1/4 inch is required between the non-power limited and power limited conductors. Power limited and non-power limited wiring must be run in separate conduit.
2. Attach conduit (if required) and run wires as required. Label each field cable for future reference.

Basic system wiring and detector siting must be in accordance with NFPA 72 or other instructions from the appropriate local authority. Unit connections and limitations are as indicated on the wiring diagrams included in System Wiring part of this manual.

Wire reference data are included in Appendix A of the FS-250 Owner's Manual, P/N 315-048353.

Wiring Overview

In compliance with NEC Article 760 and UL 864, all power limited fire protective signaling conductors must be separated a minimum of 1/4 inch from all of the following wiring located within a control panel:

- Electric light
- Power
- Class 1 or non-power limited fire protective signaling conductors

To meet these requirements, the following guidelines must be observed when installing modules and wiring to this control panel.

When installing power limited field wiring, the installer must comply with NEC article 760, which states:

The fire alarm power-limited circuits are installed using Types FPL, FPLR, FPLP or permitted substitute cable, provided these power-limited cable conductors extending beyond the jacket are separated by a minimum of 0.25 in. (6.35 mm) or by a nonconductive sleeve or nonconductive barrier from all other conductors.

If energy limited cable or equivalent is not used within the FS-250 enclosure, then the following guidelines do not apply. In that case, be sure to follow standard wiring practices.

Wiring Entering Enclosure

Non-Power Limited Wiring

Wiring entering the enclosure from the bottom left side of the backbox is considered non-power limited wiring. Wiring must be in the shortest route and must not overlap any other wiring.

Power Limited Wiring

Wiring entering the enclosure from the top and the left side of the backbox is considered power limited. Wiring must be in the shortest route and must not overlap any other wiring.

Install Wiring

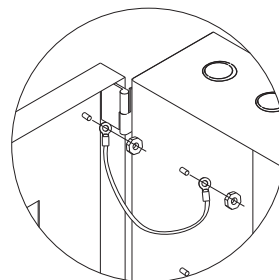
The primary mains input must have a separate or dedicated circuit breaker. Wire in accordance with local codes and NEC 760.

1. Remove the knockouts in the backbox for the entry of field wiring. (Refer to Enclosure Mounting Pictures on page 3 and Wiring Separation Diagram on page 3 for the location of knockouts.)
2. Pull all field wiring into the backbox. Do not dress the wiring until the location of all the equipment is known.

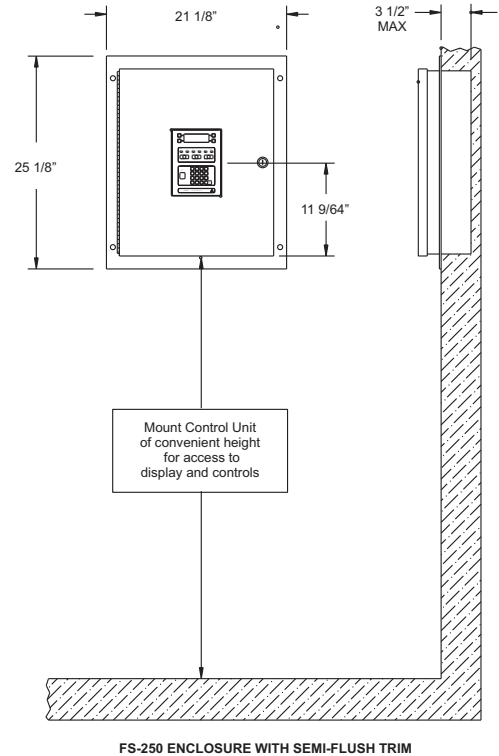
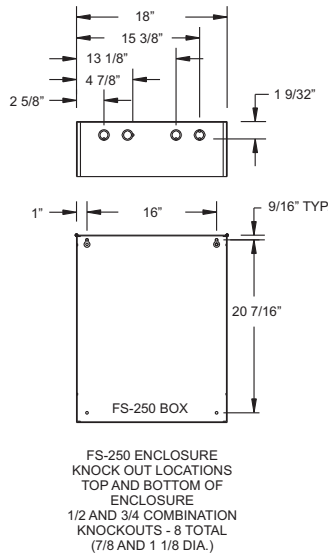
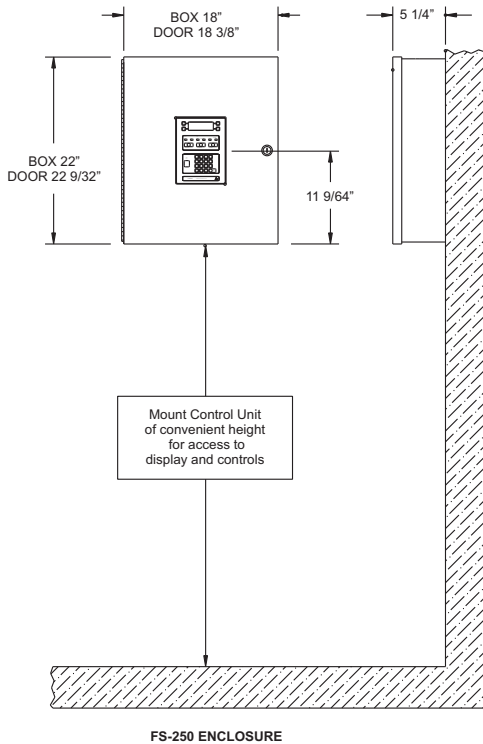
Install the wiring from the external power source to the approximate location of the power supply.

Ground Wire Installation

FS-250



1. Attach one end of Ground Wire (P/N 600-149373) to inside of outer door using provided #6 nut (P/N 950-220604).
2. Attach the other end of Ground Wire to top stud on inside wall of backbox using provided #6 nut (P/N 950-220604).



FS-250 Enclosure Mounting

Wiring Separation

All high voltage and non-power limited wiring must be kept separate from power limited wiring. A separation of at least a 1/4 inch must be maintained, with high voltage and non-power limited wiring running in separate conduit openings from power limited wiring.

KNOCKOUTS FOR FS-250

- A. Non-power limited - High Voltage (AC power) or B
- B. Non-power limited - High Voltage (AC power) or A
- C. Power limited
- D. Non-power limited (Battery If external enclosure required)
- E. Power limited (Non-power limited if FS-REL is installed)
- F. Non-power limited if Local Energy Box used
- F. Power limited or G or H
- G. Power limited or F or H
- H. Power limited or F or G

SYSTEM MODULES FOR FS-250

- 1. Main Board
- 2. FS-NPE Transformer
- 3. FS-DACT DACT Board or FS-MT Municipal Tie
- 4. FS-DLC Loop Driver Board (requires Main Board)
- 5. FS-REL Module
- 10. Future Expansion – 485 Module
- 11. FS-NPE or FS-RPT if FS-REL is installed

