SIEMENS

INSTALLATION INSTRUCTIONS
Model FHB2005–U1/R1
3 HU Black/Red Backbox

The Model FHB2005–U1 and FHB2005–R1 backboxes from Siemens Industry, Inc., are used in used in Desigo FV2025/2050 and Cerberus PRO FV922/924 systems to house the Fire and Voice equipment, including:

- the Fire and Voice system modules and assemblies

- one or two 300-Watt power supplies

- the backup batteries

Each FHB2005-U1/R1 backbox, illustrated in Figure 1, is shipped empty without the inner or outer doors. The backbox contains sufficient space to mount one set of BTX-1 33 AH or f BTX-2 55 AH batteries.

The FHB2005–U1/R1 backbox can be surface-mounted on a wall or semi-flush-mounted within the wall.

NOTES:

1. The FHB2005–U1/R1 backbox is designed exclusively for indoor use in dry environments.

2. The "U1" or "R1" extension to FS20 part numbers identifies the paint color and sales channel through which the part is marketed. A "U" in the extension designates that the part is painted black; an "R" designates that the part is painted red to meet local code requirements..

3. The numeral following the color designation identifies the sales channels for the part, as follows:

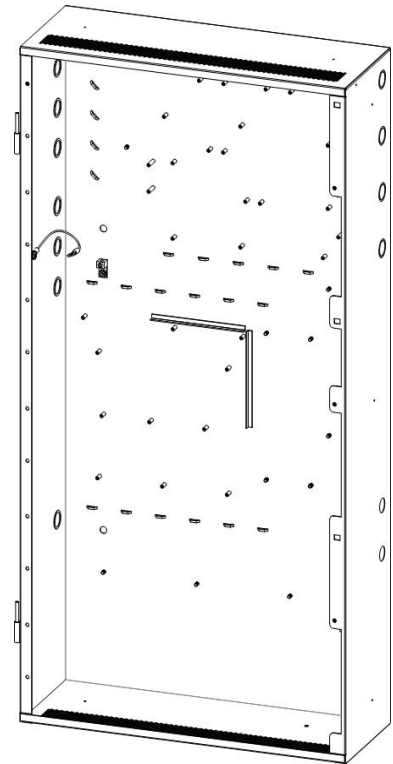   a. 1: All channels

    b. 2: Desigo

    c. 3: Cerberus PRO

Figure 1
FHB2005 –U1/R1 Backbox

INSTALLATION

A.   Surface-mounted Backbox

Selecting the location for a surface-mounted backbox

The mounting surface for the backbox must be clean, dry and free of shock and vibration. Consider the following factors when selecting the backbox mounting location:

- The mounting height should be compatible with convenient visual and manual access to the Voice Module PMI (Person Machine Interface) through an opening in the outer door.

- The mounting surface must be able to support the weight and size of the enclosure.

- The installation must conform to applicable local codes.

- All enclosure doors are hinged left.

Mounting the backbox

1. Select a backbox mounting location clear of obstructions so that the front door opens freely and the controls and indicators are easily accessible.

2. Level the backbox against the wall in the selected location.

3. Referring to Figure 2, select and remove the knockouts that will be needed to pull power and signal wiring into the Panel.

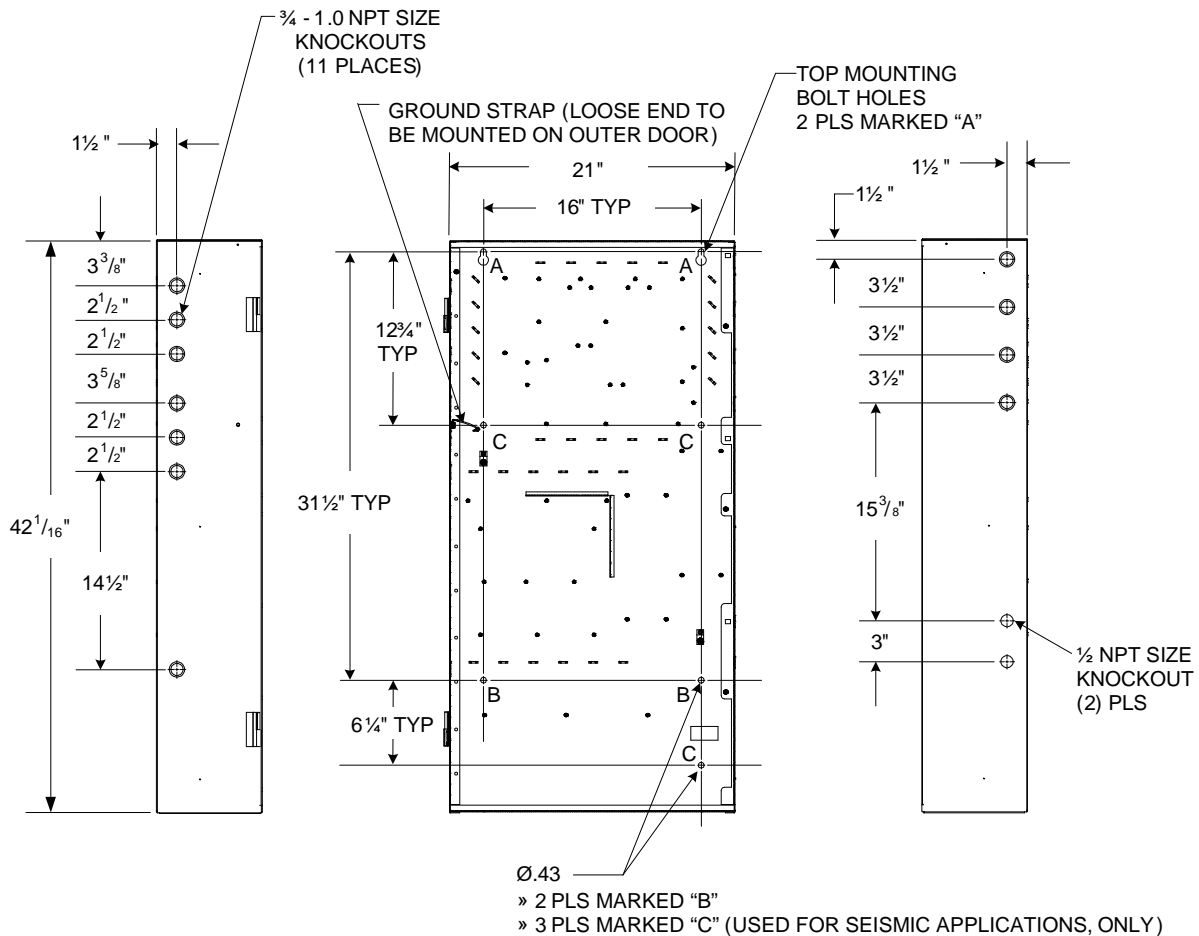4. Mark the wall through the two top mounting bolt holes (designated "A" in Figure 2).

Figure 2
Mounting Holes and Knockouts in the the FHB2005 –U1/R1 Backbox

5. Drill the top two backbox mounting holes at the marks made in Step 4, using a drill bit equal in diameter to the inner thread diameter of the (customer furnished) mounting bolts (approximately **³/₈**-inch).

6. Insert the customer furnished bolts into the holes drilled in Step 5, leaving a small gap between the bolt head and the wall surface.

7. Place the backbox over the two top bolts and allow it to slide down behind the bolt heads.

8. Mark, drill and install the two bottom bolts in the backbox (at locations "B" in Figure 2).

NOTE: In seismic application sites, three additional mounting bolts (boles marked "C") are required. When mounting the backbox in seismic application sites, mark and drill the "C" holes and insert three additional mounting bolts to fasten the backbox to the mounting surface.

9. Tighten all bolts securely.

A.   Semi-flush-Mounted Backbox

Selecting the location for a semi-flush-mounted Panel

The Panel mounting location must be free of shock and vibration and should provide convenient access to power and signal wiring run in the wall. Consider the following factors when selecting a location for a semi-flush mounted Panel:

- The mounting height should be compatible with convenient visual and manual access to the Voice Module PMI (Person Machine Interface) through an opening in the outer door).

- If the backbox installation requires a wooden frame to be built into the wall to support the backbox (step 4, below), select the frame location so that the Panel is accessible to required power and signal lines.

- The installation must conform to applicable local codes.

- All enclosure doors are hinged left.

Recess-mounting the backbox

NOTE: Panel electronics is installed *after* the backbox is mounted on the wall.

To recess-mount the backbox:

1. Position the backbox against the wall at the selected mounting location.

2. Level the backbox and mark its outline on the wall.

    If the backbox is to be:

    a. Secured to a flat surface behind the wall, perform steps 3 through 9, below.

    b. Mounted inside a Panel-mounting frame constructed on-site for this purpose, skip to Step 10.

3. Cut a leveled opening in the wall surface no more than ¼" larger than the $42^1/_{16}$" X 21" outside dimensions of the backbox.

4. Referring to Figure 2, select and remove the knockouts that will be needed for power and signal wiring access to the Panel interior.

5. Install the FHA2043-U1/R1 trim kit on the backbox, as directed in Siemens Industry, Inc, Building Technology, Division document number A6V10370379, titled "Installation Instructions for the Model FHA2043-U1/R1 Trim Kit for Model FHB2005-U1/R1 Black/Red Backboxes."

6. Place the backbox (with trim) in the wall opening that was cut in step 4 and secure it temporarily in place.

7. Select a drill bit with diameter equal to the *inner* thread diameter (approximately $3/8$ inch) of the customer furnished tapered mounting bolts to be used to fasten the backbox to the mounting surface.

8. Drill four bolt holes through the backbox and into the mounting surface at the positions marked "A" and "B" in Figure 2. For the "A" bolt holes, drill through the narrow (upper) portion of the elongated bolt hole.

    For *seismic applications*, drill three additional mounting bolt holes at the "C" positions.

9. Install (customer furnished) mounting bolts into each of the holes drilled in step 8. Tighten bolts securely to complete the backbox installation.

10. If a mounting frame will be constructed to house the Panel, cut a rectangular opening in the wall large enough to enable the frame to be built and/or installed and secured in place within the opening.

IMPORTANT: The wall opening should be slightly *smaller* than the overall dimensions of the backbox plus trim.

11. Referring to Figure 2, select and remove the knockouts that will be needed for power and signal wiring access to the Panel interior.

12. Install the FHA2043-U1/R1 trim kit on the backbox, as directed in Siemens Industry, Inc, Building Technology, Division document number A6V10370379, titled "Installation Instructions for the Model FHA2043-U1/R1 Trim Kit for Model FHB2005-U1/R1 Black/Red Backboxes."

13. Construct the frame that will be used to house the Panel backbox.

14. Install the backbox into the frame and secure it in place through the sides, top and bottom, drilling as needed.

WIRING

In compliance with NEC Article 760, all power-limited fire protective signaling conductors must be separated by at least ¼ inch from the following control panel wiring:

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

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 non-conductive barrier from all other conductors."

NOTE: If power-limited cable, or equivalent, is not used within the FHB2005–U1/R1 enclosure, the following guidelines do not apply. In such cases, follow standard wiring practices.

Wiring the Panel

Refer to FC2050 Fire Control and Voice System installation instructions, document ID: A6V10315015.

Non-Power-Limited Wiring

Wiring that enters the Panel from the right-hand side is considered non-power limited wiring. Such wiring must run the shortest route and must not overlap any power-limited wiring.

Power-Limited Wiring

Wiring that enters the Panel from the left-hand side is considered power limited. Such wiring must run the shortest route and must not overlap any non-power-limited wiring.

Use the existing lances in the backbox to dress the wires as needed to maintain separation of power-limited and non-power-limited wiring.

Installing the Wiring

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

Please refer to Figure 3.

1. Remove those knockouts in the backbox as needed to create entry holes for the field wiring.

2. Pull the field wiring into the backbox, observing the separation of power-limited and non-power-limited wiring described earlier in this section. Do not dress the field wiring until the location of all backbox component equipment is known.

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

4. Wire the individual Voice Module assemblies as instructed in each assembly's installation instructions.

5. When all modules are installed, dress the field wiring and secure it to the backbox using the wiring lances provided.
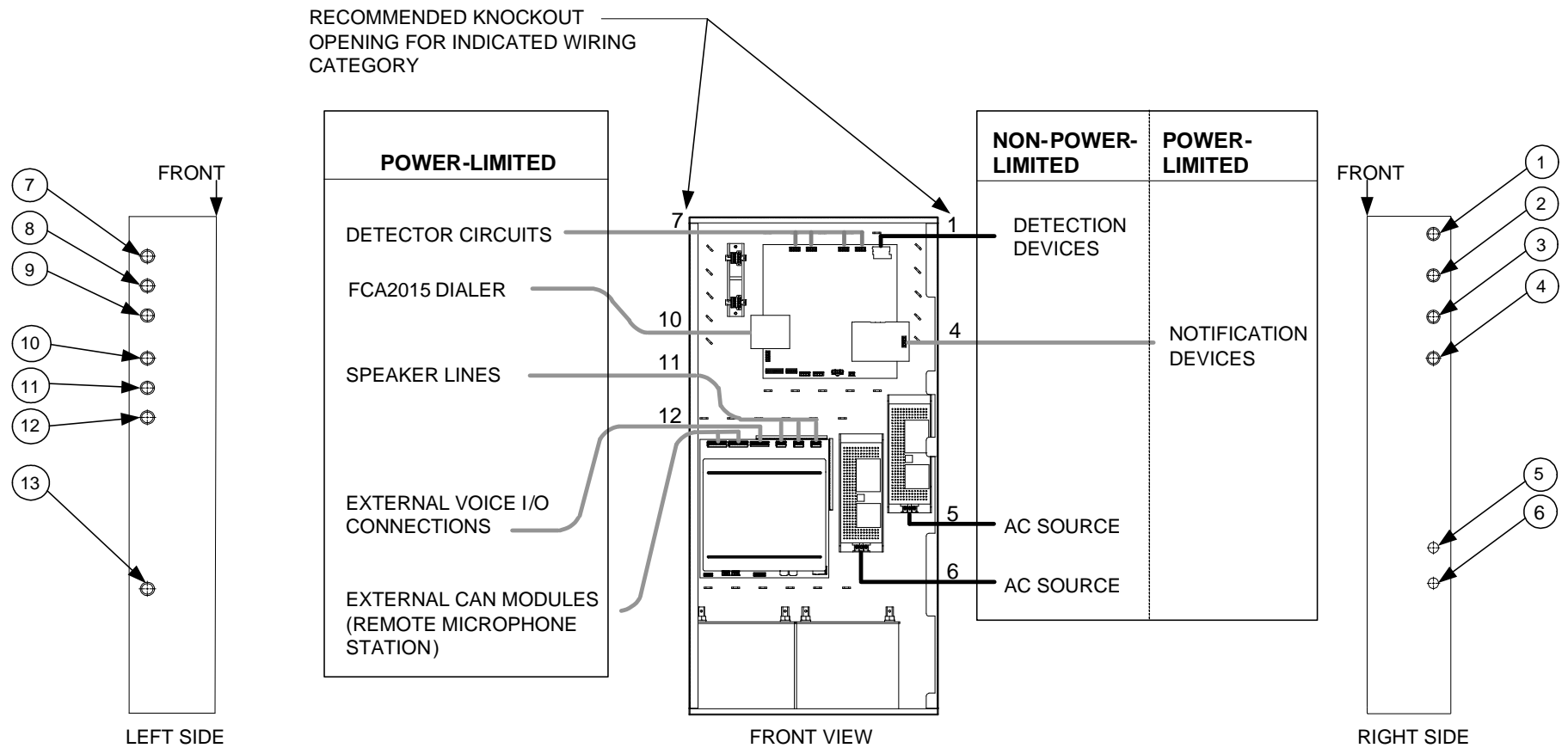
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Figure 3. Recommended Knockout Openings in FHB2005-U1 Backbox for Power-Limited and Non-Power-Limited Cabling

COMPATIBILITY

The FHB2005–U1/R1 backboxes can be used with the FHD2007-U2, FHD2007‑R2, FHD2007-U3 and FHD2007-R3 outer doors.

The FHB2005–U1/R1 backboxes can be used with the FHD2004-U1 inner door and the FHD2005-U1 solid inner door.

SPECIFICATIONS

Physical dimensions:	21" W x 7 ^{3}/$_4$" D x 42" H	
Weight:	35 lbs	
Material	16 GA (.060") 1008 or 1010 cold rolled steel	
Finish	Undercoating:	Zinc phosphating treatement
	Paint:	Polyester powder coating
	Color:	RAL9017 Black for FHB2005‑U1
		RAL3020 Red for FHB2005‑R1

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