OutBack
Power Systems™

⊘FLEXware™
Mounting Plate
User's Guide

Includes Mounting, Installation, and
Product Registration

OutBack Power Systems FLEXware is a system of modular aluminum mounting hardware and installation components designed for convenient system installation and integration.

About OutBack Power Systems

OutBack Power Systems is a leader in advanced energy conversion technology. Our products include true sine wave inverter/chargers, a maximum power point charge controller, system communication components, as well as breaker panels, breakers, accessories, and assembled systems.

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Date and Revision

March 20, 2007 REV A

Requirements and Warnings

The OutBack FLEXware Mounting Plate is listed by ETL to UL standard UL 508A Industrial Control Panels.

Grounding Instructions – Any enclosures attached to the FLEXware Mounting Plate should be connected to a grounded, permanent wiring system. For most installations, the negative battery conductor should be bonded to the grounding system at one (and only one) point in the DC system. All installations should comply with all national and local codes and ordinances. System grounding as required by the National Electric Code, ANSI /NFPA 70-1996, is the responsibility of the system installer.

The FLEXware Mounting Plate is designed for indoor mounting only with appropriate fasteners and a secure mounting surface that can handle the full weight of an assembled system.

Welcome to OutBack Power Systems' FLEXware

FLEXware is a convenient all-aluminum power system offering simpler, code-compliant installation of OutBack power electronics components. Three versions of FLEXware are available:

• FLEXware 250 for single FX Series Inverter/Charger installations along with the desired AC and DC disconnects
• FLEXware 500, which supports up to two FXs and two MX Charge Controllers, accommodating both split-phase and/or higher power output as needed
• FLEXware 1000 accommodates up to four FXs and four MX Charge Controllers

Please Note: Both the FLEXware 500 and the FLEXware 1000 power systems provide locations for FW-X240 Auto-Transformers, multiple DC shunts and other essential components required in higher kW systems.

FLEXware Mounting Plate Parts List

The following parts are included with every FLEXware Mounting Plate:
• one 46.26" X 20.25" aluminum mounting plate
• fourteen M6 X 10 mm screws
   ▶ four "hanging" screws to assist with FX Series Inverter/Charger installations
   ▶ eight for securing the AC enclosure and the DC enclosure
   ▶ two extras
• ten M6 X 20 mm screws for securing two FX Series Inverter/Chargers to the FW-MP plus two extras
• twenty-six M6 star washers, used with the M6 screws for grounding
• eight 1/4 X 5/8 flat washers, used with M6 screws attaching the enclosures to the FW-MP
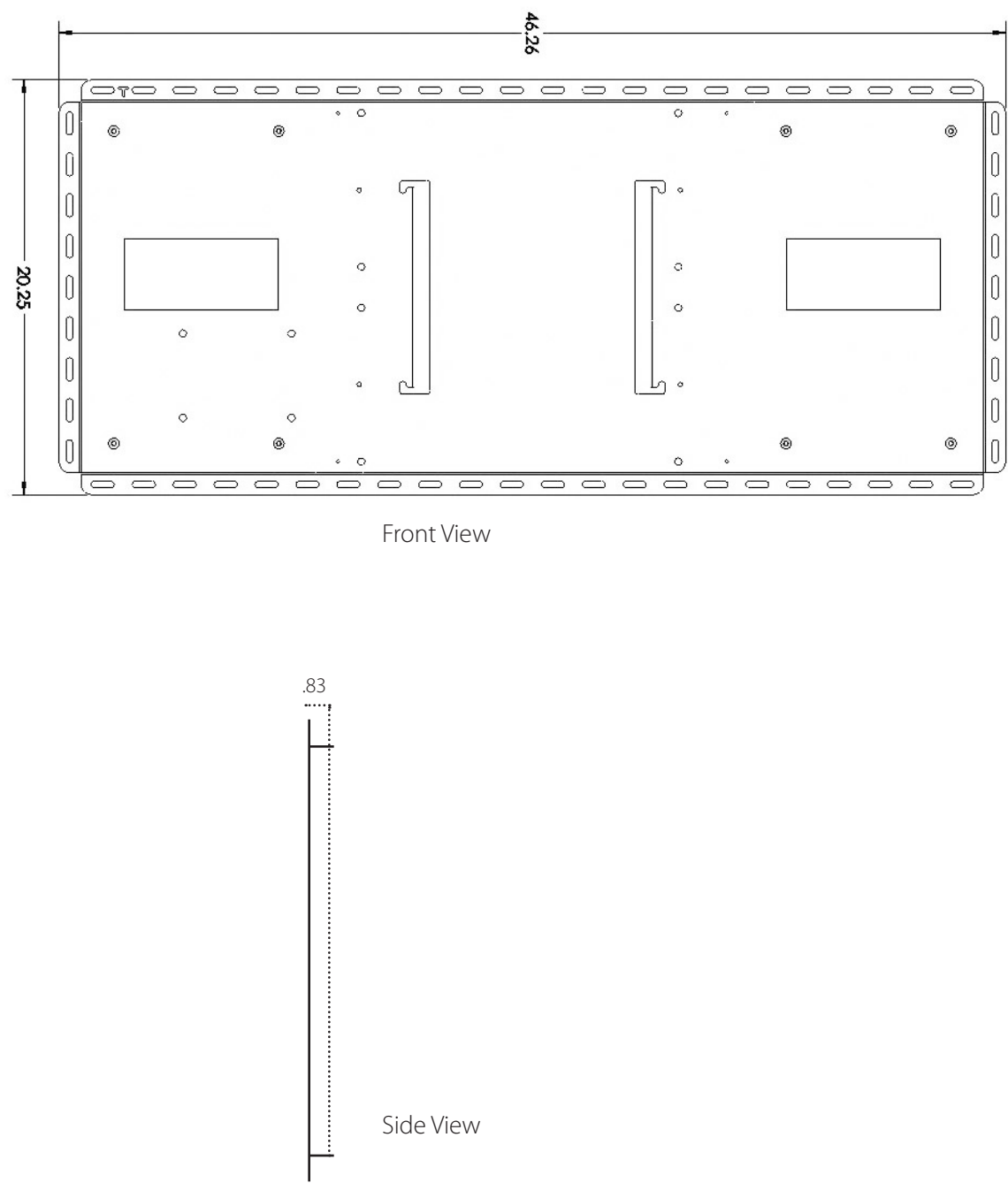• #3 Phillips bit

Mounting Plate Dimensions

46.26

20.25

Front View

.83

Side View

Figure 1: FLEXware Mounting Plate Dimensions

Mounting and Installation

T Slot indicates this is the top edge of the FW-MP

Lag Bolts

Insert hanging screws from back
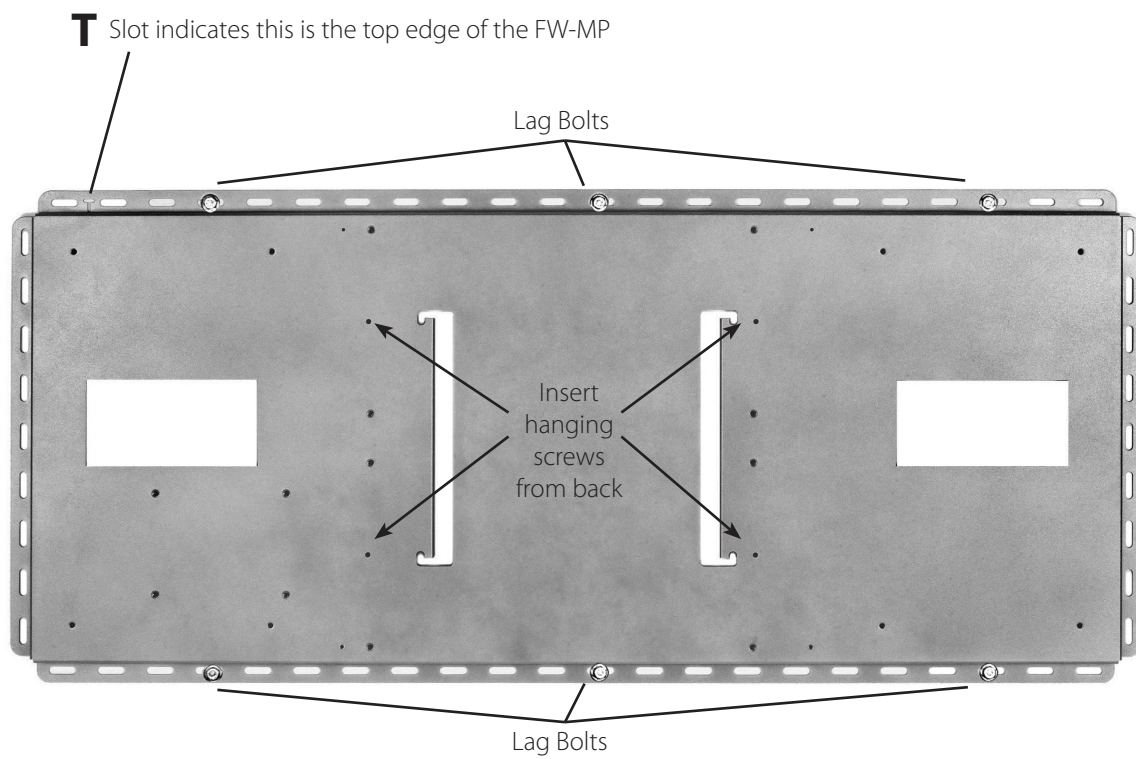
Lag Bolts

Figure 2: FLEXware Mounting Plate

Installing a Single FLEXware Mounting Plate

- The FLEXware Mounting Plate (FW-MP) must be secured to a surface that can safely hold approximately 200 lbs of components and metal hardware; OutBack Power Systems recommends the FW-MP be attached in at least six places with a minimum 2" X ¼" lag bolts/lag screws and flat washers screwed into either wall studs or posts. Most North American construction calls for wall studs to be 16" on center, allowing three available studs in a 32" span for securing the FW-MP.

  If your stud installations are 24" on center, this allows only two available studs in a 24" span, which might be sufficient if larger lag bolts are used to secure the FW-MP. Otherwise, an installer can secure the FW-MP to ¾" plywood, 4' X 2', nailed to at least three studs. If ¾" plywood sheathing is used, the installer must determine the number and size of fasteners to support 200 lbs or more.

- Decide where to hang the mounting plate; a good working height is 52-54" to the bottom edge of the FW-MP
- *Install the FX Series Inverter/Charger hanging screws* (see Figure 2) *for each FX used in the system before hanging the FW-MP to a wall. Install the hanging screws from the <u>back</u> of the FW-MP.*
- Locate a center point for the mounting slot strip at the top of the FW-MP, which should be over a stud, post, or ¾" plywood sheathing. Then, either:
  - ▶ pound a 16d finish nail into the corresponding upper mounting slot strip of the FW-MP and center and hang the top strip of the FW-MP on this nail or
  - ▶ drill a pilot hole for the lag bolt, hold the FW-MP to the hole, and insert and tighten the lag bolt.
- With the FW-MP hanging on the wall, level the FW-MP with a carpenter's level, marking the two top mounting holes with a pencil.
- Drill pilot holes at each mark and insert the lag bolts. If a finish nail was used to hang the FW-MP, remove it and insert a bolt in its location as well.
- Drill three or four pilot holes for the remaining lag bolts and finish securing the FW-MP.

Installing Two FLEXware Mounting Plates

- *Install the FX Series Inverter/Charger hanging screws* (see Figure 2) *for each FX used in the system before hanging the FW-MP to a wall. Install the hanging screws from the <u>back</u> of the FW-MP.*
- Determine the installation location's upper center point and hammer in a 16d finish nail for the upper mounting slot strip.
- Lay both FW-MPs on a flat surface lengthwise against each other and install the hanging straps (included in the FW 1000-AC), connecting the two FW-MPs.
  - ▶ Before installing the straps, take a self-tapping machine metal screw (provided) and insert it into the corresponding holes on the mounting plates, tightening it in each hole to form threads, and then remove it.
  - ▶ Loosely screw each hanging strap into the same FW-MP after threading the holes. Line up the second plate, install the screws at the other end of the straps, turning the screws just enough to hold the FW-MPs in place (do not tighten).
- Pick up the two connected FW-MPs and hang the upper FW-MP on the 16d nail.
- With the FW-MPs hanging, place a carpenter's level at the top of the upper FW-MP; ensure the FW-MP is level, marking two top mounting holes of the upper FW-MP with a pencil.
- Drill pilot holes at each mark and insert the lag bolts. Remove the nail and insert a bolt here as well, tightening all three bolts.
- Place the level vertically against one side of the FW-MPs, straighten and align the lower FW-MP with the upper FW-MP.
- Drill the pilot holes for the lower FW-MP, install the lag bolts, and tighten securely.
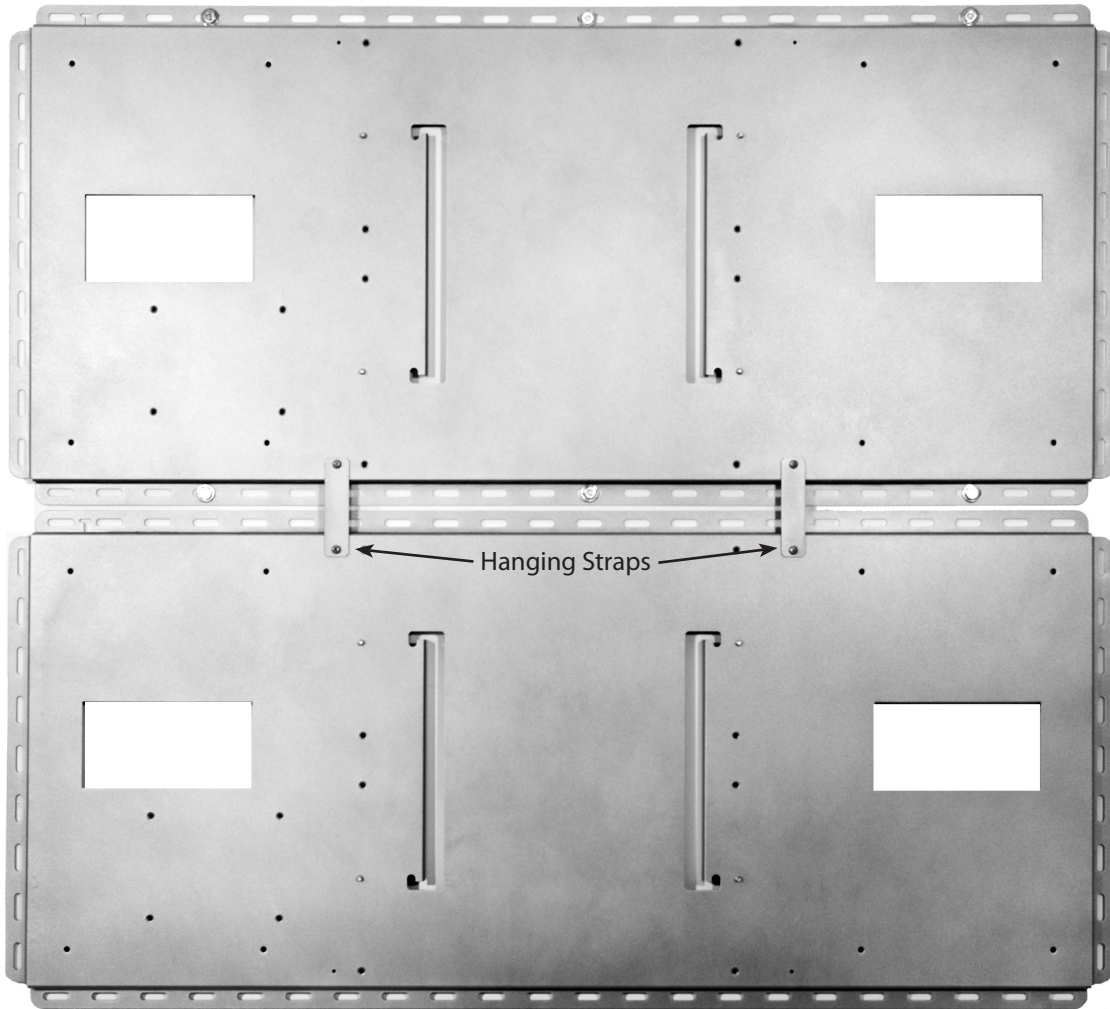- *After both FW-MPs are secured to the wall, remove the hanging straps.*

Figure 3: Two mounting plates installed

Please see the FLEXware 500 or FLEXware 1000 installation manuals for system installations.

Product Registration

Please take a moment to register and provide us with some important information. Send to: OutBack Power Systems, 19009 62nd Avenue NE, Arlington, WA 98223 USA.

Name: _____

Address: _____

City, State, Zip Code: _____

Country: _____

Telephone Number: _____

E-mail: _____

Sold by: _____

Installer: _____

Purchase Date: _____ Model Number: _____

Serial Number: _____

Check all that apply:

__ Off-Grid Installation __Grid-Tie Installation   __Residential Installation   __Commercial Installation

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