Recommended Rack Configurations

Ultrastar® Data102

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Revision History

Date	Revision	Comment
March 2018	1.0	Initial Release
February 2019	1.1	Added CMA Lite
December 2019	1.2	Rebranded document to WD design
December 2020	1.3	Added UK Import Representation Contact
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September 2022	02	Updated document branding

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Overview

This section provides an overview of rack requirements and recommendations.

In This Chapter:

1.1 Ultrastar Data102 Rack Requirements

The Ultrastar Data102 is designed to be installed into a rack that meets the EIA-310 standard at a minimum 1181-1197 mm (46.5in. - 47.13in.) of usable rack space, frame to frame . The vertical rack rails must be set between 812.8 - 914.4 mm / 32 - 36 in. to support the enclosure. It requires 4U of rack space, and it should be installed into the rack at the lowest possible U height to keep the load on the rack balanced.

Table 1: Required Rack Specifications

| Parameter	Requirement
Rack Depth	1181-1197 mm (46.5in. - 47.13in.) of usable rack space, frame to frame
Rack Width	450 mm (17.72 in.) minimum width, with 465 mm (18.31 in.) ± 1.5 mm nominal hole spacing. See EIA-310 Rack Standard.
Rack Units (U)	4U
Vertical Rack Rail Spacing	812.8 - 914.4 mm / 32 - 36 in.
Static Load Rating	1360.7 kg. / 3000 lbs.
Dynamic Load Rating	1020.5 kg. / 2250 lbs.

> **Warning:** When extended out of the rack on the rail system, the Ultrastar Data102 will be ~950 mm / 37.4in. extended outward. This may be a potential tipping hazard depending on the configuration of the rack. Ensure that leveling feet, anti-tilt, and any other safety features recommended by the specific rack manufacturers have been deployed before servicing.

The following section provides specific information necessary to install, service, and remove the Ultrastar Data102 . The installation of the Ultrastar Data102 requires two people and a space of 1524mm / 60in. in front of the installation space. The servicing of the enclosure requires one person and a minimum of 1219.2mm / 48in. of space in front of the installation space. The removal of the enclosure requires two people, 1371mm / 54in. of space in front of the installation space, and 24in. on either side of the enclosure for two people to remove the enclosure.

> **Warning:** The handles on the front of the chassis are not intended to be used to support the weight of the Ultrastar Data102 . Lifting the unit by the chassis handles or trying to support the unit on the handles can cause them to fail. This can cause serious damage to the unit or serious bodily harm to those handling the unit. Always team lift the chassis by gripping the underside of the unit, and never try to lift a chassis that is filled with drives.

Figure 1: Installation, Servicing, and Removal
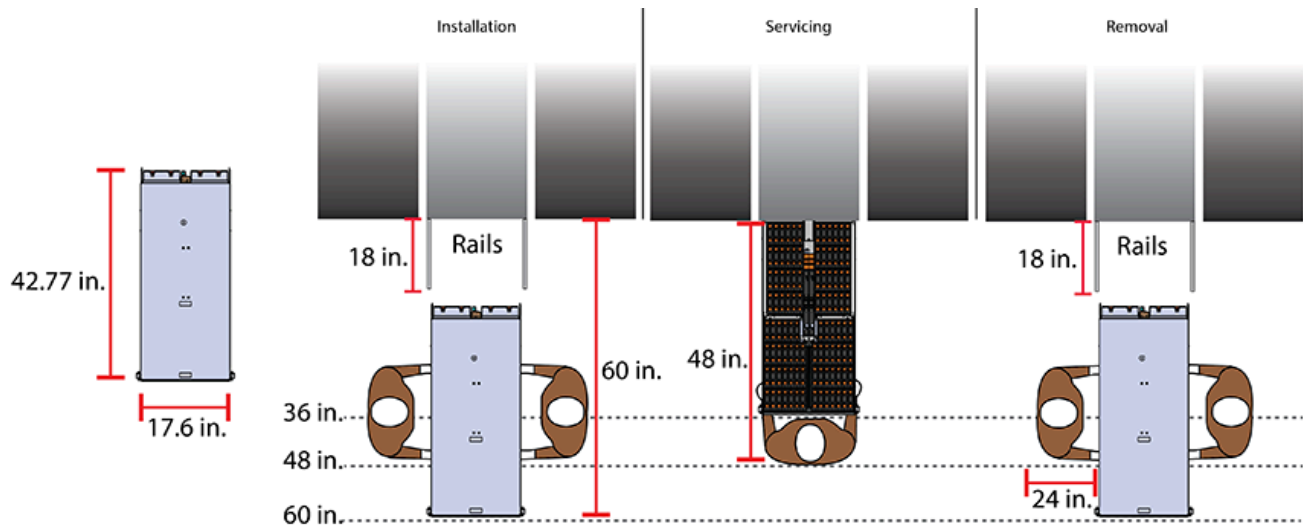
> ℹ️ **Attention: Do not** install or remove the enclosure while it is populated with drives. The fully populated enclosure exceeds the amount of weight that a team of two should lift.

1.2 Rack Safety

When extended out of the rack on the rail system, the Ultrastar Data102 will be ~950 mm / 37.4in. extended outward. This may be a potential tipping hazard depending on the configuration of the rack. Ensure that leveling feet, anti-tilt, and any other safety features recommended by the specific rack manufacturers have been deployed before servicing.

The handles on the front of the chassis are not intended to be used to support the weight of the Ultrastar Data102 . Lifting the unit by the chassis handles or trying to support the unit on the handles can cause them to fail. This can cause serious damage to the unit or serious bodily harm to those handling the unit. Always team lift the chassis by gripping the underside of the unit, and never try to lift a chassis that is filled with drives.

If the chassis is being installed into a rack that will be shipped fully assembled, you **must** install eight (four per side) of the included M5 x 12mm T15 Flat Head Torx screws into the two brackets at the front of the chassis in the following locations. These screws should be tightened to 3.38-3.61 Nm / 30-32 in-lbf using a Long T15 Torx Screwdriver.

Figure 2: Shipping Bracket Screw Locations
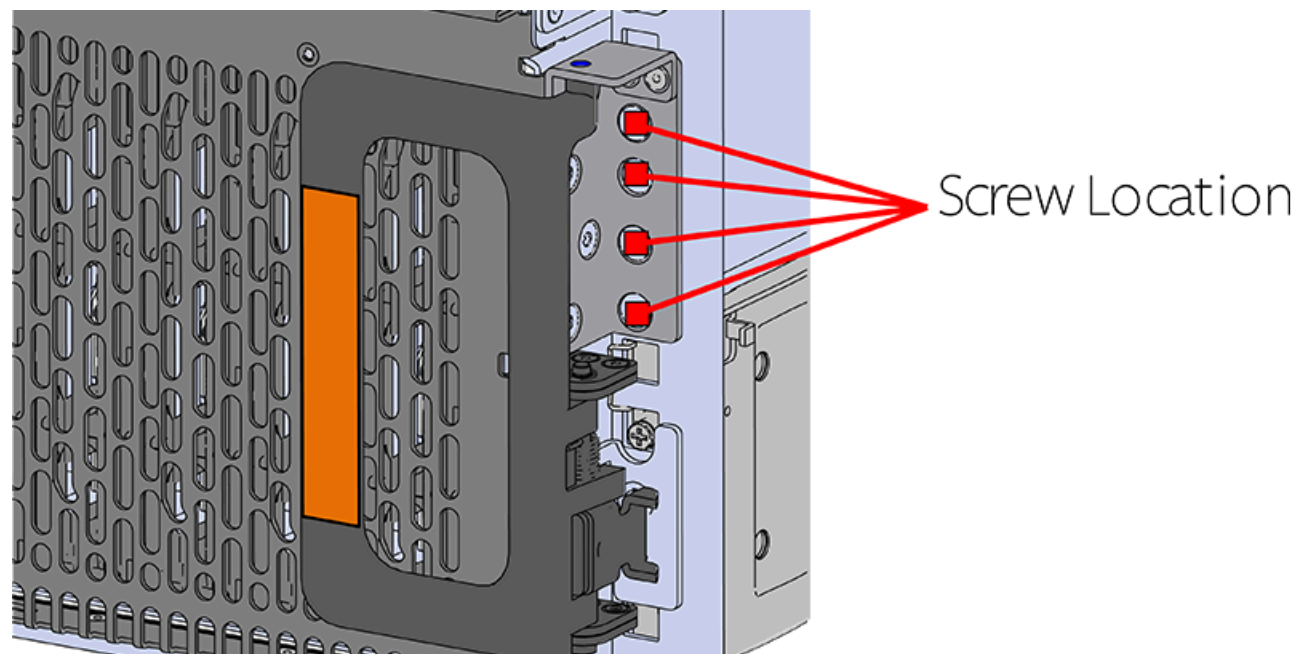
1.3 CMA Standard Recommended Racks

The following is a list of racks that are recommended for the Ultrastar Data102 using CMA Standard.

Table 2: Recommended Racks

Vendor	Part Number	Rack Units	Dimensions	Notes
EMCOR/ CRENLO	AS-160099-03	42	**H:** 2060mm x **W:** 600mm x **D:** 1200mm/ **H:** 81.1in. x **W:** 23.6in. x **D:** 47.2in.	N/A
	DC-42U2448-G	42	**H:** 2057mm x **W:** 600mm x **D:** 1270mm/ **H:** 80.98in. x **W:** 23.6in. x **D:** 50in.	N/A
AFCO/Legrand	WEDIT602	52	**H:** 2989.2mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 98in. x **W:** 24in. x **D:** 51.9in.	N/A
	WEDIT603	48	**H:** 2311.4mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 91in. x **W:** 24in. x **D:** 51.9in.	N/A
	WEDIT604	45	**H:** 2178.1mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 85.75in. x **W:** 24in. x **D:** 51.8in.	N/A

Vendor	Part Number	Rack Units	Dimensions	Notes
	WEDIT605	42	**H:**2044.7mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 80.5in. x **W:** 24in. x **D:** 51.8in.	N/A
	WEDIT606	51	**H:** 2444.8mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 96.25in. x **W:** 24in. x **D:** 51.8in.	N/A
APC/Schneider	AR3300W	42	**H:** 1991mm x **W:** 600mm x **D:** 1222mm **H:** 78.4in. x **W:** 23.6in. x **D:** 48.18in.	The rear door must be removed when using the standard CMA with this rack.
TRIPP LITE w/ Rack Extender	**Rack:**SR42UBDP **Extender:** SREXTENDER	42	**H:** 2444.8mm x **W:** 609.6mm x **D:** 1200mm or 1403.2mm w/ Rack Extender/ **H:** in. x **W:** in. x **D:** in. w/ Rack Extender	N/A

1.4 CMA Lite Recommended Racks

The following is a list of racks that are recommended for the Ultrastar Data102 using CMA Lite.

Table 3: Recommended Racks

Vendor	Part Number	Rack Units	Dimensions	Notes
EMCOR/ CRENLO	AS-160099-03	42	**H:** 2060mm x **W:** 600mm x **D:** 1200mm/ **H:** 81.1in. x **W:** 23.6in. x **D:** 47.2in.	N/A
	DC-42U2448-G	42	**H:** 2057mm x **W:** 600mm x **D:** 1270mm/ **H:** 80.98in. x **W:** 23.6in. x **D:** 50in.	N/A
AFCO/Legrand	WEDIT602	52	**H:** 2989.2mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 98in. x **W:** 24in. x **D:** 51.9in.	The enclosure cannot be installed into the U spaces that are in line with the front door stiffeners or the door latch in the CMA Lite configuration.

Vendor	Part Number	Rack Units	Dimensions	Notes
	WEDIT603	48	**H:** 2311.4mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 91in. x **W:** 24in. x **D:** 51.9in.	The enclosure cannot be installed into the U spaces that are in line with the front door stiffeners or the door latch in the CMA Lite configuration.
	WEDIT604	45	**H:** 2178.1mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 85.75in. x **W:** 24in. x **D:** 51.8in.	The enclosure cannot be installed into the U spaces that are in line with the front door stiffeners or the door latch in the CMA Lite configuration.
	WEDIT605	42	**H:**2044.7mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 80.5in. x **W:** 24in. x **D:** 51.8in.	The enclosure cannot be installed into the U spaces that are in line with the front door stiffeners or the door latch in the CMA Lite configuration.
	WEDIT606	51	**H:** 2444.8mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 96.25in. x **W:** 24in. x **D:** 51.8in.	The enclosure cannot be installed into the U spaces that are in line with the front door stiffeners or the door latch in the CMA Lite configuration.
APC	AR3300W	42	**H:** 1991mm x **W:** 600mm x **D:** 1222mm **H:** 78.4in. x **W:** 23.6in. x **D:** 48.18in.	N/A

Vendor	Part Number	Rack Units	Dimensions	Notes
Tripplite w/ Rack Extender	**Rack:**SR42UBDP **Extender:** SREXTENDER	42	**H:** 2444.8mm x **W:** 609.6mm x **D:** 1200mm or 1403.2mm w/ Rack Extender/ **H:** in. x **W:** in. x **D:** in. w/ Rack Extender	N/A

1.5 Vertical Rack Rail Settings

The vertical rack rails should be adjusted to the specified measurements in all of the recommended rack configurations to ensure the enclosure and cable management fit properly. After the front and rear vertical rack rails have been adjusted the enclosure rails can be extended or retracted to best fit these adjustments. Refer to the specific rack manufacturer documentation for instructions on how to adjust the vertical rack rails on the chosen rack.

Both front vertical rack rails should be adjusted to a depth of 41mm / 1.61in. from the front of the rack frame as shown in the image below.

Figure 3: Front Vertical Rack Rails
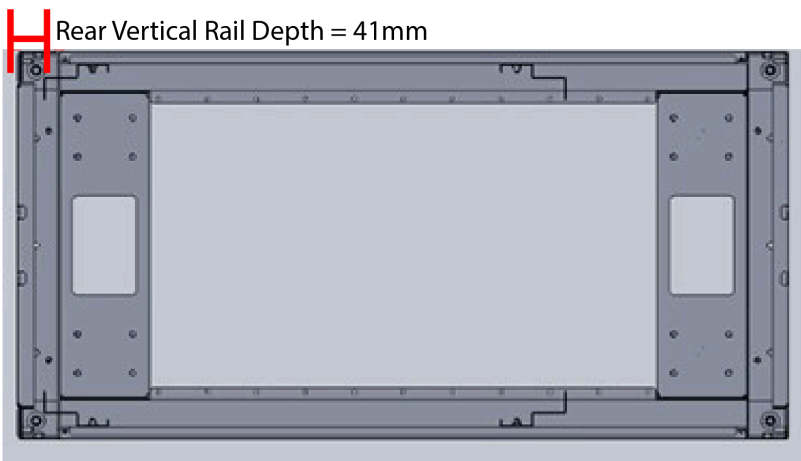
Both rear vertical rack rails should be adjusted to a depth of 812mm - 914.4mm / 32in. -36 in. from the front vertical rack rails as shown in the image below.

Figure 4: Rear Vertical Rack Rails

Rear Vertical Rail Depth = 812.8-914.4mm
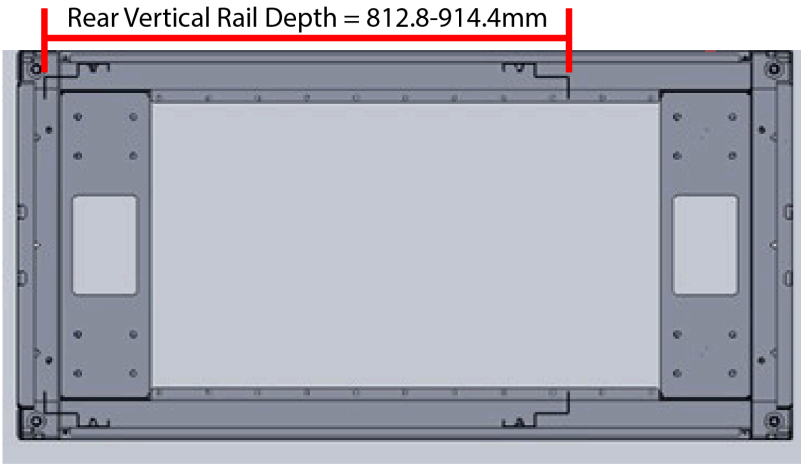
1.6 Recommended PDUs and Available Installation Space

The following is a list of available PDU space that is recommended for use in each rack.

Table 4: Available PDU Space

Rack	Model	PDU Orientation	Space Available
EMCOR/CRENLO	AS-160099-03	Rear Facing	**W:** 56mm x **D:** 190mm/ **W:** 2.2in. x **D:** 7.5in.
	DC-42U2448-G		
AFCO/Legrand	WEDIT602	Rear or Inward Facing	**W:** 67mm x **D:** 200mm/ **W:** 2.6in. x **D:** 7.9in.
	WEDIT603		
	WEDIT604		
	WEDIT605		
	WEDIT606		
APC/Schneider	AR3300	Rear Facing	**W:** 60mm x **D:** 113mm/ **W:** 2.4in. x **D:** 4.4in.
TRIPP LITE w/ Rack Extender	**Rack:**SR42UBDP **Extender:** SREXTENDER	Rear or Inward Facing	**W:** 60mm x **D:** 120mm/ **W:** 2.4in. x **D:** 4.7in.

The following image displays the available zero space for mounting the PDU into the rack. This can be used to size the PDU and related installation hardware outside of the hardware that is specified within this document.

Figure 5: PDU in the Zero Space
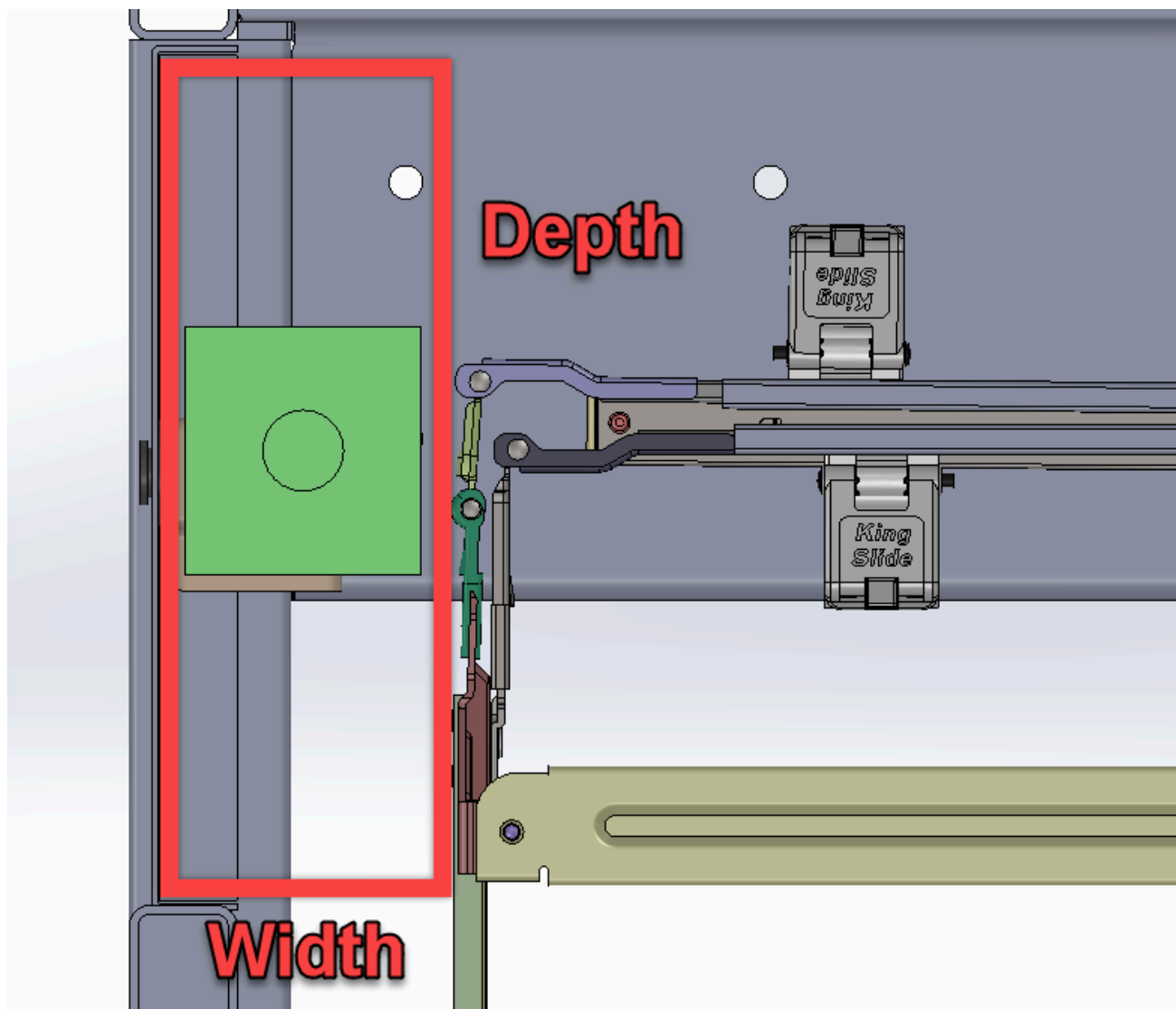
CMA Standard Rack Specifications

This section provides information related to the recommended rack models, compatible PDUs, and required accessories and hardware using CMA Standard. Each rack recommendation comes with information specific to what PDUs are approved and what hardware is required to mount them.

In This Chapter:

2.1 CRENLO/EMCOR

Table 5: Recommended CRENLO/EMCOR Rack Models

Model Number	Rack Units	Dimensions
AS-160099-03	42U	**H:** 2060mm x **W:** 600mm x **D:** 1200mm / **H:** 81.1in. x **W:** 23.6in. x **D:** 47.2in.
DC-42U2448-G	42U	**H:** 2057mm x **W:** 600mm x **D:** 1270mm / **H:** 80.9in. x **W:** 23.6in. x **D:** 50in.

Table 6: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 7: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MBVPT-1B	1	PDU Mounting Bracket
Generic/Various	M6 x 16 Hex Cap Screws	4	N/A
	M6 Fender Washers	8	N/A
	M6 Hex Nut with Nylon Lock	4	N/A

2.2 AFCO/Legrand

Table 8: Recommended AFCO/Legrand Rack Models

Model Number	Rack Units	Dimensions
WEDIT602	52	**H:** 2989.2mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 98in. x **W:** 24in. x **D:** 51.9in.
WEDIT603	48	**H:** 2311.4mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 91in. x **W:** 24in. x **D:** 51.8in.
WEDIT604	45	**H:** 2178.1mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 85.75in. x **W:** 24in. x **D:** 51.8in.
WEDIT605	42	**H:**2044.7mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 80.5in. x **W:** 24in. x **D:** 51.8in.

Model Number	Rack Units	Dimensions
WEDIT606	51	**H:** 2444.8mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 96.25in. x **W:** 24in. x **D:** 51.8in.

Table 9: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 10: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MB40	1	PDU Mounting Bracket

2.3 TRIPP LITE

Table 11: Recommended TRIPP LITE Rack Models

Model Number	Rack Units	Dimensions
SR42UBDP	42U	**H:** 1111.25mm x **W:** 601.98mm x **D:** 1200mm / **H:** 43.75in. x **W:** 23.7in. x **D:** 47.2in.

Table 12: Recommended TRIPP LITE Rack Extender Models

Model Number	Rack Units	Dimensions
SREXTENDER	42U	Shipping Dimensions: **H:** 236.22mm x **W:** 1206.5mm x **D:** 203.2mm / **H:** 9.3in. x **W:** 47.5in. x **D:** 8 in. Assembled Dimensions: **H:** 1866.9mm x **W:** 601.98mm x **D:** 200.66mm / **H:** 73.5in. x **W:** 47.5in. x **D:** 7.9in.
SREXTENDER	48U	Shipping Dimensions: **H:** 236.22mm x **W:** 1206.5mm x **D:** 203.2mm / **H:** 9.3in. x **W:** 47.5in. x **D:** 8 in. Assembled Dimensions: **H:** 2133.6mm x **W:** 601.98mm x **D:** 200.66mm / **H:** 84in. x **W:** 47.5in. x **D:** 7.9in.

Note: Installation instructions for the Tripp Lite SREXTENDER, may be acquired from the manufacturers website.

Table 13: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 14: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MB40	1	PDU Mounting Bracket
Tripp Lite	SREXTENDER	1	Rack Extension

2.4 APC/Schneider

Table 15: Recommended APC/Schneider Rack Models

Model Number	Rack Units	Dimensions
AR3300	42	**H:** 1991mm x **W:** 600mm x **D:** 1222mm **H:** 78.4in. x **W:** 23.6in. x **D:** 48.18in.

Table 16: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 17: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MBVPT-1B	1	PDU Mounting Bracket
Generic/Various	M6 x 16 Hex Cap Screws	4	N/A
	M6 Fender Washers	8	N/A
	M6 Hex Nut with Nylon Lock	4	N/A

CMA Lite Rack Specifications

This section provides information related to the recommended rack models, compatible PDUs, and required accessories and hardware using CMA Lite. Each rack recommendation comes with information specific to what PDUs are approved and what hardware is required to mount them.

In This Chapter:

3.1 CRENLO/EMCOR

Table 18: Recommended CRENLO/EMCOR Rack Models

Model Number	Rack Units	Dimensions
AS-160099-03	42U	**H:** 2060mm x **W:** 600mm x **D:** 1200mm / **H:** 81.1in. x **W:** 23.6in. x **D:** 47.2in.
DC-42U2448-G	42U	**H:** 2057mm x **W:** 600mm x **D:** 1270mm / **H:** 80.9in. x **W:** 23.6in. x **D:** 50in.

Table 19: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 20: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MBVPT-1B	1	PDU Mounting Bracket
Generic/Various	M6 x 16 Hex Cap Screws	4	N/A
	M6 Fender Washers	8	N/A
	M6 Hex Nut with Nylon Lock	4	N/A

3.2 AFCO/Legrand

Table 21: Recommended AFCO/Legrand Rack Models

Model Number	Rack Units	Dimensions
WEDIT602	52	**H:** 2989.2mm x **W:** 609.6mm x **D:** 1317.6mm/ **H:** 98in. x **W:** 24in. x **D:** 51.9in.
WEDIT603	48	**H:** 2311.4mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 91in. x **W:** 24in. x **D:** 51.8in.
WEDIT604	45	**H:** 2178.1mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 85.75in. x **W:** 24in. x **D:** 51.8in.
WEDIT605	42	**H:** 2044.7mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 80.5in. x **W:** 24in. x **D:** 51.8in.

Model Number	Rack Units	Dimensions
WEDIT606	51	**H:** 2444.8mm x **W:** 609.6mm x **D:** 1317.6mm / **H:** 96.25in. x **W:** 24in. x **D:** 51.8in.

Table 22: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 23: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MB40	1	PDU Mounting Bracket

3.3 TRIPP LITE

Table 24: Recommended TRIPP LITE Rack Models

Model Number	Rack Units	Dimensions
SR42UBDP	42U	**H:** 1111.25mm x **W:** 601.98mm x **D:** 1200mm / **H:** 43.75in. x **W:** 23.7in. x **D:** 47.2in.

Table 25: Recommended TRIPP LITE Rack Extender Models

Model Number	Rack Units	Dimensions
SREXTENDER	42U	Shipping Dimensions: **H:** 236.22mm x **W:** 1206.5mm x **D:** 203.2mm / **H:** 9.3in. x **W:** 47.5in. x **D:** 8 in. Assembled Dimensions: **H:** 1866.9mm x **W:** 601.98mm x **D:** 200.66mm / **H:** 73.5in. x **W:** 47.5in. x **D:** 7.9in.
SREXTENDER	48U	Shipping Dimensions: **H:** 236.22mm x **W:** 1206.5mm x **D:** 203.2mm / **H:** 9.3in. x **W:** 47.5in. x **D:** 8 in. Assembled Dimensions: **H:** 2133.6mm x **W:** 601.98mm x **D:** 200.66mm / **H:** 84in. x **W:** 47.5in. x **D:** 7.9in.

Note: Installation instructions for the Tripp Lite SREXTENDER, may be acquired from the manufacturers website.

Table 26: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 27: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MB40	1	PDU Mounting Bracket
Tripp Lite	SREXTENDER	1	Rack Extension

3.4 APC/Schneider

Table 28: Recommended APC/Schneider Rack Models

Model Number	Rack Units	Dimensions
AR3300	42	**H:** 1991mm x **W:** 600mm x **D:** 1222mm **H:** 78.4in. x **W:** 23.6in. x **D:** 48.18in.

Table 29: Compatible PDUs

PDU	Model Number	Width	Depth	Orientation
Server Technology	STV-4501	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4502	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear
	STV-4503	55.5mm / 2.18in.	86.15mm / 3.39in.	Rear

Table 30: Required Accessories and Hardware

Supplier	Part Number	QTY	Description
Server Technology	KIT-MBVPT-1B	1	PDU Mounting Bracket
Generic/Various	M6 x 16 Hex Cap Screws	4	N/A
	M6 Fender Washers	8	N/A

Supplier	Part Number	QTY	Description
	M6 Hex Nut with Nylon Lock	4	N/A

Installation

In This Chapter:

4.1 PDU Mounting Bracket Installation (KIT-MBVPT-1B)

The installation of PDU mounting bracket kit (KIT-MBVPT-1B) for the AFCO, TRIPPLITE, and CRENLO racks extends the PDUs farther back in the rack to allow for more room for the CMA and enclosure.

Note: For recommended vertical rack rail settings, see: Vertical Rack Rail Settings *(page 7)*.

Table 31: Procedure Info

Required Tools	Required Parts	# of People Required
• Torx T15 Screwdriver	• Two Flat Brackets • Two Right-Angle Brackets • Two Backer Plates • M6 x 16 Hex Cap Screws • M6 Fender Washers • M6 Hex Nut with Nylon Lock	1

Step 1: Install the bottom side bracket using the provided hardware.

    a. Locate the two screw holes at the bottom of the back side of the PDU.

    b. Align the flat bracket with the two bottom PDU screw holes as shown.

Figure 6: Flat Bracket (bottom)
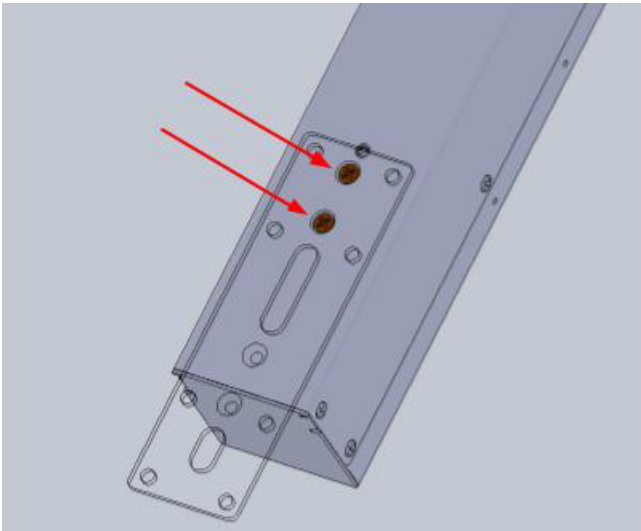
c. Secure the flat bracket to the PDU by using the screws provided in the PDU mounting kit as shown in the image below.

Figure 7: Flat Bracket Installation (bottom)
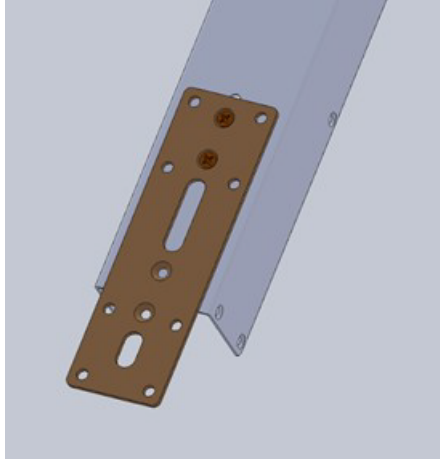
d. Align the right-angle bracket behind the flat bracket over the holes on the left-hand side of the flat bracket.

e. Slide the washers onto the mounting bolts and secure the right-angle bracket to the backer plate through the flat bracket. Before fully tightening the bolts, ensure that the right-angle bracket is flush with the edge of the PDU before tightening.

Figure 8: Right-Angle Bracket Installation (bottom)
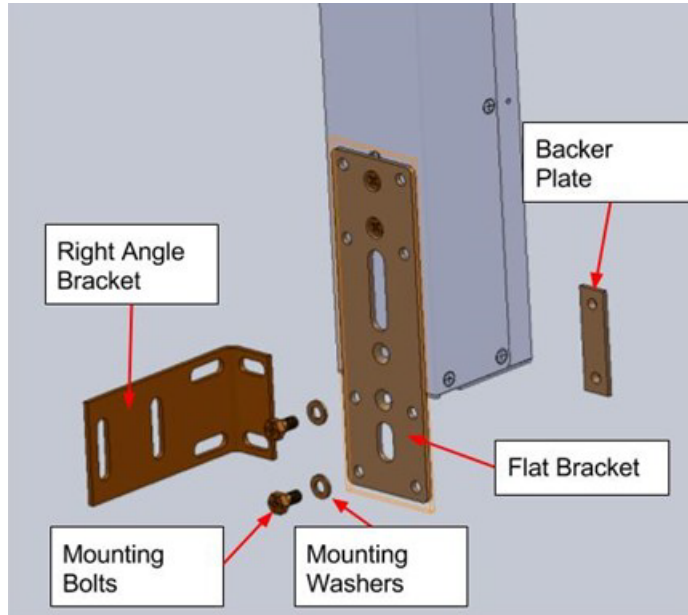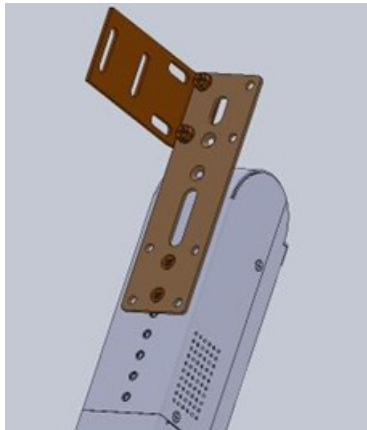

Figure 9: Right-Angle Bracket Installed (bottom)
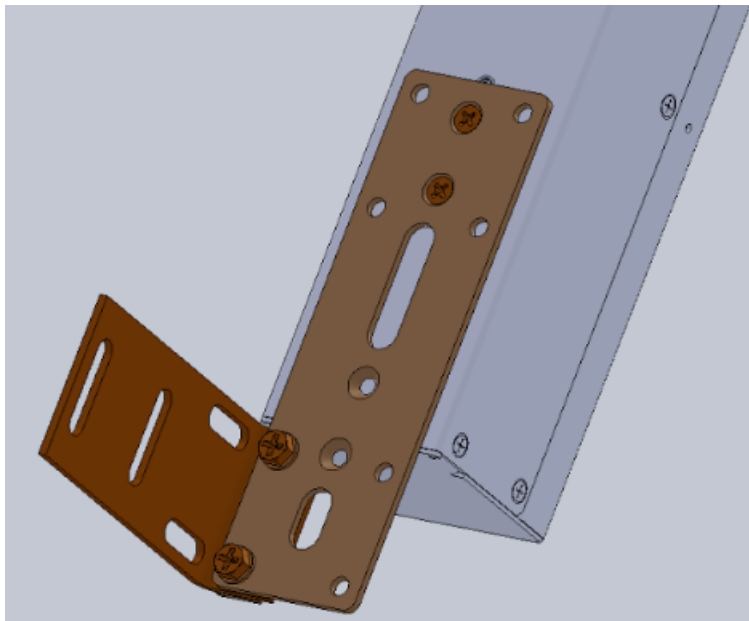
Figure 10: Flush Right-Angle Bracket (bottom)
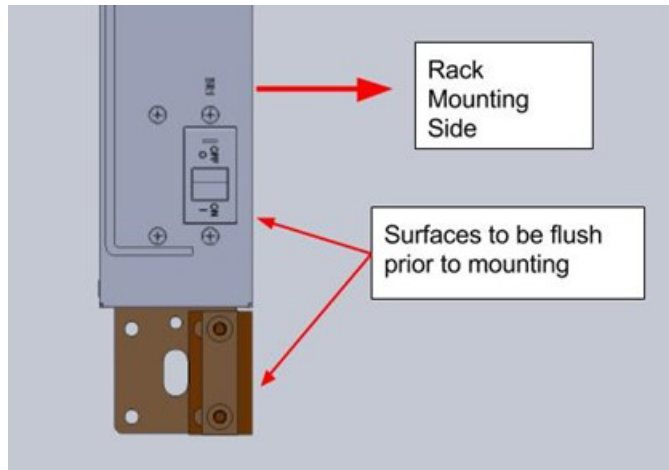
Step 2 : Install the top side bracket using the provided hardware.

    a. Locate the two screw holes at the top of the back side of the PDU.

    b. Align the flat bracket with the two top PDU screw holes as shown.

Figure 11: Flat Bracket (top)
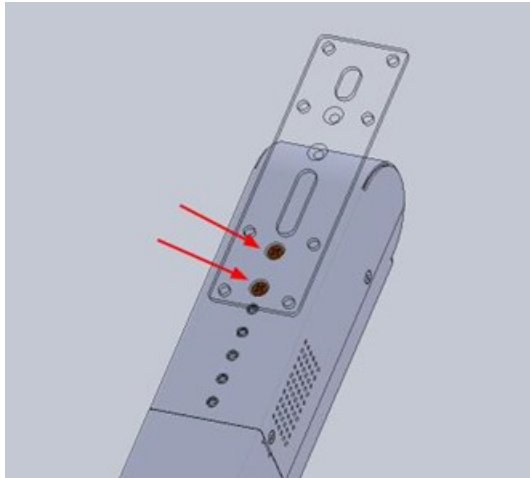
c. Secure the flat bracket to the PDU by using the screws provided in the PDU mounting kit as shown in the image below.

Figure 12: Flat Bracket Installation (top)
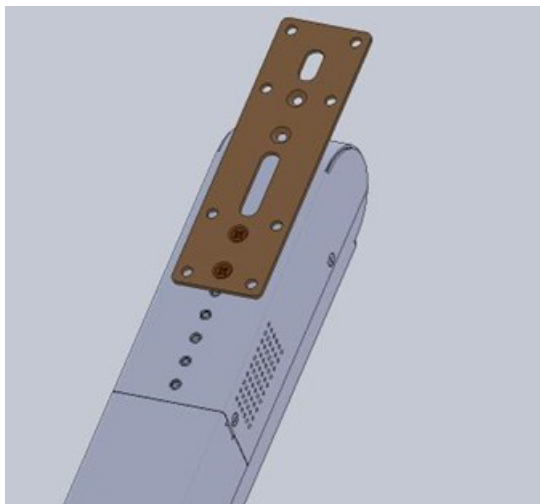
d. Align the right-angle bracket behind the flat bracket over the holes on the left-hand side of the flat bracket.

e. Slide the washers onto the mounting bolts and secure the right-angle bracket to the backer plate through the flat bracket. Before fully tightening the bolts, ensure that the right-angle bracket is flush with the edge of the PDU before tightening.

Figure 13: Right-Angle Bracket Installation (top)
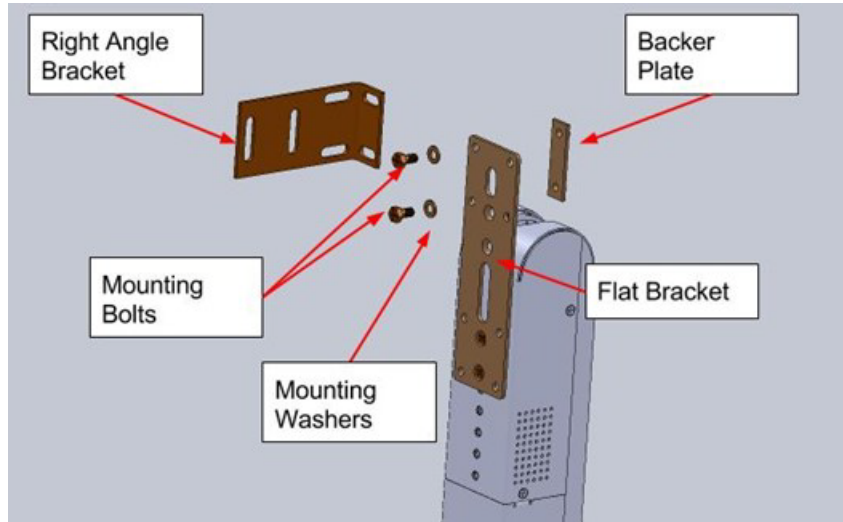
Figure 14: Right-Angle Bracket Installed (top)

Figure 15: Flush Right-Angle Bracket (top)
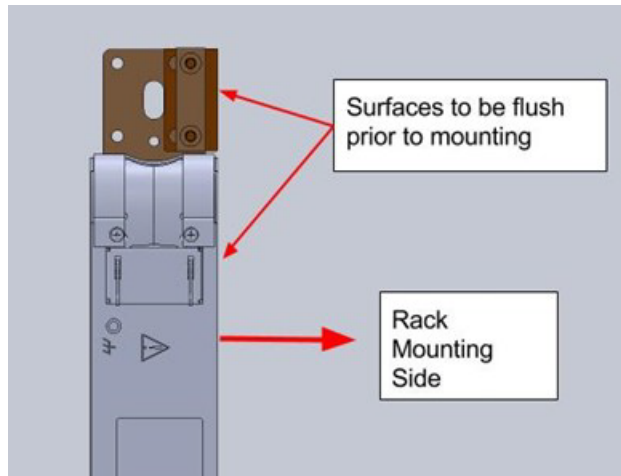
Step 3 : Install the PDU into the rear of the rack.

    a. Locate the top row of holes on the top vertical rail.

    b. Secure the right-angle bracket on the top vertical rail with the provided bolts and nuts. Before fully tightening the bolts, ensure that the plug side of the PDU is 145mm / 5.7in away from the rear rack rail.

Figure 16: PDU Distance from Rack Rear Rail

    c. Locate the bottom row of holes on the bottom vertical rail.

d. Secure the right-angle bracket on the top vertical rail with the provided bolts and nuts. Before fully tightening the bolts, ensure that the plug side of the PDU is 145mm / 5.7in away from the rear rack rail.

Figure 17: PDU Installation (bottom)
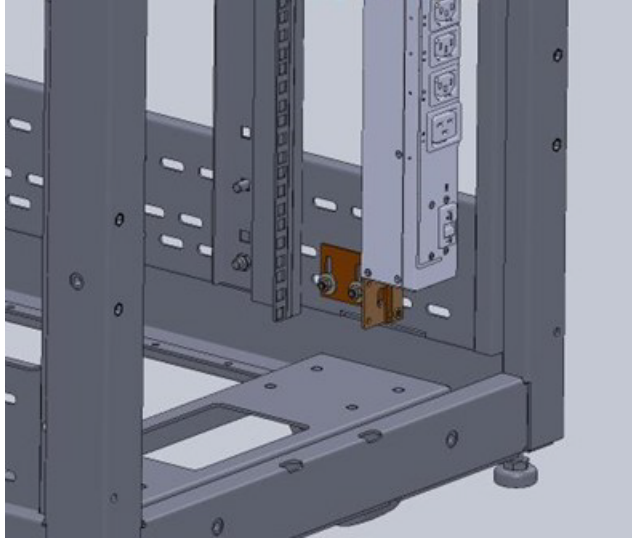
Figure 18: PDU Distance from Rack Rear Rail
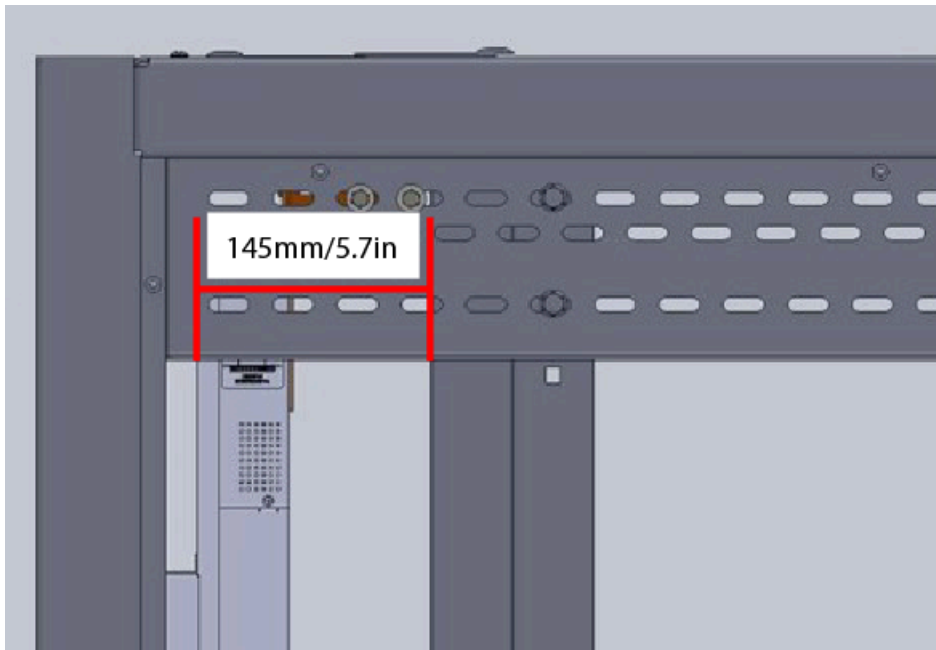
4.2 PDU Mounting Bracket Installation (KIT-MB-40)

The installation of PDU mounting bracket kit (KIT-MB-40) for the AFCO, TRIPPLITE, and CRENLO racks extends the PDUs farther back in the rack to allow for more room for the CMA and enclosure. The PDU Bracket Installation procedure should be completed after the installation of the system, rails, and cables.

📄 **Note:** For recommended vertical rack rail settings, see: Vertical Rack Rail Settings *(page 7)*.

Table 32: Procedure Info

Required Tools	Required Parts	# of People Required
• # 2 Philips Screwdriver • Torx T10 Screwdriver	• Two 90 degree angle brackets for 56 mm wide PDUs • Four M4 x 6mm screws	1

Step 1:   Remove the PDU mounting buttons from the back of the PDU.

　　　a. Locate the PDU mounting buttons on the rear of the PDU. There is one at the top and one at the bottom.
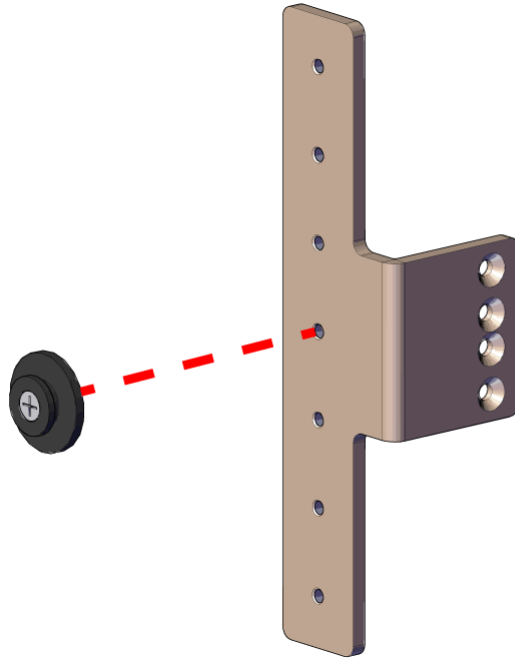
Figure 19: Locate PDU Mounting Buttons
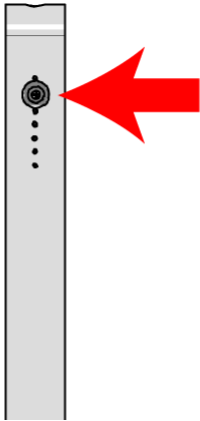
　　　b. Remove the screws that secure the PDU mounting buttons using the # 2 Philips Screwdriver.

Step 2 :   Mount the PDU mounting buttons onto the angle-bracket.

a. Secure the PDU mounting button to the center hole of the long side of the angle-bracket.

*Figure 20: Install the PDU Mounting Button onto the Angle Bracket*

b. Repeat the previous step to install the PDU mounting button on the remaining angle-bracket.

Step 3: Install the angle-bracket to the bottom of the PDU using the provided hardware.

a. Locate the middle set of holes on the back side of the PDU.

b. Align the short side of the angle-bracket over the two middle PDU mounting holes on the rear of the PDU. The long side of the right angle bracket should be on the left (back) side of the PDU.

c. Secure the angle-bracket to the PDU by using the screws provided in the PDU mounting kit as shown in the image below.

*Figure 21: Install the Angle Bracket on the PDU (Bottom)*
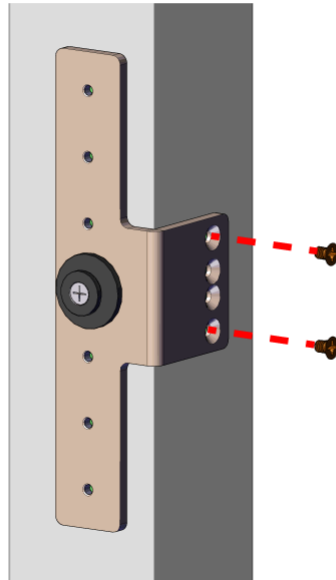
Step 4 : Install the angle-bracket to the top of the PDU using the provided hardware.

a. Locate the two screw holes at the top of the back side of the PDU.

b. Align the short side of the angle-bracket over the two top PDU mounting holes on the rear of the PDU. The long side of the right angle bracket should be on the left (back) side of the PDU.

c. Secure the angle-bracket to the PDU by using the screws provided in the PDU mounting kit as shown in the image below.

Figure 22: Install the Angle Bracket on the PDU (Top)
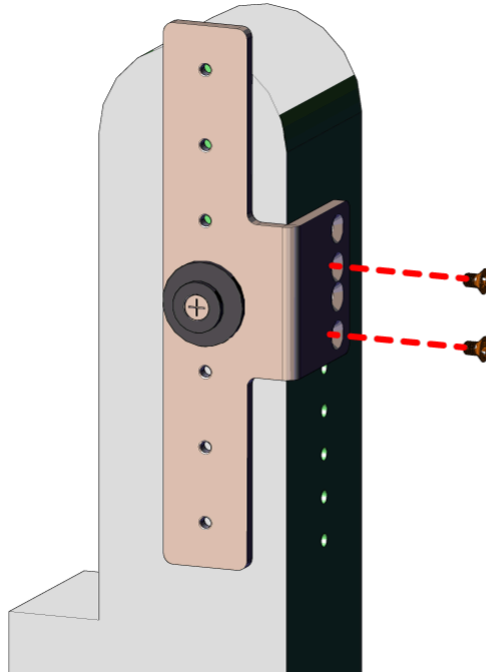
Step 5 : Install the PDU into the rear of the rack.

a. Locate the middle set of keyholes on the rear vertical rack rails.

b. Align the PDU mounting buttons with the keyholes on the rear vertical rack rails and slide down until the PDU is secure.

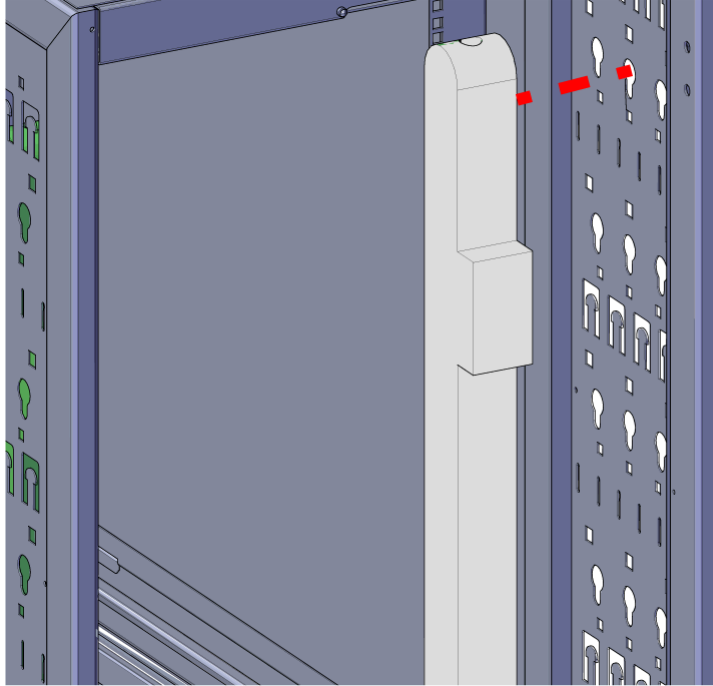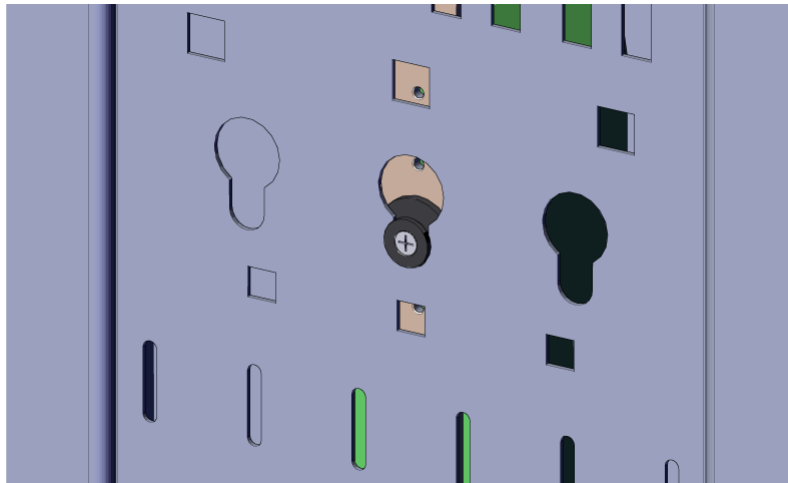*Figure 23: Align PDU with Keyholes*

Figure 24: PDU Installed into Keyholes

c. Verify that the PDU is secure by pressing on the front of the PDU. If the PDU does not shift, it is properly mounted. If the PDU does shift, remove the PDU and repeat the PDU installation step to ensure it is secure.