
XTR Programmable Power Supplies: Rack Mount Kit Options and Installation Instructions

Application Note

XTR 850 Watt

M370046-05 Rev D

This Application Note provides information on the options available for rack mounting the XTR series and provides installation instructions for the rack mount kit options. The complete set of instructions for installing the XTR power supplies are provided in the *XTR 850 Watt Series Programmable DC Power Supply Operating Manual (Part number: M370046-01 for firmware v1.09 and below or M370185-01 for firmware v1.11 and higher)*. See the Installation chapter for additional information.

Rack Mount Kit Options

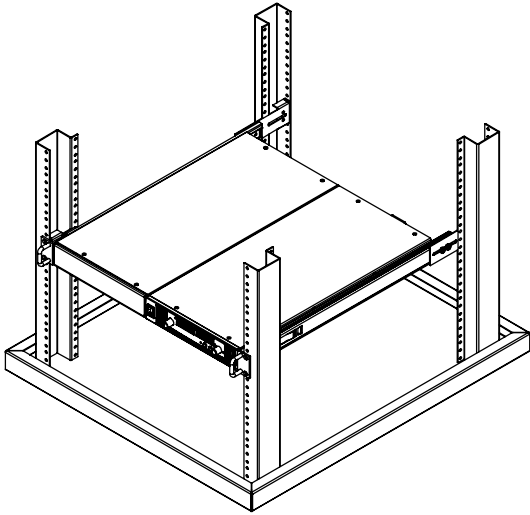
Table 1 describes the options available for rack mounting the XTR and provides the part numbers for each option.

Table 1 Rack Mount Options

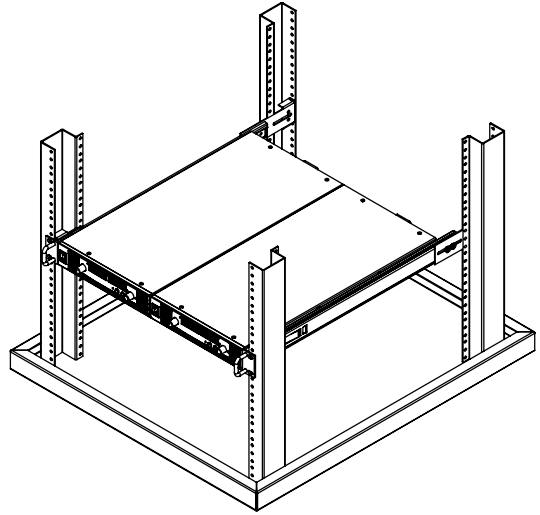
Unit	Option A: Rack Mount with Rails	Option B: Rack Mount with Slides
XTR 850 Watt Single	RM-S-XTR1 and RM-XTR1	RM-S-XTR1. See Table 2 on page 7.
XTR 850 Watt Dual	RM-D-XTR1 and RM-XTR1	RM-D-XTR1. See Table 2 on page 7.

XTR 850 Watt Single and Dual

Figure 1 shows the rack mount kit options for installing the XTR 850 Watt into a rack.



Single XTR 850W - Part Number: RM-S-XTR1



Dual XTR 850W - Part Number: RM-D-XTR1

Figure 1 XTR 850 Watt Single and Dual Rack Mount Kit Options

Location Requirements

Install the XTR in a location that meets the following requirements:

Condition	Description
Clean	The XTR should not be exposed to metal filings or any other form of conductive contamination.
Cool	The ambient air temperature should be between 0 °C–50 °C (32 °F–122 °F) for best performance.
Ventilated	Whether operating the power supply in a rack or on a bench, allow air to reach the ventilation inlets on the front and rear of the unit for cooling. The direction of airflow is from the front to the back of the unit. Ventilation space at the top, bottom or sides of the power supply is not required



WARNING: Shock hazard

Ensure that any mounting screws do not penetrate more than 1/8 in. (3.0 mm) into the bottom and/or the back of the unit.

Mounting Option A: 1U Rails

1U rails are offered to support the XTR rack mount packages. The rail is a flanged rail type and only available for a rack depth of 25 inches.

The part number to order this option is RM-XTR1.

Tools and Materials Required

To mount and connect the XTR, you will need the following tools and materials:

- Screwdriver (Phillips head, #2)
- Standard carpenter's level
- Eight #10-24 × ¼" (30 mm) Phillips head screws.

Installation Procedures

To install the power supply in an equipment rack:

1. Ensure that your rack resembles the rack shown in Figure 2, and has inner holes within the specified dimensions.
2. Find the 1U space in which you wish to install your power supply in the specific rack.
3. Place the lower plain flange of the RM-XTR1 rail at the lowest point of the 1U space. If it is placed correctly, a hole on the inner flange of the vertical rack will line up to the oval mounting slot in the rail.
4. Using the carpenter's level for accuracy, install the rail using two #10-24 screws.
5. Tighten the screws to a torque of 20.5 to 22.5 in-lbs.
6. Repeat on the opposite side, using the level to ensure both rails align.
7. Slide the XTR assembly onto the rails, and against the front rails of the rack.
8. If there are four front mounting locations available, then install four #10-24 screws. Tighten the screws to a torque of 20.5 to 22.5 in-lbs. If there is only one hole available on either side, then the RM-XTR1 rails are not installed correctly.

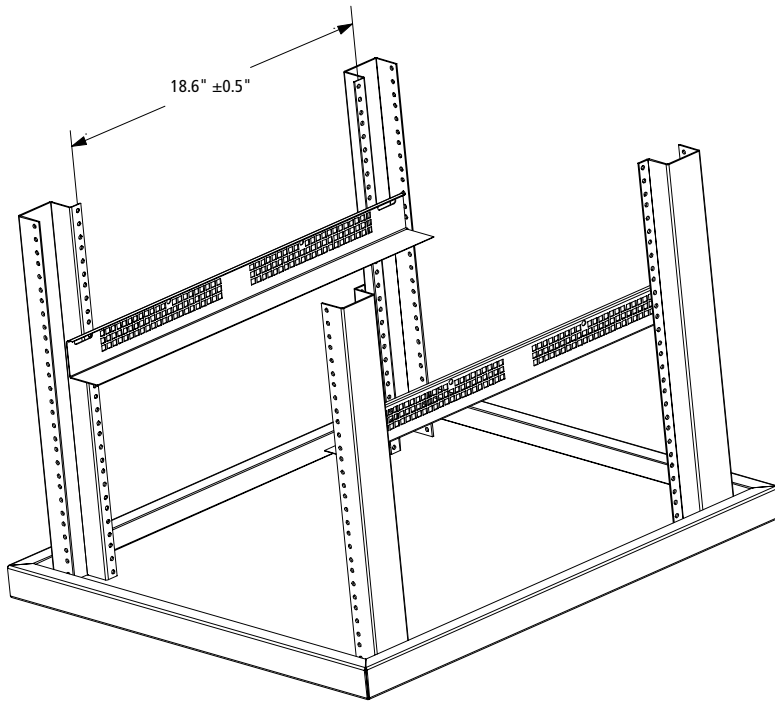


Figure 2 RM-XTR1 Rack Rails

Mounting Option B: Manufactured Slides from Jonathan® Engineered Solutions

Jonathan Engineered Solutions offers a wide variety of manufactured slides to allow the easy installation and removal of the XTR assemblies into all rack sizes. Follow these steps to find the Jonathan product that suits your needs.

To install a single power supply in an equipment rack:

1. Find your rack depth (D), which is the distance between the front and back flanges. See Figure 3.

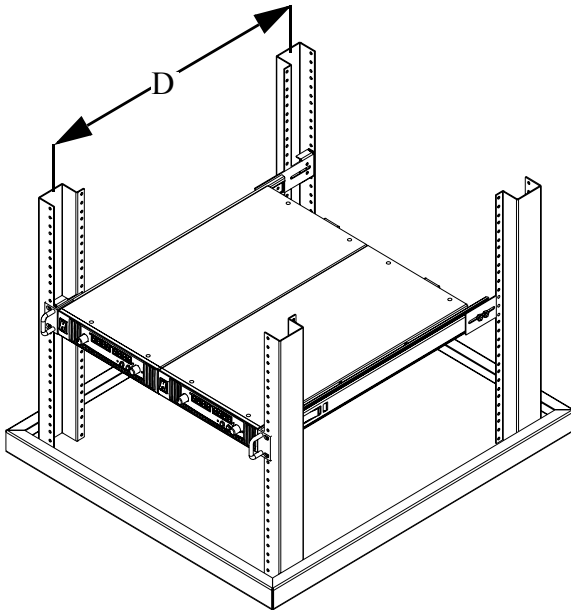


Figure 3 Finding rack depth

2. Select your rail type. See Figure 4.

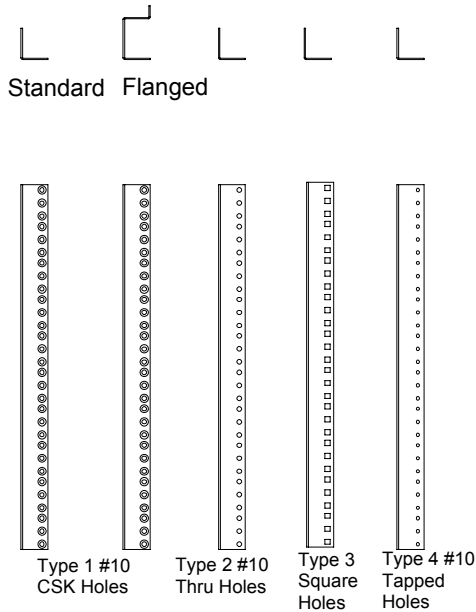


Figure 4 Selecting a rail type

- Refer to Table 2 to select the correct Jonathan Engineered Solutions (Jonathan) slide part number for your rack depth and rail type.

Table 2 Part Numbers for Jonathan Manufactured Slides

Rack Depth "D" (in.)	Jonathan Slide Part Number ¹	Bracket For Rail Types 1, 2, 3		Bracket for Rail Type 4	
		Front	Rear	Front	Rear
Less than 20	XTR Chassis will not fit within cabinet (depth of unit 19.25")				
20–22.5	375QD-18	SPO-622	SPO-683-2	SPO-857	SPO-857
20–25.5	375QD-18	SPO-622	SPO-683	SPO-857	SPO-857
20–27.5	375QD-18	SPO-622	SPO-683-1	SPO-857	SPO-857
20–30	375QD-18	SPO-683	SPO-683	SPO-857	SPO-683 ²
20–34	375QD-18	SPO-683-1	SPO-683-1	SPO-857	SPO-683-1 ²
25.5–27.5	375QD-26	SPO-622	SPO-622	SPO-857	SPO-857
27.5–29.5	375QD-28	SPO-622	SPO-622	SPO-857	SPO-857
29.5–32.5	375QD-28	SPO-622	SPO-683-2	SPO-857	SPO-857
29.5–35.5	375QD-28	SPO-622	SPO-683	SPO-857	SPO-857
29.5–37.25	375QD-28	SPO-622	SPO-683-1	SPO-857	SPO-683 ²

1. Jonathan slides 375QD-20, 22, 24 do not fit on the XTR chassis.

2. Requires bracket to be modified as shown in Figure 5.

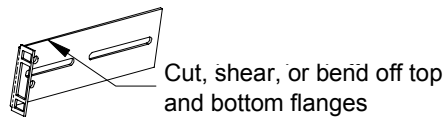


Figure 5 Modifying rear bracket

4. Remove the chassis member from the slides and assemble to the chassis using $M5 \times 6$ mm pan head screw SST (6X) which are not supplied. See Figure 6.

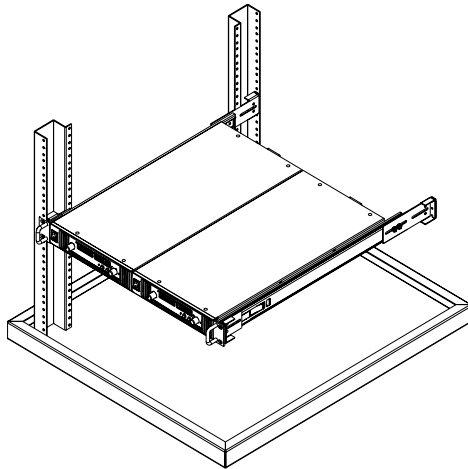


Figure 6 Removing Chassis Member From Slides

Important: Figure 6 shows the chassis member for slide 375QD-18. The chassis member will be longer for Jonathan slide 375QD-26/28.

5. Attach front and rear brackets to cabinet section (see Figure 7) using the following materials supplied with the slides:
 - (4) #8 \times 0.375 Flat Head Countersunk Screws SST
 - (4) #8 Lock Washers
 - (4) #8 Regular Washers
 - (4) #8 Hex Nuts

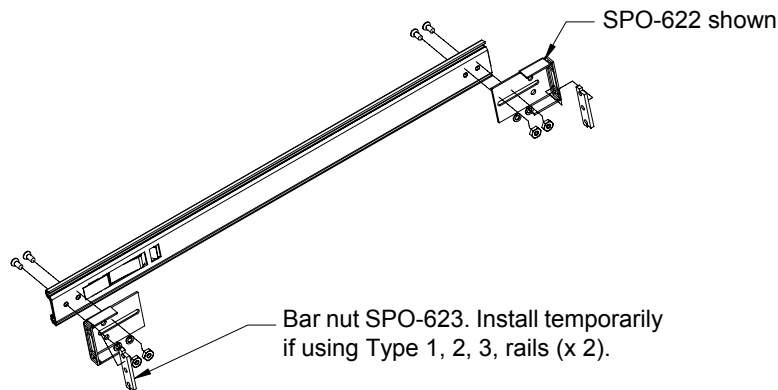


Figure 7 Attaching Front And Rear Bracket To Cabinet Section

Important: Do not tighten hardware completely.

6. Mount cabinet section into rack between upright rails using:
 - (4) Bar nuts (SPO-623 sold separately)
 - (6) #10 × 0.375 flat head countersunk Phillips SST screw (not supplied by Jonathan). Two for each side. See Figure 8.

Important: The hardware used will change depending on the type of mounting hole available in your equipment rack. Ensure rails are level.

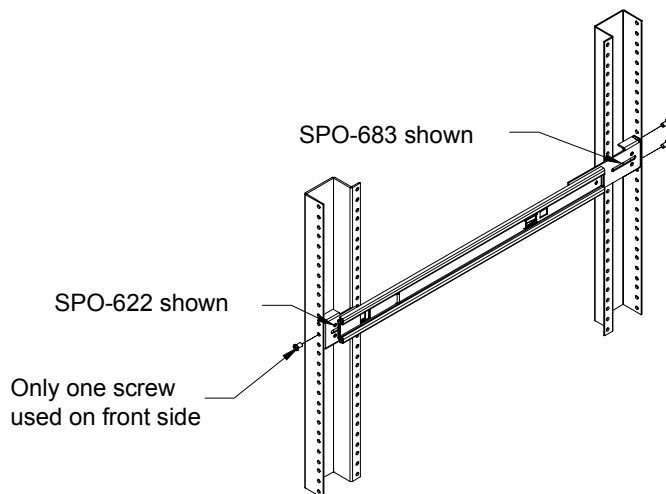


Figure 8 Mounting Cabinet Section Into Rack

7. Install chassis.
8. Cycle chassis twice (push in and out two times).
Ensure that rollers are engaged and the lock functions properly.

9. Remove chassis and securely tighten hardware from step 4. See Figure 9.

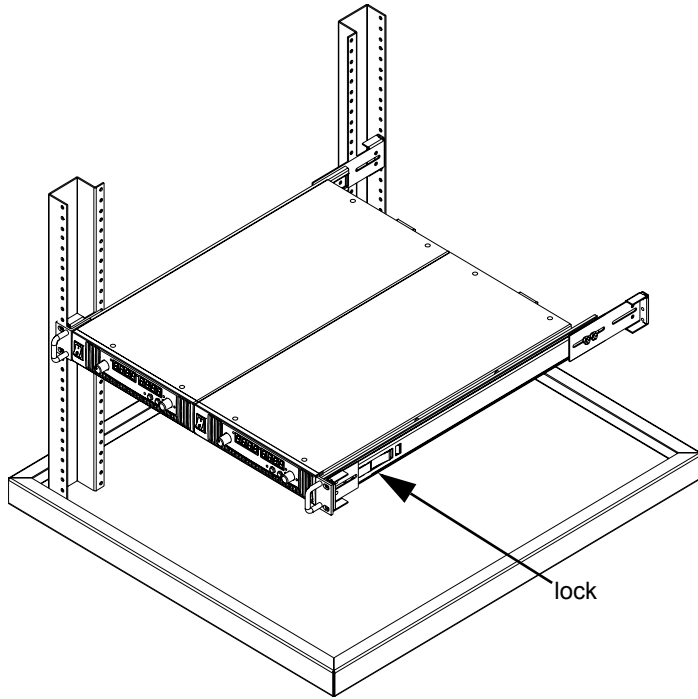


Figure 9 Installing Chassis

Related Information

For related material on this product, see also:

- *XTR 850 Watt Series Programmable DC Power Supply Operating Manual (Part number: M370046-01 for firmware v1.09 and below or M370185-01 for firmware v1.11 and higher)*
- *XTR 850 Watt Series Programmable DC Power Supply: Quick Reference Guide (Part number: M370046-04 for firmware v1.09 and below or M370185-04 for firmware v1.11 and higher)*
- *XTR 850 Watt GPIB and Ethernet Manual (Part number: M370046-06)*

Trademarks

AMETEK is a registered trademark of AMETEK, Inc. Other trademarks, registered trademarks, and product names are the property of their respective owners and are used herein for identification purposes only.

Notice of Copyright

XTR 850 Watt Series Programmable DC Power Supply Rack Mount Kit Options ©February 2009 AMETEK Programmable. All rights reserved.

Date and Revision

February 2009 Rev D

Part Number

M370046-05

Contact Information

Telephone: 1 800 733 5427 (toll free North America) or 1 858 450 0085 (direct)

Fax: 1 858 458 0267 (direct)

Email: sales@programmablepower.com or service@programmablepower.com

Web: www.programmablepower.com

Printed in USA

