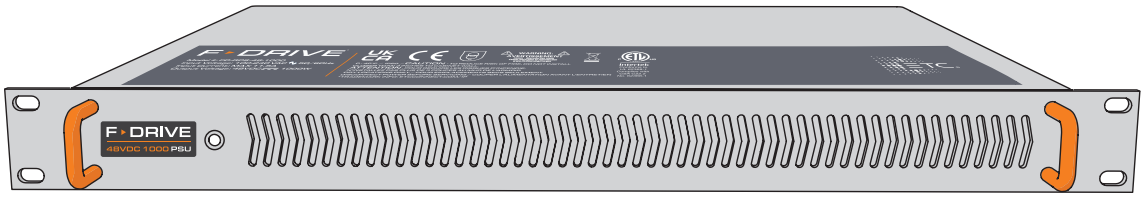
ETC Installation Guide

F-Drive Power Supply

Overview



F-Drive R12 Power Supply

The F-Drive RX Power Supply and F-Drive R12 Power Supply house a single power supply compatible with the F-Drive RX or F-Drive R12 rack-mount LED drivers.

Model	Compatible F-Drive Driver
FD-RX-RPSU-56/2800	F-Drive RX (FD-RX)
FD-RX-RPSU-56/1800	F-Drive RX (FD-RX)
FD-RPS-48-1800	F-Drive R12 (FD-R12-FD)
FD-RPS-48-1000	F-Drive R12 (FD-R12-FD)

Note: *If you install an F-Drive Power Supply within an Emergency Lighting Circuit, follow NEC marking requirements or local jurisdiction requirements.*

Safety

The F-Drive Power Supply is intended for professional use only. **Read the entire manual before using this equipment.**

This equipment is not suitable for use in locations where children are likely to be present.

DO NOT CONNECT TWO OR MORE POWER SUPPLIES IN PARALLEL. NE PAS CONNECTER DEUX OU PLUS ALIMENTATIONS EN PARALLÈLE.

Dry locations only. Pour emplacements secs seulement.

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Product information and specifications subject to change. ETC intends this document to be provided in its entirety.
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Label Symbols

F-Drive Power Supplies are conveniently labeled with relevant symbols for your safety. Refer to the product label to see which symbols apply to your product.

	General warning	Avertissement général
	This product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.	Ce produit ne doit pas être jeté avec les déchets ménagers mais doit être déposé dans une collecte de déchets électroniques ou dans un point de collecte.
	The product input or output is suitable for direct current only.	L'entrée et la sortie de ce produit convient uniquement au courant continu.
	The product input or output is suitable for alternating current only.	L'entrée et la sortie de ce produit convient uniquement au courant alternatif.
	Safety extra low voltage device	Dispositif de sécurité à très basse tension
	Protective earth (ground)	Protection Classe I Mise à la terre

Features

- Compact size: fits 19-inch rack, 1U height, 33.1 cm (13-1/2 in) depth (not including front handles)
- Front-panel LED power indicator
- Rear On/Off switch
- 100–240 VAC input. See *Electrical Specifications on page 4* for power ratings.
- Multiple power supply cord options:
  - 14/3 NEMA 5-15P to Locking C19 IEC connector (Model FD-RPS-IC-E15)
  - 12/3 NEMA 5-20P to Locking C19 IEC Connector (Model FD-RPS-IC-E20)
  - 14/3 (2.5 mm^2) Euro Schuko Plug to Locking C19 IEC Connector (Model FD-RPS-IC-S16)
  - 14/3 (2.5 mm^2) Euro Ceeform Plug to Locking C19 IEC Connector (Model FD-RPS-IC-C16)
  - 14/3 (2.5 mm^2) Bare Ends (Euro coloring) to Locking C19 IEC connector (Model FD-RPS-IC-BE)

Documentation for Compatible Products

The following document is available on the F-Drive RX documentation page (etcconnect.com/F-DriveRX/Documentation):

- *F-Drive RX Power Supply Datasheet*
- *F-Drive RX Datasheet*
- *F-Drive RX Installation Manual*
- *F-Drive RX Wiring Guide*

F-Drive RX documentation

The following documents are available on the F-Drive R12 and W1 documentation page (etcconnect.com/F-Drive/Documentation):

- *F-Drive Power Supply Datasheet*
- *F-Drive R12 Datasheet*
- *F-Drive Series R12 Installation Manual*
- *F-Drive R12 and W1 Wiring Reference Guide*

F-Drive R12 and W1 documentation

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F-Drive Power Supply

Before You Begin Installation

Review the following information before installing the F-Drive Power Supply.

Installation Requirements

- Ambient operating temperature 0°C–40°C (32°F–104°F), 20%–90% non-condensing humidity.
- Dry locations only.
- The F-Drive Power Supply requires 1U of space in a 19-inch equipment rack. The rack must support the weight of the F-Drive Power Supply plus the connected F-Drive Series driver enclosure and any output cards and accessories. Consult the product datasheets for weight specifications.

Clearance Requirements

CAUTION: ***To reduce risk of fire, do not install closer than 3 inches to cabinet wall.***

ATTENTION : ***Pour reduire les risques d'incendie, n'installez pas plus de 3 pouces au mur de l'armoir.***

Prepare to Install the F-Drive Power Supply

Inspect the Shipment

Before you begin installation, check your shipment and confirm that it arrived complete and undamaged.

1. Check the shipping container for physical damage.
   - If you find damage, document it to help with a claim against the shipper.
2. Inspect the order for completeness.
   - Check the box contents received against the packing list to ensure that your order is complete.
   - If you discover a problem with the contents of the shipment, contact ETC at the office nearest you, listed on the bottom of the first page of this document.

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Parts and Tools

The following supplies are required, but not provided:

- #1 Phillips screwdriver
- #2 Phillips screwdriver
- Wire stripping and cutting tool
- Wire ties

The following parts are included:

Note: *The DC output plug ships in the box with the F-Drive Power Supply.*

ETC Model or Part Number	Description	ETC Part Number of the DC Output Plug (Included)
FD-RX-RPSU-56/2800	Rack-mount 2800 W F-Drive RX Power Supply	J30278
FD-RX-RPSU-56/1800	Rack-mount 1800 W F-Drive RX Power Supply	J30252
FD-RPS-48-1800	Rack-mount 1800 W F-Drive R12 Power Supply	J30252
FD-RPS-48-1000	Rack-mount 1000 W F-Drive R12 Power Supply	J30252

Electrical Specifications

Power Ratings

CAUTION: ***Each F-Drive Power Supply may require a dedicated power circuit.***

F-Drive R12 Power Supply: For estimated power consumption and BTUs, see the F-Drive System Design Tool at etcconnect.com/FDriveSysDesignTool.

The rated power of the F-Drive Power Supply depends on the input voltage. The output power required depends on the system load.

Model	Input Voltage	Rated Power	Output Voltage
FD-RX-RPSU-56/2800	200–240 VAC	2800 W	56 VDC
	110–199 VAC	1500 W	56 VDC
	100–190 VAC	1300 W	56 VDC
FD-RX-RPSU-56/1800	200–240 VAC	1800 W	56 VDC
	110–199 VAC	1500 W	56 VDC
	100–109 VAC	1300 W	56 VDC
FD-RPS-48-1800	200–240 VAC	1800 W	48 VDC
	110–199 VAC	1500 W	48 VDC
	100–109 VAC	1300 W	48 VDC
FD-RPS-48-1000	100–240 VAC	1000 W	48 VDC

Wire and Terminal Specifications

Terminal/Connector	Wire Range/Specifications	Strip Length and Torque
AC Power Input	Use the AC power cord you ordered for your F-Drive Power Supply.	None
DC Power Output	Use the DC power harness provided with your F-Drive Series driver enclosure and the plug provided with the F-Drive Power Supply.	10 mm (3/8 in) 0.5–0.8 N·m (4.4–7 in-lb)
Ground/Earth	M5-threaded stud	None

Rack-Mount Safety

The F-Drive enclosure and F-Drive Power Supply install into a standard 19-inch rack.

- **Elevated Operating Ambient Temperature:** If the F-Drive Power Supply is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may elevate above the room ambient temperature. Do not operate the device in an enclosed environment above 40°C (104°F).
- **Reduced Air Flow:** When installing the F-Drive Power Supply in an equipment rack, the rack must be vented and have adequate airflow to maintain an operating temperature below 40°C (104°F).
- **Mechanical Loading:** The F-Drive Power Supply must be installed in a rack in a horizontal flat orientation to ensure even mechanical loading in the rack, avoiding hazardous or dangerous loading conditions.
- **Circuit Overloading:** When installing the F-Drive Power Supply in an equipment rack, consider the connection of the equipment to the rack or power source to avoid overloading the rack circuit or supply wiring. Consider the rack or power distribution in the equipment rack during installation.
- **Reliable Grounding:** Maintain reliable grounding of the rack-mounted equipment. Give particular attention to any supply connections other than direct connections to the branch circuit (for example, the use of power strips).

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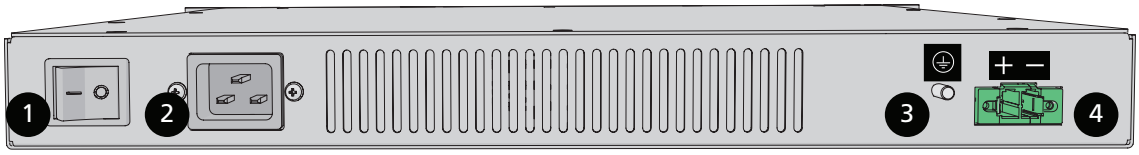
Install the F-Drive Power Supply



F-Drive Power Supply, rear view;
1, On/Off switch; *2*, AC input; *3*, Ground/Earth stud; *4*, DC output

Install the F-Drive Power Supply in the Rack

Before installing equipment in the rack, review the *Electrical Specifications on page 4* and *Rack-Mount Safety on page 5*.

1. Ensure power to the rack is off.
2. Mount all rack-mount units in a 19-inch equipment rack.

Connect Ground/Earth

The F-Drive Power Supply has an M5-threaded ground/earth stud (*3* in the illustration on *page 6*) for connection to ground/earth. Follow all local and national codes.

Wire the DC Power Output

F-Drive family rack-mount LED drivers ship with a red-and-black DC power wiring harness with an F-Drive power input plug on one end and bare ends on the other (ETC part number 7148B7002). Follow the instructions below to wire the bare end to the pluggable connector provided with the F-Drive Power Supply.

Note: *"+" is red and "-" is black for the DC power harness (ETC part number 7148B7002) and the DC power output from the F-Drive Power Supply.*

1. Ensure power to the rack is off.
2. Locate the DC output plug that shipped in the box with the F-Drive Power Supply.
3. Strip the free end of the wires on the DC power harness to 10 mm (3/8 in).
4. Insert each wire from the DC power harness into the correct terminal on the pluggable connector.
   - Refer to the "+" and "-" label above the DC output receptacle (*4* in the illustration on *page 6*).
   - "+" is red and "-" is black.
5. Use the #1 Phillips screwdriver to secure the wire in the terminal.
6. Reinstall the pluggable connector to the back of the F-Drive Power Supply DC output receptacle (*4* in the illustration on *page 6*) and ensure the wires are secure in the connector.

Finish Installation

1. Connect the provided AC power cable between equipment rack power and the F-Drive Power Supply AC input.
2. Apply power to the equipment rack.
3. Toggle the switch on the rear panel of the F-Drive Power Supply to "On." The front panel LED illuminates.

Maintenance

WARNING: RISK OF DEATH BY ELECTRIC SHOCK! Failure to disconnect all power to the system before installation, maintenance, cleaning, or any other system modification could result in serious injury or death.

AVERTISSEMENT : RISQUE DE MORT PAR DÉCHARGE ÉLECTRIQUE! Négliger de débrancher toutes les sources d'alimentation du système avant l'installation, l'entretien, le nettoyage ou toute autre modification du système peut causer des blessures graves ou la mort.

De-energize main feed to F-Drive Power Control products and follow appropriate Lockout/Tagout procedures as mandated by NFPA 70E. It is important to note that electrical equipment such as breaker panels can present an arc flash hazard if improperly serviced. This is due to the high amounts of short-circuit current available on the electrical supply to this equipment. Any work must comply with OSHA Safe Working Practices.

CAUTION: ***RISK OF ELECTRIC SHOCK! Disconnect power before servicing.***

ATTENTION : ***RISQUE DE CHOC ÉLECTRIQUE! Couper l'alimentation avant l'entretien.***

You can remove the F-Drive Power Supply from the equipment rack using the two orange 'U' handles. The F-Drive Power Supply contains no user-serviceable parts. Contact ETC Technical Services with any service questions.

Compliance

For complete product documentation, including compliance documentation, visit etcconnect.com.