

# CTO Configuration Guide



## Eaton<sup>®</sup> Ferrups<sup>®</sup> Ferrups 60Hz RM Series



*Powering Business Worldwide*

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## Configuring Your FERRUPS UPS

FERRUPS must be ordered using a Configure To Order (CTO) Number that reflects the cabinet style, VA rating, voltages, runtime, and other options pertaining to the FERRUPS configuration. As you select the options needed, they will become part of the CTO number.

Sample CTO Number: RI000AA0A0A0A0A.

External battery packs, bypass switches and other external options should be ordered as separate items.

The UPS CTO Worksheet											
	UPS CTO Order Code						List Price	Discount	Net Price		
Base Unit	R_										
Input / Output Voltage											
Battery and Battery Charger											
Internal Maintenance Bypass Switch											
Input Connection											
Output Connection											
Internal Options											
Complete UPS CTO Number	R_										
UPS Subtotal											
External Battery Pack											
Battery Pack Selected:											
Other External Battery Options Selected:											
External Maintenance Bypass Switch											
External Maintenance Bypass Switch Selected:											
Other External Options											
<b>Note:</b> Eaton offers a complete line of <b>Power Distribution Units (PDUs)</b> . Please contact your sales representative or visit our website, <a href="http://powerquality.eaton.com">powerquality.eaton.com</a> details.											
Sub Total											
								Freight			
								Insurance			
								Tax/Duty			
								Quote Total			

# Ferrups 60Hz Rackmount Series Quick Reference

Note: **Not all options are available on each base unit.** Options restrictions exist. Please consult information in this guide for further detail.

## R I 0 0 0 A A 0 A 0 A 0 A 0 A

Base Unit (1-2)	
RC =	1.4kVA
RH =	2.1kVA
RI =	3.1kVA
RK =	7.0kVA

Input/Output Voltage (3)	
0 =	120V in; 120V out
1 =	208V in; 120/208V out
2 =	208V in; 120/240V out
3 =	240V in; 120/240V out
6 =	240V in; 240V out

Internal Bypass (5)	
0 =	None

Input (6)	
A =	Hardwired
B =	5-15P
C =	5-20P
D =	5-50P
J =	L5-30P
K =	L6-20P
L =	L6-30P

Output (7-14)		
Type	Qty	
A=	None- HW	0
B=	5-15R Duplex	1
C=	5-20R Duplex	2
E=	6-20R Duplex	3
G=	L5-15R Duplex	
H=	L5-20R	
I=	L5-30R	
K=	L6-20R	
L=	L6-30R	

*Enter receptacle types alphabetically, followed by the qty desired, and complete necessary digits with "A0"*

Battery / Battery Charger (4)	
0 =	Standard Battery/ Standard Charger
3 =	Setup for Internal w/o Battery/ Std Charger
4 =	External Battery/ Standard Charger
5 =	External Battery/ 10A Charger

Internal Options (15)	
A =	None
B =	AVR/ DVR (recommended for PFC loads)
Q =	Neutral to ground bond removal (shipboard)
R =	Neutral to ground removed & AVR/DVR

# FES1.4kVA CTO Configuration Guide

## Ferrups 1.4kVA 60Hz Rackmount General Specifications

Capacity:	1.4kVA/ 1.0kW	Dimensions:	10.5" (6U) x 19" x 21.25"
Input Voltage:	120V	(HxWxD)	267mm x 483mm x 540mm
Output Voltage:	120V	Weight (with batteries <sup>1</sup> ):	150 lb / 68 kg
		Weight (without batteries):	98 lb / 45 kg

See Eaton® Ferrups® Rackmount Series 60Hz Datasheet (LTP0224) for additional product specification.

1. Weights are approximate for standard batteries, option 0 for digit 4.

Base Unit		Digits 1-2
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER1.4kVA, 60 Hz Rackmount	RC	\$3,559

Input / Output Voltage			Digit 3
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0

Battery and Battery Charger			Digit 4
Battery Configuration	Battery Charger	CTO Order Code	Option Price
14 minute internal (36m half load)	standard	0	\$437
Set up for internal (less batteries)	standard	3	\$108

Internal Maintenance Bypass Switch		Digit 5
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available <sup>1</sup>	0	\$0

<sup>1</sup>External maintenance bypass switch available for hardwired systems. Order desired maintenance bypass switch as a separate line item on your order. See page 1.4k-2.

Input Connection			Digit 6
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired <sup>1</sup>	A	\$0
	5-15P	B	\$24

<sup>1</sup> Hardwired input requires hardwired output

# FES1.4kVA CTO Configuration Guide

## Output Connection

Digits 7-14

Designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of receptacles.

Output Voltage Required	Output Connection	CTO Order Code	Option Price
120 volt	Hardwired <sup>1</sup>	A0A0A0A0	\$0
120 volt	5-15R Duplex	B2A0A0A0	\$100

<sup>1</sup> Hardwired output requires hardwired input

## Internal Options

Digit 15

Internal Options	CTO Order Code	Option Price
No other option	A	\$0
AVR (recommended when loads contain PFC power supplies)	B	\$85
Neutral to Ground bond removal (For Shipboard Use)	Q	\$25
Neutral to Ground bond removal and AVR (For Shipboard Use)	R	\$110

## External Options

External bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option. More options are listed in the Additional External Options section of this guide.

## External Maintenance Bypass Switches<sup>1</sup> (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$441
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$441

<sup>1</sup> Bypass Switch must be mounted on the wall near the UPS.

# FER2.1kVA CTO Configuration Guide

## Ferrups 2.1kVA 60Hz Rackmount General Specifications

Capacity:	2.1kVA/ 1.5kW	Dimensions:	10.5" (6U) x 19" x 26.25"
Input Voltage:	120V	(HxWxD)	267mm x 483mm x 667mm
Output Voltage:	120V	Weight (with batteries <sup>1</sup> ):	220 lb / 100 kg
		Weight (without batteries):	116 lb / 53 kg

See Eaton® Ferrups® Rackmount Series 60Hz Datasheet (LTP0224) for additional product specification.

1. Weights are approximate for standard batteries, option 0 for digit 4.

Base Unit		Digits 1-2
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER2.1kVA, 60 Hz Rackmount	RH	\$4,091

Input / Output Voltage			Digit 3
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0

Battery and Battery Charger			Digit 4
Battery Configuration	Battery Charger	CTO Order Code	Option Price
24 minute internal (58m half load)	standard	0	\$710
Set up for internal (less batteries)	standard	3	\$216
set up for external battery pack <sup>1</sup>	standard	4	\$0

<sup>1</sup> Includes External Battery Connector. Order desired external battery pack as a separate line. See page 2.1k-3.

Internal Maintenance Bypass Switch		Digit 5
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available <sup>1</sup>	0	\$0

<sup>1</sup> External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 2.1k-2.

Input Connection		Digit 6	
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
120 volt	Hardwired <sup>1,2</sup>	A	\$0
	5-20P	C	\$39

<sup>1</sup> Hardwired input requires hardwired output

<sup>2</sup> Limits output selection to two slots

# FER2.1kVA CTO Configuration Guide

## Output Connection Digits 7-14

Designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity of receptacles.

Output Voltage Required	Output Connection	CTO Order Code	Option Price
120 volt	Hardwired <sup>1</sup>	A0A0A0A0	\$0
	5-15R Duplex	B3A0A0A0	\$150
	5-20R Duplex (UL)	C3A0A0A0	\$150

<sup>1</sup> Hardwired output requires hardwired input

## Internal Options Digit 15

Internal Options	CTO Order Code	Option Price
DVR	B	\$0
Neutral to Ground bond removal and DVR (For Shipboard Use)	R	\$25

## External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option. More options are listed in the Additional External Options section of this guide.

## External Battery Packs<sup>1</sup>

Runtime Full/Half	Battery Charger Required	Order Number	List Price
1h41m/3h54m	Standard Battery Charger	1re	\$2,855

<sup>1</sup> UPS must be ordered set up for external battery pack. See page 2.1k-1.

## External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension (72") Also recommended for third-party external battery configurations.	BCS-0108	\$50

## External Maintenance Bypass Switches<sup>1</sup> (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120	MBB (Make Before Break)	BPE01MBB1A	\$441
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$441

<sup>1</sup> Bypass Switch must be mounted on the wall near the UPS.

# FER3.1kVA CTO Configuration Guide

## Ferrups 3.1kVA 60Hz Rackmount General Specifications

Capacity:	3.1kVA/ 2.2kW	Dimensions:	10.5" (6U) x 19" x 26.25"
Input Voltage:	120, 208, 240 V	(HxWxD)	267mm x 483mm x 667mm
Output Voltage:	120, 120/208, 120/240, 240, 127/240 V	Weight (with batteries <sup>1</sup> ):	238 lb / 108 kg
		Weight (without batteries):	138 lb / 63 kg

See Eaton® Ferrups® Rackmount Series 60Hz Datasheet (LTP0224) for additional product specification.

1. Weights are approximate for standard batteries, option 0 for digit 4.

Base Unit		Digits 1-2
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER3.1kVA, 60 Hz Rackmount	RI	\$4,522

Input / Output Voltage			Digit 3
Input Voltage	Output Voltage	CTO Order Code	Base Price
120	120	0	\$0
208	120/208	1	\$150
208	120/240	2	\$150
240	120/240	3	\$150
240	240 (International Models)	6	\$150

Battery and Battery Charger			Digit 4
Battery Configuration	Battery Charger	CTO Order Code	Option Price
14 minute internal	standard	0	\$695
Set up for internal (less batteries)	standard	3	\$216
set up for external battery pack <sup>1</sup>	standard	4	\$0

<sup>1</sup> Includes External Battery Connector

Order desired external battery pack as a separate line. See page 3.1k-3.

Internal Maintenance Bypass Switch		Digit 5
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option available <sup>1</sup>	0	\$0

<sup>1</sup> External maintenance bypass switch available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 3.1k-4.

Input Connection			Digit 6
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired <sup>1</sup>	A	\$0
120 volt	5-50P	D	\$90
	L5-30P	J	\$77
208 or 240 volt	L6-20P	K	\$77
	L6-30P	L	\$77

<sup>1</sup> Hardwired input requires hardwired output

# FER3.1kVA CTO Configuration Guide

## Output Connection

**Digits 7-14**

Designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to four different types of receptacles.

- Three output slots available with line cord input connection.
- For multiple quantities of one receptacle type, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than three types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired <sup>1</sup>	A	0	\$0	
120 volt Choose up to three panels	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208, or 240 volt Choose up to three panels	6-20R Duplex	E	___	\$75	
120 volt Choose up to three panels	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208, or 240 volt Choose up to three panels	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A</u> <u>0</u>
Hardwire Output Connection CTO Order Code		<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>

<sup>1</sup> Hardwired output requires hardwired input

## Internal Options

**Digit 15**

Internal Options	CTO Order Code	Option Price
DVR	B	\$0
Neutral to Ground bond removal and DVR (For Shipboard Use)	R	\$25

# FER3.1kVA CTO Configuration Guide

## External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option. More options are listed in the Additional External Options section of this guide.

### External Battery Packs<sup>1</sup>

Runtime Full/Half	Battery Charger Required	Order Number	List Price
57m/2h27m	Standard Battery Charger	1re	\$2,855

<sup>1</sup> UPS must be ordered set up for external battery pack. See page 3.1k-1.

### External Battery Accessories

Option	Order Number	List Price
External Battery Connector Extension (72") Also recommended for third-party external battery configurations.	BCS-0108	\$50

### External Maintenance Bypass Switches<sup>1</sup> (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
120V	MBB (Make Before Break)	BPE01MBB1A	\$441
	MBB, with AS/400 (iSeries) Option	BPE01MBBAS1A	\$441
208V	BBM (Break Before Make)	BPE02BBM1A	\$604
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$604
240V	MBB (Make Before Break)	BPE02MBB1A	\$604
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$604

<sup>1</sup> Bypass Switch must be mounted on the wall near the UPS.

# FER7kVA CTO Configuration Guide

## Ferrups 7.0kVA 60Hz Rackmount General Specifications

Capacity:	7.0kVA/ 5.0kW	Dimensions:	19.25" (11U) x 19" x 26.25"
Input Voltage:	208, 240 V	(HxWxD)	489mm x 483mm x 540mm
Output Voltage:	120/208, 120/240, 240	Weight (with batteries <sup>1</sup> ):	N/A
		Weight (without batteries):	330 lb / 150 kg

See Eaton® Ferrups® Rackmount Series 60Hz Datasheet (LTP0224) for additional product specification.

1. Weights are approximate for standard batteries, option 0 for digit 4.

Base Unit		Digits 1-2
Base Model, Frequency, Cabinet Style	CTO Order Code	Base Price
FER7kVA, 60 Hz Rackmount	RK	\$9,450

Input / Output Voltage			Digit 3
Input Voltage	Output Voltage	CTO Order Code	Base Price
208	120/208	1	\$0
208	120/240	2	\$0
240	120/240	3	\$0
240	240 (International Models)	6	\$0

Battery and Battery Charger			Digit 4
Battery Configuration	Battery Charger	CTO Order Code	Option Price
set up for external battery pack <sup>1</sup>	standard	4	\$0
set up for external battery pack <sup>1</sup>	10 amp internal upgrade	5	\$270

<sup>1</sup> Order desired external battery pack as a separate line. See page 7k-3.

Internal Maintenance Bypass Switch		Digit 5
Internal Maintenance Bypass Switch	CTO Order Code	Option Price
No internal maintenance bypass switch option <sup>1</sup>	0	\$0

<sup>1</sup> External maintenance bypass switch also available for hardwired systems.

Order desired maintenance bypass switch as a separate line item on your order. See page 7k-3.

Input Connection			Digit 6
Input Voltage Selected	Input Connection	CTO Order Code	Option Price
Any	Hardwired	A	\$0

<sup>1</sup> Cannot be used with internal maintenance bypass switch.

# FER7kVA CTO Configuration Guide

## Output Connection Digits 7-14

Designated by 8 digits within the unit CTO number. These eight digits allow selection of the type and quantity for up to three different types of receptacles.

- Up to three output slots available.
- For multiple quantities of one receptacle type, enter the type once with the total quantity (ex: B2 not B1B1).
- Always enter the receptacle types alphabetically (ex: B1C1 not C1B1).
- If hardwire output is desired, select type "A", quantity "0" for all four receptacle types (ex: A0A0A0A0).
- If fewer than three types of receptacle are selected, complete the remaining receptacle digits with A0 (ex: B1C1A0A0).

Output Voltage Required	Output Connection	CTO Order Code		Option Price per Panel	
		Type	Qty		
Any	Hardwired <sup>1</sup>	A	0	\$0	
120 volt	5-15R Duplex	B	___	\$50	
	5-20R Duplex (UL)	C	___	\$50	
208 or 240 volt	6-20R Duplex	E	___	\$75	
120 volt	L5-15R Duplex	G	___	\$75	
	L5-20R	H	___	\$75	
	L5-30R	I	___	\$75	
208 or 240 volt	L6-20R	K	___	\$75	
	L6-30R	L	___	\$75	
Receptacle Output Connection CTO Order Code		__	__	__	<u>A</u> <u>0</u>
Hardwire Output Connection CTO Order Code		<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>	<u>A</u> <u>0</u>

<sup>1</sup> Hardwired output requires hardwired input

## Internal Options Digit 15

Internal Options	CTO Order Code	Option Price
DVR	B	\$0
Neutral to Ground bond removal and DVR (For shipboard use)	R	\$25

# FER7kVA CTO Configuration Guide

## External Options

External battery packs, bypass switches and other external options are not a part of the CTO number and will need to be ordered as separate line items. Some external options require that the UPS be configured for use with the option. More options are listed in the Additional External Options section of this guide.

### External Battery Packs

Runtime Full/Half	Battery Charger Required <sup>1</sup>	Order Number	List Price
12m/33m	Standard Battery Charger <sup>1</sup> 10 Amp Battery Charger Upgrade Optional	EBPS4.3R	\$2,805

<sup>1</sup>Order battery charger as part of UPS. See page 7k-1.

### External Maintenance Bypass Switches<sup>1</sup> (Recommended for hardwired units)

UPS Input Voltage	Switch Type	Order Number	List Price
208, 220 volt	BBM (Break Before Make)	BPE02BBM1A	\$604
	BBM with AS/400 (iSeries) Option	BPE02BBMAS1A	\$604
240 volt	MBB (Make Before Break)	BPE02MBB1A	\$604
	MBB with AS/400 (iSeries) Option	BPE02MBBAS1A	\$604

<sup>1</sup>Bypass Switch must be mounted on the wall near the UPS.

## Additional Ferrups External Options

### Voltage Matching Transformers

208V in – 120/240V out. Required for applications using MBB bypass with source voltage of 208V.

Transformer Description	For use with Ferrups models:	Order Number	List Price
7.5kVA Transformer	RK (7kVA)	TRN-0239	\$1,013

### Connectivity

Option	Order Number	List Price
Hand-held Remote Control Panel with Cable	RCK-0007	\$265
IBM AS/400 (iSeries) Interface Kit – UPS w/o maintenance bypass switch	IPK-0001	\$95
IBM AS/400 (iSeries) Interface Kit – UPS w/ maintenance bypass switch	BAA-0325	\$120
BestLink SNMP/WEB Adapter	116750225-001	\$349

### Software

Arriving bundled with every Ferrups UPS is the Eaton Software Suite. The Software Suite includes LanSafe software, Netwatch software and a 30-day trial of PowerVision® Management Software.



Eaton's latest release of our free LanSafe® software is fully supportive of the Ferrups product line. Ferrups customers can use LanSafe to deliver comprehensive UPS support including graceful, remote shutdown of UPS systems and network monitoring tools via a serial connection. The most recent release of LanSafe software is available for download on our website [powerquality.eaton.com](http://powerquality.eaton.com).

With PowerVision, you can proactively monitor the health and performance of UPS, power distribution, and environmental systems across the enterprise- and enhance the reliability of the entire power protection infrastructure.

NetWatch Clients UPS software enables users to shutdown a server or workstation and acts as a network-monitoring tool through the BestLink SNMP/WEB Adapter that monitors and controls it. During an extended power outage, the SNMP/WEB adapter informs all registered NetWatch Clients that it is time to shut down their respective operating systems, thus preparing them for the removal of AC power.

Additionally, the CheckUPS® Software Suite is available for download at [powerquality.eaton.com](http://powerquality.eaton.com). This product remains in Eaton's portfolio and is still used in a number of applications but is not under further development. CheckUPS provides enhanced UPS monitoring and unattended system shutdown features for most popular operating systems, including Windows 9x and Windows NT/2000, Novell NetWare, and many versions of UNIX.

For more information on Eaton software products, visit [powerquality.eaton.com/Support/Software-Drivers](http://powerquality.eaton.com/Support/Software-Drivers)

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Finland: 358.94.52.661  
France: 33.1.6012.7400  
Germany: 49.7841.666.0  
Italy: 39.02.66.04.05.40  
Norway: 47.23.03.65.50  
Sweden: 46.8.598.940.00  
United Kingdom: 44.1753.608.700

ASIA PACIFIC  
Australia/NZ: 61.2.9878.5000  
China: 86.21.6361.5599  
HK/Korea/Taiwan: 852.2745.6682  
India: 91.11.2649.9414 to 18  
Singapore/SEA: 65.6829.8888

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