



CFR-RM Rack-Mount Uninterruptible Power Supply



Rack-Mount Brackets provide the flexibility of a 19" or 23" mid chassis mount.
Complete input to output insulation provides the industry's best surge and lightning protection.
The CFR's microprocessor design provides efficiency ratings of up to 92%.
Optional External Battery Packs greatly extend available backup time.
Cable assemblies are also available for external batteries.

The CFR switched parallel resonant conversion technology enhances the ferroresonant transformer's natural isolation, surge and spike rejection characteristics without the step-load response problems associated with other hybrid technologies. The CFR sets the standard for the effective powering on non-linear or actively regulated loads, while providing superior surge and noise rejection.

Nominal Specifications

Model	Output Power Rating	Input Voltage (VAC)	Output Voltage (VAC)	Typical Efficiency (AC/AC 100% Load)	Typical Heat Output (Line Mode)
CFR 1000RM	1000VA/750W	120	120	90%	284BTU/h
CFR 1500RM	1500VA/1125W	120/208/240	120/208/240	90%	427BTU/h
CFR 3000RM	3000VA/2000W	120/208/240	120/208/240	90%	758BTU/h
CFR 5000RM	5000VA/3750W	120/208/240	120/208/240	90%	1425BTU/h

Model	Width (inches/mm)	Height (inches/mm)	Depth (inches/mm)	60Hz Weight (lbs/kg)	Max. Battery Charger Current
CFR 1000RM	17/432	8.75/223	15/381	70/31.8	3A
CFR 1500RM	17/432	8.75/223	15/381	87/39.5	3A
CFR 3000RM	17/432	10.5/267	15/381	130/59	3A
CFR 5000RM	17/432	12.5/317	17/432	225/102	8A

Note: EBP Required. Battery run times are calculated at typical loads (80%) and will vary according to battery age, loads, temperature and other factors.

Extended Battery Run Time Options

Option A

Model	External Battery Pack (EBP)	Total Run Time (Internal Batteries+EBP)
CFR 1000RM	EBP 217-24CRM	12 minutes
CFR 1500RM	EBP 417-48CRM	18 minutes
CFR 3000RM	EBP 48A RM	27 minutes
CFR 5000RM	EBP 48I RM	12 minutes

Option B

Model	External Battery Pack (EBP)	Total Run Time (Internal Batteries+EBP)
CFR 1000RM	EBP 417-24CRM	32 minutes
CFR 1500RM	EBP 48A RM	60 minutes
CFR 3000RM	2-EBP 48A RM	1 hour 10 minutes
CFR 5000RM	2-EBP 48I RM	32 minutes

Option C

Model	External Battery Pack (EBP)	Total Run Time (Internal Batteries+EBP)
CFR 1000RM	2-EBP 417-24CRM	1 hour 20minutes
CFR 1500RM	2-EBP 48A RM	1 hour 28 minutes

Note: Battery run times are calculated at typical loads (80%) and will vary according to battery age, loads, temperature and other factors.

General Specifications

Input:	
Operating Voltage Range	-23% to +10%
Frequency Operating Range	± 1.4Hz
Input Power Factor	0.95 to 0.99
Input Current THD	5% typical
Output:	
Waveform	True sinewave
Voltage Regulation	± 1%
Output Voltage THD	< 5% 600VA to 5KVA <3% 7.5KVA to 15KVA
Inverter Frequency Stability	± 0.1%
Agency Compliance:	
Spike Attenuation	2000 to 1
Lightning & Surge Protection	ANSI C62.41-1980 (IEEE 587)
Safety	60Hz: UL, CSA 50Hz: CE, VDE
XXX	FCC/DOC Class A
Environment:	
Operating Ambient Temp.	0 to 40°C or 32 to 104°F
Audible Noise	≤ 40dBA typical
Battery Charger:	
Recharge Time	≤ 5hrs typical to 80% capacity

Communications

All Alpha CFR products feature RS-232 communication ports and are SNMP and modem compatible. The following is a list of optional communication, monitoring and control products:

AlphaNet C™ Alpha's Network Power Management Software allows a CFR UPS user to monitor power quality and perform an orderly unattended shutdown of UPS powered systems.

AlphaNet CS™ SNMP Agent - Furnishes real time UPS/power status to the Network Power Management Software.

SmartSocket+ Power management device allows switching of individual power receptacles under program control, including timed power-on and power-off.

Intelligent Interface Device (I²D) - Front panel LCD readout provides vital UPS system information at the touch of a key.

External Battery Pack Options

CFR-RM 1000 Battery Pack 24V

EBP 217-24 RM	EBP 417-24 RM
Width (inches/mm)	17/432
Height (inches/mm)	3.5/89
Depth (inches/mm)	15.75/400
Weight (lbs/kg)	50/23
Capacity (Ah)	17

CFR-RM 1500 Battery Pack 48V

EBP 417-48 RM	EBP 48A RM
Width (inches/mm)	17/432
Height (inches/mm)	3.5/89
Depth (inches/mm)	15.75/400
Weight (lbs/kg)	78/35
Capacity (Ah)	17

CFR-RM 3000, 5000 Battery Pack 48V

EBP 48A RM (3000)	EBP 48I RM (5000)
Width (inches/mm)	17/432
Height (inches/mm)	8.75/222
Depth (inches/mm)	15/381
Weight (lbs/kg)	140/64
Capacity (Ah)	33

Note: Special cable assemblies for external battery configurations are available. Please contact the factory for additional information. Alpha's plug-in External Battery Packs provide extended backup for all CFR models. All battery packs are shipped fully assembled and include interconnecting cables. Longer run times are obtained by cascading additional battery cabinets.

60Hz Power Connector Options

Output Power Connector Configuration Options

Any combination of 3 or less duplex receptacles
Any combination of 2 or less single receptacles
Single terminal block

Model	Input	Output
CFR 1000RM	5-15P	5-15R
	L5-15P	5-20R
	Terminal Block	Terminal Block
CFR 1500RM	5-15P	5-15R
	L5-15P	5-20R
	Terminal Block	6-20R
		L5-15R
		L5-20R
		L5-30R
		L6-20R
		5-30R
		Terminal Block
	CFR 3000RM	Terminal Block
		5-20R
		6-20R
		L5-15R
		L5-20R
		L5-30R
		L6-20R
CFR 5000RM	Terminal Block	5-15R
		5-20R
		6-20R
		L5-15R
		L5-20R
		L5-30R
		L6-20R
	5-30R	
	Terminal Block	