

# C&D TECHNOLOGIES

Power Solutions



## Front Access Liberty Products Valve Regulated Lead Acid

50 Ampere hours up to 600 Ampere hours

We Now Offer a Complete  
Line of Integrated Systems



### Features and Benefits

**Front Access Design:** Terminals are in front for easy maintenance and installation.

**Industry Standard Dimensions:** Battery dimensions fit most tray and cabinet designs.

**Tested to Industry Standards:** Meets Bellcore TR-NWT-000766 requirements.\*

**PVC Container and Cover:** High Impact, Flame Retardant. Meets UL-94-V0;  
ASTM D-635, LOI > 32%.

**10-Year Life Expectancy:** Thick plate design for 10-year life in float service applications (77F).

**UL Approved:** Components tested to UL standards for batteries.

\*LFA & FA 12-125 Models



## FEATURES AND BENEFITS

### Front Access Design

- Easy maintenance and installation
- No need for extra “wrench space” above battery

### Fits Industry Standard Sizes

- Excellent for OEM replacement product
- No need to modify rack or tray

### Maximized energy density for installation in relay rack trays

### Compact for easy handling and installation

### Thick radial grid design for both positive and negative plates

- Improves current carrying capacity and performance
- Designed for 10-year float life

### Automated, state-of-the-art cast-on strap process

- Ensures consistent, high-quality, low electrical resistance welds

### Through-the-partition intercell connection

- Shortens current paths and reduces resistance
- Increases performance

### Post seal design with secondary seal to increase integrity

- Leak-free operation
- Superior reliability

### Two-fold vent system

- Low-pressure safety valve with flash arrester
- Minimizes bulging
- Prevents flashback explosion from external ignition source

### Flame retardant construction for optimum safety

- Meets UL 94 VO
- LOI > 28%

### C&D Quality



LFA Battery Rack available in 3, 4 or 5 shelf designs  
Meets Zone 4 requirements



80 Series Cabinet with FA 12-125 Batteries installed

# SPECIFICATIONS

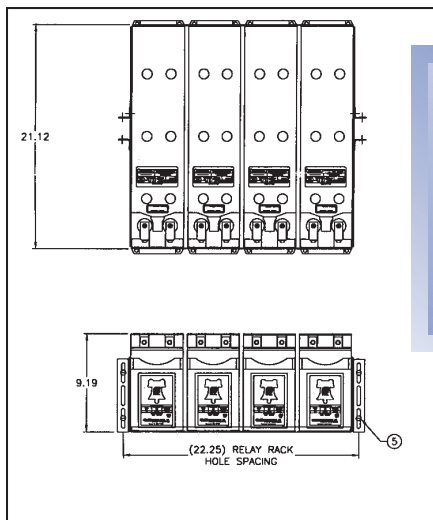
Model	FA 12-50	FA 12-100	LFA 12-100	FA 12-125	FA 12-150	LFA 6-200	LFA 2-600
Nominal voltage	12 volts	12 volts	12 volts	12 volts	12 volts	6 volts	2 volts
Number of cells	6/unit	6/unit	6/unit	6/unit	6/unit	3/unit	1/unit
Rated 8-hr. capacity (ampere-hours to 1.75 Vpc)	50 Ah to 10.5 volts	100 Ah to 10.5 volts	100 Ah to 10.5 volts	125 Ah to 10.5 volts	150 Ah to 10.5 volts	200 Ah to 5.25 volts	600 Ah to 1.75 volts
Rated 15-min. capacity (kilowatts to 1.67 Vpc)	0.174	0.320	0.344	0.413	0.568	0.688	2.063
Internal resistance	.0063 Ohms	0.00036 Ohms	0.000786 Ohms	0.000589 Ohms	.00024 Ohms	0.000393 Ohms	0.000131 Ohms
Short circuit current	1900 A	3400 A	2545 A	3200 A	5000 A	5089 A	15267 A
Unit height	11.62 in (295 mm)	9.06 in (230 mm)	9.90 in (234 mm)	10.10 in (256 mm)	12.7 in (322 mm)	9.90 in (234 mm)	9.90 in (234 mm)
Unit length (includes handles)	10.8 in (275 mm)	21.97 in (558 mm)	16.58 in (421 mm)	16.60 in (415 mm)	21.97 in (558 mm)	16.58 in (421 mm)	16.58 in (421 mm)
Unit width	3.93 in (100 mm)	4.92 in (125 mm)	6.84 in (174 mm)	6.93 in (176 mm)	4.92 in (125 mm)	6.84 in (174 mm)	6.84 in (174 mm)
Weight	50 lbs (23 kg)	90 lbs (41 kg)	95 lbs (43 kg)	120 lbs (55 kg)	131 lbs (60 kg)	95 lbs (43 kg)	95 lbs (43 kg)
Plate thickness positive	0.14 in (3.55mm)	0.14 in (3.55mm)	0.136 in (3.45 mm)	0.15 in (3.81mm)	0.14 in (3.55mm)	0.136 in (3.45 mm)	0.136 in (3.45 mm)
negative	0.067 in (1.70 mm)	0.085 in (2.16 mm)	0.085 in (2.16 mm)	0.088 in (2.23mm)	0.085 in (2.16 mm)	0.085 in (2.16 mm)	0.085 in (2.16 mm)
Terminal characteristics	M6 diameter brass threaded insert. Fasten with M6 stainless hex bolt/washer.	M8 diameter brass threaded insert. Fasten with M8 stainless hex bolt/washer.	1.00 in (25 mm) diameter threaded copper brass insert, .75 in (19 mm) deep. Fasten with 1/4-20 stainless steel hex bolt/washer.	1/4-20 stainless steel stud. Fasten with 1/4-20 stainless steel hex nut/washer.	M8 diameter brass threaded insert. Fasten with M8 stainless hex bolt/washer.	1.00 in (25 mm) diameter threaded copper brass insert, .75 in (19 mm) deep. Fasten with 1/4-20 stainless steel hex bolt/washer.	1.00 in (25 mm) diameter threaded copper brass insert, .75 in (19 mm) deep. Fasten with 1/4-20 stainless steel hex bolt/washer.

Electrolyte at 77F (25C)	1.300 specific gravity nominal sulfuric acid
System float voltages	2.23-2.27 volts per cell $\pm$ .02, Recommended Float 2.25
Life expectancy	>10 years, full float service at 77F (25C)
Container and cover	Impact resistant thermoplastic, UL 94-VO. LOI>28 flammability ratings
Safety vent system	Low-pressure release valve with flash arrester

# RATINGS IN AMPERES AT 77F (25C) PER CELL

FV/Time	Models	20 hr.	10 hr.	8 hr.	6 hr.	5 hr.	4 hr.	3 hr.	2 hr.	1 hr.	30 min.	15 min.	10 min.	5 min.	1 min.
1.90	FA 12-50	2.8	5.0	6.0	7.8	9.0	10.0	13.6	18.3	31.2	48.0	67.8	79.1	96.0	109.0
	FA 12-100	4.6	8.6	10.5	13.6	15.8	19.0	24.3	33.2	55.3	88.6	126.0	147.4	169.6	187.4
	LFA 12-100	4.6	8.6	10.5	13.6	15.8	19.0	24.3	33.2	55.3					
	FA 12-125	6.0	11.0	13.0	16.3	16.2	22.9	28.3	39.8	62.4	106.3	151.2	176.9	203.5	224.8
	FA 12-150	8.4	15.1	18.3	23.2	27.0	32.3	40.7	55.8	93.7	144.0	203.0	238.0	288.0	329.0
	LFA 6-200	9.3	17.3	21.0	27.2	31.5	38.1	48.6	66.3	110.7					
	LFA 2-600	27.9	51.8	63.0	81.5	94.6	114.3	145.7	199.0	332.0					
1.88	FA 12-50	2.8	5.0	6.2	7.8	9.2	10.0	13.8	18.3	32.8	48.0	67.8	79.1	96.0	109.0
	FA 12-100	4.8	9.4	11.0	14.2	16.5	20.0	25.4	35.0	58.3	94.2	137.2	162.8	191.8	216.0
	LFA 12-100	4.8	9.0	11.0	14.2	16.5	20.0	25.4	35.0	58.3					
	FA 12-125	6.1	11.5	13.4	17.0	16.8	24.0	29.8	42.0	65.3	113.0	164.6	195.4	230.1	259.2
	FA 12-150	8.5	15.3	18.4	23.5	27.3	32.9	41.6	57.5	98.4	156.0	227.0	270.0	336.0	396.0
	LFA 6-200	9.7	18.1	22.0	28.3	33.0	40.0	50.8	69.9	116.5					
	LFA 2-600	29.0	54.3	66.0	85.0	99.1	120.0	152.5	209.8	349.5					
1.84	FA 12-50	2.8	5.0	6.2	7.8	9.2	11.2	14.2	19.6	34.0	55.2	82.0	100.0	128.0	154.0
	FA 12-100	5.1	10.0	11.7	15.1	17.7	21.5	27.4	37.8	62.9	103.4	156.0	189.0	233.4	272.9
	LFA 12-100	5.1	9.6	11.7	15.1	17.7	21.5	27.4	37.8	62.9					
	FA 12-125	6.3	12.0	14.4	18.1	20.6	25.8	30.9	45.3	70.1	124.0	187.2	227.9	280.1	327.4
	FA 12-150	8.5	15.3	18.5	23.6	27.7	33.4	42.3	58.7	102.0	165.0	247.0	301.0	386.0	465.0
	LFA 6-200	10.2	20.1	23.4	30.1	35.4	43.0	54.8	75.6	125.8					
	LFA 2-600	30.7	60.2	70.3	90.4	106.2	129.0	164.3	226.7	377.3					
1.80	FA 12-50	2.7	5.2	6.2	7.9	9.3	11.6	14.5	19.9	35.2	54.2	87.3	104.5	139.5	188.2
	FA 12-100	5.3	10.3	12.1	15.7	18.6	22.6	29.1	39.8	66.3	110.6	171.4	213.4	272.3	329.5
	LFA 12-100	5.3	10.0	12.1	15.7	18.6	22.6	29.1	39.8	66.3					
	FA 12-125	6.7	12.5	15.2	18.9	22.3	27.1	29.1	34.9	75.8	132.7	205.6	256.1	328.7	395.3
	FA 12-150	8.5	15.4	18.7	23.9	27.9	33.7	42.9	60.0	106.0	175.0	271.0	336.0	446.0	552.0
	LFA 6-200	10.7	20.1	24.3	31.4	37.1	45.2	58.1	79.7	132.7					
	LFA 2-600	32.0	60.2	72.9	94.3	111.4	135.5	174.3	239.0	398.0					
1.75	FA 12-50	2.8	5.2	6.3	8.1	9.6	11.7	14.9	20.4	36.4	49.6	97.6	122.2	169.0	218.0
	FA 12-100	5.4	10.4	12.5	14.7	19.2	20.9	29.8	37.4	69.0	113.0	179.0	227.0	312.0	400.0
	LFA 12-100	5.4	10.4	12.5	16.3	19.2	23.3	29.8	41.2	69.0					
	FA 12-125	6.8	12.7	15.6	19.5	24.0	29.0	37.0	51.0	86.0	138.2	216.0	271.9	361.7	482.2
	FA 12-150	8.6	15.5	18.8	24.0	28.1	34.0	43.4	61.0	109.0	184.0	293.0	370.0	509.0	652.0
	LFA 6-200	10.8	20.8	25.0	32.6	38.4	46.7	59.7	82.3	138.0					
	LFA 2-600	32.5	62.3	75.0	97.7	115.2	140.0	179.0	247.0	414.0					

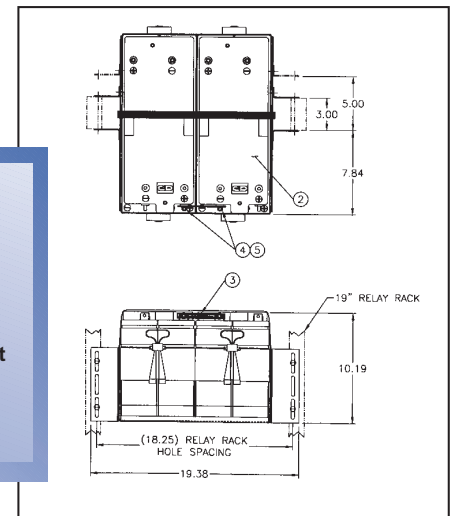
\*If no rating is indicated contact C&D product management.



**FA 12-100**

- Front Access Design
- Fits 48V System in 23" Rack
- Fits Industry Standards
- Fits MESA Series Cabinets
- Fits DSC 2016 and 2030 Cabinets
- Relay Rack Trays available P/N RD02332

**FA 12-125**



- Front Access Design
- Fits 24V System in 19" Rack
- Fits Industry Standards
- Fits 80 Series Cabinets
- Fits CDMA/TDMA Cabinets
- Modular Design to Reduce Weight For Easy Installation
- Relay Rack Trays available P/N RD02270

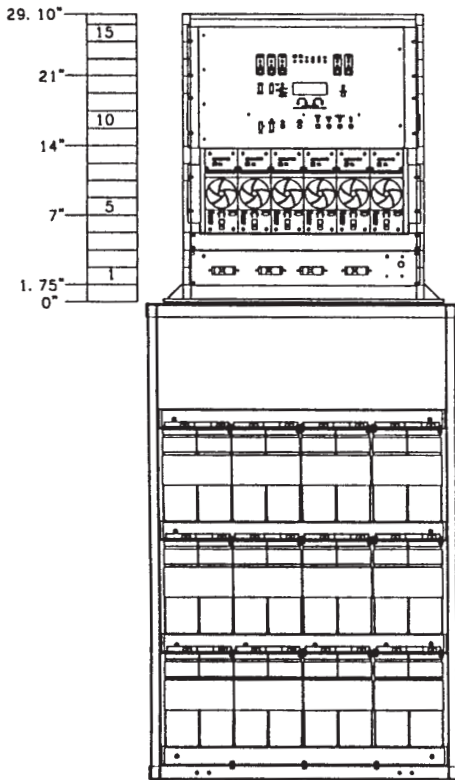
For additional information on racks and cabinets for Liberty® Series 1000, see the following brochures:  
 Modular Rack brochure # 12-380  
 Battery Cabinet Systems brochure # 12-344

## RATINGS IN KILOWATTS AT 77F (25C) PER CELL

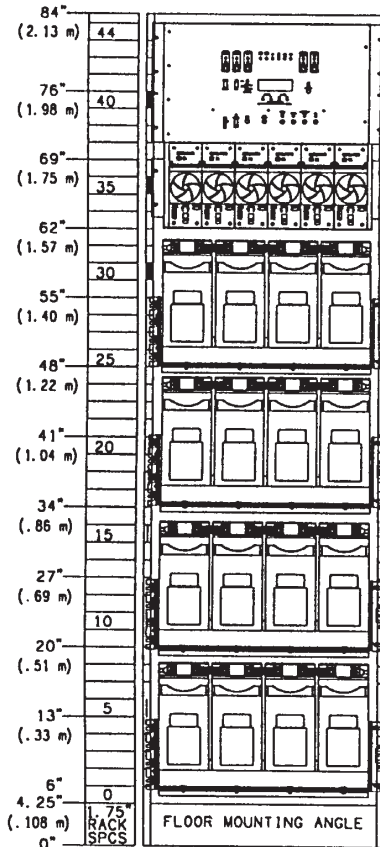
FV/Time	Models	8 hr.	5 hr.	3 hr.	1 hr.	30 min.	20 min.	15 min.	10 min.	5 min.	1 min.
<b>1.90</b>	FA 12-50	0.012	0.018	0.026	0.060	0.091	0.113	0.129	0.152	0.185	0.212
	FA 12-100	0.022	0.032	0.048	0.109	0.168	0.208	0.238	0.279	0.340	0.390
	LFA 12-100	0.021	0.032	0.048	0.109						
	FA 12-125	0.025	0.038	0.058	0.131	0.208	0.257	0.294	0.342	0.390	0.427
	FA 12-150	0.036	0.053	0.079	0.179	0.274	0.339	0.387	0.455	0.554	0.635
	LFA 6-200	0.042	0.063	0.097	0.219						
	LFA 2-600	0.126	0.189	0.290	0.656						
<b>1.80</b>	FA 12-50	0.012	0.018	0.028	0.067	0.109	0.141	0.167	0.207	0.273	0.337
	FA 12-100	0.022	0.033	0.051	0.122	0.200	0.259	0.307	0.380	0.503	0.620
	LFA 12-100	0.024	0.037	0.057	0.129						
	FA 12-125	0.029	0.044	0.068	0.155	0.254	0.328	0.389	0.400	0.602	0.712
	FA 12-150	0.036	0.054	0.083	0.200	0.326	0.403	0.501	0.620	0.820	1.011
	LFA 6-200	0.048	0.073	0.114	0.258						
	LFA 2-600	0.143	0.219	0.342	0.773						
<b>1.75</b>	FA 12-50	0.012	0.018	0.028	0.068	0.112	0.146	0.174	0.218	0.293	0.368
	FA 12-100	0.022	0.034	0.051	0.125	0.205	0.269	0.320	0.401	0.540	0.677
	LFA 12-100	0.025	0.038	0.058	0.133						
	FA 12-125	0.029	0.045	0.070	0.160	0.263	0.340	0.403	0.502	0.655	0.844
	FA 12-150	0.036	0.055	0.083	0.203	0.335	0.438	0.522	0.653	0.880	1.104
	LFA 6-200	0.049	0.075	0.117	0.266						
	LFA 2-600	0.147	0.226	0.350	0.799						
<b>1.70</b>	FA 12-50	0.012	0.018	0.028	0.069	0.116	0.154	0.186	0.236	0.328	0.425
	FA 12-100	0.022	0.034	0.052	0.128	0.214	0.284	0.342	0.435	0.604	0.782
	FA 12-125							0.412	0.513	0.689	0.961
	FA 12-150	0.037	0.055	0.085	0.208	0.349	0.463	0.558	0.709	0.985	1.275
<b>1.67</b>	FA 12-50	0.012	0.018	0.028	0.070	0.118	0.157	0.189	0.242	0.339	0.443
	FA 12-100	0.022	0.034	0.052	0.128	0.217	0.288	0.348	0.445	0.537	0.816
	FA 12-125							0.413	0.520	0.711	1.029
	FA 12-150	0.037	0.055	0.085	0.209	0.353	0.470	0.568	0.726	1.017	1.330
<b>1.65</b>	FA 12-50	0.012	0.018	0.028	0.070	0.118	0.158	0.191	0.245	0.345	0.453
	FA 12-100	0.022	0.034	0.052	0.129	0.218	0.290	0.352	0.451	0.546	0.834
	FA 12-125							0.414	0.522	0.724	1.073
	FA 12-150	0.037	0.055	0.085	0.210	0.355	0.474	0.573	0.735	1.035	1.360
<b>1.63</b>	FA 12-50	0.012	0.018	0.028	0.070	0.119	0.159	0.193	0.247	0.350	0.462
	FA 12-100	0.022	0.034	0.052	0.129	0.219	0.292	0.355	0.455	0.552	0.850
	FA 12-125							0.414	0.524	0.735	1.115
	FA 12-150	0.037	0.055	0.085	0.211	0.357	0.477	0.578	0.742	1.050	1.386
<b>1.60</b>	FA 12-50	0.012	0.018	0.028	0.071	0.120	0.160	0.194	0.250	0.356	0.473
	FA 12-100	0.022	0.034	0.052	0.130	0.220	0.295	0.358	0.461	0.560	0.869
	FA 12-125							0.415	0.529	0.754	1.176
	FA 12-150	0.037	0.055	0.085	0.212	0.359	0.480	0.583	0.751	1.068	1.418

\*If no rating is indicated contact C&D product management.

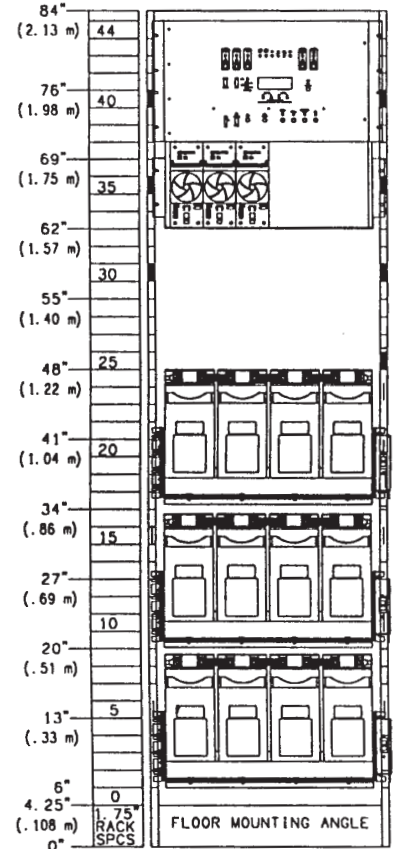
C&D Technologies offers a complete line of Integrated Rack Systems for most Telecom applications. Whether you have 25 amp load with 8 hours of back-up or a 150 amp load with 2 hours of back-up, C&D can provide complete Integrated Rack Systems. Contact your C&D representative for more details.



**2 Hour: 150 AMP  
Power Plant  
Zone 4 Rack  
30" Wide**



**4 Hour: 150 AMP  
Power Plant**



**8 Hour: 50 AMP  
Power Plant**

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