

# HIGH RATE MAX

**C&D**  
TECHNOLOGIES

12-1029

## HIGH RATE MAX



# APPLICATIONS

- Data Centers
- Industrial Process Control Facilities
- Semiconductor Manufacturing
- Power Generation Plants
- Network Operations Centers
- Internet Housing Sites
- Hospitals & Testing Laboratories
- Emergency 911 Response Centers

# FEATURES

- 10 year design life @ 25°C
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- Patented Long Life Alloy having the lowest calcium levels in the industry - minimizing grid growth, reducing gassing, and extending battery life.
- Patented UL Recognized Flame-arresting vents in each cell for safety and long life.
- Designed with the same recombination, thermal runaway prevention, gassing and flame retardant characteristics of the Bell core 4228 compliant Dynasty Telecom products.
- Flame retardant polypropylene case and cover compliant with UL94-V2
- Thermally welded case-to-cover bond to eliminate leakage.
- Can be operated in any orientation. Upright, side or end mounting recommended.
- Not restricted for air transport - Complies with IATA/ICAO Special Provisions A67.
- Complies with UL1778, 924, 1989 and 94 V-2. BS6290-4, IEC-896-2.
- UL-recognized component.
- Not restricted for surface transport - Classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189.
- Not restricted for water transport - Classified as non-hazardous material per IMDG Amendment 27.

# TECHNICAL DATA

MODEL	VOLTAGE	VOLTAGE		DIMENSIONS/MM (L*W*H* TOTAL HEIGHT)				WEIGHT	
		5 MIN	15 MIN	LENGTH	WIDTH	HEIGHT	TOTAL HEIGHT	LBS	KG
UPS12-100MR	12	90.9	90.9	166.2	131.3	161.7	174.3	21	10
UPS12-150MR	12	148	148	197.1	131.9	165.7	172.7	27.3	12.4
UPS12-210MR	12	206	206	228.6	139.2	200.3	205.1	40	18
UPS12-300MR	12	300	300	260.9	173.4	200.3	203.5	58.4	26.5
UPS12-350MR	12	350	350	305.8	173.4	201.6	204.8	67.4	30.5
UPS12-400MR	12	400	400	340.9	172.7	213.2	216.4	75.8	34.4
UPS12-490MR	12	488	488	344.7	172.7	274.5	277.7	100	45
UPS12-540MR	12	537	537	344.7	172.7	274.5	277.7	100	45
UPS12-600MR	12	601	601	344.7	172.7	274.5	277.7	109	49.4
UPS6-620MR	6	620	620	320.8	177	224	227.2	72	33
UPS12-615MRF	12	615	172	559	125	278.7	278.7	121.7	55.2
UPS12-700MRF	12	700	201	559	125	322.1	322.1	143.1	64.9
UPS12-1000MRF	12	1000	254	559	154	322	322	187.9	85.2

# ADDITIONAL DATA

MODEL	TERMINAL	CELLS PER UNIT	SHORT CIRCUIT CURRENT (AMPS @ 0.1 SEC)	TERMINAL TYPE	TERMINAL TORQUE	OHMS IMPEDANCE 60 HZ
UPS12-100MR	Top	6	1750	10-32 UNF	40 in.-lbs (4.5 N-m)	0.006
UPS12-150MR	Top	6	2500	10-32 UNF	30 in.-lbs (4.5 N-m)	0.006
UPS12-210MR	Top	6	3000	10-32 UNF	30 in.-lbs (4.5 N-m)	0.0045
UPS12-300MR	Top	6	3600	1/40-20 UNC	110 in.-lbs (12.4 N-m)	0.004
UPS12-350MR	Top	6	4200	1/40-20 UNC	110 in.-lbs (12.4 N-m)	0.003
UPS12-400MR	Top	6	5100	1/40-20 UNC	110 in.-lbs (12.4 N-m)	0.0025
UPS12-490MR	Top	6	5000	1/40-20 UNC	110 in.-lbs (12.4 N-m)	0.0023
UPS12-540MR	Top	6	5000	1/40-20 UNC	110 in.-lbs (12.4 N-m)	0.0023
UPS12-600MR	Top	6	6448	1/40-20 UNC	110 in.-lbs (12.4 N-m)	0.0034
UPS6-620MR	Top	3	4350	1/40-20 UNC	110 in.-lbs (12.4 N-m)	0.0012
UPS12-615MRF	Front	6	3700	M8	160 in.-lbs. (18 N-m)	0.0034
UPS12-700MRF	Front	6	4400	M8	160 in.-lbs. (18 N-m)	0.0028
UPS12-1000MRF	Front	6	5540	M8	160 in.-lbs. (18 N-m)	0.0023

**NOTE:** Additional product details available on the C&D Battery Sizing Program at [www.cdstandbypower.net](http://www.cdstandbypower.net). Cabinet system also available.

\* Constant power ratings are to 1.67 VPC @ 77°F (25°C) and capacity rated to 1.75 VPC @ 77°F (25°C). Above ratings do not include interunit connector voltage drops.

\*\* For reference only. Individual baselines recommend for diagnostic purposes.

# SPECIFICATIONS

OPERATING TEMPERATURE RANGE WITH TEMPERATURE COMPENSATION	Discharge: -40°F (-40°C) to +160°F (+71°C) Charge: -10°F (-23°C) to +140°F (+60°)
NOMINAL OPERATING TEMPERATURE RANGE	+74°F (+23°C) to +80°F (+27°C)
RECOMMENDED MAXIMUM CHARGING CURRENT LIMIT	C20/5 amperes (20 hr. rate)
FLOAT CHARGE VOLTAGE	13.65 ± 0.15 VDC average per 12V unit
MAXIMUM AC RIPPLE (CHARGER)	0.5% RMS or 1.5% P-P of float charge voltage recommended for best results. Max voltage allowed = 1.4% RMS (4% P-P) Max current allowed = C/20 (20 hr. rate)
SELF DISCHARGE	Batteries can be stored up to 24 months at +77°F (+25°C) before freshening charge is required. Batteries stored at temperatures greater than +77°F (+25°C) will require recharge sooner than batteries stored at lower temperatures. See C&D brochure 41-7272, Self-Discharge and Inventory Control for details.
EQUALIZE AND CYCLE SERVICE CHARGE VOLTAGE	14.4 to 14.8 VDC average per 12V unit @ +77°F (+25°C)
TERMINAL: INSERTED	Top Terminal Batteries: 1/4-20 UNC Bolt and Front Terminal Batteries: Insert (M8)
TERMINAL HARDWARE INITIAL TORQUE: INSERTED TERMINAL	Top Terminal Batteries: 110 in.-lbs (12.4 N-m) and Front Terminal Batteries 160 in.-lbs (18 N-m)

# UPS12-100MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	157	114	87.5	72.1	54.9	45	41.5	38.5	33.7	24
1.70	168	115	89.6	74.4	56.5	46	42.1	38.9	33.8	24.4
1.67	172	117	90.9	75.4	57.2	46.5	42.6	39.3	34.1	24.6
1.65	174	118	91.5	75.9	57.6	46.9	42.9	39.7	34.5	24.8
1.60	179	119	92.5	76.8	58.3	47.4	43.4	40.1	34.8	25
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.90	13.8	8.29	6.04	3.95	2.61	2.15	1.82	1.14	0.96	0.34
1.85	15	8.99	6.56	4.3	2.84	2.33	1.98	1.24	1.05	0.37
1.80	16.1	9.42	6.83	4.46	2.95	2.42	2.05	1.28	1.08	0.38
1.75	17	9.74	6.99	4.54	3	2.45	2.08	1.3	1.1	0.39

# UPS12-150MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	273	182	140	115	85.7	68.8	62.7	57.6	49.7	35
1.70	284	188	144	117	87.1	69.8	63.6	58.4	50.3	35.7
1.67	290	193	148	120	88.9	71.1	64.7	59.4	51.1	36.1
1.65	294	196	149	122	90	71.8	65.3	60	51.5	36.4
1.60	297	200	152	124	91	72.5	65.9	60.5	51.9	36.6
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	22.8	13	9.08	5.7	3.76	3.1	2.64	1.64	1.38	0.47
1.80	24.2	13.6	9.46	5.91	3.9	3.21	2.72	1.69	1.41	0.48
1.75	25.4	14.1	9.8	6.11	4	3.28	2.79	1.73	1.45	0.49

# UPS12-210MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	341	243	193	162	123	99	90.3	83	71.5	50.6
1.70	366	253	200	166	125	100	91.1	83.6	71.8	50.4
1.67	373	261	206	169	127	102	92.6	85.1	73.3	51.9
1.65	378	262	205	170	128	102	93.3	85.7	73.8	52.1
1.60	391	265	207	172	129	103	94	86.3	74.2	52.3
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	32.6	19.1	13.6	8.68	5.79	4.72	4.01	2.51	2.12	0.73
1.80	34.8	20.3	14.4	9.2	6.12	5	4.24	2.65	2.23	0.76
1.75	36.7	21.1	19.9	9.43	6.25	5.05	4.28	2.69	2.27	0.77

# UPS12-300MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	493	360	281	232	175	141	129	119	103	73.5
1.70	525	379	293	240	179	144	131	120	104	74
1.67	546	385	300	245	183	147	134	123	106	75
1.65	564	395	302	247	183	147	134	124	107	76.2
1.60	579	402	306	250	186	150	137	126	109	77.7
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	48.3	28.1	19.9	12.6	8.36	6.82	5.79	3.62	3.05	1.05
1.80	51.1	29.3	20.7	13.1	8.84	7.23	6.13	3.83	3.22	1.08
1.75	52.7	30.1	21.2	13.4	9.16	7.46	6.32	3.93	3.3	1.1

# UPS12-350MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	534	410	327	272	205	165	150	138	119	84.3
1.70	596	425	337	280	211	169	154	141	121	84.9
1.67	619	440	350	289	216	173	157	144	123	85.9
1.65	638	455	358	296	220	175	159	145	124	86.5
1.60	669	471	367	302	223	177	161	147	126	87.6
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	53	31.8	22.9	14.8	10.6	8.73	7.38	4.56	3.84	1.29
1.80	58.8	34.5	24.6	15.7	10.1	8.35	7.09	4.39	3.69	1.32
1.75	62.6	36.3	25.8	16.4	11	8.98	7.57	4.66	3.92	1.34

# UPS12-400MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	612	470	374	310	232	186	169	155	134	94.7
1.70	678	490	388	323	241	193	176	161	138	96.6
1.67	716	506	400	328	244	195	177	162	139	97.2
1.65	740	515	403	332	247	197	179	164	140	98.1
1.60	767	530	411	337	249	199	180	165	140	99.2
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	56.2	33.7	24.4	15.7	10.8	8.85	7.56	4.8	4.06	1.38
1.80	62.1	36.5	26.1	16.7	11.4	9.38	8	5.03	4.23	1.43
1.75	67.9	39.2	27.8	17.6	11.9	9.73	8.26	5.17	4.35	1.46

# UPS12-490MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	655	527	443	382	300	247	227	210	183	132
1.70	740	573	470	400	310	253	233	215	187	134
1.67	771	593	488	411	317	258	237	218	189	135
1.65	799	614	497	419	321	261	239	220	191	137
1.60	838	640	513	429	325	264	241	222	193	138
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	80.8	48.4	34.8	22.4	15	12.3	10.5	6.66	5.64	1.93
1.80	86.4	51.3	36.7	23.4	15.6	12.7	10.8	6.88	5.82	1.99
1.75	91	53.5	38.2	24.4	16.2	13.1	11.1	7.06	5.98	2.03

# UPS12-540MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	728	564	471	406	318	261	239	221	191	136
1.70	833	626	511	433	332	269	246	226	195	138
1.67	875	657	537	451	343	277	252	231	198	139
1.65	912	683	550	462	349	280	255	234	201	141
1.60	959	701	560	468	353	283	258	237	203	143
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	82.7	49.5	35.6	22.9	15	12.6	10.9	7.05	5.98	2
1.80	89.6	53.1	38.1	24.4	15.9	13.2	11.3	7.29	6.18	2.07
1.75	98.9	57	40.3	25.5	16.5	13.6	11.7	7.46	6.31	2.11

# UPS12-600MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	868	682	551	453	345	282	259	241	212	151
1.70	928	725	583	475	355	288	265	245	215	152
1.67	969	745	601	486	361	292	268	248	217	153
1.65	999	756	608	492	365	294	270	250	218	154
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	98	55.1	38.8	25.1	16.5	13.3	11.2	6.9	5.8	
1.80	104	58	40.7	26.3	17.1	13.9	11.7	7.2	6.1	
1.75	106	59	41.7	26.7	17.4	14.1	11.9	7.4	6.2	

# UPS6-620MR

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	862	681	573	497	392	323	297	274	238	169
1.7	890	718	602	517	403	330	302	278	241	171
1.67	938	747	620	530	410	335	307	283	245	174
1.65	951	763	634	542	419	342	313	288	250	178
1.60	1000	794	655	557	429	349	320	295	256	183
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	106	63.6	46.2	30.1	20.3	16.9	14.5	9.27	7.85	2.73
1.80	114	67.6	48.8	31.6	21.2	17.6	15.1	9.66	8.1	2.83
1.75	121	71.2	50.9	32.6	21.9	18.1	15.6	9.96	8.42	2.87

# UPS12-615MRF

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	973.6	731.7	583	494.2	386	313.6	288	266.9	234	169
1.7	1010.4	759.3	605	508	391	317.4	291.4	269.9	236.5	170.7
1.67	1027.1	771.8	615	513.8	392.5	318.8	292.8	271.3	237.8	171.5
1.65	1035.4	778.1	620	513.8	393.5	319.5	293.4	271.8	238.2	172
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	109	61.8	44	28.7	19	15.5	13.1	8.1	6.81	2.38
1.80	118	65.8	46.7	30.4	20.1	16.3	13.8	8.47	7.12	2.49
1.75	120	67	47.5	30.9	20.3	16.5	13.9	8.61	7.26	2.54

# UPS12-700MRF

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	1020.6	780	630	544.1	437	358.7	330.8	307.7	271.5	196.5
1.7	1083.8	839.6	669	570.2	449	365.5	336	311.6	273.5	198.6
1.67	1117.8	866	700	583	453	368.1	338.1	313.3	274.7	199.3
1.65	1134	878.5	703	590	457	370.3	339.7	314.5	275.2	199.7
END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	121	71.4	51.1	33.5	22.1	18	15.2	9.48	8.01	2.8
1.80	130	75.1	53.9	35.2	23.2	18.8	15.9	9.88	8.34	2.92
1.75	134	76.6	54.6	35.7	23.6	19.2	16.2	10.07	8.51	2.98

# UPS12-1000MRF

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	5	10	15	20	30	40	45	50	60	90
1.75	1379.8	1098.4	907.8	763.7	589.7	472.2	431.2	397.5	345.3	250.1
1.7	1469	1169.4	966.4	801.7	606.1	484.4	442	407.1	353.2	254.7
1.67	1520	1210	1000	823.7	616.2	491.2	447.7	412	356.9	256.7
1.65	1541.9	1227.5	1014.4	834.1	622.3	495.5	451.4	415.2	359.4	257.9

  

END POINT VOLTS/CELL	CONSTANT POWER DISCHARGE RATINGS - WATTS PER CELL @ +77°F (+25°C)									
	OPERATING TIME TO END POINT VOLTAGE (IN MINUTES)									
	1	2	3	5	8	10	12	20	24	72
1.85	168	96.1	67.9	43.2	28.1	22.9	19.4	12.1	10.2	3.6
1.80	181.1	102	71.3	45	29.3	23.9	20.2	12.5	10.6	3.7
1.75	187.5	104.1	72.1	45.4	29.7	24.3	20.6	12.7	10.7	3.8



[www.cdtechno.com](http://www.cdtechno.com)

## OFFICES

### C&D WORLD HEADQUARTERS

200 Precision Road  
Horsham, Pennsylvania 19044 USA

### C&D UNITED KINGDOM

25 Earlstrees Road  
Corby, NN17 4AZ, UK

### CANADA

C&D Mississauga Sales Office  
6665 Millcreek Dr. Unit 3  
Mississauga, Ontario L5N 5M4 Canada

## MANUFACTURING

### UNITED STATES

C&D Attica Manufacturing  
200 W. Main Street  
Attica, Indiana 47918-0279 USA

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