

12-1037

DYNASTY®

**TRUE
FRONT
ACCESS
HIGH RATE MAX
UPS 12-615MRF
UPS 12-700MRF**



**Valve Regulated Lead Acid (VRLA) Battery Series
Designed for UPS Standby Power Applications**

APPLICATIONS

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

FEATURES & BENEFITS

- 10 Year Design Life @ 25°C
- True Front Access threaded copper alloy inserts for reduced maintenance and increased safety.
- Terminal versatility - ease of diagnostic readings with C&D Ohmic Ring®
- Innovative front terminal design maximizing energy density with direct connect extrusion fusion weld technology.
- Reduced headspace driving higher energy density, in cabinet or rack applications
- Removable handles for ease of installation
- Thermally welded case-to-cover bond to ensure a leak-proof seal.
- Flame-retardant polypropylene case and cover compliant with UL94 V-0 with an Oxygen Limiting Index of greater than 28.
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of over 99%.
- Flame-arresting, one-way pressure-relief vent for safety and long life.
- Complies with UL1778, 924, 1989 and 94 V-0. BS6290-4, IEC-896-2.
- UL-recognized component.
- Multicell design for ease of installation and maintenance.
- Not restricted for air transport - Complies with IATA/ICAO Special Provision A67.
- Not restricted for surface transport - classified as non-hazardous material as related to DOT-CFR Title 49 parts 171-189.
- 3 Year Full Warranty (refer to DynastY warranty card, 41-9027)
- Not restricted for water transport - classified as non-hazardous material per Amendment 27.

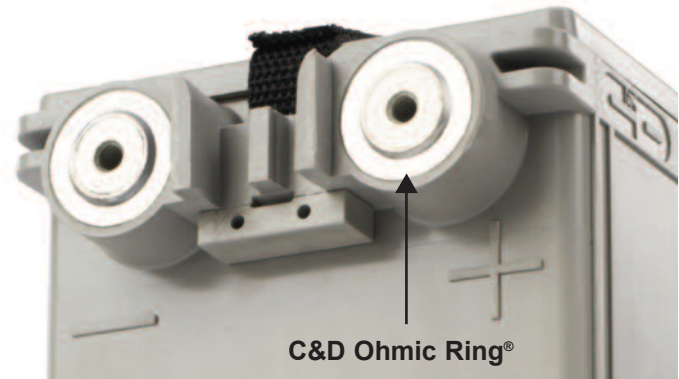
SPECIFICATIONS

Model	Voltage	AH 20 hr*	Constant Power Discharge Ratings - Watts per Cell @ 77°F (25°F)								
			Operating Time (in minutes) to 1.67 Volts per Cell								
			5	10	15	20	30	40	50	60	90
UPS12-615MRF	12	176	939	750	614	516	390	313	262	228	166
UPS12-700MRF	12	206	1059	854	697	575	433	349	294	255	183

*Nominal 20 hr rate to 1.75 VPC in Ampere-Hours

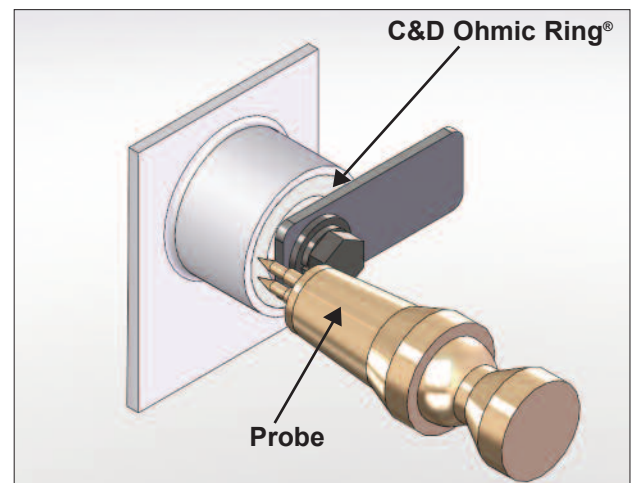
INTRODUCING A UPS FRONT ACCESS BATTERY WITH TRUE FRONT ACCESS TERMINALS

- **Direct welded front facing terminals**
 - Uses proven Dynasty Extrusion Fusion welding process for high reliability
 - Provides most efficient current path for excellent high rate performance
 - No bolted on “L” brackets which try to make a top terminals battery into a front terminal battery
 - One less bolted connection that requires maintenance, builds up resistance, and can lead to poor string performance
- **Designed as a UPS battery from the ground up to efficiently handle high rate discharges**
 - Not a converted telecom front access battery
- **Raised Terminals for ease of maintenance and access to C&D Ohmic Ring®**



C&D Ohmic Ring®

- **Large surface area for direct access to terminals for accurate ohmic measurements**
 - No more taking readings from bus bars or hardware which can lead to substantial errors
- **Provides consistent and accurate measuring location**
 - No guessing to what point was the base line reading taken from
- **Ideally sized for use with standard monitor probes on fully installed systems**
- **The Ohmic Ring design is the only terminal configuration in which micro-ohm connection resistances can be taken as required by standard maintenance programs.**



The Dynasty True Front Access UPS Battery - The Better UPS Battery Solution

- Eliminate hard to service top terminal batteries with a full front access solution
- Higher watts per cell allows a reduction of a parallel string for most common UPS configurations, providing a reduced footprint solution
- Maintenance is significantly easier and safer with all required service points front accessible - reducing both time and cost of periodic servicing
- As a 12V battery design, the UPS12-615MRF and UPS12-700MRF easily integrate with existing battery monitoring equipment.

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°C)
Nominal Operating Temperature Range	+74°F (23°C) to +80°F (27°C)
Recommended Maximum Charging Current Limit	C/5 amperes @ 20 Hr rate
Float Charging Voltage	13.5 to 13.8 VDC average per 12V unit @ 77°F (25°C)
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
Self Discharge	Battery can be stored up to 6 months at 77°F (25°C) before a 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 charge and cycle service voltage	14.40 to 14.80 VDC average per 12V unit @ 77°F (25°C)
Terminal: Inserted - Inter-unit connector provided	Threaded copper alloy insert terminal to accept 1/4-20 UNC bolt
Terminal Hardware Initial Torque	110 in.-lbs. (12.4 N-m)

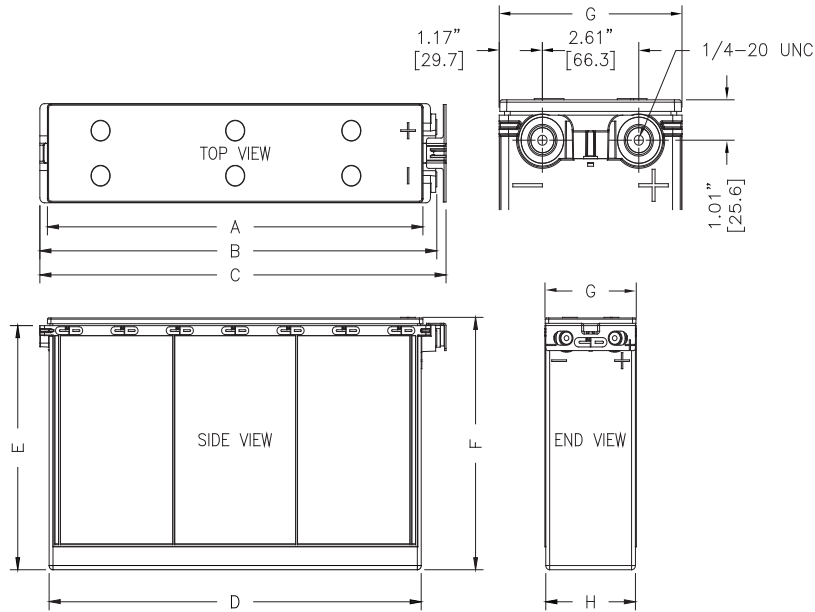
SPECIFICATIONS

Model	Cells per Unit	Battery Weight		Maximum Terminal Discharge Current Rating (AMPS)	Short Circuit Current (AMP @ 0.1 sec)	Ohms Impedance 60 Hz (Ω)
		lbs	kg			
UPS12-615MRF	6	115	53	800	4500	0.0020
UPS12-700MRF	6	131	60	800	4600	0.0021

IMPEDANCE

Typical Impedance Measurement Values*				
	HP	Alber	Midtronics	AVO Biddle
Model	milli-Ohms @ 60Hz	micro-Ohms	Mhos	milli-Ohms
UPS12-615MRF	2.0	Limited Data	2400	2.3
UPS12-700MRF	2.1	3480	2500	2.4

* Per IEEE 1188-2005, Internal ohmic values are useful as a trending tool. To use these readings effectively, accurate baseline readings should be taken after about six months of battery operation. Internal ohmic readings taken without the benefit of baseline data may be difficult to interpret and of limited value. Values are provided are for reference only.



Model	A		B		C		D		E		F		G		H	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
UPS12-615MRF	20.35	516.9	21.51	546.3	22.01	559.1	20.16	512.2	10.73	272.5	11.14	283.0	4.95	125.7	4.86	123.4
UPS12-700MRF	20.35	516.9	21.51	546.3	22.01	559.1	20.16	512.2	12.19	309.6	12.60	320.0	4.95	125.7	4.86	123.4

* All dimensions in inches and (millimeters). All dimensions are for reference only. Contact a C&D Representative for complete dimensions information.

UPS12-615MRF

Constant Power Discharge Ratings - Watts Per Cell @ 77°F (25°C)											
Operating Time to End Point Voltage (in minutes)											
End Point Volts/Cell	5	10	15	20	30	40	45	50	60	90	
1.75	787	677	573	486	369	300	275	254	221	161	
1.70	863	713	594	504	384	309	282	259	223	167	
1.67	939	750	614	516	390	313	286	262	228	168	
1.65	959	772	628	525	394	316	287	264	227	170	
1.60	978	785	638	532	398	318	290	266	229	171	

Constant Current Discharge Ratings - Amperes @ 77°F (25°F)										
Operating Time to End Point Voltage (in hours)										
End Point Volts/Cell	1	2	3	5	8	10	12	20	24	72
1.85	102	62.0	44.2	28.6	19.0	15.6	13.2	8.24	6.95	2.41
1.80	109	64.8	46.5	30.2	20.0	16.4	13.9	8.63	7.26	2.51
1.75	114	66.8	47.9	31.0	20.5	16.8	14.2	8.79	7.39	2.54

Note: Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification. Above ratings do not include interunit connector voltage drops.

UPS12-700MRF

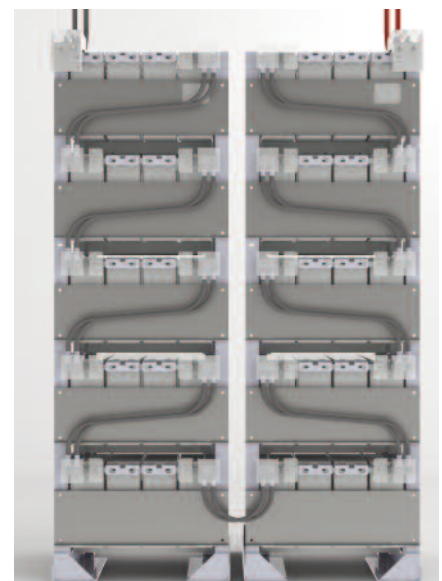
Constant Power Discharge Ratings - Watts Per Cell @ 77°F (25°C)										
Operating Time to End Point Voltage (in minutes)										
End Point Volts/Cell	5	10	15	20	30	40	45	50	60	90
1.75	821.1	700.8	596.0	512.5	398.3	326.9	300.6	278.5	243.2	177.7
1.70	961.5	804.0	665.6	559.0	422.4	341.9	312.9	288.7	250.8	181.5
1.67	1058.8	853.6	697.0	575.3	432.5	349.0	319.0	294.0	254.6	182.9
1.65	1075.6	866.0	699.2	581.1	436.1	351.8	321.5	296.3	256.7	184.5
1.60	1097.4	881.5	712.2	592.2	444.1	357.5	326.4	300.5	259.8	186.0

Constant Current Discharge Ratings - Amperes @ 77°F (25°F)										
Operating Time to End Point Voltage (in hours)										
End Point Volts/Cell	1	2	3	5	8	10	12	20	24	72
1.85	105	66.1	48.8	32.5	21.9	18.1	15.4	9.67	8.16	2.60
1.80	116	70.4	51.7	34.4	23.1	19.0	16.2	10.1	8.54	2.70
1.75	124	74.0	53.8	35.5	23.7	19.5	16.5	10.3	8.70	2.80

Note: Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation. Specifications subject to change without notification. Above ratings do not include interunit connector voltage drops

BATTERY RACKS:

- IBC 300% certified racks available up to 5 tiers high
- Each 5 tier rack holds 20 TFA batteries
- Accessory kits with cables and terminal plates developed for ease of system configuration and install



INTEGRITY BRAND DYNASTY TRUE FRONT ACCESS CABINETS



SPECIFICATIONS

Cabinet Model	UPS TFA Battery Model	Width in. (mm)	Depth in. (mm)	Height in. (mm)	Weight Empty lbs. (kg)	Maximum Weight Cabinet w/ Batteries ¹		Maximum kWb per Cabinet ² 15 Min kWb @ 1.67EPV at 77°F(25°C)		Maximum # Batteries / Cabinet
						lbs. (kg)	1 String, 384VDC	1 String, 480VDC		
EC60	700MRF	45 (1143)	31 (787)	76 (1930)	850 (386)	6,090 (2762)	134.4	168.0	40	
EC70	615MRF			5,450 (2472)	118.1	147.6				
EC80	700MRF	56 (1422)	72 (1829)	963 (437)	6,203 (2814)	134.4	168.0			

¹ With std. handtruck weight limits of 5000 lbs max., option is available to have 16-20 batteries shipped on a pallet
² The Power Rating for any given DC voltage can be increased by paralleling Cabinets.

- Multiple cabinets models available to meet specific customer needs
- EC60 has smallest 480VDC foot print
- Designed to fit through standard 80in. (2032 mm) high doorways
- Screened doors for maximum air flow for cooling
- Factory assembled and UL1778 listed
- See cabinet brochure 12-1038 for details and configuration part numbers

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