

12-1037

**DYNASTY®**

**TRUE  
FRONT  
ACCESS**

**HIGH RATE MAX  
UPS 12-615MRF  
UPS 12-700MRF  
UPS 12-830MRF  
UPS 12-1000MRF**



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

**APPLICATIONS**

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

**FEATURES & BENEFITS**

- Higher watts/cell allows reduction in parallel strings for common UPS configurations, providing reduced footprint and/or lower Total Cost of Ownership
- 10 Year Design Life @ 25°C
- True Front Access threaded copper alloy inserts for reduced maintenance and increased safety
- Patented Long Life Alloy having the lowest calcium levels in the industry - minimizing grid growth, reducing gassing, and extending battery life
- 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 requirements resulting in higher energy density for cabinet or rack applications
- UL-recognized component
- 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
- 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
- Not restricted for water transport - classified as non-hazardous material per Amendment 27
- Thermally welded case-to-cover bond to ensure a leak-proof seal

**SPECIFICATIONS**

|               |         |           | Constant Power Discharge Ratings - Watts per Cell @ 77°F (25°C) |      |      |     |     |     |     |     |     |
|---------------|---------|-----------|---|------|------|-----|-----|-----|-----|-----|-----|
| Model         | Voltage | AH 20 hr* | 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 | 249 | 255 | 183 |
| UPS12-830MRF  | 12      | 251       | 1328  | 1029 | 830  | 713 | 568 | 460 | 391 | 342 | 243 |
| UPS12-1000MRF | 12      | 254       | 1520  | 1210 | 1000 | 824 | 616 | 491 | 412 | 357 | 257 |

\*Nominal 20 hr rate to 1.75 VPC in Ampere-Hours @ 25°C

# INTRODUCING A UPS FRONT ACCESS BATTERY WITH TRUE FRONT ACCESS TERMINALS

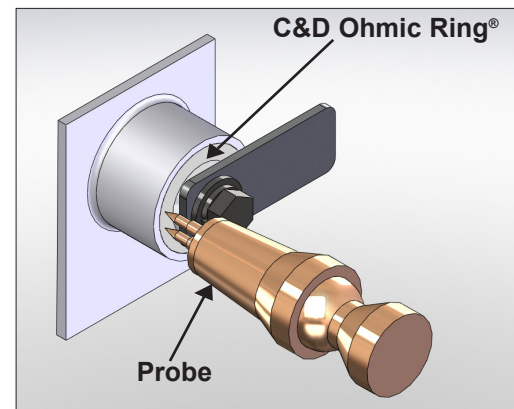
## The Dynasty True Front Access UPS Battery - The Better UPS Battery Solution

- **Designed as a UPS battery from the ground up to efficiently handle high rate discharges**
  - Not a converted telecom front access battery
- **Direct welded front facing terminals**
  - Uses proven Dynasty Extrusion Fusion welding process for high reliability
  - Larger welds decrease internal temperatures which slows grid growth and extends battery life
  - 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, minimizes resistance, that can lead to poor string performance
- **Eliminate hard to service top terminal batteries with a full front access solution**
  - Raised Terminals for ease of maintenance and access to C&D Ohmic Ring®
- **Maintenance is significantly easier and safer with all required service points front accessible**
  - Reduces both time and cost of periodic servicing
- **As a 12V battery design, the UPS12-615MRF, UPS12-700MRF, UPS12-830MRF & UPS12-1000MRF models easily integrate with existing battery monitoring equipment.**



## 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 of the location used for the base line reading
- **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.**

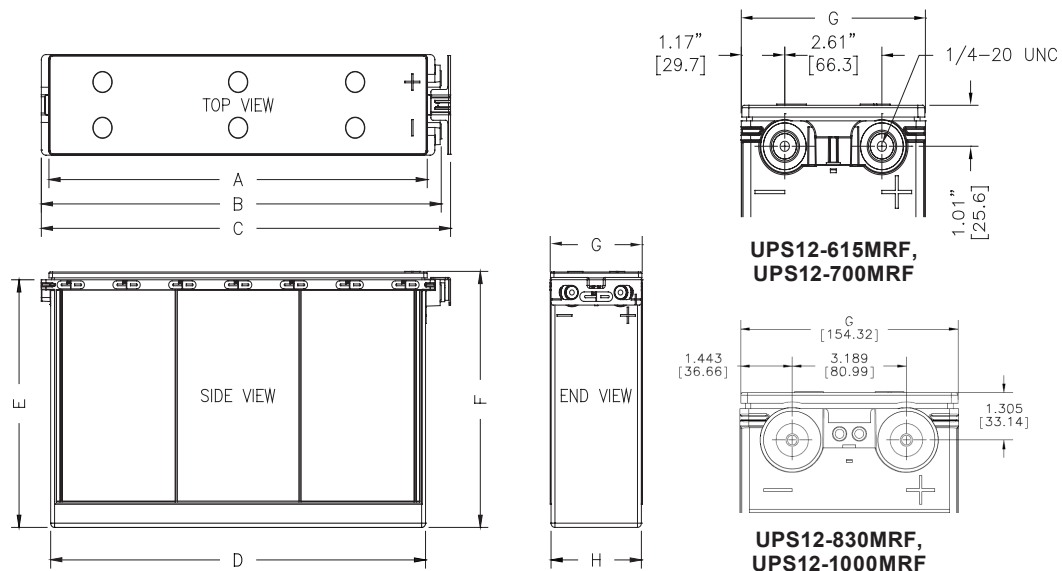


## SPECIFICATIONS

|  |   |
|--|---|
| <b>Operating Temperature Range with temperature compensation</b> | Discharge: -40°F (-40°C) to +160°F (71°C)<br>Charge: -10°F (-23°C) to +140°F (60°C)   |
| <b>Nominal Operating Temperature Range</b>                       | +74°F (23°C) to +80°F (27°C)  |
| <b>Recommended Maximum Charging Current Limit</b>                | C <sub>20</sub> /5 amperes (UPS12-615MRF: 35.2A, UPS12-700MRF: 41.2, UPS12-830MRF: 50.2, UPS12-1000MRF: 50.8)   |
| <b>Float Charging Voltage</b>                                    | 13.5 to 13.8 VDC average per 12V unit @ 77°F (25°C)   |
| <b>Maximum AC Ripple (Charger)</b>                               | 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 <sub>20</sub> /20  |
| <b>Self Discharge</b>  | 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. |
| <b>Equalize Charge and Cycle Service Voltage</b>                 | 14.40 to 14.80 VDC average per 12V unit @ 77°F (25°C)   |
| <b>Terminal: Inserted - Inter-unit connector provided</b>        | Threaded copper alloy insert terminal to accept 1/4-20 UNC bolt (UPS12-615MRF, UPS12-700MRF) or M8 (UPS12-830MRF, UPS12-1000MRF)  |
| <b>Terminal Hardware Torque</b>                                  | 110 in.-lbs. (12.4 N-m) for UPS12-615MRF & UPS12-700MRF<br>160 in.-lbs. (18 N-m) for UPS12-830MRF & UPS12-1000MRF   |

| Model         | Cells per Unit | Battery Weight |    |
|---------------|----------------|----------------|----|
|               |                | lbs            | kg |
| UPS12-615MRF  | 6              | 115            | 53 |
| UPS12-700MRF  | 6              | 131            | 60 |
| UPS12-830MRF  | 6              | 170            | 77 |
| UPS12-1000MRF | 6              | 188            | 85 |

## DIMENSIONS



| 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  | 20.4 | 517 | 21.5 | 546 | 22.0 | 559 | 20.2 | 512 | 10.7 | 273 | 11.1 | 283 | 4.6 | 126 | 4.9 | 123 |
| UPS12-700MRF  | 20.4 | 517 | 21.5 | 546 | 22.0 | 559 | 20.2 | 512 | 12.2 | 310 | 12.6 | 320 | 4.6 | 126 | 4.9 | 123 |
| UPS12-830MRF  | 20.4 | 517 | 21.5 | 546 | 22.0 | 559 | 20.2 | 512 | 12.2 | 310 | 12.7 | 322 | 6.1 | 154 | 6.0 | 152 |
| UPS12-1000MRF | 20.4 | 517 | 21.5 | 546 | 22.0 | 559 | 20.2 | 512 | 12.2 | 310 | 12.7 | 322 | 6.1 | 154 | 6.0 | 152 |

**Note:** All dimensions in inches and [millimeters]. All dimensions are for reference only. Contact a C&D representative for complete dimensional information. Batteries to be mounted with 0.5 in. (1.25 cm) spacing minimum and free air ventilation.

## UPS12-615MRF

| End<br>Volts/Cell | Constant Power Discharge Ratings - Watts Per Cell @ 77°F (25°C) |       |       |       |       |       |       |       |       |
|-------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|
|                   | Operating Time to End Voltage (in minutes)                      |       |       |       |       |       |       |       |       |
|                   | 5   | 10    | 15    | 20    | 30    | 40    | 45    | 50    | 60    |
| 1.75              | 787.2   | 677.4 | 573.0 | 486.2 | 369.4 | 299.8 | 274.8 | 254.0 | 221.2 |
| 1.70              | 863.3   | 713.1 | 594.1 | 504.1 | 383.7 | 309.2 | 281.9 | 259.1 | 223.1 |
| 1.67              | 938.5   | 750.9 | 613.9 | 515.9 | 389.8 | 313.4 | 285.5 | 262.3 | 225.7 |
| 1.65              | 958.5   | 771.8 | 628.4 | 525.0 | 393.7 | 315.5 | 287.3 | 263.8 | 227.0 |
| 1.60              | 977.7   | 785.4 | 638.1 | 532.1 | 397.9 | 318.4 | 289.7 | 265.9 | 228.6 |

| End<br>Volts/Cell | Constant Current Discharge Ratings - Amperes @ 77°F (25°C) |      |      |      |      |      |      |     |     |
|-------------------|--|------|------|------|------|------|------|-----|-----|
|                   | Operating Time to End Voltage (in hours)                   |      |      |      |      |      |      |     |     |
|                   | 1  | 2    | 3    | 5    | 8    | 10   | 12   | 20  | 24  |
| 1.85              | 101.8  | 62.0 | 44.2 | 28.6 | 19.0 | 15.6 | 13.2 | 8.2 | 7.0 |
| 1.80              | 108.7  | 64.8 | 46.5 | 30.2 | 20.0 | 16.4 | 13.9 | 8.6 | 7.3 |
| 1.75              | 113.5  | 66.8 | 47.9 | 31.0 | 50.5 | 16.8 | 14.2 | 8.8 | 7.4 |

## UPS12-700MRF

| End<br>Volts/Cell | Constant Power Discharge Ratings - Watts Per Cell @ 77°F (25°C) |       |       |       |       |       |       |       |       |       |
|-------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                   | Operating Time to End Voltage (in minutes)                      |       |       |       |       |       |       |       |       |       |
|                   | 5   | 10    | 15    | 20    | 30    | 40    | 45    | 50    | 60    | 90    |
| 1.75              | 821.1   | 700.8 | 596.0 | 512.5 | 389.3 | 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 |

| End<br>Volts/Cell | Constant Current Discharge Ratings - Amperes @ 77°F (25°C) |      |      |      |      |      |      |      |     |     |
|-------------------|--|------|------|------|------|------|------|------|-----|-----|
|                   | Operating Time to End Voltage (in hours)                   |      |      |      |      |      |      |      |     |     |
|                   | 1  | 2    | 3    | 5    | 8    | 10   | 12   | 20   | 24  | 72  |
| 1.85              | 105.4  | 66.1 | 48.8 | 32.5 | 21.9 | 18.1 | 15.4 | 9.7  | 8.2 | 2.6 |
| 1.80              | 116.2  | 70.4 | 51.7 | 34.4 | 23.1 | 19.0 | 16.2 | 10.1 | 8.5 | 2.7 |
| 1.75              | 124.4  | 74.0 | 53.8 | 35.5 | 23.7 | 19.5 | 16.5 | 10.3 | 8.7 | 2.8 |

**Note:** Specifications subject to change without notification. Above ratings do not include inter-unit connector voltage drops. Additional ratings and application information are available in the Battery Selection Program found at [www.cdstandbypower.net](http://www.cdstandbypower.net)

## UPS12-830MRF

| End<br>Volts/Cell | Constant Power Discharge Ratings - Watts Per Cell @ 77°F (25°C) |        |       |       |       |       |       |       |       |       |
|-------------------|---|--------|-------|-------|-------|-------|-------|-------|-------|-------|
|                   | Operating Time to End Voltage (in minutes)                      |        |       |       |       |       |       |       |       |       |
|                   | 5   | 10     | 15    | 20    | 30    | 40    | 45    | 50    | 60    | 90    |
| 1.75              | 1206.3  | 934.9  | 753.9 | 661.3 | 543.5 | 444.9 | 409.9 | 381.0 | 335.6 | 238.8 |
| 1.70              | 1268.2  | 982.9  | 792.6 | 688.9 | 558.5 | 454.2 | 417.3 | 386.9 | 339.4 | 241.3 |
| 1.67              | 1328.0  | 1029.2 | 830.0 | 713.0 | 567.9 | 460.1 | 422.0 | 390.7 | 341.9 | 242.8 |
| 1.65              | 1334.2  | 1034.0 | 833.9 | 717.5 | 573.0 | 463.3 | 424.7 | 392.9 | 343.4 | 244.0 |

| End<br>Volts/Cell | Constant Current Discharge Ratings - Amperes @ 77°F (25°C) |      |      |      |      |      |      |      |      |     |
|-------------------|--|------|------|------|------|------|------|------|------|-----|
|                   | Operating Time to End Voltage (in hours)                   |      |      |      |      |      |      |      |      |     |
|                   | 1  | 2    | 3    | 5    | 8    | 10   | 12   | 20   | 24   | 72  |
| 1.85              | 156.0  | 90.1 | 65.2 | 42.3 | 27.8 | 22.7 | 19.2 | 11.9 | 10.0 | 3.5 |
| 1.80              | 164.0  | 94.0 | 67.5 | 43.8 | 29.1 | 23.8 | 20.1 | 12.4 | 10.4 | 3.6 |
| 1.75              | 169.5  | 96.2 | 68.4 | 44.4 | 29.7 | 24.2 | 20.5 | 12.6 | 10.6 | 3.7 |

## UPS12-1000MRF

| End<br>Volts/Cell | Constant Power Discharge Ratings - Watts Per Cell @ 77°F (25°C) |        |        |       |       |       |       |       |       |       |
|-------------------|---|--------|--------|-------|-------|-------|-------|-------|-------|-------|
|                   | Operating Time to End 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 |
| 1.70              | 1469.0  | 1169.4 | 966.4  | 801.7 | 606.1 | 484.4 | 442.0 | 407.1 | 353.2 | 254.7 |
| 1.67              | 1520.0  | 1210.0 | 1000.0 | 823.7 | 616.2 | 491.2 | 447.7 | 412.0 | 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<br>Volts/Cell | Constant Current Discharge Ratings - Amperes @ 77°F (25°C) |       |      |      |      |      |      |      |      |     |
|-------------------|--|-------|------|------|------|------|------|------|------|-----|
|                   | Operating Time to End Voltage (in hours)                   |       |      |      |      |      |      |      |      |     |
|                   | 1  | 2     | 3    | 5    | 8    | 10   | 12   | 20   | 24   | 72  |
| 1.85              | 168.0  | 96.1  | 67.9 | 43.2 | 28.1 | 22.9 | 19.4 | 12.1 | 10.2 | 3.6 |
| 1.80              | 181.1  | 102.0 | 71.3 | 45.0 | 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 |

**Note:** Specifications subject to change without notification. Above ratings do not include inter-unit connector voltage drops. Additional ratings and application information are available in the Battery Selection Program found at [www.cdstandbypower.net](http://www.cdstandbypower.net)

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