

# THE *m-s* **endur® II** SERIES VRLA BATTERY *THE TRUE LONG LIFE BATTERY™*

**For UPS Standby Power Applications**  
CAPACITIES FROM 0.669 TO 3.121 KILOWATTS PER CELL



The msEndur II is the latest advancement in battery technology with enhanced features for UPS applications.

**By combining the service life reliability of a flooded battery with the performance energy density of a valve-regulated battery, C&D has created the msEndur II — The True Long-Life Battery™.**

The msEndur II series of batteries are unmatched in power density with space saving modular designs and have a 20-year design life to reduce the total cost of ownership.

With its much lower float current, the msEndur II yields significant electrical costs savings over its life making it more environmentally friendly than other 2V VRLA batteries.

## APPLICATIONS

- Data Centers
- Network Operations Centers
- Internet Hosting Sites
- Banks & Financial Markets
- Manufacturing Facilities
- Emergency 911 Response Centers
- Computer Rooms
- Industrial Process Controls

## FEATURES & BENEFITS

### ADVANCED SYSTEM FEATURES

- Modular design for ease of installation and stacking flexibility
- Space saving design for the greatest amount of power in a small footprint
- Exceeds 1997 UBC Zone 4 seismic requirements for at or below grade installations
- Certified as NEBS Level 3 and compliant to Earthquake Risk Zone 4 in various system configurations
- Exceeds 2000/2003 IBC requirements for 125% g level
- Tin-plated copper alloy connectors minimize maintenance
- New Ohmic Ring™ for ease of maintenance readings. With specially adapted probes only one technician is required to take readings.

### ADVANCED MATERIALS

- Advanced micro-porous Absorbed Glass Mat separators for ultra-low float current — reduces grid corrosion for a long, usable service life
- Proprietary calcium alloys to minimize positive grid corrosion and growth — maximizes battery life
- Robust polypropylene container and cover — enhances product quality and improves strength of materials for safe operation with flammability rating UL94 VO, LOI>28%

- Highly efficient, proprietary plate processing for high utilization of active material — results in high energy density and low float current

### ADVANCED PROCESSES

- Advanced formation process results in a narrow float voltage window making on-site float matching unnecessary
- Highly controlled manufacturing processes for exceptional and consistent plate quality

### ADVANCED SERVICE LIFE & WARRANTY

- Proprietary cell design and manufacturing process provides for 20 year design life and documented long-lasting service life
- Best 2V VRLA Warranty in the Market: 5 years full warranty for UPS float service applications

### ADVANCED EXPERIENCE

- Over 100 years of experience in the battery industry
- The only producer and marketer of complete battery and electronics systems for total power solutions
- Fully backed by a worldwide network for local service

## Constant Power Discharge Ratings

KILOWATTS PER CELL @ 77°F(25°C)									
FV/Cell	Model	1 min	5 min	10 min	15 min	20 min	30 min	45 min	1 hr
1.67	AT-07P	0.837	0.791	0.730	0.669	0.612	0.520	0.430	0.373
	AT-09P	1.117	1.055	0.973	0.892	0.816	0.693	0.574	0.497
	AT-11P	1.396	1.318	1.217	1.115	1.020	0.866	0.717	0.622
	AT-13P	1.602	1.514	1.397	1.288	1.170	0.994	0.823	0.714
	AT-15P	1.954	1.846	1.704	1.561	1.427	1.213	1.004	0.870
	AT-17P	2.233	2.110	1.947	1.784	1.631	1.386	1.147	0.995
	AT-19P	2.512	2.373	2.190	2.007	1.835	1.559	1.291	1.119
	AT-21P	2.792	2.637	2.434	2.230	2.039	1.733	1.434	1.243
	AT-23P	3.071	2.901	2.677	2.452	2.243	1.906	1.578	1.368
	AT-25P	3.350	3.164	2.920	2.675	2.447	2.079	1.721	1.492
	AT-27P	3.629	3.428	3.164	2.898	2.651	2.253	1.864	1.617
AT-29P	3.908	3.692	3.407	3.121	2.855	2.426	2.008	1.741	

## Constant Current Discharge Ratings

AMPERES @ 77°F (25°C)									
FV/Cell	Model	1 min	15 min	30 min	60 min	90 min	3 hr	5 hr	8 hr
1.75	AT-07P	397	330	268	189	148	93	63	43
	AT-09P	530	440	360	259	205	129	88	60
	AT-11P	662	550	450	324	256	161	110	75
	AT-13P	759	631	512	362	283	177	121	82
	AT-15P	927	770	629	454	358	225	154	105
	AT-17P	1058	880	713	505	395	247	168	115
	AT-19P	1192	989	809	583	460	290	198	135
	AT-21P	1322	1100	892	631	494	309	210	144
	AT-23P	1457	1209	989	713	562	354	241	165
	AT-25P	1586	1320	1070	757	592	370	252	172
	AT-27P	1722	1429	1169	843	665	418	285	195
AT-29P	1851	1540	1248	884	691	432	294	201	

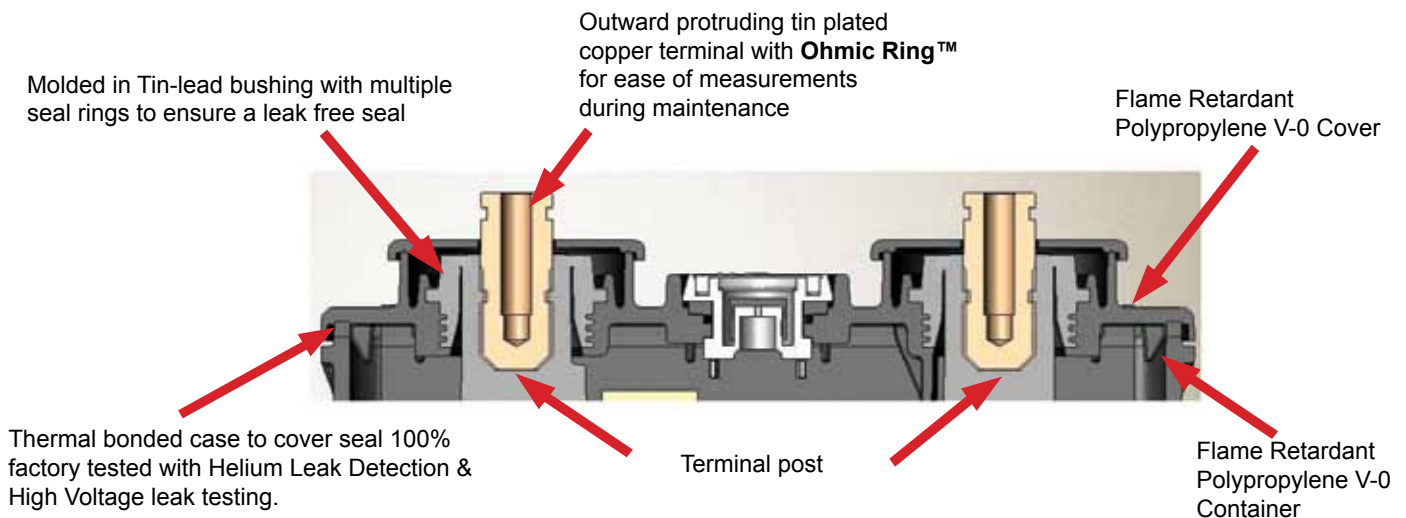
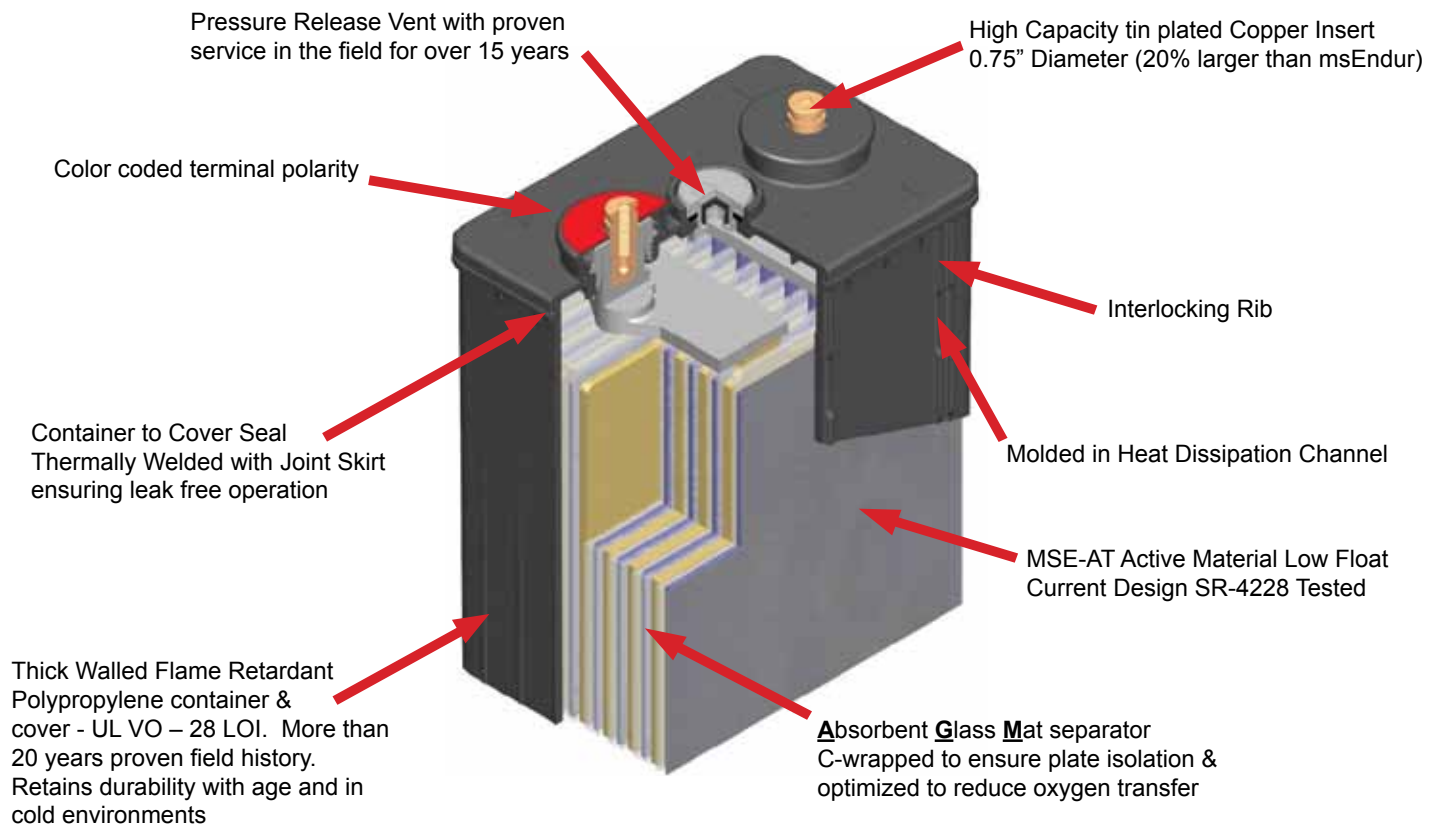
Please refer to the **msEndur II Performance Specifications Brochure, 12-1015**, for an expanded list of constant power and constant current ratings and end voltages.

You may also access the product ratings by logging onto the free **C&D Battery Sizing program** at [www.cdstandbypower.net](http://www.cdstandbypower.net)

## Specifications and Characteristics

Cells, Voltage per Unit	1 cell, 2 VDC
Recommended Operating Temperature	77°F (25°C)
Recommended Float Charging Voltage	2.25 - 2.27 VPC at 77°F (25°C)
Charger Compensation Temperature/Voltage	-2mV/cell/°F above 77°F (-3.6mV/cell/°C above 25°C) +2mV/cell/°F below 77°F (+3.6mV/cell/°C below 25°C)
Connection Torque	Initial: 160 in-lbs (18 N-m) Re-toque: 125 in-lbs (14 N-m)

	AT-07P	AT-09P	AT-11P	AT-13P	AT-15P	AT-17P	AT-19P	AT-21P	AT-23P	AT-25P	AT-27P	AT-29P
Number of Terminals	2	2	2	2	2	2	4	4	4	4	4	4



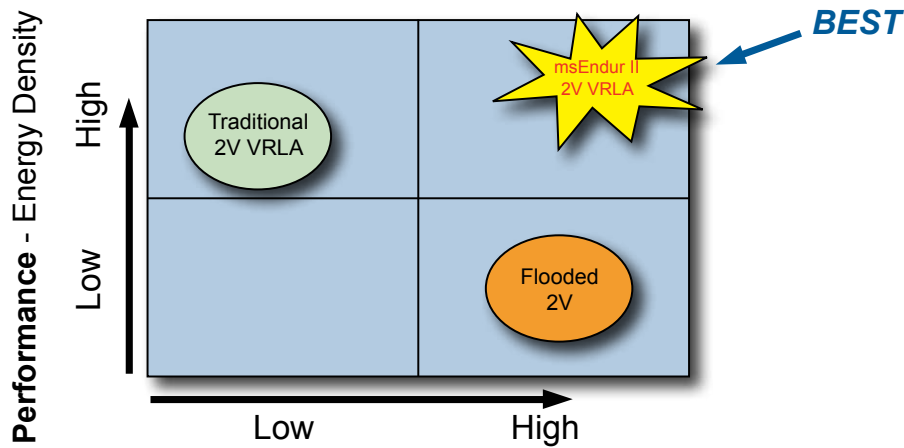
## Modules

msEndur II cells are designed to be mounted in stackable modules of either 3, 4, 5, or 6 cells. The most popular module sizes and configurations for UPS systems are:

	AT-07P through AT-21P	AT-23P through AT-29P
<b>Cells Wide/ Module</b>	6	3
<b>Modules High</b>	8	8

The specific cells wide x modules high system configuration is flexible and can be configured to best match the physical requirements of the customer's site.

Detailed system dimensions and combinations are available in the **msEndur II Module Brochure 12-1014**.



### Service Life - Reliability

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**Has the light  
turned on yet?**

Both devices  
can save you 75%



Standard 2V VRLA

msEndur II

### The msEndur II sealed battery is the environmentally friendly battery that saves you money in normal operation.



The same low float current that ensures a twenty year life, is good for the environment and saves money

- Up to 75% lower float current
- Consumes up to 75% less electricity
- Lower float current generates less heat
- Less heat generated reduces required air conditioning
- Less electricity consumed in float charging and air conditioning = reduce carbon emissions

Go to [www.cdtechno.com/savings](http://www.cdtechno.com/savings) to check out your possible savings

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