C&D TECHNOLOGIES
Power Solutions

12-1016

C&D TECHNOLOGIES, INC. SG&C

UL Recognized Component

RETURN RECYCLE LEAD

THE m·s·endur II SERIES VRLA BATTERY

THE TRUE LONG-LIFE BATTERY™

For SwitchGear and Control

CAPACITIES FROM 345 TO 2180 Ampere-Hours

The msEndur II is the latest advancement in battery technology with enhanced features for SwitchGear and Control 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 most environmentally friendly 2V VRLA battery.

APPLICATIONS

- **Electric Utility Substations**
- **Telephone Backup**
- **Microwave Sites**
- **Signaling Sites**
- **Offshore Platforms**
- **Mines**

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 **A**bsorbed **G**lass **M**at 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
- Industry leading warranty

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 Current Discharge Ratings

AMPERES @ 77°F (25°)												
FV/Cell	Models	1 min	1 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr	12 hr	24 hr
1.75	AT-07P	397	189	123	93	75	63	55	43	36	30	16
	AT-09P	530	259	170	129	104	88	76	60	50	42	23
	AT-11P	662	324	213	161	130	110	95	75	62	53	28
	AT-13P	759	362	235	177	143	120	104	82	68	58	31
	AT-15P	927	454	298	225	182	154	133	105	87	74	40
	AT-17P	1058	505	327	247	200	168	145	115	95	81	43
	AT-19P	1192	583	383	290	234	198	171	135	112	95	51
	AT-21P	1322	631	409	309	250	210	182	144	119	101	54
	AT-23P	1457	713	468	354	287	241	209	165	136	116	62
	AT-25P	1586	757	491	370	299	252	218	172	143	122	65
	AT-27P	1722	843	553	418	339	285	247	195	161	138	73
	AT-29P	1851	884	573	432	349	294	255	201	166	142	76

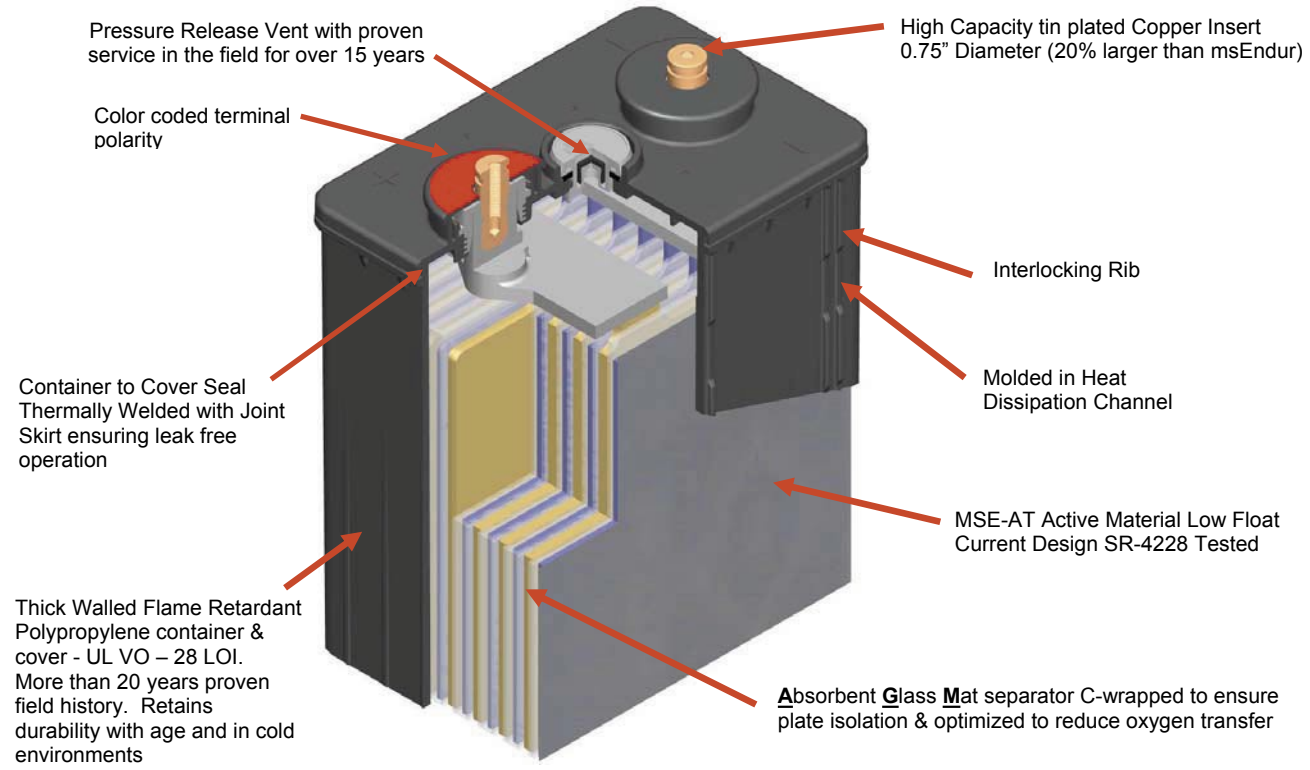
Please refer to the **msEndur II Performance Specifications Brochure, 12-1015**, for an expanded list of constant power and constant current ratings and end voltages.

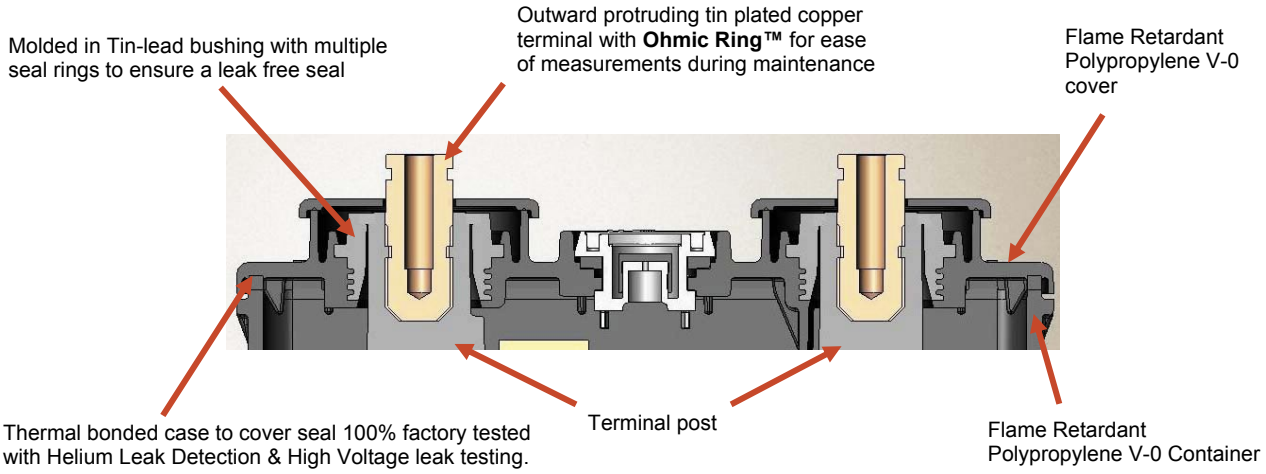
You may also access the product ratings by logging onto the free **C&D Battery Sizing program** at www.cdstandbypower.net.

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
** New Models and Terminal Quantities*												





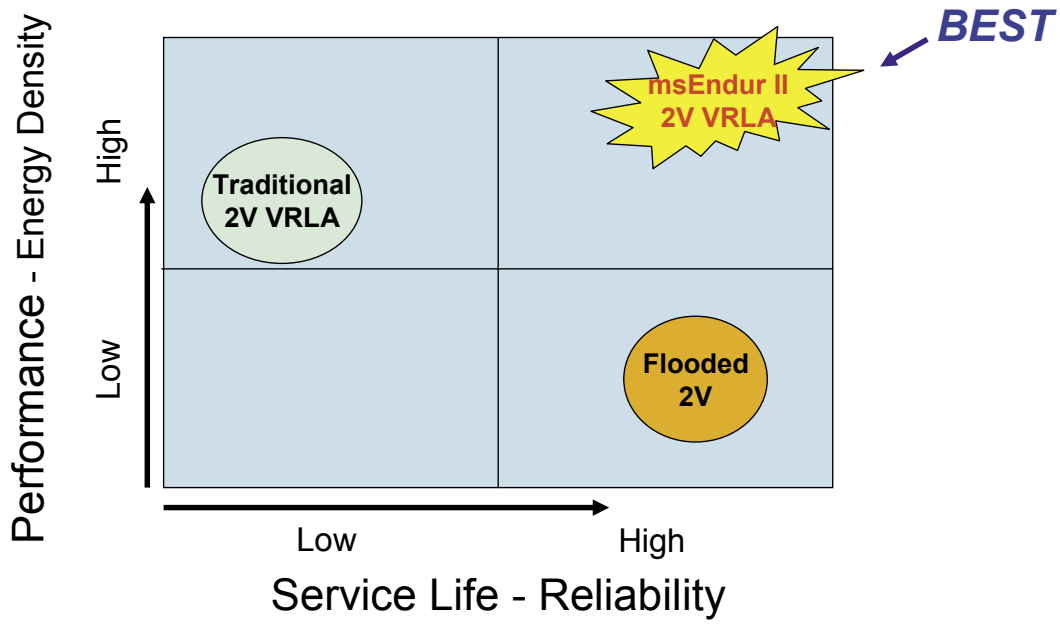
Modules

msEndur II cells are designed to be mounted in stackable modules of either 3, 4, 5, 6, 8 or 10 cells. The most popular module sizes and configurations for SwitchGear & Control systems are:

	AT-07P - AT-21P	AT-23P - AT-29P
Cells Wide / Module	6	4
Modules High	5	8

The specific cell wide x module 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**.



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Standard 2V VRLA

Has the light turned on yet?

Both devices can save you 75%

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 to check out your possible savings

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