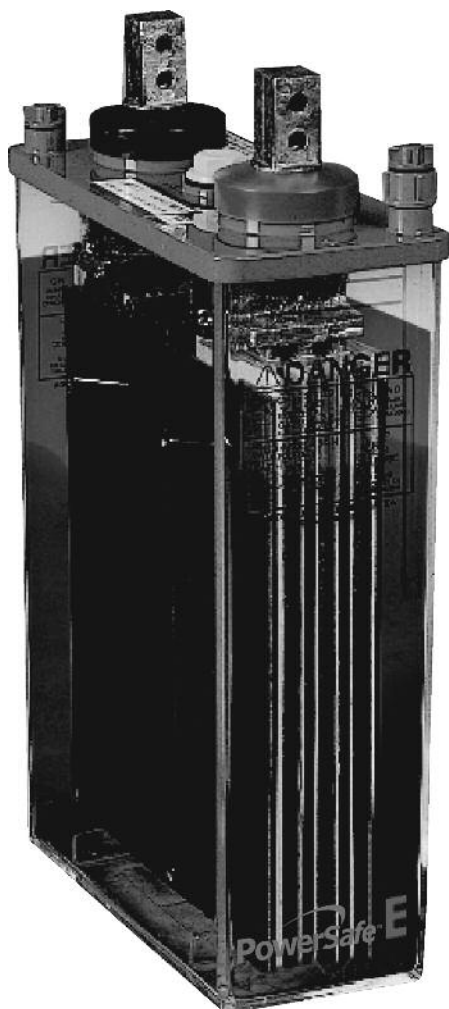




PowerSafe[®]
EC-M
100% Initial Capacity

**CELL PERFORMANCE
SPECIFICATIONS**



PowerSafe® EC-M

The PowerSafe® EC-M is a lead-calcium cell is designed to meet the varied needs of the utility switchgear market. The positive plate thickness of 0.340 inches is one of the thickest in the industry. This makes the cell an excellent long duration discharge cell. Additionally, copper inserts within the posts maintain excellent short duration high current performance. EnerSys® larger, double-hole post also provides a stronger intercell connection, assuring maximum electrical integrity.

The PowerSafe EC-M cell also features EnerSys' Slide-Lock™ post seal. This unique design allows for natural plate growth over the cell's life without compromising the seal between the post and cover. Extra space is also provided in the cell to increase the amount of electrolyte available and provide ample space for natural growth. All these features help to extend the life of the battery and increase performance.

Features

- Lead-calcium alloy - lowest water loss, lowest maintenance
- Highest one minute rates
- For floating applications where increased ambient temperatures are not probable
- Life - The cell has an expected design life of 20 years at 77°F under float service
- Slide-Lock™ Post Seal
- **100% initial capacity**

Specifications

- Plate thickness:
Positive: 0.34 in/8.6 mm
Negative: 0.24 in/6.1 mm
- Plate dimensions:

Height	Width
Positive: 11.4 in/290 mm	9.4 in/239 mm
Negative: 11.4 in/290 mm	9.4 in/239 mm
- Sediment space: 0.75 in/25.4 mm
- Electrolyte over plates: 2.1 in/53.3 mm
- Container: Styrene Acrylonitrile Copolymer
- Cover: Made from Flame Retardant PVC (UL94-VO/L.O.I. 28%)
- Separators: Microporous rubber
- Retainers: "Vitrex" - glass fiber
- Post type:
EC-5M thru 13M - single post with copper insert
EC-15M thru 21M - double posts with copper inserts
- Post seal type: Slide-Lock™
- Plate suspension type:
Positive: Bridge hung
Negative: Bottom supported
- Vent type: Flame arrestor, fused alumina
- Float voltage setting:
Acceptable min/max: 2.17/2.26Vpc
Recommended: 2.21Vpc
- Specific Gravity: 1.215 (1.250 available on request)
- Bolt connectors: Stainless steel, standard English measure, hex-head
- Intercell connectors: Tin-plated copper, optional lead-plated copper

NOTE: All inter-cell, inter-tier, inter-step, end-to-end inter-rack, back-to-back inter-rack connectors, and terminal plates are included with every cell. Across-aisle inter-rack connectors are not included.

General Specifications

PowerSafe® EC-M cell TYPE*	NOM. Ah CAP.†	Nominal Dimensions						Typical Weight							
		Length**		Width		Height		Unpacked		Domestic Packed		Electrolyte Only / 1.215 S.G.			
		mm	in	mm	in	mm	in	kg	lbs	kg	lbs	kg	lbs	l	gal
EC-5M	215	130	5.1	279	11.0	475	18.7	27.7	61	29.0	64	9.5	21	7.8	2.1
EC-7M	290	130	5.1	279	11.0	475	18.7	32.7	72	34.0	75	8.6	19	7.1	1.9
EC-9M	365	130	5.1	279	11.0	475	18.7	37.6	83	39.0	86	7.7	17	6.4	1.7
EC-11M	470	168	6.6	279	11.0	475	18.7	47.2	104	49.4	109	10.9	24	9.0	2.4
EC-13M	525	168	6.6	279	11.0	475	18.7	51.7	114	54.0	119	9.1	20	7.5	2.0
EC-15M	620	206	8.1	279	11.0	475	18.7	63.5	140	66.2	146	13.2	29	10.8	2.9
EC-17M	670	206	8.1	279	11.0	475	18.7	68.0	150	70.8	156	12.2	27	10.1	2.7
EC-19M	795	257	10.1	279	11.0	475	18.7	79.8	176	82.6	182	16.8	39	13.8	3.7
EC-21M	850	257	10.1	279	11.0	475	18.7	84.8	187	87.5	193	16.3	36	13.5	3.6

* Suffix number indicates total plates per cell.

** 0.25" must be added between cells for spacing purposes when calculating total battery rack length.

Constant Current

Discharge Rates in Amperes** to 1.75Vpc at 25°C (77°F)*

PowerSafe® EC-M cell TYPE*	NOM. Ah CAP.†	Minutes			Hours									
		1	15	30	1	1.5	2	3	4	5	8	12	24	72
EC-5M	215	253	180	140	100	80	67	52	43	37	27	20	12	6
EC-7M	290	364	266	204	144	113	95	72	59	51	36	27	16	7
EC-9M	365	475	351	269	188	147	122	93	76	65	46	33	20	8
EC-11M	470	594	443	340	239	187	155	118	96	82	58	42	25	11
EC-13M	525	694	511	392	274	214	177	134	109	93	65	47	28	11
EC-15M	620	812	596	455	318	249	207	157	128	110	78	56	33	14
EC-17M	670	925	690	525	364	283	233	176	142	120	84	60	34	14
EC-19M	795	981	741	573	405	318	265	202	165	141	100	72	43	18
EC-21M	850	1068	802	625	443	349	290	220	179	152	106	76	45	18

Discharge Rates in Amperes** to 1.81Vpc at 25°C (77°F)*

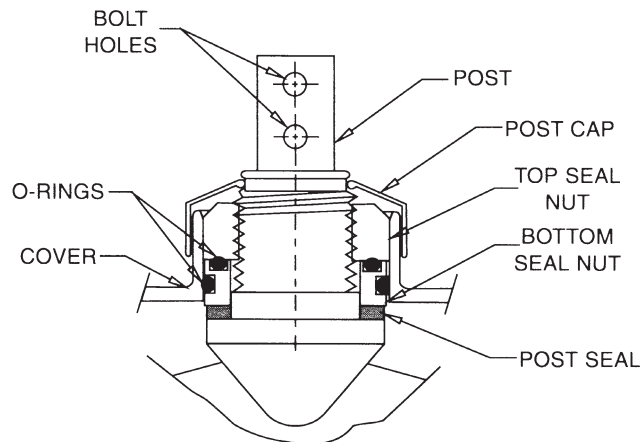
EC-5M	183	150	120	90	73	62	49	41	36	26	20	12	6
EC-7M	264	219	175	128	103	87	68	56	48	35	26	16	7
EC-9M	344	289	229	166	133	112	86	71	61	44	32	19	8
EC-11M	425	364	290	211	169	143	110	91	78	56	41	25	10
EC-13M	497	421	334	242	193	162	125	103	88	62	46	27	11
EC-15M	589	493	389	282	226	190	147	121	104	74	55	33	14
EC-17M	659	567	448	322	256	214	163	134	114	80	58	34	14
EC-19M	707	607	487	357	287	242	188	155	133	95	70	42	18
EC-21M	774	664	534	395	317	267	206	169	145	103	75	44	18

*Ampere values listed represent 100% of the cell's initial capacity.

**1.215 S.G. electrolyte at 77°F (25°C) includes intercell connector drop.

†Nominal Amp-hour capacity at the 8 hour rate.

All data subject to change without notice.



Catalog Rint and Isc Catalog Values*

PowerSafe® EC-M battery SIZE	Resistance (milliohms)	Isc (Amps)
EC-5M	0.875	2290
EC-7M	0.593	3370
EC-9M	0.453	4420
EC-11M	0.356	5620
EC-13M	0.310	6450
EC-15M	0.266	7530
EC-17M	0.226	8840
EC-19M	0.219	9140
EC-21M	0.205	9760

* Resistance values are for reference only
not intended to represent an ohmic value
or base line measurement