

NAM Range

NAM Range is designed for applications where the batteries are usually required to sustain electrical loads for between 30 minutes to 3 hours for <<mixed>> loads which involve a mixture of high and low discharge rates. The application can have frequent or infrequent discharges. The range is typically used in power back up applications

Charging

The NAM type cells can be charged by all normal methods.

- Taper
- Constant Current
- Constant Voltage
- Pulse

The NAM type cells may be operated satisfactorily in any state of charge. For operating conditions other than fully charged.

Capacity

The rated capacity (C_5) of a cell is the capacity available in ampere hours (Ah) at the 5 hour discharge rate to an end voltage of 1.00 volts per cell.

Discharge Rate

The nominal discharge voltage is 1.2 volts per cell.

Constant Current Charging

Standard charge : $0.2C_5$ Amperes for 8 hours.

Fast charge : $0.4C_5$ Amperes for 2.5 hours followed by $0.2C_5$ Amperes for 2.5 hours.

Minimum charge : 2.0mA per Ah.

Constant Voltage Charging

Two levels charging

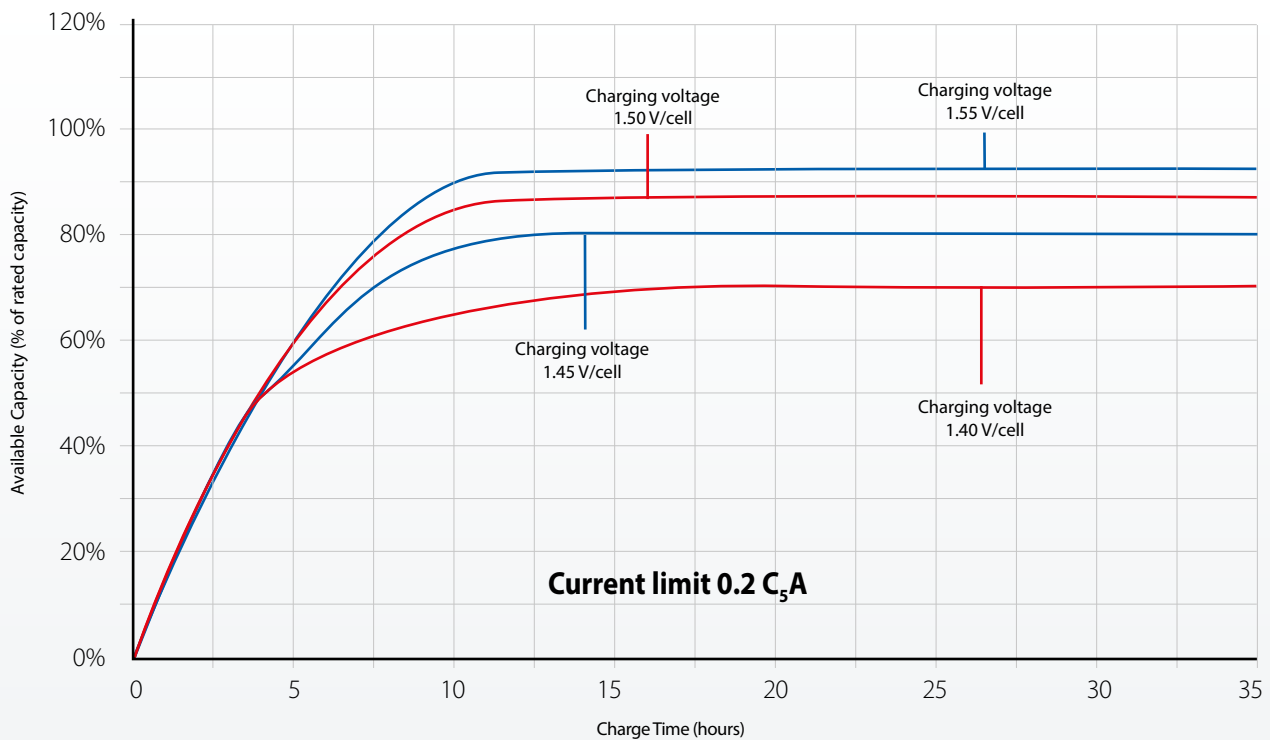
Float voltage : 1.40 V/cell.

Boost voltage : 1.45 - 1.70 V/cell.

Singel level charging
1.43 - 1.50 V/cell.

Cell Data

Short Circuit : Max $15 \times C_5$ Amps



Time to reach state-of-charging voltages for fully discharge NAM range

NAM Range Cell Performance

Capacities and dimensions

International System of units

Cell type	Capacity C ₂ Ah	Overall Height*	Width per cell	Length per cell	Approx. Weight per cell	Approx. electrolyte volume between level marks	Electrolyte per cell		Internal resistance *	Cell connection bolt per pole
	Ah	mm	mm	mm	Kg	cm ³	Solid	Liquid		
	Ah	mm	mm	mm	Kg	cm ³	Kg	L	mOhm	
NAM 9	9	270	121	42	1.60	146	0.26	0.80	6.89	M 6
NAM 14	14	270	121	42	1.70	146	0.19	0.60	4.43	M 6
NAM 22	22	270	121	42	1.90	143	0.19	0.60	2.82	M 6
NAM 31	31	270	121	42	2.10	140	0.19	0.60	2.00	M 6
NAM 39	39	270	121	66	3.10	235	0.36	1.10	1.59	M 6
NAM 47	47	270	121	66	3.30	232	0.32	1.00	1.32	M 6
NAM 50	50	270	121	66	3.50	230	0.29	0.90	1.24	M 6
NAM 55	55	270	121	66	3.50	230	0.29	0.90	1.13	M 6
NAM 60	60	357	192	68	6.30	530	0.84	2.60	1.30	M 8
NAM 70	70	357	192	68	6.40	530	0.84	2.60	1.11	M 8
NAM 80	80	357	192	68	6.90	530	0.81	2.50	0.98	M 8
NAM 90	90	357	192	68	6.90	530	0.81	2.50	0.87	M 8
NAM 100	100	357	192	68	7.40	520	0.75	2.30	0.78	M 8
NAM 110	110	357	192	68	7.40	520	0.75	2.30	0.71	M 10
NAM 115	115	357	192	68	7.90	510	0.68	2.10	0.68	M 10
NAM 130	130	357	192	68	7.90	510	0.68	2.10	0.60	M 10
NAM 140	140	357	192	93	10.1	740	1.04	3.20	0.56	M 10
NAM 145	145	357	192	93	10.1	740	1.04	3.20	0.54	M 10
NAM 150	150	357	192	93	10.1	740	1.04	3.20	0.52	M 10
NAM 165	165	357	192	93	10.6	730	1.00	3.10	0.47	M 10
NAM 185	185	357	192	93	11.0	720	0.94	2.90	0.42	M 10
NAM 190	190	413	192	93	11.9	740	1.23	3.80	0.45	M 10
NAM 200	200	413	192	93	12.5	730	1.17	3.60	0.43	M 10
NAM 215	215	413	192	93	12.5	730	1.17	3.60	0.40	M 10
NAM 220	220	413	192	93	13.0	720	1.07	3.30	0.39	M 10
NAM 240	240	413	192	93	13.0	720	1.07	3.30	0.36	M 10
NAM 250	250	413	192	122	16.5	980	1.56	4.80	0.34	2 x M 10
NAM 260	260	413	192	122	16.5	980	1.56	4.80	0.33	2 x M 10
NAM 285	285	413	192	122	16.5	980	1.56	4.80	0.30	2 x M 10
NAM 310	310	413	192	122	17.1	970	1.49	4.60	0.28	2 x M 10
NAM 335	335	413	192	122	17.6	970	1.43	4.40	0.26	2 x M 10

Capacities and dimensions

Imperial units

Cell type	Capacity C ₂ Ah	Overall Height*	Width per cell	Length per cell	Approx. Weight per cell	Approx. electrolyte volume between level marks	Electrolyte per cell		Internal resistance *	Cell connection bolt per pole
	Ah	in	in	in	lbs	in ³	Solid	Liquid		
	Ah	in	in	in	lbs	in ³	lbs	US Gal.	mOhm	
NAM 9	9	11	4.8	2	3.53	8.91	0.57	0.21	6.89	M 6
NAM 14	14	11	4.8	2	3.75	8.91	0.43	0.16	4.43	M 6
NAM 22	22	11	4.8	2	4.19	8.73	0.43	0.16	2.82	M 6
NAM 31	31	11	4.8	2	4.63	8.54	0.43	0.16	2.00	M 6
NAM 39	39	11	4.8	3	6.83	14.3	0.79	0.29	1.59	M 6
NAM 47	47	11	4.8	3	7.28	14.2	0.71	0.26	1.32	M 6
NAM 50	50	11	4.8	3	7.72	14.0	0.64	0.24	1.24	M 6
NAM 55	55	11	4.8	3	7.72	14.0	0.64	0.24	1.13	M 6
NAM 60	60	14	7.6	3	13.9	32.3	1.86	0.69	1.30	M 8
NAM 70	70	14	7.6	3	14.1	32.3	1.86	0.69	1.11	M 8
NAM 80	80	14	7.6	3	15.2	32.3	1.79	0.66	0.98	M 8
NAM 90	90	14	7.6	3	15.2	32.3	1.79	0.66	0.87	M 8
NAM 100	100	14	7.6	3	16.3	31.7	1.64	0.61	0.78	M 8
NAM 110	110	14	7.6	3	16.3	31.7	1.64	0.61	0.71	M 10
NAM 115	115	14	7.6	3	17.4	31.1	1.50	0.55	0.68	M 10
NAM 130	130	14	7.6	3	17.4	31.1	1.50	0.55	0.60	M 10
NAM 140	140	14	7.6	4	22.3	45.2	2.29	0.85	0.56	M 10
NAM 145	145	14	7.6	4	22.3	45.2	2.29	0.85	0.54	M 10
NAM 150	150	14	7.6	4	22.3	45.2	2.29	0.85	0.52	M 10
NAM 165	165	14	7.6	4	23.4	44.5	2.21	0.82	0.47	M 10
NAM 185	185	14	7.6	4	24.3	43.9	2.07	0.77	0.42	M 10
NAM 190	190	16	7.6	4	26.2	45.2	2.71	1.00	0.45	M 10
NAM 200	200	16	7.6	4	27.6	44.5	2.57	0.95	0.43	M 10
NAM 215	215	16	7.6	4	27.6	44.5	2.57	0.95	0.40	M 10
NAM 220	220	16	7.6	4	28.7	43.9	2.36	0.87	0.39	M 10
NAM 240	240	16	7.6	4	28.7	43.9	2.36	0.87	0.36	M 10
NAM 250	250	16	7.6	5	36.4	59.8	3.43	1.27	0.34	2 x M 10
NAM 260	260	16	7.6	5	36.4	59.8	3.43	1.27	0.33	2 x M 10
NAM 285	285	16	7.6	5	36.4	59.8	3.43	1.27	0.30	2 x M 10
NAM 310	310	16	7.6	5	37.7	59.2	3.29	1.22	0.28	2 x M 10
NAM 335	335	16	7.6	5	38.8	59.2	3.14	1.16	0.26	2 x M 10

* Height includes the IP2X terminal cover.



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