POWER SONIC

RECHARGEABLE BATTERIES

ISO 9002
BSI
REGISTERED FIRM
FM 39170

GENERAL CATALOG

Sealed Lead-Acid Batteries

FEATURES

Sealed/Maintenance-Free
The valve regulated, spill-proof construction of the Power-Sonic battery allows trouble-free, safe operation in any position. There is no need to add electrolyte, as gases generated during over-charge are recombined in a unique “oxygen cycle.”

Easy Handling
No special handling precautions or shipping containers — surface or air — are required due to leak-proof construction.

Economical
The high watt-hour per dollar value is made possible by the materials used in a sealed lead-acid battery: they are readily available and low in cost.

Long Service Life
Under normal operating conditions, four or five years of dependable service life can be expected in stand-by applications, or between 200 and 1000 charge/discharge cycles depending on the average depth of discharge.

Design Flexibility
Batteries may be used in series and/or parallel to obtain choice of voltage and capacity. Due to recent design breakthroughs, the same battery may be used in either cyclic or standby applications. Over 40 models are available to choose from.

Rugged Construction
The high impact resistant battery case is made either of non-conductive ABS plastic or styrene. Large capacity batteries frequently have polypropylene cases. All of these materials impart great resistance to shock, vibration, chemicals and heat.

Compact
Power-Sonic batteries use state-of-the-art design, high grade materials, and a carefully controlled plate-making process to provide excellent output per cell. The high energy density results in superior power/volume and power/weight ratios.

High Discharge Rate
Low internal resistance allows discharge currents of up to ten times the rated capacity of the battery. Relatively small batteries may thus be specified in applications requiring high peak currents.

Long Shelf Life
A low self-discharge rate permits storage of fully charged batteries for up to a year at room temperature before charging is required. Lower storage temperatures enhance shelf life characteristics even further.

Wide Operating Temperature Range
Power-Sonic batteries may be discharged over a temperature range of -40°C to +60°C (-40°F to +140°F) and charged at temperatures ranging from -20°C to +50°C (4°F to +122°F).

Deep Discharge Recovery
Special separators, advanced plate composition, and a carefully balanced electrolyte system have greatly improved the ability of recovering from excessively deep discharge.

SPECIFICATIONS — SEALED LEAD-ACID BATTERIES

Model	Nominal Voltage V	Nominal Capacity@ 20 hr. rate A.H.	Discharge Current@ 20 hr. rate mA	DIMENSIONS								Weight		Std. Terminals
				Length		Width		Height		Ht. Over Terminal				
				in.	mm	in	mm	in.	mm	in.	mm	lbs.	kg.	
PS-260	2	6.0	300	1.97	50	1.34	34	3.94	100	4.13	105	0.90	0.41	F1
PS-445	4	4.5	225	1.89	48	2.09	53	3.70	94	3.86	98	1.4	0.65	F2
PS-470	4	7.0	350	2.52	64	2.08	53	3.70	94	3.92	100	1.9	0.9	F1
PS-490	4	9.0	450	3.97	101	1.73	44	3.74	95	4.02	102	2.8	1.28	F2
PS-4100	4	10.0	500	4.02	102	1.97	50	3.72	94	3.92	100	3.1	1.4	F1
PS-605	6	0.5	25	2.24	57	0.55	14	1.97	50	1.97	50	0.2	0.09	WL
PS-610	6	1.0	50	2.00	51	1.65	42	2.00	51	2.20	56	0.6	0.3	F1
PS-612	6	1.3	65	3.82	97	0.94	24	2.00	51	2.19	56	0.6	0.3	F1
PS-630	6	3.0	150	5.28	134	1.34	34	2.35	60	2.56	65	1.5	0.7	F1
PS-632	6	3.2	160	2.60	66	1.30	33	4.65	118	4.80	122	1.5	0.7	F1
PS-640	6	4.5	225	2.76	70	1.89	48	4.02	102	4.25	108	1.95	0.9	F1 or WL
PS-650L	6	5.0	250	2.63	67	2.63	67	3.78	96	4.28	109	2.0	0.9	Spring
PS-665	6	6.5	325	3.86	98	2.20	56	4.05	103	4.05	103	3.0	1.4	P
PS-670	6	7.0	350	5.95	151	1.34	34	3.70	94	3.86	98	3.0	1.4	F1
PS-682	6	8.0	400	3.86	98	2.20	56	4.65	118	4.65	118	3.3	1.5	F1 or WL
PS-695	6	9.5	475	4.26	108	2.75	70	5.54	141	5.54	141	4.9	2.2	P
PS-695 Toy	6	9.5	475	4.26	108	2.75	70	5.54	141	5.54	141	4.9	2.2	TS or TH
PS-6100	6	10.0	500	5.95	151	2.00	51	3.70	94	3.86	98	4.6	2.1	F1 or F2
PS-6120	6	12.0	600	4.26	108	2.75	70	5.54	141	5.54	141	5.2	2.4	P
PS-6120Toy	6	12.0	600	4.26	108	2.75	70	5.54	141	5.54	141	5.2	2.4	TS or TH
PS-6200	6	20.0	1000	6.18	157	3.27	83	4.92	125	4.92	125	8.2	3.7	NB
PS-6360	6	36.0	1800	6.25	159	3.35	85	6.50	165	6.95	176	13.8	6.2	F2 or NB
PS-832	8	3.2	160	5.28	134	1.42	36	2.49	63	2.70	69	1.9	0.85	F1
PS-1208	12	0.8	40	3.78	96	0.98	25	2.42	62	2.42	62	0.8	0.35	WL
PS-1212	12	1.2	60	3.82	97	1.65	42	2.00	51	2.13	54	1.3	0.6	F1
PS-1220	12	2.2	110	7.01	178	1.34	34	2.36	60	2.56	65	1.9	0.85	F1
PS-1223	12	2.3	115	7.17	182	0.94	24	2.42	62	2.42	615	1.76	0.8	PC
PS-1229	12	2.9	145	7.01	178	1.34	34	2.36	60	2.56	65	2.2	1.0	F1
PS-1230	12	3.0	150	5.23	134	2.64	67	2.36	60	2.60	66	2.6	1.2	F1
PS-1242	12	4.5	225	3.54	90	2.76	70	4.02	102	4.25	108	3.8	1.7	F1
PS-1252	12	5.0	250	3.54	90	2.76	70	4.02	102	4.25	108	4.2	1.9	F2
PS-1270	12	7.0	350	5.95	151	2.56	65	3.70	94	3.86	98	5.7	2.6	F1
PS-1282	12	8.0	400	3.86	98	4.40	112	4.65	118	4.65	118	6.7	3.0	F1
PS-12100	12	10.0	500	5.95	151	4.00	102	3.70	94	3.86	98	9.2	4.2	F1 or F2
PS-12120	12	12.0	600	5.95	151	3.86	98	3.70	94	3.94	100	9.0	4.1	F2
PS-12120L	12	12.0	600	8.38	213	2.75	70	5.50	140	5.50	140	10.7	4.8	P
PS-12180	12	18.0	900	7.13	181	2.99	76	6.57	167	6.57	167	13.1	5.9	F2 or NB
PS-12260	12	26.0	1300	6.89	175	6.54	166	4.95	126	4.95	126	20.8	9.4	F2 or NB
PS-12280	12	28.0	1400	6.54	166	4.95	126	6.89	175	6.89	175	20.8	9.4	NB
PS-12330*	12	33.0	1650	7.70	196	5.19	132	6.10	155	6.85	174	26.5	12.0	HP
PS-12400	12	40.0	2000	7.72	196	6.42	163	6.85	174	6.85	174	30.5	13.8	NB
PS-12550*	12	55.0	2750	9.50	241	5.45	138	8.10	206	8.95	227	41.1	18.7	HP
PS-12600*	12	60.0	3000	10.25	260	6.60	168	8.20	208	9.45	240	54.4	24.7	HP
PS-12750*	12	75.0	3750	10.25	260	6.60	168	8.20	208	9.45	240	55.1	25.0	HP
PS-12800*	12	80.0	4000	12.00	305	6.60	168	8.20	208	9.45	240	62.4	28.4	HP
PS-121000*	12	100.0	5000	12.00	305	6.60	168	8.20	208	9.45	240	65.7	29.8	HP

* Also available with handle. To order, add "H" to model number. Note: for 12550H, 12600H, 12750H, 12800H, and 121000H overall length increases.

The PSG Series of batteries are models which correspond in size to Gates (Hawker-Sidley) batteries of the same voltage and capacity:

PSG-450	4	5.0	250	3.54	90	1.94	49	2.87	73	2.87	73	1.7	0.8	F2
PSG-480	4	8.0	400	3.54	90	1.94	49	4.00	102	4.00	102	2.5	1.1	F2
PSG-625	6	2.5	125	4.15	105	1.63	41	2.70	68	2.70	68	1.5	0.7	F1
PSG-650	6	5.0	250	5.28	134	1.94	49	3.00	76	3.00	76	2.5	1.1	F2
PSG-680	6	8.0	400	5.28	134	1.94	49	3.99	101	3.99	101	3.7	1.7	F2

TERMINALS

F1
FASTON 0.187" x 0.032" quick disconnect tabs

F2
FASTON 0.250" x 0.032" quick disconnect tabs

P
FASTON polarized: Positive: "F2" Negative: "F1"

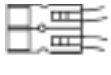
SPRING
Spring terminals for positive and negative contacts

PC
Pressure contacts

WL
Insulated, stranded wire leads terminated with:
- Molex Housing 5264-02 & 5263-PBT plug on PS-605
- AMP Housing 1-480318-0 & 8116-1 on 640 WL and 1208
- "250" female FASTON on 682 WL

TS/TH
- S-connector on 695 TS and 6120 TS toy batteries

- H-connector on 695 TH and 6120 TH toy batter-



NB
Terminal post (lead alloy or tin-plated brass with 5 mm Nut & Bolt on 6200, 6360, 12180, 12260, 12280; with 6 mm Nut & Bolt on 12400

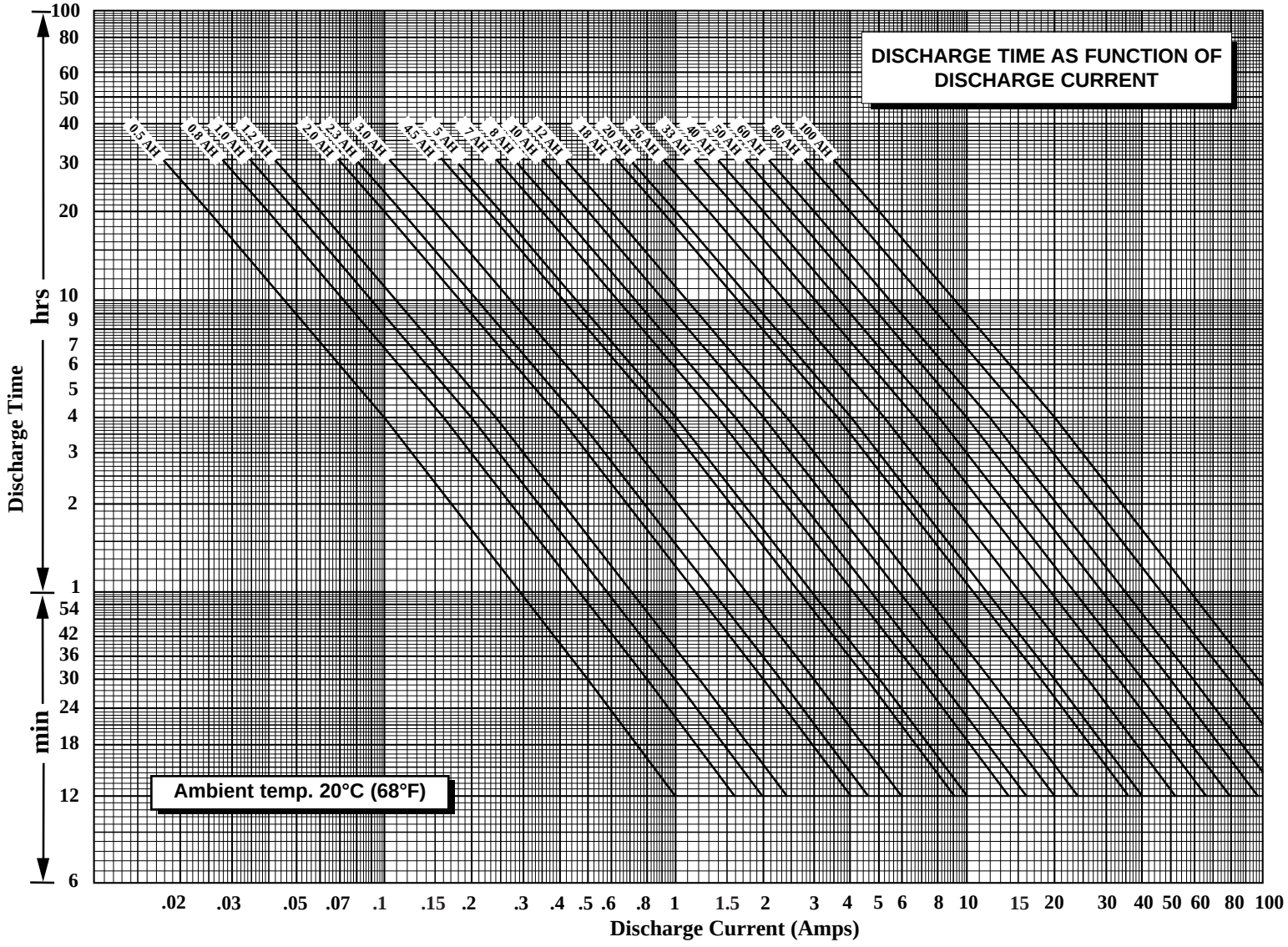
HP
Heavy duty post (lead alloy) with 7.6 mm diameter hole.

CAPACITY VARIATION BY CURRENT LOAD

When a battery discharges current at a constant rate, its capacity changes according to the amperage load. Capacity increases when the discharge current is less than the 20-hour rate and decreases when the current is higher.

The graph below shows capacity curves for major Power-Sonic battery models with different ampere-hour ratings. Amperage is on the horizontal scale and the time elapsed is on the vertical scale; the product of these values is the capacity.

Proper selection of the battery for a specific application can be made from this graph if the required time and current are known. For example, to determine the proper capacity of a battery providing 3 amps for 20 minutes, locate the intersection of these values on the graph. The curve immediately above that point represents the battery which will meet the requirement.

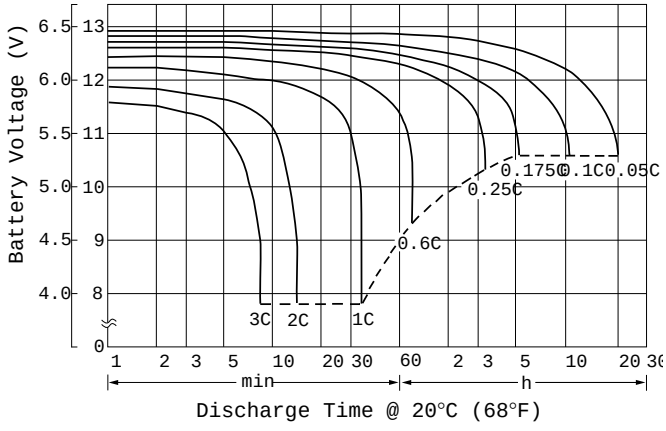


The discharge times reflect cut-off voltages which vary with the discharge current:

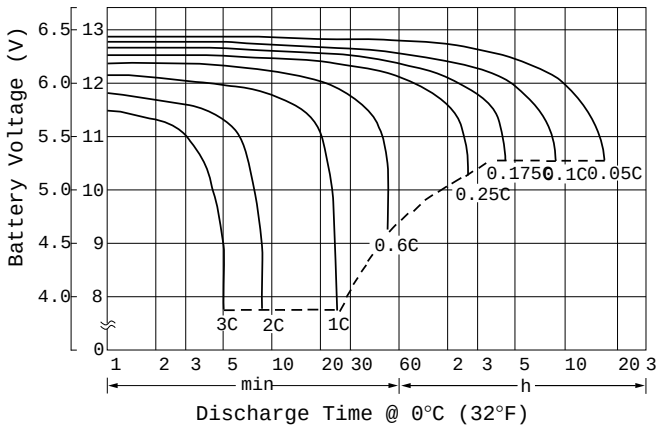
LOAD CURRENT	FINAL VOLTAGE
0.05 C	1.75 V/cell
0.10 C	1.75 V/cell
0.20 C	1.75 V/cell
0.50 C	1.70 V/cell
1.00 C	1.50 V/cell
2.00 C	1.35 V/cell

"C" = Capacity of battery
Example: The 0.5 C current for an 8 A.H. battery is 4 A. The 0.1 C current 800 mA.

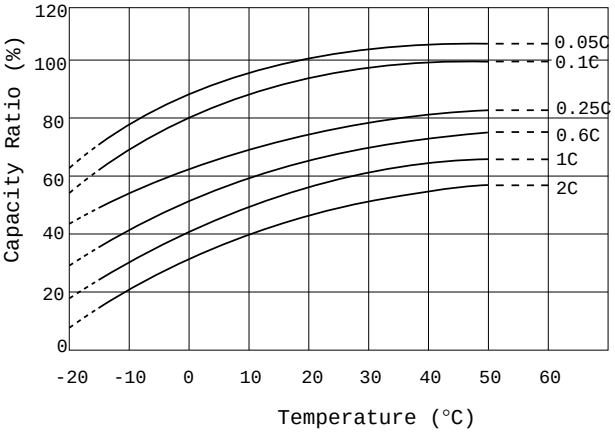
PERFORMANCE CHARACTERISTICS



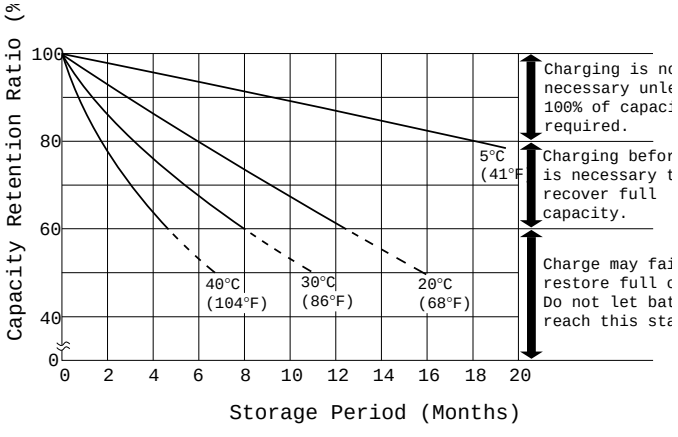
Characteristic Discharge Curves



Characteristic Discharge Curves



Effect of Temperature on Capacity



Self-Discharge Characteristics

CHARGING

Dependable performance and long service life depend upon correct charging. Faulty procedures or inadequate charging equipment result in decreased battery life and/or unsatisfactory performance.

To charge a Power-Sonic battery, a DC voltage higher than the open circuit voltage of 2.15 volts per cell is applied to the terminals of the battery. Any of the conventional charging techniques may be used, but to obtain maximum service life and capacity, along with acceptable recharge time, constant voltage - current limited charging is recommended.

During constant voltage or taper charging, the battery's current acceptance decreases as voltage and state of charge increase. The battery is fully charged once the current stabilizes at a low level for a few hours.

Cycle Applications: Limit initial current to 0.20C (C is the nominal A.H. capacity of the battery). Charge until battery voltage (under charge) reaches 2.45 volts per cell at 68°F (20°C). Hold at 2.45 volts per cell until current drops to approximately 0.01C amperes. Battery is fully charged under these conditions, and charger should either be disconnected or switched to "float" voltage.

"Float" or "Stand-by" Service: Hold battery across constant voltage source of 2.25 to 2.30 volts per cell continuously. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charged condition.

APPLICATION NOTES

Continuous over- or undercharging is the single worst enemy of a lead-acid battery. Caution should be exercised to insure that the charger is disconnected after cycle charging, or that the float voltage is set correctly.

Because there is a chance of off-gassing hydrogen and oxygen if the battery is overcharged, it is important to provide adequate air circulation. Never charge or discharge a battery in a hermetically sealed enclosure.

Batteries should not be stored in a discharged state (or in a hot place). If a battery has been discharged for some time it may not readily take a charge. To overcome this, leave the charger connected and the battery should eventually begin to accept a charge.

Due to the self-discharge characteristics of this type of battery, it is imperative that they be charged after 6-9 months of storage, otherwise permanent loss of capacity might occur as a result of sulfation. To prolong shelf life without charging, store batteries at 50°F (10°C) or less.

Nickel-Cadmium Batteries

FEATURES

Large Array of Sizes & Types: Power-Sonic offers a broad range of cell sizes and types to meet a wide range of configuration requirements and applications. Capacities range from 60 to 8000 mAh.

Exceptional Performance: State of the art design and a meticulously controlled manufacturing process ensure the highest performance levels in terms of energy density and voltage stability.

Rugged, Durable and Safe: The cylindrical steel case and special construction methods result in extremely impact and vibration resistant batteries designed to withstand hostile environments. A resealable safety valve automatically controls vent pressure and thus assures safe and reliable operation.

Excellent Operating Characteristics: Unique positive and negative electrode designs account for the low impedance and resultant high discharge and charge rates Power-Sonic batteries are capable of.

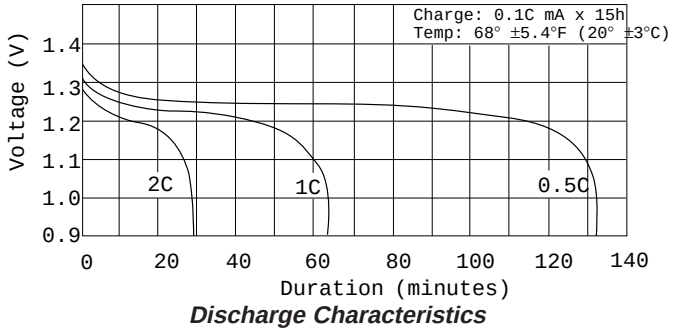
Easy to Handle: Power-Sonic's sealed, leak resistant design of nickel-cadmium cells eliminates any need for maintenance and allows safe operation in any position.

Long Service Life: 500-1000 charge/discharge cycles can be obtained depending on the average depth of discharge, and five years or more of trouble-free operation when used in stand-by (trickle charge) service at room temperature.

Wide Temperature Range: An operating temperature range from -20°C to +60°C for regular cells, and -20°C to 70°C for Hi-Temp cells provides design flexibility for a wide spectrum of environmental extremes. Even for charging, allowable temperatures range from 0°C to 50°C.

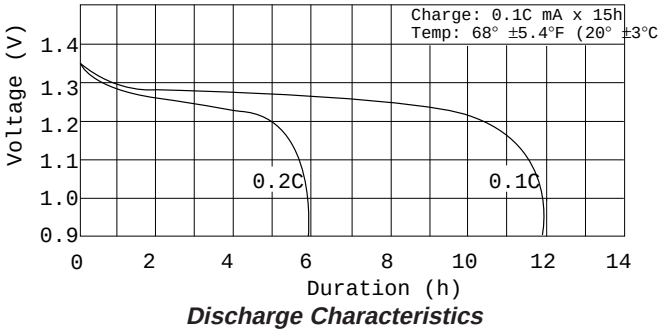
Uniformity of Cells: This is achieved through a quality control process which electronically screens cells as to capacity and impedance – a feature which virtually eliminates the need for cell matching and thus enhances long term performance in cell assemblies.

Discharge



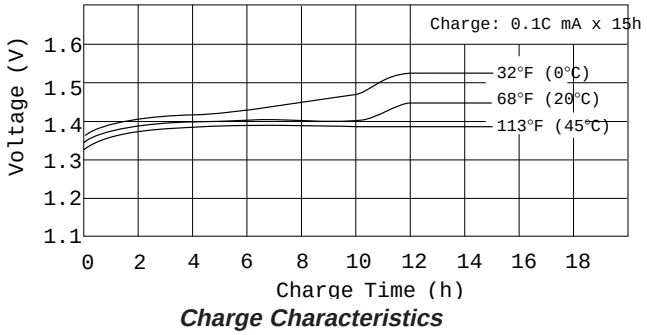
Discharge Characteristics

Discharge



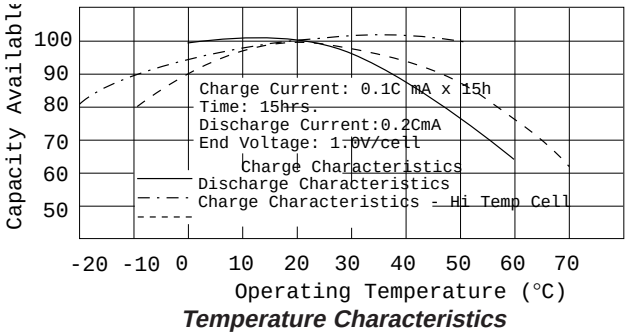
Discharge Characteristics

Charge (Standard)



Charge Characteristics

Capacity vs Temperature



Temperature Characteristics

SPECIFICATIONS

STANDARD CELLS

Model No.	Nominal Voltage V	Capacity 5hr. Rate mAh	Std. Charge		Quick Charge		Diameter (Max)		Height (Max)		Weight		Profile
			mA	hrs.	mA	hrs.	in.	mm	in.	mm.	oz.	g	
PS-1/3AA	1.2	110	11	15	28	6.0	0.551	14.0	0.650	16.5	0.25	7	1
PS-N	1.2	150	15	15	38	6.0	0.453	11.5	1.122	28.5	0.28	8	2
PS-AAA	1.2	200	20	15	45	6.0	0.413	10.5	1.752	44.5	0.35	10	2
PS-2/3AA	1.2	300	30	15	85	4.5	0.571	14.5	1.181	30.0	0.46	13	1
PS-AA*	1.2	600	60	15	180	4.5	0.571	14.5	1.890	48.0	0.74	21	1 or 2
PS-850AA*	1.2	850	85	15	255	4.5	0.567	14.4	1.890	48.0	0.81	23	1 or 2
PS-940AA	1.2	940	94	15	320	4.0	0.563	14.3	1.941	49.3	0.81	23	1
PS-SC	1.2	1400	140	15	300	6.0	0.906	23.0	1.693	43.0	1.59	45	1
PS-C	1.2	2000	200	15	–	–	1.024	26.0	1.969	50.0	2.40	68	3
PS-1/2D	1.2	2400	240	15	–	–	1.271	32.3	1.448	36.8	2.82	80	1
PS-D	1.2	4000	400	15	–	–	1.300	33.0	2.402	61.0	4.41	125	2
PS-D45	1.2	4500	450	15	–	–	1.300	33.0	2.303	58.5	4.41	125	3
PS-F	1.2	7000	700	15	–	–	1.283	32.6	3.591	91.2	8.15	231	1

*PS-AA & PS-850AA have flat top profile – Height: 48mm
PS-AAL & PS-850AAL have button top – Height: 50mm

HIGH TEMPERATURE CELLS (H-TYPE)

PS-1/3AAH	1.2	110	11	15	–	–	0.571	14.5	0.669	17.0	0.25	7	1
PS-AAH	1.2	600	60	15	–	–	0.547	13.9	1.870	47.5	0.74	21	1
PS-SCH	1.2	1200	120	15	–	–	0.906	23.0	1.692	43.0	1.57	45	1
PS-CH	1.2	1800	180	15	–	–	1.024	26.0	1.969	50.0	2.57	66	3
PS-1/2DH	1.2	2200	220	15	–	–	1.271	32.3	1.448	36.8	2.82	80	1
PS-DH	1.2	4000	400	15	–	–	1.300	33.0	2.402	61.0	4.41	125	2
PS-DHflat	1.2	4000	400	15	–	–	1.280	32.5	2.300	54.4	4.73	134	1
PS-DH45	1.2	4500	450	15	–	–	1.300	33.0	2.303	58.5	4.57	130	3
PS-FH80	1.2	8000	800	15	–	–	1.300	33.0	3.543	90.0	8.47	240	3

HIGH CAPACITY CELLS (X-TYPE)

PS-AAX**	1.2	700	70	15	230	5	0.571	14.5	1.890	48.0	0.78	22	1 or 2
PS-SCX	1.2	1500	150	15	–	–	0.906	23.0	1.693	43.0	1.69	48	1
PS-CX	1.2	2500	250	15	–	–	1.024	26.0	1.969	50.0	2.65	75	3
PS-DX	1.2	5000	500	15	–	–	1.339	34.0	2.402	61.0	5.47	155	2
PS-FX	1.2	8000	800	15	4000	2.5†	1.300	33.0	3.543	90.0	8.47	240	3

**PS-AAX has flat top profile – Height: 48mm
PS-AASL has button top – Height: 50mm

HIGH RATE CHARGE & DISCHARGE CELLS (F-TYPE)

†With -Δ V control

PS-2/3A	1.2	600	60	15	600	1.5††	0.665	16.9	1.106	28.1	0.67	19	1
PS-4/5A	1.2	1000	100	15	1000	1.5††	0.665	16.9	1.669	42.4	1.06	30	1
PS-A	1.2	1400	140	15	1400	1.5††	0.669	17.0	1.969	50.0	1.16	33	1
PS-SCF	1.2	1500	150	15	1500	1.5††	0.875	22.2	1.693	43.0	1.83	52	1
PS-CF	1.2	2400	240	15	800	3.5	1.024	26.0	1.880	47.8	2.65	75	1
PS-1/2DF	1.2	2200	220	15	470	6.5	1.300	33.0	1.496	38.0	2.65	75	2
PS-DF	1.2	4500	450	15	900	6.5††	1.283	32.6	2.300	58.4	4.57	130	1

HIGH CAPACITY - RAPID CHARGE CELLS

††Rapid charge requires control of charge current by way of temperature or -ΔV detection.

PS-AAXF	1.2	700	70	15	700	1.5††	0.571	14.5	1.890	48.0	0.78	22	1
PS-SCXF	1.2	1800	180	15	1800	1.5††	0.906	23.0	1.693	43.0	1.76	50	1
PS-CXF	1.2	2500	250	15	2500	1.5††	1.024	26.0	1.969	50.0	2.54	72	3
PS-DXF	1.2	5000	500	15	5000	1.5††	1.300	33.0	2.303	58.5	4.52	128	2

PCBM (Printed Circuit Board Mount) MEMORY SAVE CELLS

PCBM-2.4	2.4	110	3.7	48			0.571	14.5	1.350	34.5	0.53	15.0	P.C.PINS
PCBM-3.6	3.6	110	3.7	48			0.571	14.5	2.015	52.0	0.79	22.5	P.C.PINS

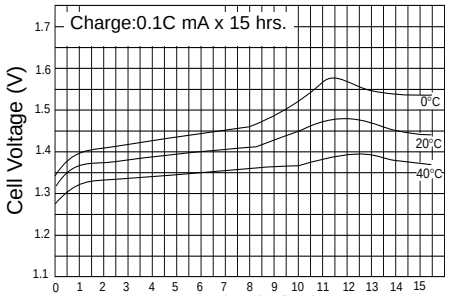
BUTTON CELLS

PS-B60	1.2	60	6	16	–	–	0.61	15.6	0.23	5.90	0.12	3.3	N/A
PS-B170	1.2	170	17	16	–	–	0.91	23.2	0.26	6.50	0.32	9.0	N/A
PS-B280	1.2	280	28	16	–	–	0.99	25.1	0.35	9.00	0.49	14	N/A

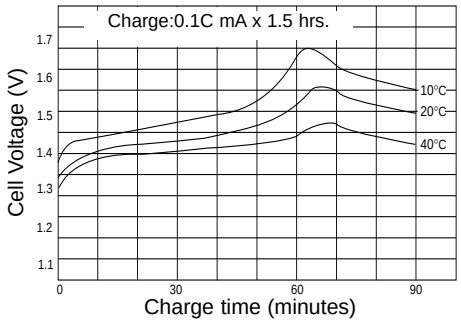
Positive Terminal Profiles: 1= flat top; 2 = button top; 3 = low profile button

CHARGE CHARACTERISTICS

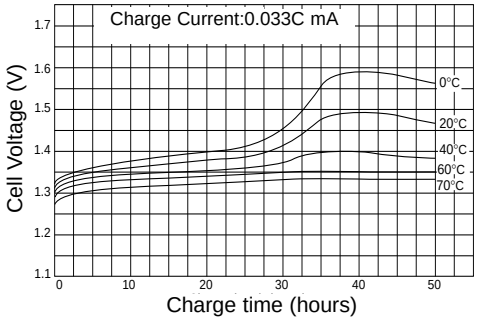
● Charge Characteristics



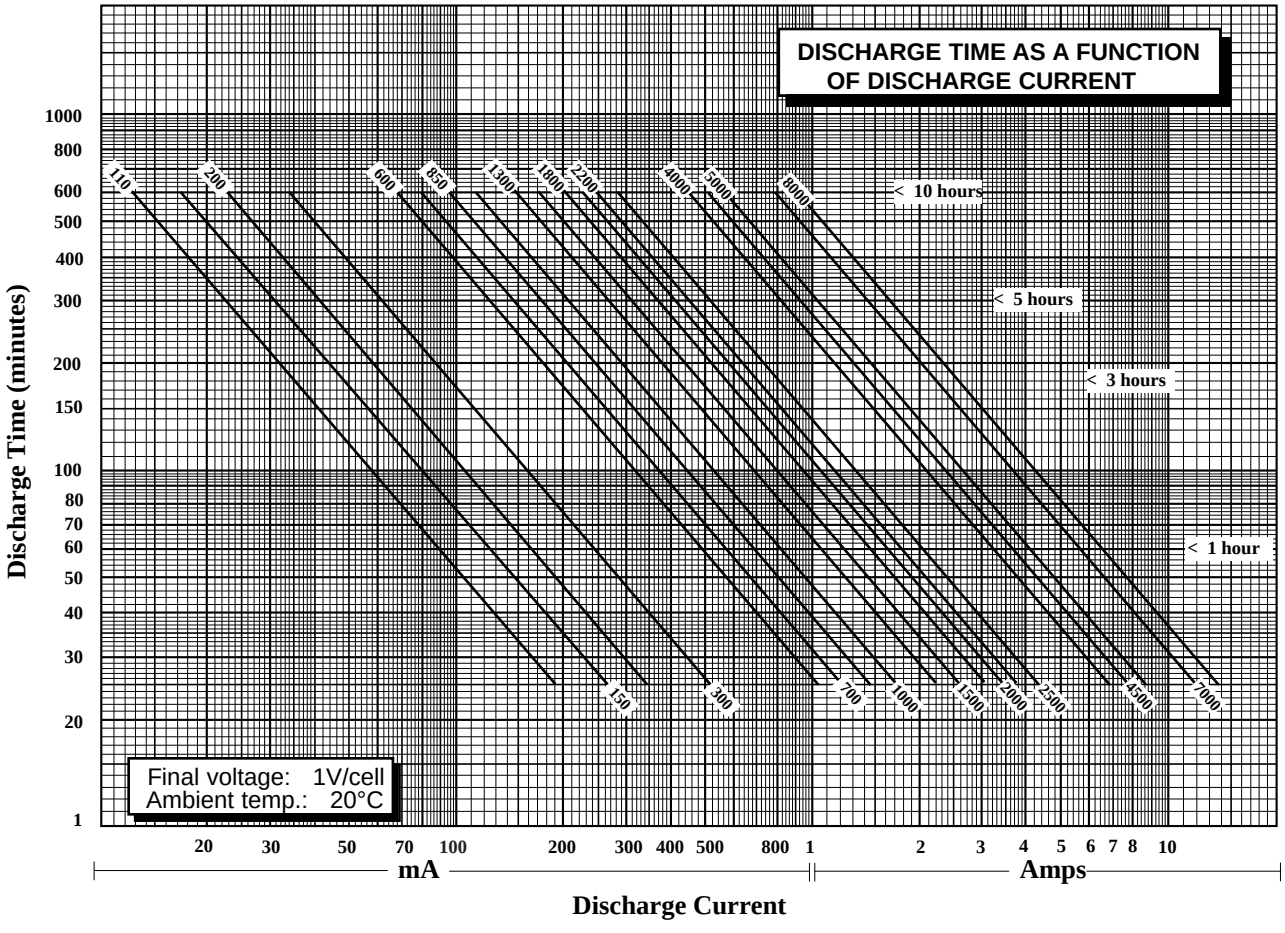
● Rapid Charge Characteristics



● Trickle Charge Characteristics (H Type)

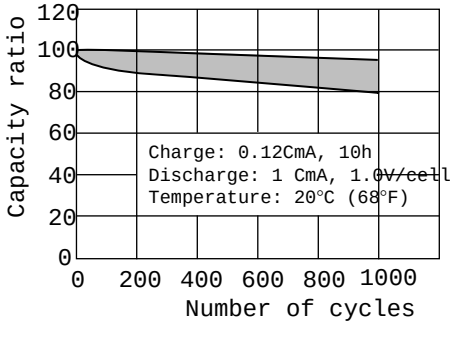


CELL SELECTOR GUIDE

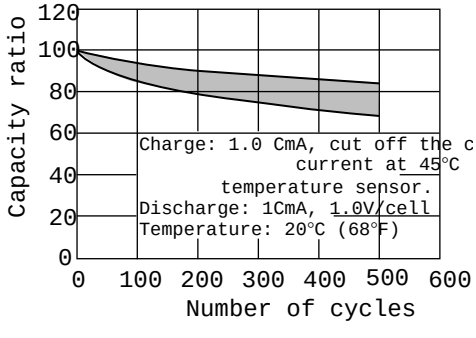


LIFE CHARACTERISTICS

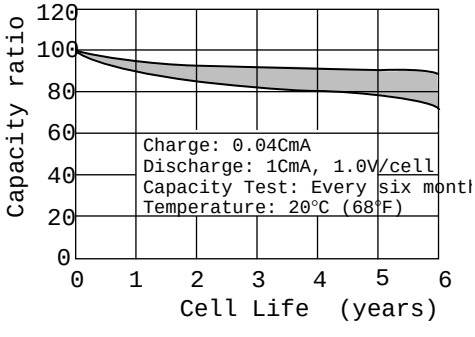
● Life Characteristics for Cycle Use



● Life Characteristics for Quick Charge Cycle Use



● Life Characteristics for Trickle Charge Use



CELL ASSEMBLIES

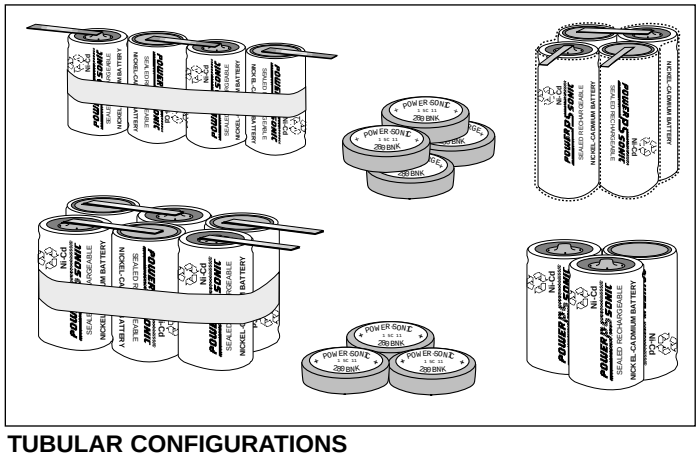
Power-Sonic nickel-cadmium batteries are also available as cell assemblies and packs. Both cylindrical and button cells may be packaged in any configuration to meet electrical and dimensional requirements.

When specifying battery assemblies, the following information should be given:

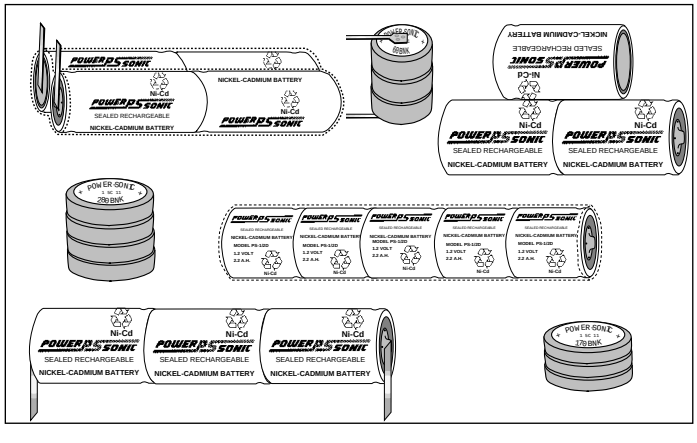
1) Size and type of cell
2) Voltage or number of cells
3) Configuration of cells: e.g., 1 x 4, 2 x 5, stick, etc.
4) Packaging method: taped or glued with hot melt; with or without shrink wrap
5) Termination: button top, solder tabs(incl. direction), or wire leads with or without connectors

When ordering a replacement battery pack, specify voltage or number of cells, ampere-hour capacity or cell size, and dimensions of the pack.

LINEAR CONFIGURATIONS

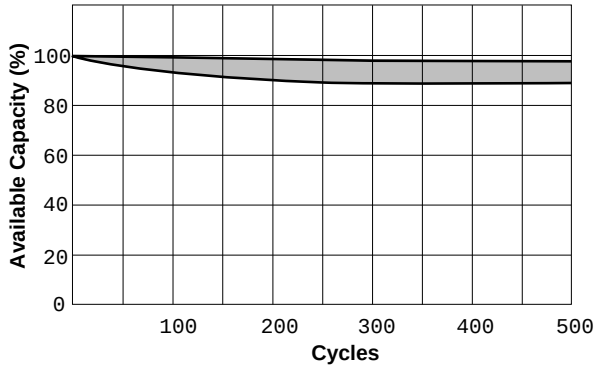


TUBULAR CONFIGURATIONS

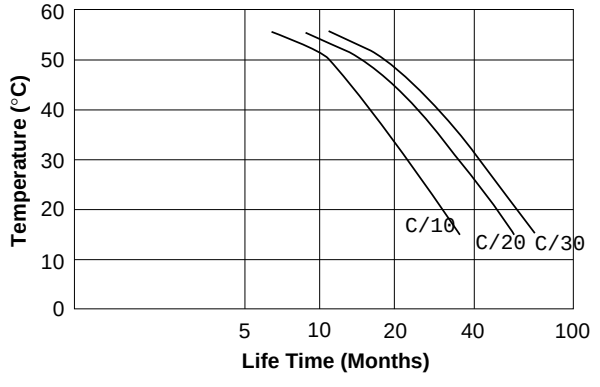


LIFE CHARACTERISTICS

LIFE EXPECTANCY – CYCLIC USE



LIFE EXPECTANCY – STANDBY USE



CHARGING

Cyclic Use: Semi-constant or constant current charging at the 0.1C (C/10) rate for 15 hours is recommended. Overcharging at C/10 for up to 48 hours can be done at room temperature without causing damage.

Cell sizes ranging from 1/3AA to SC can also be quick-charged for 4.5-6 hours at the 0.25C (C/3-C/4) rate. Quick-charging larger cells (C-cell and up) requires a controlled charge circuit because of the heat and gas generated during overcharge.

Standby Use: A trickle charge of between 0.02C and 0.05C (C/50-C/20) is sufficient to keep a battery fully charged. At 32°-113°F (0°C-45°C) this charge rate will minimize heating effects during overcharge and prolong battery life.

SLA Battery Chargers

FEATURES

Electronically regulated - current limited chargers for sealed lead-acid type batteries.

Wall mount plug-in design for 250, 300, 500, 800 series and 61000A; counter top design for 241000A, 2000, 4000 and 10A series.

Operating temperature range: 32°F – 104°F (0°C – 40°C).

Input voltage: 110/120 VAC, 60Hz. PSC-122000A and PSC-241000A can be switched to accept 220/230 VAC, 50Hz.

LED indicators on "A" -type chargers – 250 & 500 series: "POWER ON" and "CHARGING MODE" (ON for high-rate charging, OFF when float charging). 300, 800, 1000, 2000, 4000, and 10A series: "FLOAT" to indicate charging at float voltage, "FAST CHARGE" to indicate high-rate charging.

Hi-impact resistant thermo-plastic housing for 250, 300, 500, and 800 series; metal housing for 1000, 2000, 4000, and 10A series.

Screw-type terminals for 250 & 500 series, I/O cord with battery connectors for 300, 800, 1000, 2000, 4000 and 10A series chargers.

CHARACTERISTICS

"F" Series: Float chargers are designed to provide optimum life for batteries used in standby applications where charging is continuous. The chargers deliver a constant voltage of 2.25 to 2.30 volts per cell which allow the battery to seek its own current level and maintain itself in a fully charged condition. This series is best suited for burglar and fire alarm equipment, emergency lighting, memory protection, or UPS systems where the battery serves as back-up power to the AC source.

"A" Series: Automatic dual rate chargers sense battery requirements and automatically switch from the fast charge to float mode, or vice versa. LED's provide visual indication of the charging mode. Automatic chargers combine the advantages of float and cycle chargers; recharge time is short yet batteries are safe from being overcharged. This charger is ideal for cyclic applications where recharge time is critical and the battery may be left on charge indefinitely. As a result charging is fool-proof.

SPECIFICATIONS

Model	Output Voltage (V)		Output Current (A)		Type	Dimensions (in.)			Weight (lbs.)
	Nominal	Range	Nominal	Maximum		Length	Width	Height	
PSC-6250F	6	6.83	.30	.60	Fixed volt. float	2.20	1.96	1.88	0.5
PSC-6250A	6	6.75/7.35	.30	.60	Dual volt. auto.	2.20	1.96	1.88	0.5
PSC-6300A	6	6.84/7.35	.30	.30	Dual volt. auto.	2.75	2.75	3.75	1.36
PSC-6500A	6	6.75/7.35	.60	.75	Dual volt. auto.	2.55	1.88	2.89	0.8
PSC-61000A	6	6.84/7.35	1.00	1.00	Dual volt. auto.	2.75	2.75	3.75	1.36
PSC-64000A	6	6.75/7.35	3.50	4.00	Dual volt. auto.	5.70	5.80	3.30	6.0
PSC-12250F	12	13.65	.25	.40	Fixed volt. float	2.20	1.96	1.88	0.5
PSC-12250A	12	13.50/14.70	.25	.40	Dual volt. auto.	2.20	1.96	1.88	0.5
PSC-12300A	12	13.68/14.70	.30	.30	Dual volt. auto.	2.75	2.75	3.75	1.36
PSC-12500F	12	13.65	.50	.60	Fixed volt. float	2.55	1.88	2.89	0.8
PSC-12500A	12	13.50/14.70	.50	.60	Dual volt. auto.	2.55	1.88	2.89	0.8
PSC-12800A	12	13.68/14.70	.80	.80	Dual volt. auto.	2.75	2.75	3.75	1.36
PSC-122000A	12	13.50/14.70	2.00	2.00	Dual volt. auto.	5.50	3.50	2.75	4.5
PSC-124000A	12	13.50/14.70	4.00	4.75	Dual volt. auto.	5.70	5.80	3.30	6.0
PSC-124000AP	12	13.50/14.70	4.00	3.50/2.50	Charger/Power Supply	5.70	5.80	3.30	6.0
PSC-12-10A	12	13.50/14.70	10.00	10.00	Dual volt. auto.	7.95	6.10	4.50	9.0
PSC-241000A	24	27.00/29.40	1.00	1.00	Dual volt. auto.	5.50	3.50	2.75	4.5

NiCd / NiMH Chargers

PSN-SERIES FEATURES

Electronically regulated, current-limited 2-stage chargers for nickel cadmium and nickel metal-hydride batteries.

Timed C/10 charge rate with automatic switching to C/40 trickle rate after fourteen hours to keep the battery fully charged. LED's indicate charge mode.

Units are calibrated to the battery pack's specifications based on the number and mAh capacity of the cells. Assemblies of 1-12 cells and capacities of 500-5000 mAh can be charged in about 14 hours.

The wall mount design chargers are shipped with a 6-foot 18-AWG output cable with 2.5mm ID barrel plug connector and feature a vented housing made of tough ABS plastic.

To order, indicate number and capacity (mAh) of cells. Example: 5 cells (6 volt) - 1400 mAh.

PSN-SERIES SPECIFICATIONS

Input voltage range:	110 to 120 VAC, 60 Hz.
Operating temperature:	0 to 40^{o} C (32 to 104^{o} F)
Dimensions:	2.8"W x 3.8"H x 2.8"D
Weight:	Approximately 1.5 lbs.

Caution: Chargers are not protected against reverse polarity connection. Reversing polarity or shorting will damage the battery and the charger.

SLA CHARGER SELECTION GUIDE

Charger Model	Max Output mA	Use With Battery Voltage	Use With Battery Capacity	U.L./CSA Listing
PSC-6250F	500	6V	1-5 AH	U.L.
PSC-6250A	275	6V	1-5 AH	U.L.
PSC-6300A	300	6V	1-5 AH	CSA*
PSC-6500A	500	6V	2-10 AH	U.L.
PSC-61000A	1000	6V	4.5-12 AH	CSA*
PSC-64000A	4000	6V	20-40 AH	CSA
PSC-12250F	375	12V	1-5 AH	U.L.
PSC-12250A	275	12V	1-5 AH	U.L.
PSC-12300A	300	12V	1-5 AH	CSA*
PSC-12500F	600	12V	2-10 AH	U.L.
PSC-12500A	500	12V	2-10 AH	U.L.
PSC-12800A	800	12V	4-12 AH	CSA*
PSC-122000A**	2000	12V	10-20 AH	Pending
PSC-124000A	4000	12V	17-40 AH	CSA
PSC-124000AP***	3500	12V	17-40 AH	- - -
PSC-12-10A	10000	12V	60-100 AH	- - -
PSC-241000A**	1000	24V	5-15 AH	Pending

Notes: Recharge time depends on the depth of the preceding discharge and the output current of the charger. To determine the approximate recharge time of a fully discharged battery, divide the battery's amp. hrs. by the rated output current of the charger and multiply the resulting number of hours by a factor of 1.75 to compensate for the declining output current during the charge cycle. If the amount of amp. hrs. discharged from the battery is known, use it instead of the battery's capacity to make the calculation.

* The "NRTL/C mark appearing next to the CSA stamp indicates that the charger was also tested to meet U.L. requirements (UL 1310). Under the provisions of this agreement, CSA and U.L. can now test to each others' specifications and thus obtain approval for both organizations.

** PSC-122000A and PSC-241000A can be switched to accept 115 VAC or 230 VAC input (47-63 Hz) allowing usage both here and abroad.

*** PSC-124000AP should be used when the automatic dual rate charger is used like a power supply. As such it can supply a continuous load current of up to 2.5A, yet still switch into float mode (13.8V) when the battery is fully charged.

Primary Power

- Portable Tools & Instrumentation
- Hand Held Lights
- Cordless & Portable Cellular Phones
- Power Packs
- Remote or Portable Data Gathering Devices
- Medical Apparatus
- Battery-Powered Wheelchairs, Ride-on Toys
- Engine Starting Devices
- Robotics
- Consumer Electronics
- Hobby Craft

Standby Power

- UPS Systems
- Emergency Lighting
- Fire & Burglar Alarm Systems
- Access Control Devices
- Telecommunications Equipment
- Electronic Equipment Requiring Memory Protection
- Solar Powered Systems
- Automotive Electronics

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