

SOLARX™ Series



SOLARX-48
12V - 48Ah - C120
12V - 42Ah - C20



SOLARX-78
12V - 78Ah - C120
12V - 68.30Ah - C20



SOLARX-120
12V - 120Ah - C120
12V - 105Ah - C20



SOLARX-240
12V - 240Ah - C120
12V - 210Ah - C20

SOLARX™ Series

12V Maintenance-Free Deep-Cycle AGM Solar Batteries

Product Overview

- Totally Maintenance-Free 12V Solar Batteries. Do not need to be refilled with water during the whole service life
- Sealed & Safe. Non-spillable
- Deep-cycle Valve-Regulated Lead-Acid (VRLA) AGM Batteries
- Ideal for Off-Grid and Off-Shore Photovoltaic and Wind applications, UPS and Back-up, telecom and CATV, traffic, agricultural, marine and caravan, cathodic protection, professional installations,...
- Specially designed for frequent cyclic discharge usage. Withstands cyclical discharges. Strong grid and specific paste plate provide 30% more cyclic life time than standby batteries
- Rugged durability, outstanding performance and long battery life (Design life 10 years floating)
- Low self-discharge, excellent deep discharge capability and very good recharge behaviour
- Low internal resistance makes them particularly suitable for high current discharge applications: inverters, thrusters, winches, engine starting,...
- Can be installed in any position, vertical and horizontal
- Very safe, fully insulated battery design to ensure touch protection, with control valve for each cell and ultra container ABS (UL94-HB)
- ADR/RID (Road and Rail Transport), IMDG Code (Sea Transport), and FAA and IATA (Air Transport) approved. According to standards DIN 43539-T5 (deep discharge), IEC61427-2005 and IEC60896-21/22-2004

Available Models

Model	CAPACITY [Ah] – 100% DOD (to 1,75V/cell) @ 25°C		
	C20	C100	C120
SOLARX-3	2.45	2.65	3.00
SOLARX-8	7.00	7.87	8.00
SOLARX-14	12.50	13.80	14.00
SOLARX-30	26.00	29.20	30.00
SOLARX-48	42.00	47.20	48.00
SOLARX-78	68.30	76.70	78.00
SOLARX-120	105	118	120
SOLARX-240	210	236	240

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Specifications

MODEL		SOLARX-3	SOLARX-8	SOLARX-14	SOLARX-30	SOLARX-48	SOLARX-78	SOLARX-120	SOLARX-240
Cells per unit		6							
Nominal voltage		12							
Capacity (100% DOD, to 1.75V/cell @ 25°C) [Ah]									
C20		2.45	7.00	12.50	26.00	42.00	68.30	105	210
C100		2.65	7.87	13.80	29.20	47.20	76.70	118	236
C120		3.00	8.00	14.00	30.00	48.00	78.00	120	240
Weight [kg]		0.97	2.00	3.60	8.10	13.00	21.00	30.00	60.00
Dimensions (mm)	L	178	151	151	166	198	350	328	522
	W	35	65	98	175	166	167	172	240
	H	67	100	95	125	171	180	222	223
Internal Resistance (Approx)		50 mΩ	30 mΩ	16 mΩ	10 mΩ	8 mΩ	6 mΩ	5 mΩ	4 mΩ
Self-Discharge		SOLARX batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.							
Operating Temperature Range	Discharge	-20°C~60°C							
	Charge	0°C~50°C							
	Storage	-20°C~60°C							
Normal Operating Temperature Range		25°C~5°C							
Max. Discharge Current (5 sec)		23A	70A	120A	260A	400A	650A	1000A	2000A
Recommended Max. Charging Current		0,69A	2,1A	3,6A	7,8A	12A	19,5A	30A	60A
Absorption Voltage	@ 25°C	14,4V – 14,7V							
Float Voltage	@ 25°C	13,7V – 13,9V				13,6V - 13,8V			
Equalization Voltage	@ 25°C	14,6V – 14,8V							
Effect of temperature on charge voltage		-3mV/°K per cell				-4mV/°K per cell			
Terminals		Faston F1	Faston F2		M5	M6		M8	
Container Material		ABS. (UL94-HB), Flammability resistance of UL94-V2 can be available upon request.				ABS. (UL94-HB), Flammability resistance of UL94-V1 can be available upon request.			
Cover		High density polypropylene							
Handles		N.A.				Built-in	Rope and moulded plastic (x2)	Strap	Rope and moulded plastic (x2)

Capacity affected by temperature

Capacity Factors With Different Temperature

Battery Type	-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
AGM	6V & 12V	46%	66%	76%	83%	90%	98%	100%	104%	107%
Battery	2V	55%	70%	80%	85%	92%	99%	100%	103%	108%

Charging temperature compensation	-3mV/°K per cell	-4mV/°K per cell
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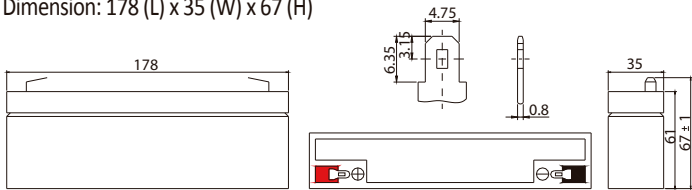
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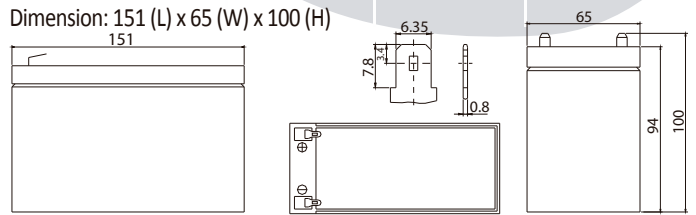
SOLARX-3

Unit: mm
Dimension: 178 (L) x 35 (W) x 67 (H)



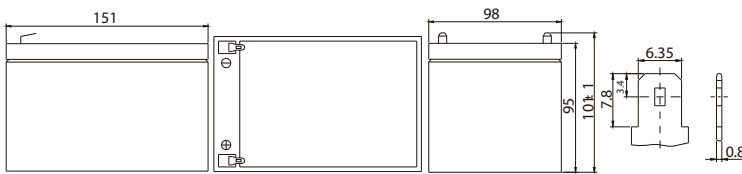
SOLARX-8

Unit: mm
Dimension: 151 (L) x 65 (W) x 100 (H)



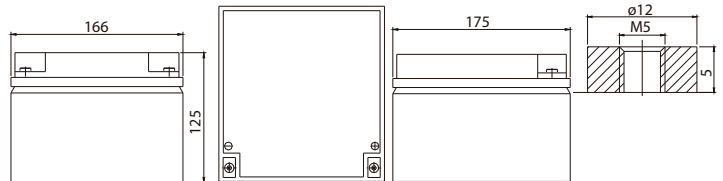
SOLARX-14

Unit: mm
Dimension: 151 (L) x 98 (W) x 95 (H)



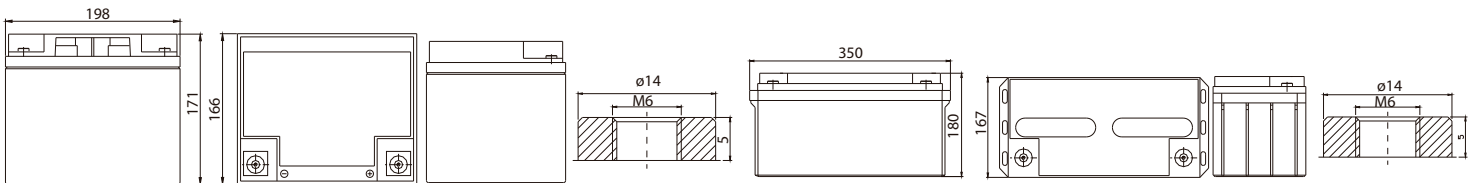
SOLARX-30

Unit: mm
Dimension: 166 (L) x 175 (W) x 125 (H)



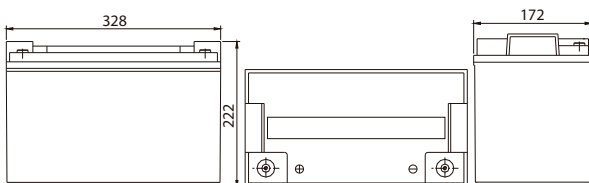
SOLARX-48

Unit: mm
Dimension: 198 (L) x 166 (W) x 171 (H)



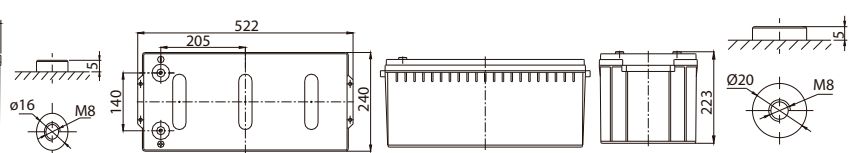
SOLARX-120

Unit: mm
Dimension: 328 (L) x 172 (W) x 222 (H)



SOLARX-240

Unit: mm
Dimension: 522 (L) x 240 (W) x 223 (H)



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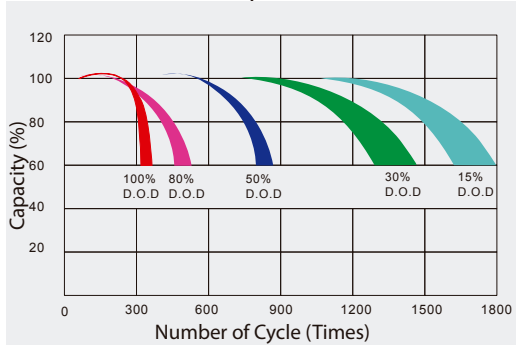
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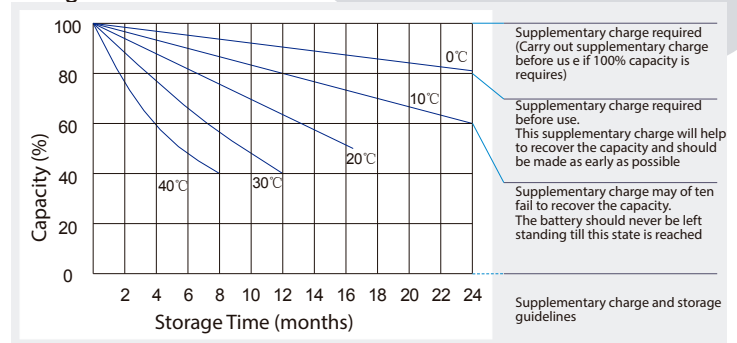
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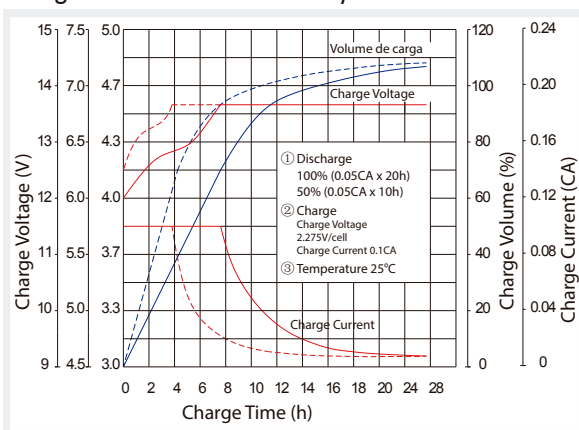
Life characteristics of cyclic us



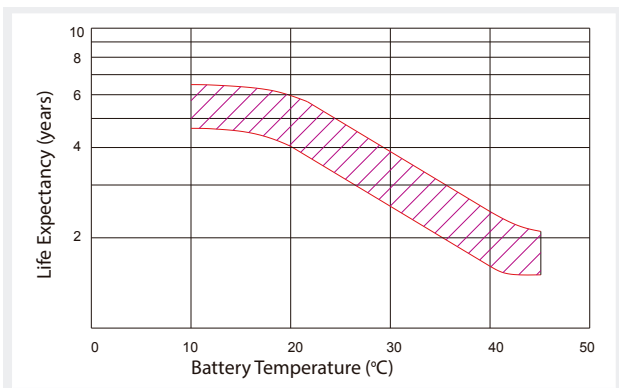
Storage Characteristic



Charge characteristic curve for cyclic use

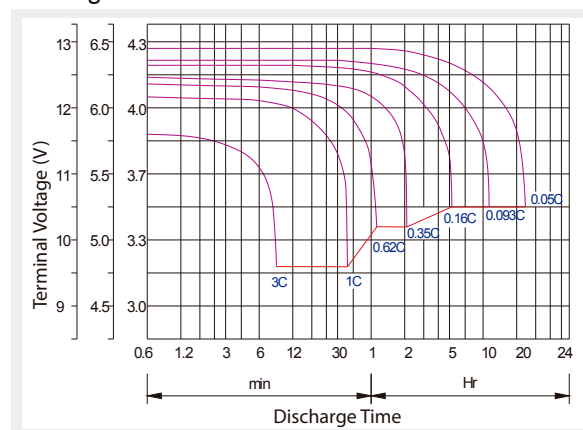


Effect of temperature on long term float life



IS-2006216-GAH

Discharge Characteristic curve



Discharge Current vs. Discharge Voltage

Final Discharge Voltage (V/cell)	1.75 V	1.70 V	1.60 V
Discharge current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 0.2C
Constant Voltage	-0.2C x 2h + 2.4 ~ 2.45V/celúlas x 24h, Corrente máx. 0.3CA		
Constant Current	-0.2C x 2h + 0.1 CA x 12h		
Fast	-0.2C x 2h + 0.3CA x 4.0h		

Charge the batteries at least once every six months, if they are storage at 25°C

Maintenance and Cautions

- Avoid battery over discharging the battery, specially in series connection.
- Charging with recommended voltages ensures battery can fully recharge. In general, charging capacity should be 1,1-1,15 times discharge capacity.
- There are a number of factors that affect the length of cyclic service: Depth of Discharge (DOD, the most significant), ambient temperature, discharge rate, and the recharging method.
- It is recommended to check battery voltage, temperature and connections every 6 months.



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