



Desafio Universitário de Nautidesign – UFSC CTJ

Joinville – Santa Catarina – Brasil

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Joinville, 18 de Novembro de 2021

A bateria Global EV 12-6 é uma bateria chumbo-ácido selada de 12V de tensão e capacidade de 6Ah e não oferece perigo durante o transporte. Ela será utilizada pelas equipes de competição de diversas universidades do Brasil no Desafio Universitário de Nautidesign edição de 2021, evento organizado pelo Centro Tecnológico de Joinville da Universidade Federal de Santa Catarina que acontecerá na cidade de Joinville-SC, entre os dias 24 e 27 de novembro de 2021. No anexo, há uma bateria exemplo, mas outras equivalentes podem ser utilizadas.

Prof. Dr. Luis Fernando Peres Calil
Coordenador do comitê organizador do DUNA2019
Coordenador do curso de Engenharia Naval

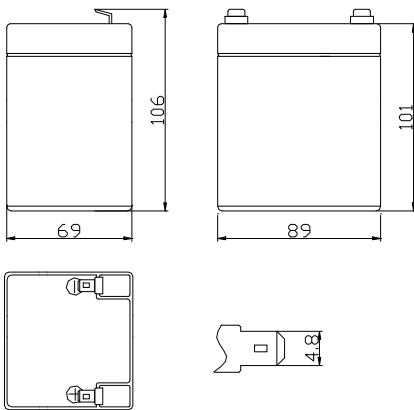
Prof. Dr. Diego Santos Greff
Engenheiro eletricitista.
Diretor geral - CTJ.

EV12-6 12V6Ah



The battery is designed specially for electric vehicles, such as electric golf cart, electric wheelchair, mower dust collector etc. It has high cycling life, high efficiency and long service life.

Outer Dimensions



Dimensions and Weight

Length (mm / inch)	89 / 3.50
Width (mm / inch)	69 / 2.72
Height (mm / inch)	101 / 3.98
Total Height (mm / inch)	106 / 4.17
Approx.Weight(Kg / lbs)	1.75 / 385

Performance Characteristics

Nominal Voltage	12V
Number of cell	6
Design Life	3 years
Nominal Capacity 77°F(25°C)	
5 hour rate(1.2A,10.5V)	6Ah
2 hour rate (2.49A,10.5V)	4.98Ah
1 hour rate(4.02A,9.6V)	4.02Ah
Internal Resistance	
Fully Charged battery 77°F(25°C)	40mOhm s
Self-Discharge	
3% of capacity declined per month at 25°C(average)	
Operation Temperature Range	
Discharge	-20~60°C
Charge	-10~60°C
Storage	-20~60°C
Max.Discharge Current 77°F(25°C)	105A(5s)
Short Circuit Current	140A

Battery Construction

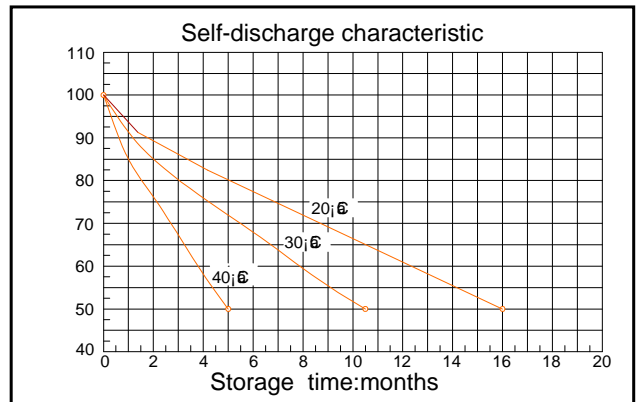
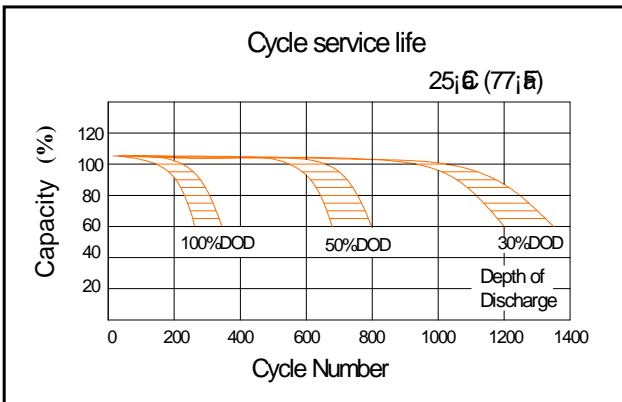
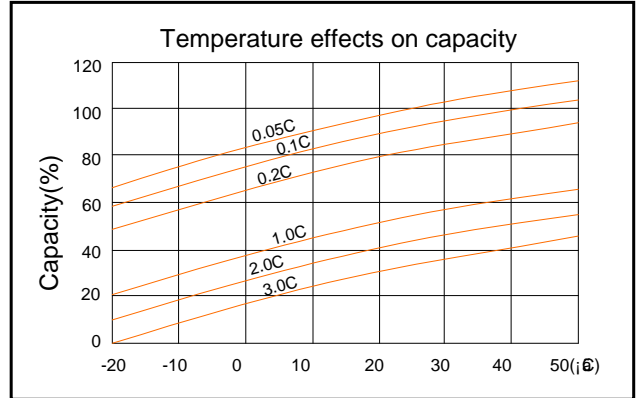
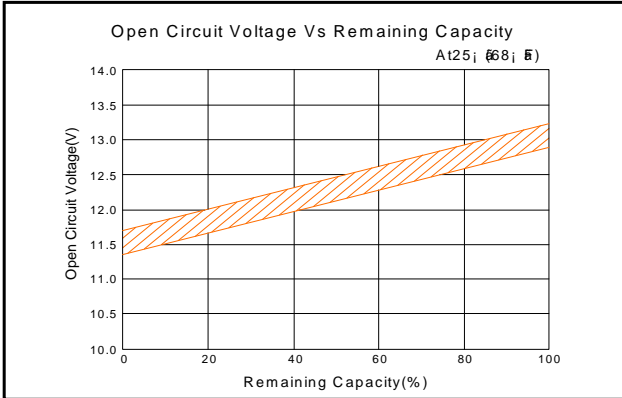
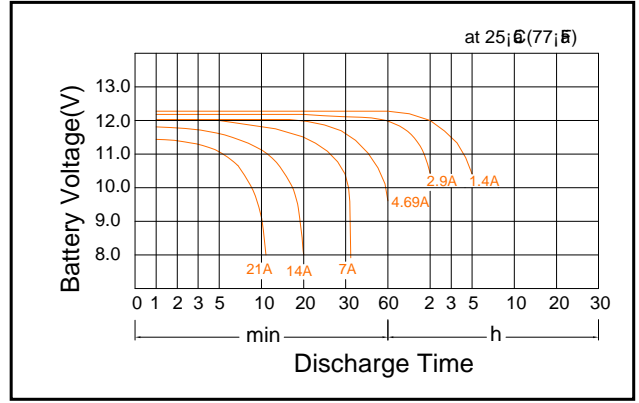
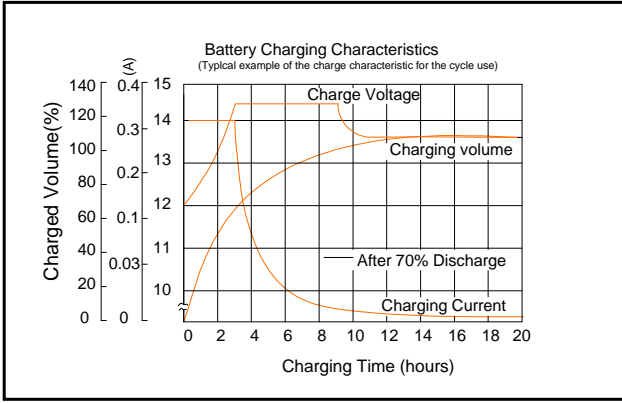
Component	Positive plate	Negative plate	Container	Cover	Safety valve	Terminal	Separator	Electrolyte
Raw material	Lead dioxide	Lead	ABS	ABS	Rubber	Copper	Fiberglass	Sulfuric acid

Charging Methods

Application	Charging method	Charging Voltage at 25°C	Temperature compensation coefficient of charging voltage	Max.charging current	Charging time 0.1CA. 25°C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power source	Constant voltage & Constant Current Charging (with current restriction)	13.6~13.8V	-20 mV/°C	2.1A	24	20	0~40 (32~104°F)
For cycle service		14.6~15.0V	-30 mV/°C	2.1A	16	10	

*Temperature compensation of charging voltage is not needed when using the batteries within 15°C to 35°C range.

EV12-6 12V6Ah



Discharge Constant Current (Amperes at 77°F/25°C)

F.V / Time	10 Min	15 Min	30 Min	40 Min	1 h	2 h	3 h	5 h
10.8V	15.0	11.4	6.95	5.90	4.20	2.45	1.75	1.19
10.5V	16.0	11.9	7.25	5.95	4.30	2.50	1.79	1.20
10.2V	16.9	12.3	7.40	6.05	4.40	2.55	1.80	1.21
9.90V	17.5	12.5	7.50	6.15	4.45	2.60	1.81	1.22
9.60V	18.0	12.7	7.60	6.25	4.50	2.65	1.83	1.23

Discharge Constant Power (Watts/Cell at 77°F/25°C)

F.V / Time	10 Min	15 Min	30 Min	40 Min	1 h	2 h	3 h	5 h
10.8V	184	150	94.3	94.3	57.1	32.5	24.0	15.2
10.5V	199	156	97.7	97.7	58.6	33.3	24.4	15.4
10.2V	207	161	99.4	99.4	59.7	33.7	24.7	15.5
9.90V	212	165	101	101	60.2	34.2	24.9	15.7
9.60V	216	168	102	102	61.2	34.3	25.0	15.7

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