



The world's leading battery brand



HR SERIES-HIGH RATE **BATTERIES**

HR 1228W

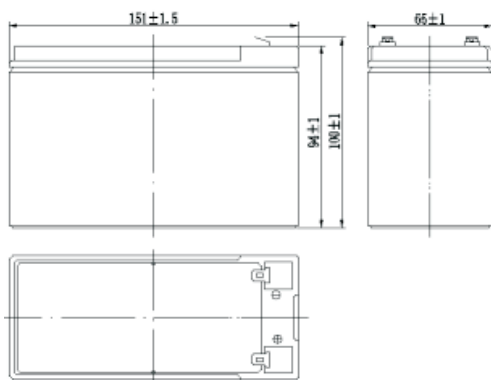


www.starmaxbatteries.com

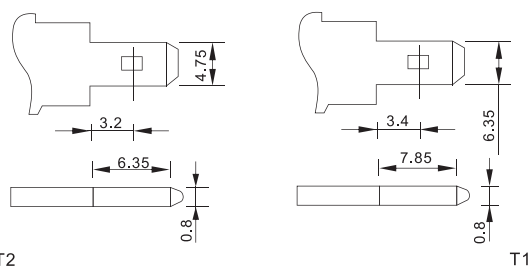
HR 1228W



Outer Dimensions (mm)



Terminal Type (mm)



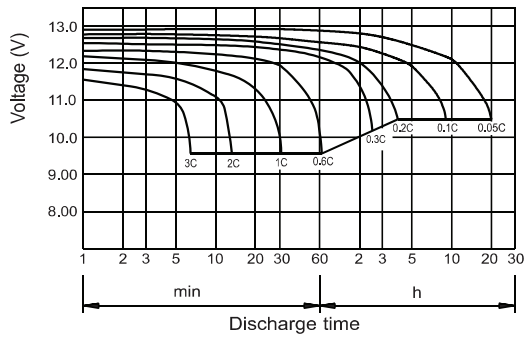
SPECIFICATIONS

Nominal Voltage	12V	
Number of Cell	6 cells	
Rated Capacity (15min. rat)	28 Watts/cell	
Dimensions	Length	151±1.5mm(5.94inch)
	Width	65±1mm(2.56inch)
	Height	94±1mm(3.70inch)
	Total Height	100±1mm(3.90inch)
Approx. Weight	2.3kg (5.06lbs)±4%	

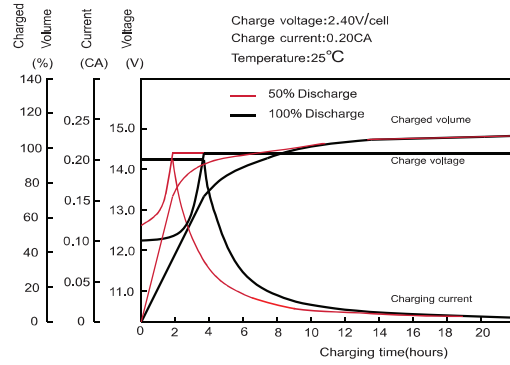
CHARACTERISTICS

Capacity (20HR, 25°C)	7.5Ah	
Capacity (15min.rate, 25°C)	28 Watts/cell	
Terminal Type	T2/T1	
Internal Resistance (Fully Charged, 25°C)	Approx. 14mΩ	
Capacity Affected by Temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-Discharge (25°C)	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12months	Remaining Capacity: 65%
Nominal Operating Temperature	25±3°C (77±5°F)	
Operating Temperature Range	Discharge	-15°C~50°C(5°F~122°F)
	Charge	-10°C~50°C(14°F~122°F)
	Storage	-20°C~50°C(4°F~122°F)
Float Charging Voltage (25°C)	13.50 to 13.80V Temperature Compensation: -18mV/°C	
Cyclic Charging Voltage (25°C)	14.50 to 15.00V Temperature Compensation: -30mV/°C	
Maximum Charging Current	2.7A	
Terminal Material	Copper	
Maximum Discharge Current	135A(5 sec)	
Design Floating Life(20°C)	5 Years	

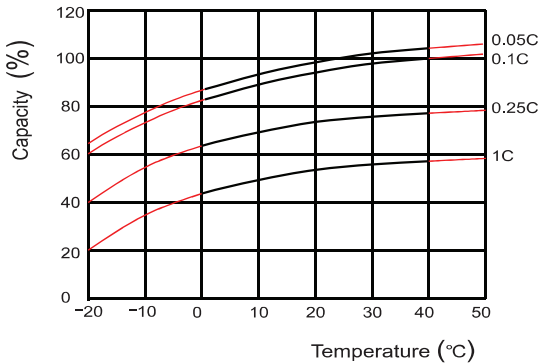
Discharge Characteristics



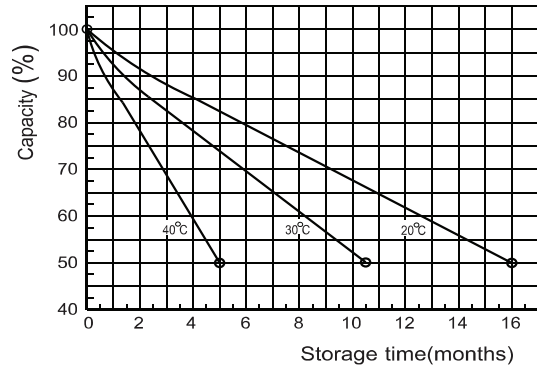
Charging Characteristics (25°C)



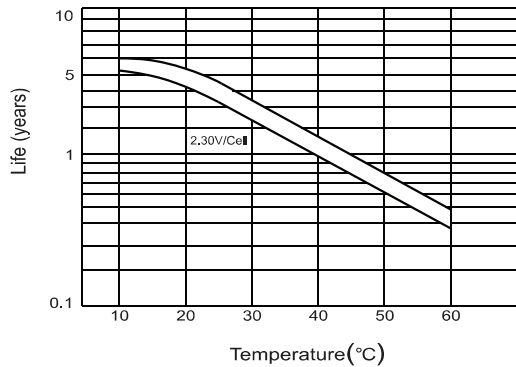
Effect of Temp on Capacity



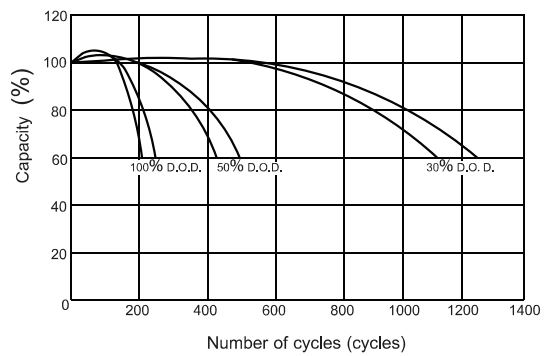
Self-Discharge Characteristics



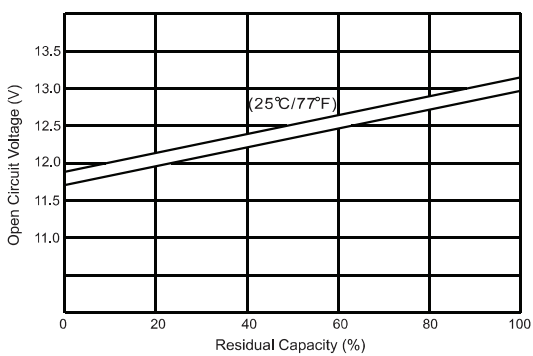
Floating Life on Temperature



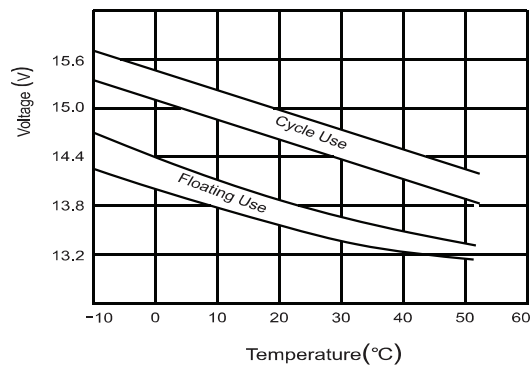
Cycle Service Life on D.O.D (25°C)



Relationship for OCV and Capacity (25°C)



Relationship for Charging Voltage and Temp



Construction

Component	Positive Plate	Negative Plate	Container	Cover	Separator	Electrolyte	Safety Valve	Terminal
Raw material	Lead Dioxide	Lead	ABS	ABS	AGM	Sulfuric Acid	Rubber	Copper

Constant Current Discharge Characteristics Unit: A(25°C, 77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V/cell	31.3	19.3	15.1	12.0	8.12	6.01	4.91	2.81	2.00	1.61	1.38
1.67V/cell	29.9	18.4	14.6	11.5	7.85	5.81	4.80	2.79	1.98	1.58	1.37
1.70V/cell	29.1	17.9	14.2	11.2	7.71	5.71	4.72	2.77	1.97	1.59	1.36
1.75V/cell	27.9	17.2	13.8	10.9	7.52	5.57	4.62	2.73	1.96	1.57	1.35
1.80V/cell	26.3	16.1	13.0	10.3	7.25	5.36	4.48	2.66	1.91	1.53	1.32

Constant Power Discharge Characteristics Unit: W(25°C, 77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V/cell	60.1	37.4	30.0	23.7	16.1	11.9	9.78	5.59	4.01	3.23	2.78
1.67V/cell	57.38	35.7	28.9	22.8	15.6	11.5	9.52	5.54	3.98	3.20	2.75
1.70V/cell	55.8	34.8	28.1	22.3	15.3	14.4	9.35	5.51	3.96	3.19	2.74
1.75V/cell	53.5	33.2	27.2	21.5	14.9	11.0	9.18	5.43	3.94	3.17	2.72
1.80V/cell	50.5	31.5	25.8	20.4	14.4	10.6	8.84	5.29	3.82	3.07	2.64



Starmax Corporation

1585 Cliveden Avenue, Delta, British Columbia
V3M 6M1, Canada

Phone: +1 888 669 1310

Email: info@starmaxbatteries.com

Website: www.starmaxbatteries.com

