

# STARMAX

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## HR SERIES-HIGH RATE **BATTERIES**

HR 1234W



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# HR 1234W



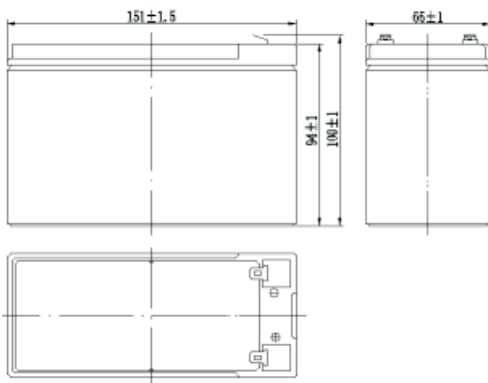
## SPECIFICATIONS

Nominal Voltage	12V	
Number of Cell	6 cells	
Rated Capacity (15min. rat)	34 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	2.5kg (5.5lbs)±4%	

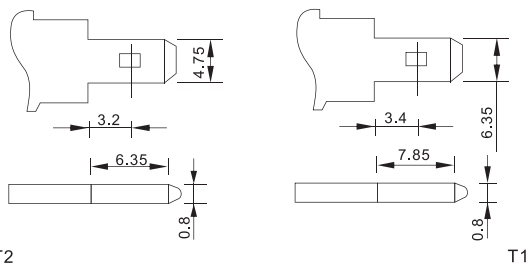
## CHARACTERISTICS

Capacity (20HR, 25°C)	9Ah	
Capacity (15min.rate, 25°C)	34 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	

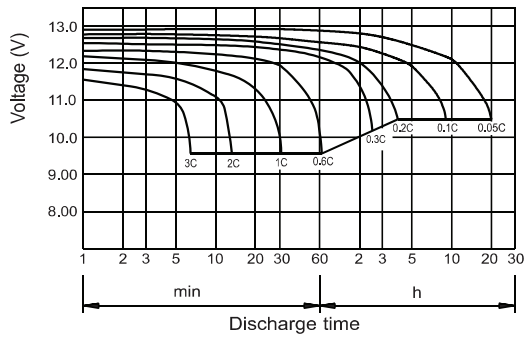
### Outer Dimensions (mm)



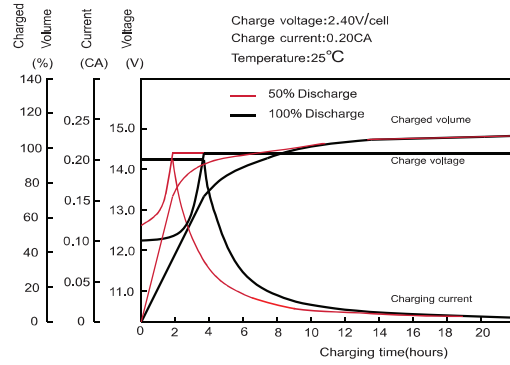
### Terminal Type (mm)



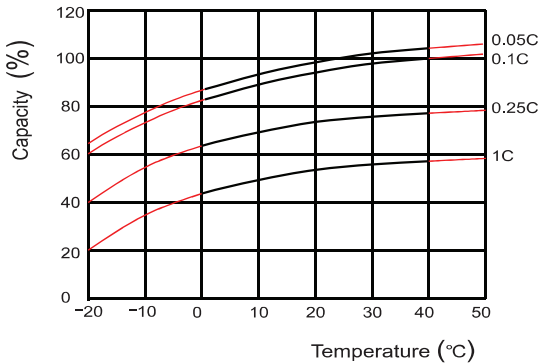
### Discharge Characteristics



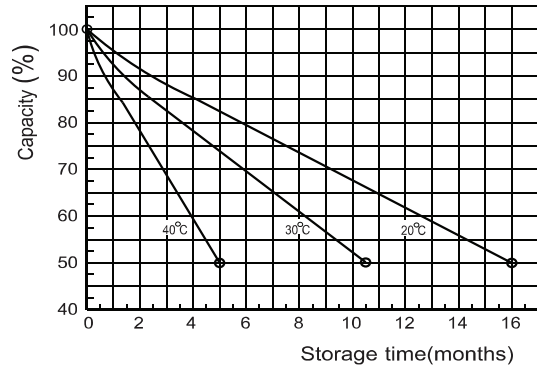
### Charging Characteristics (25°C)



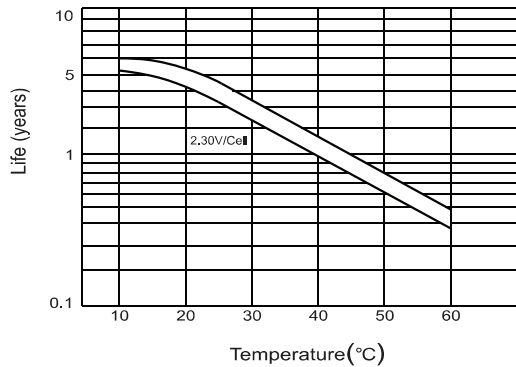
### Effect of Temp on Capacity



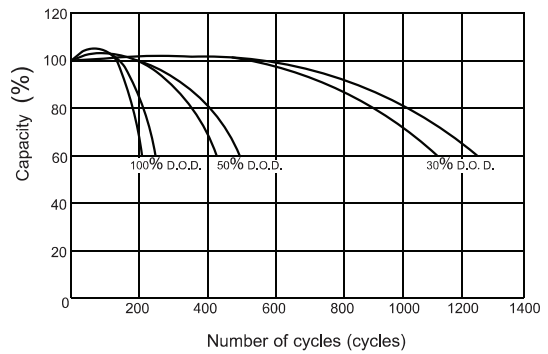
### Self-Discharge Characteristics



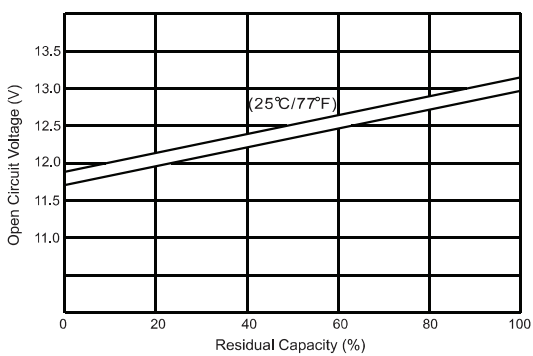
### Floating Life on Temperature



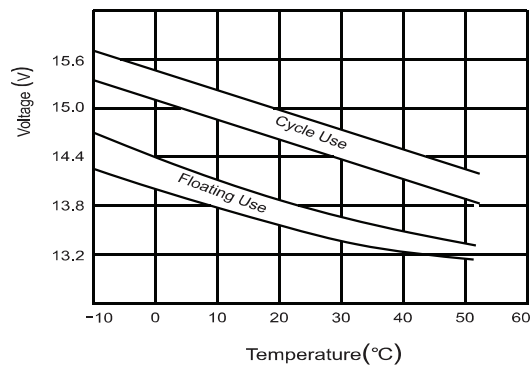
### Cycle Service Life on D.O.D (25°C)



### 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	36.8	22.7	17.8	14.1	9.55	7.07	5.78	3.31	2.35	1.89	1.62
1.67V/cell	35.2	21.7	17.2	13.5	9.24	6.84	5.64	3.28	2.33	1.87	1.61
1.70V/cell	34.2	21.1	16.7	13.2	9.07	6.72	5.55	3.26	2.32	1.87	1.60
1.75V/cell	32.8	20.2	16.2	12.8	8.85	6.55	5.44	3.21	2.30	1.85	1.59
1.80V/cell	30.9	19.0	15.3	12.1	8.53	6.31	5.27	3.13	2.23	1.80	1.55

## 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	70.7	44.0	35.3	27.9	18.9	14.0	11.5	6.58	4.72	3.80	3.27
1.67V/cell	67.5	42.0	34.0	26.8	18.3	13.5	11.2	6.52	4.68	3.77	3.24
1.70V/cell	65.7	40.9	33.1	26.2	18.0	13.3	11.0	6.48	4.66	3.75	3.22
1.75V/cell	62.9	39.1	32.0	25.3	17.5	13.0	10.8	6.39	4.63	3.73	3.20
1.80V/cell	59.4	37.0	30.3	24.0	16.9	12.5	10.4	6.22	4.49	3.61	3.11



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