

STARMAX

The world's leading battery brand



HRL SERIES-LONG LIFE **BATTERIES**

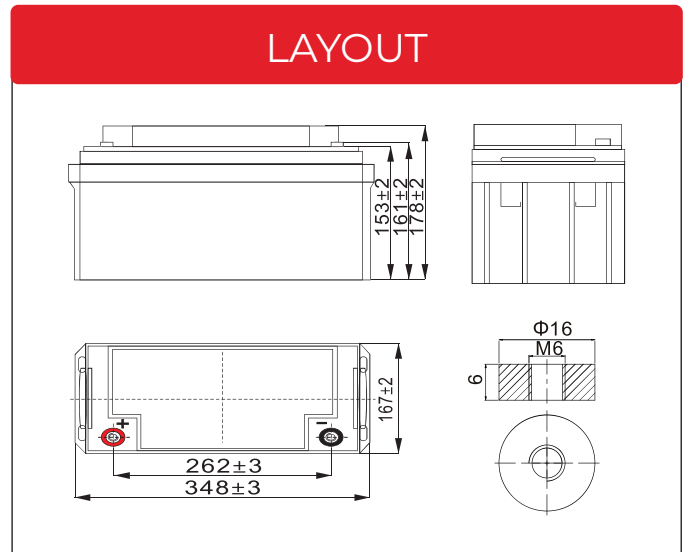
HRL 12215W



www.starmaxbatteries.com

HRL Series

HRL 12215W



General Features

- ✓ **High quality AGM separator:** Extend cycle life and prevent micro short circuit
- ✓ **PbCaSn alloy for plate grids:** Less gassing, less self-discharging
- ✓ **Unique vent valve design:** Reduce water losing and prevent air/spark going inside

Applications

- ✓ UPS
- ✓ Hospitals & Testing Laboratories
- ✓ Emergency Power Supply
- ✓ Industrial Process Control Facilities
- ✓ Banks & Financial Markets
- ✓ Data & Network Operation Centers

Standards

- ✓ Compliance with IEC 60896 standards
- ✓ Classified as "General Purpose" according to Eurobat
- ✓ CE, UL, IEC Cer tified
- ✓ Manufactured in Starmax, ISO 45001, ISO 9001 and ISO 14001 certified production facilities



SPECIFICATIONS

Rated Voltage	12V		
Nominal Rate	(W ₁₅ ,1.67V/cell)	215W	
Nominal Capacity	(C ₁₀ ,1.80V/cell)	65Ah	
Dimensions	Length	348±3mm (13.70 inches)	
	Width	167±2mm (6.57 inches)	
	Container height	178±2mm (7.01 inches)	
	Total height	178±2mm (7.01 inches)	
Approx. weight	19.2 Kg (42.3 lbs)		
Terminal	M6		
Container material	ABS: UL 94 HB or V-0		
Rated capacity (25°C)	65.0 Ah	(10hr, 6.50A,1.80V/cell)	
	62.4 Ah	(8hr, 7.80A,1.80V/cell)	
	57.0 Ah	(5hr, 11.4A,1.75V/cell)	
	51.6 Ah	(3hr, 17.2A,1.75V/cell)	
	41.6 Ah	(1hr, 41.6A,1.67V/cell)	
Max. discharge current	975A		
Internal resistance (25°C)	Approx. 7.0mΩ		
Operating temp. range	Discharge	-20~55°C (4~131°F)	
	Charge	-20~40°C (-4~104°F)	
	Storage	-15~50°C (5~122°F)	
Nominal operating temp. range	25±3°C (77±5°F)		
Max.Charging Current(25°C)	16.25A		
Charge voltage(25°C)	Charge voltage		Temp. Coefficient
	Float	2.25~2.30V/cell	-3mV/cell/°C
	Equalization	2.30~2.40V/cell	-4mV/cell/°C
Effect of temp. to Capacity	40°C (104°F)		106%
	25°C (77°F)		100%
	0°C (32°F)		86%
Self discharge	≤3%/month @ 25°C		

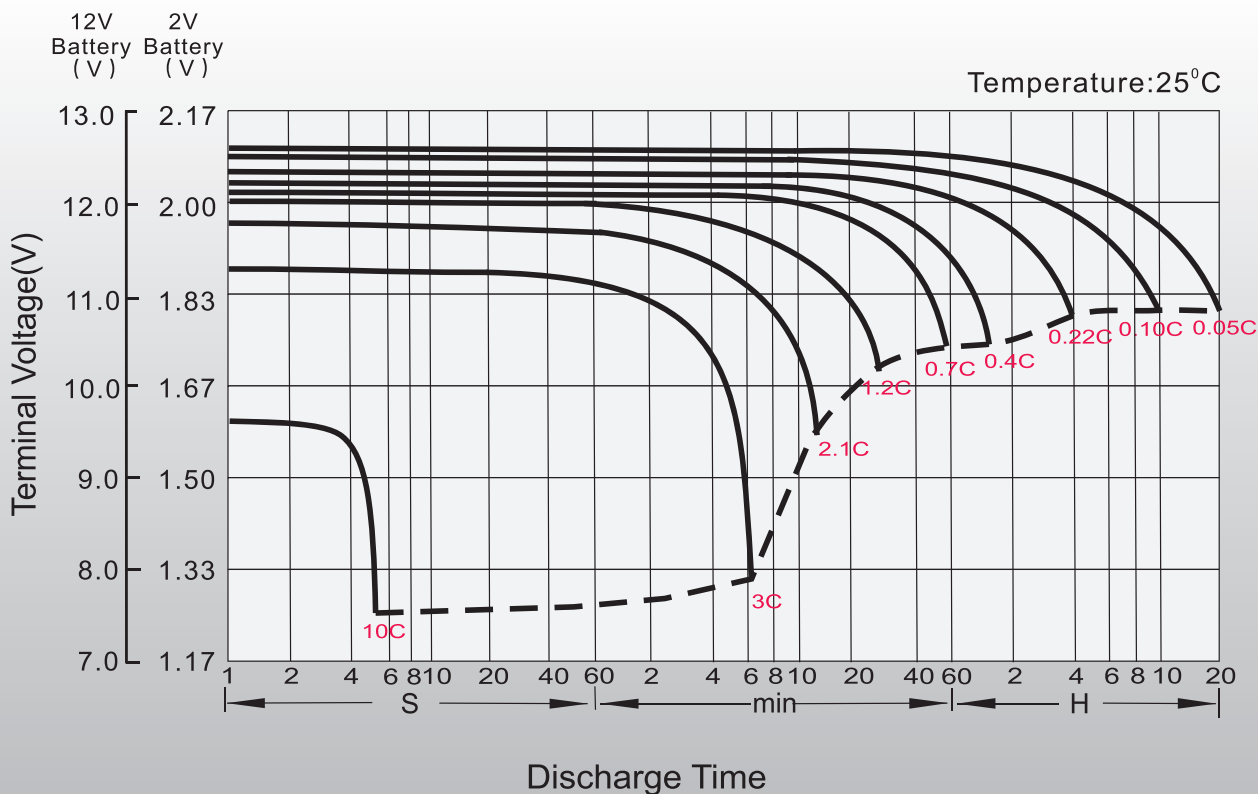
Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	135.3	101.0	84.1	70.7	54.3	40.5	34.2	25.7	20.6	15.5	12.4	10.3	7.29	6.09
1.80V/cell	157.7	119.1	97.8	81.4	61.4	45.3	37.9	28.1	22.4	16.8	13.3	11.1	7.80	6.50
1.75V/cell	172.1	127.7	103.5	85.5	64.2	47.2	39.3	29.0	23.1	17.2	13.7	11.4	7.94	6.60
1.70V/cell	186.4	136.2	109.4	89.9	67.0	49.0	40.7	30.0	23.8	17.7	14.0	11.6	8.08	6.70
1.67V/cell	194.6	141.2	112.8	92.5	68.7	50.1	41.6	30.6	24.2	18.0	14.2	11.8	8.17	6.76
1.60V/cell	214.5	152.8	120.9	98.5	72.6	52.7	43.6	31.9	25.2	18.7	14.7	12.1	8.36	6.91

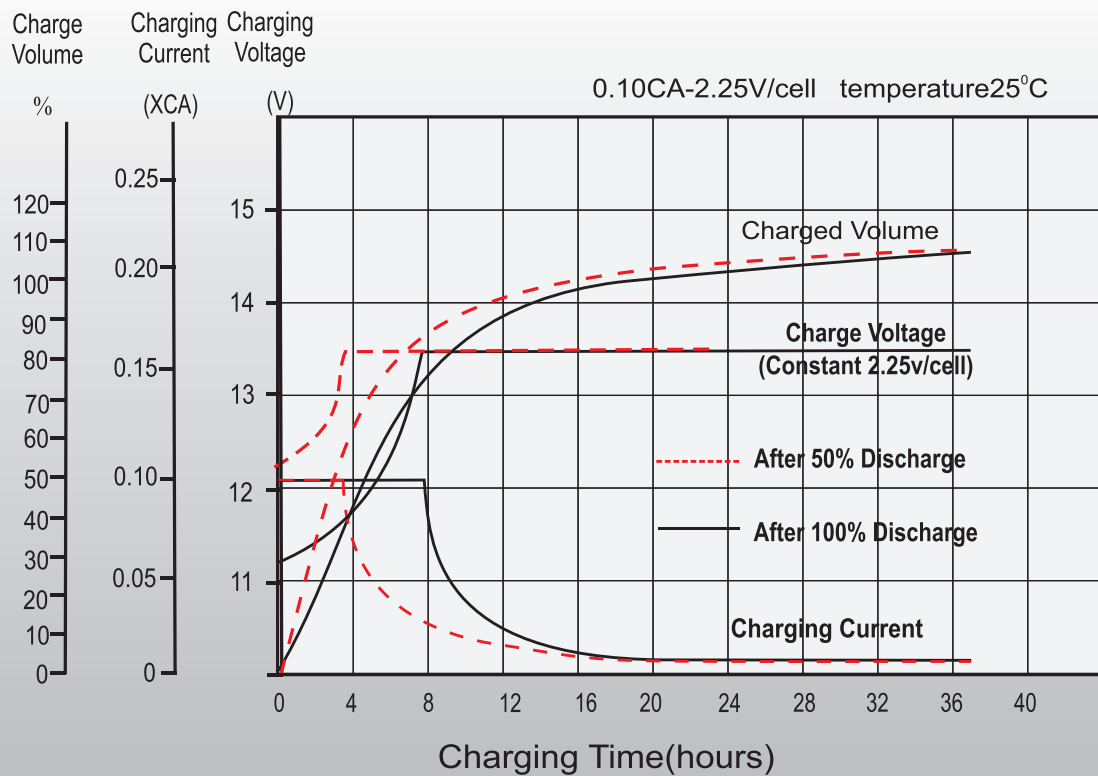
Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	280.3	200.5	177.3	163.4	127.2	95.2	76.8	57.0	46.2	34.1	27.2	22.7	15.7	13.1
1.80V/cell	316.8	220.1	187.3	174.5	142.2	105.3	83.4	60.0	49.0	35.0	27.9	23.2	15.9	13.3
1.75V/cell	341.5	240.6	197.1	183.3	147.0	108.2	86.1	63.7	50.4	35.6	28.3	23.7	16.2	13.5
1.70V/cell	362.9	255.7	206.9	193.1	150.9	111.2	88.9	64.5	51.2	36.2	28.9	24.0	16.4	13.6
1.67V/cell	376.3	271.1	215.0	200.7	155.9	114.0	90.7	65.4	51.9	36.6	29.2	24.3	16.6	13.8
1.60V/cell	381.6	290.4	225.0	209.3	160.1	117.0	92.8	66.3	52.3	36.8	29.5	24.5	16.7	13.9

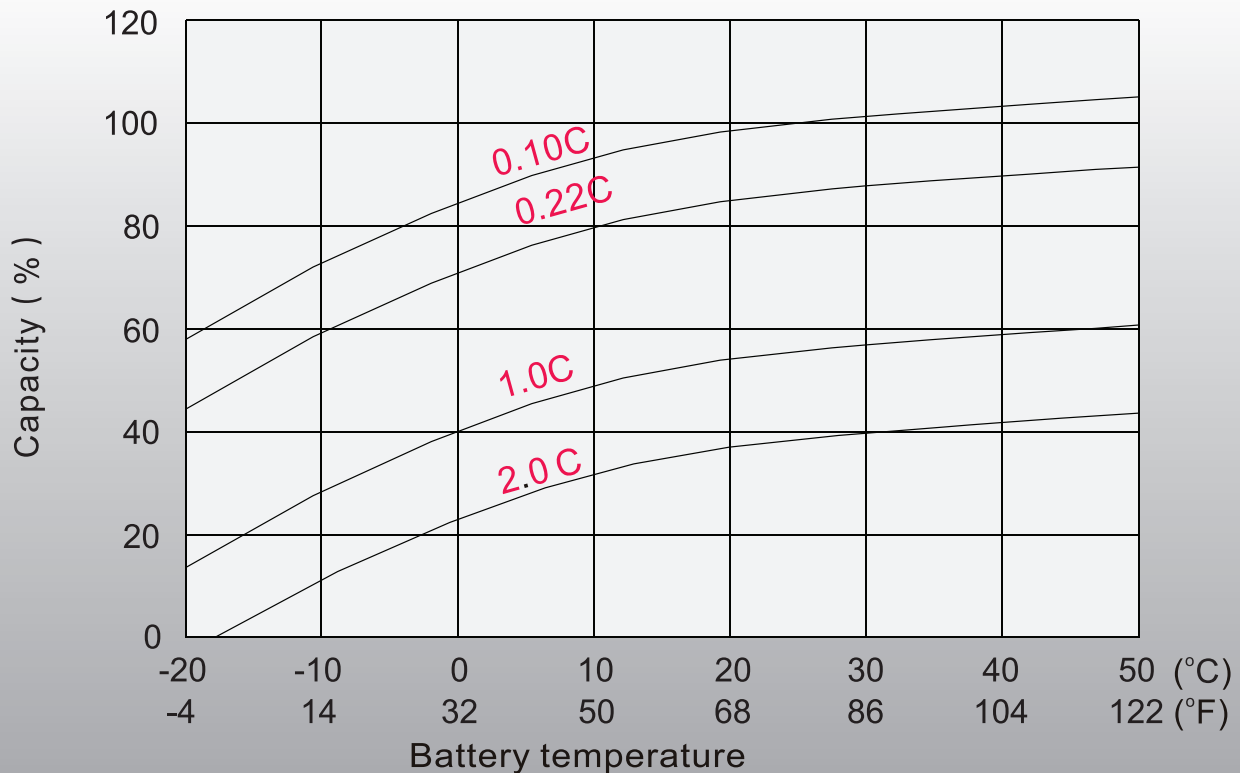
Discharge Characteristics



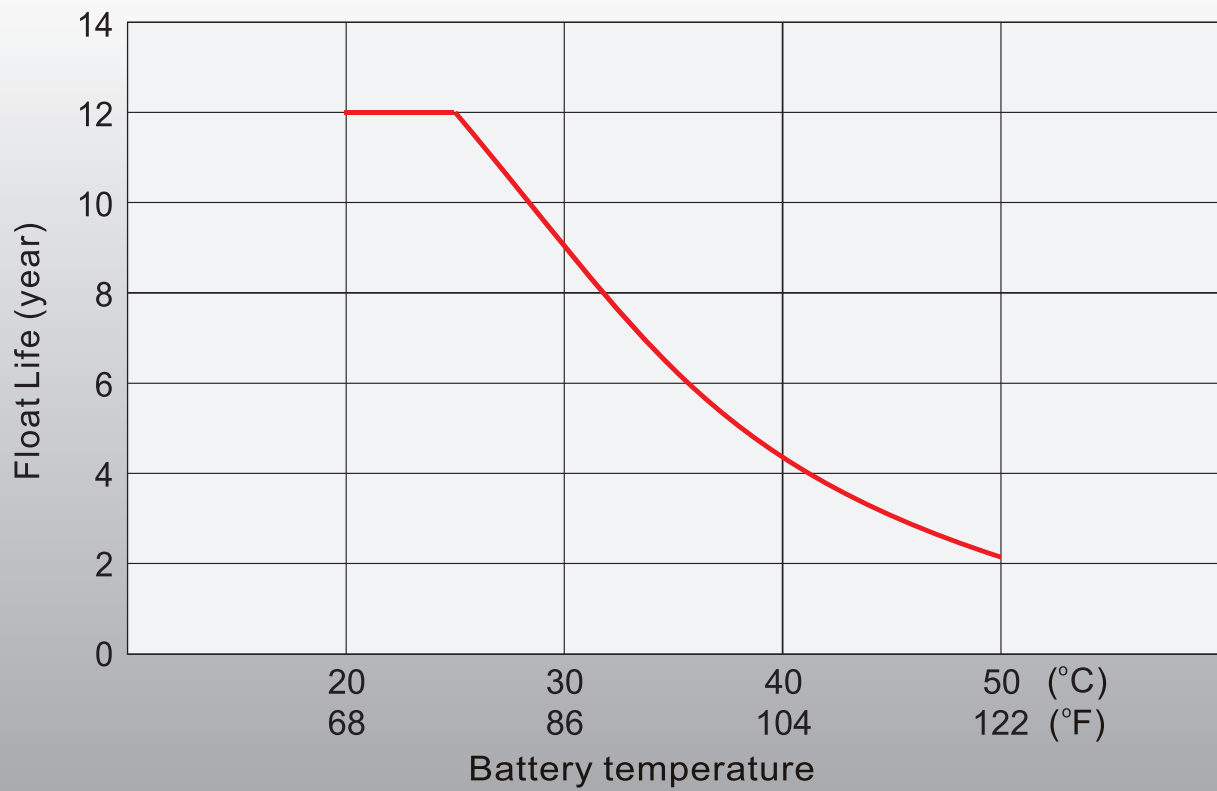
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Time Float Life





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