

STARMAX

The world's leading battery brand



HRL SERIES-LONG LIFE **BATTERIES**

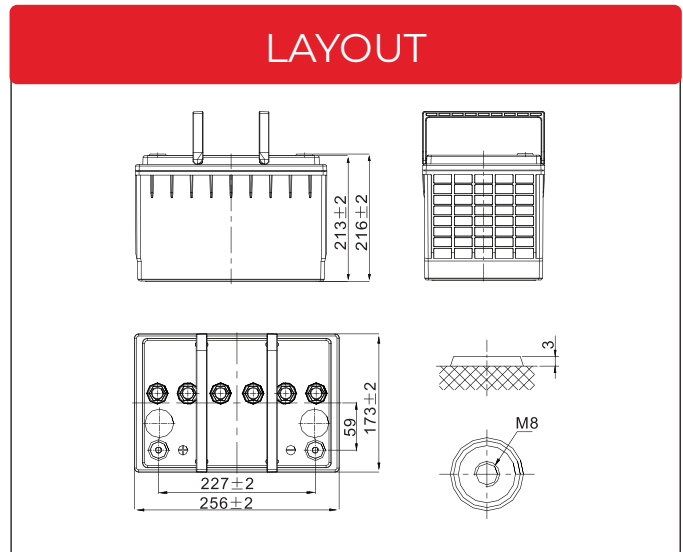
HRL 12300W



www.starmaxbatteries.com

HRL Series

HRL 12300W



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 and YD/T 3427 standards
- ✓ 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)	300W/cell	
Nominal Capacity	(C ₂₀ ,1.75V/cell)	75Ah	
Dimensions	Length	256±2mm (10.1 inches)	
	Width	173±2mm (6.81 inches)	
	Container height	213±2mm (8.39 inches)	
	Total height	216±2mm (8.50 inches)	
Approx. weight	23.4kg (51.6 lbs)		
Terminal	M8		
Container material	ABS: UL 94 HB or V-0		
Rated capacity (25°C)	75.0 Ah	C10(7.50A,1.80V/cell)	
	71.6 Ah	C8(8.95A,1.80V/cell)	
	62.5 Ah	C5(12.5A,1.75V/cell)	
	53.4 Ah	C3(17.8A,1.75V/cell)	
	47.6 Ah	C1(47.6A,1.60V/cell)	
Max. discharge current	750A (5s)		
Internal resistance (25°C)	Approx 5.0mΩ		
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)	18.75A		
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		

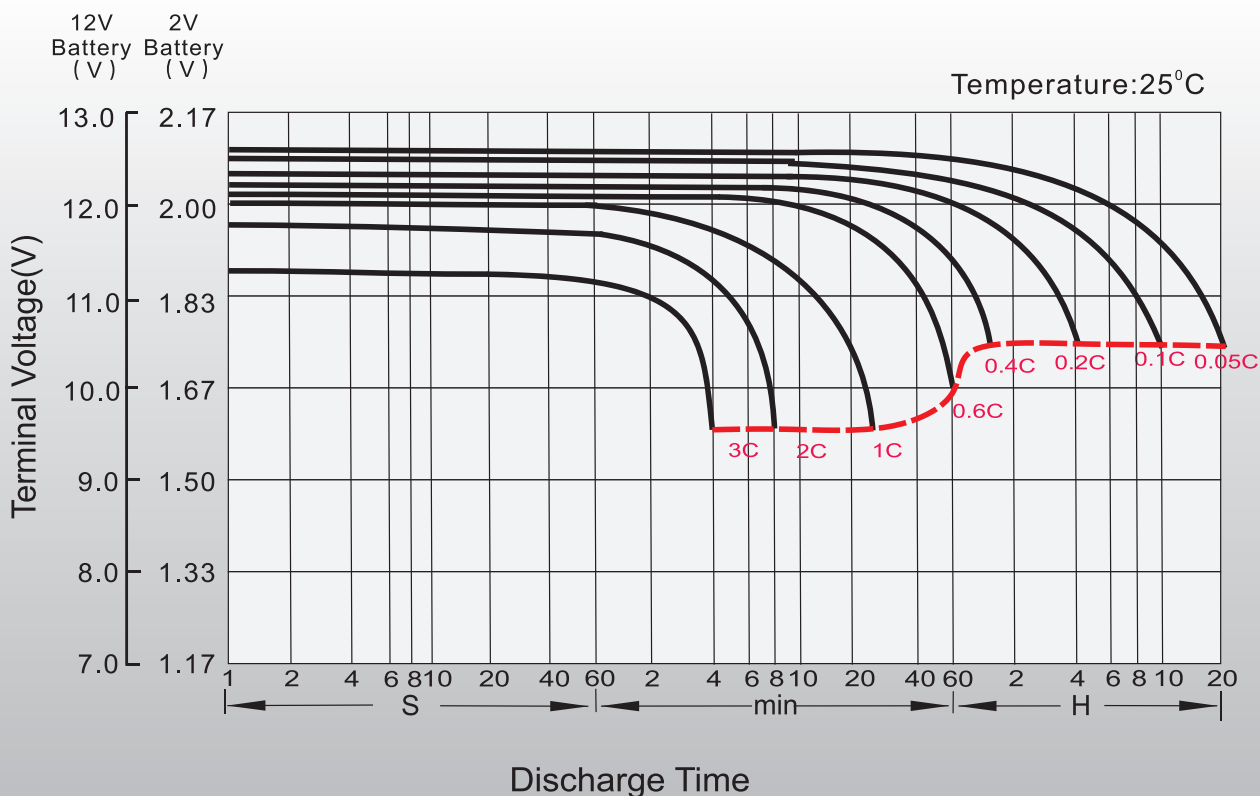
Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	232.1	172.0	136.9	106.8	65.0	46.7	36.8	26.0	21.6	16.1	13.4	11.7	8.72	7.36
1.80V/cell	258.7	191.7	152.5	119.0	70.0	50.5	39.8	28.1	23.0	17.1	14.1	12.2	8.95	7.50
1.75V/cell	269.9	200.1	159.2	124.2	75.2	53.6	42.2	29.7	24.2	17.8	14.4	12.5	9.11	7.57
1.70V/cell	273.3	202.6	161.2	125.7	82.8	57.9	44.9	31.6	25.0	18.3	14.8	12.7	9.23	7.65
1.67V/cell	288.0	207.9	163.6	127.6	88.4	60.9	46.9	33.0	25.7	18.7	15.2	13.0	9.37	7.72
1.60V/cell	306.0	215.1	166.1	129.6	89.1	61.8	47.6	33.4	26.3	19.1	15.5	13.2	9.49	7.80

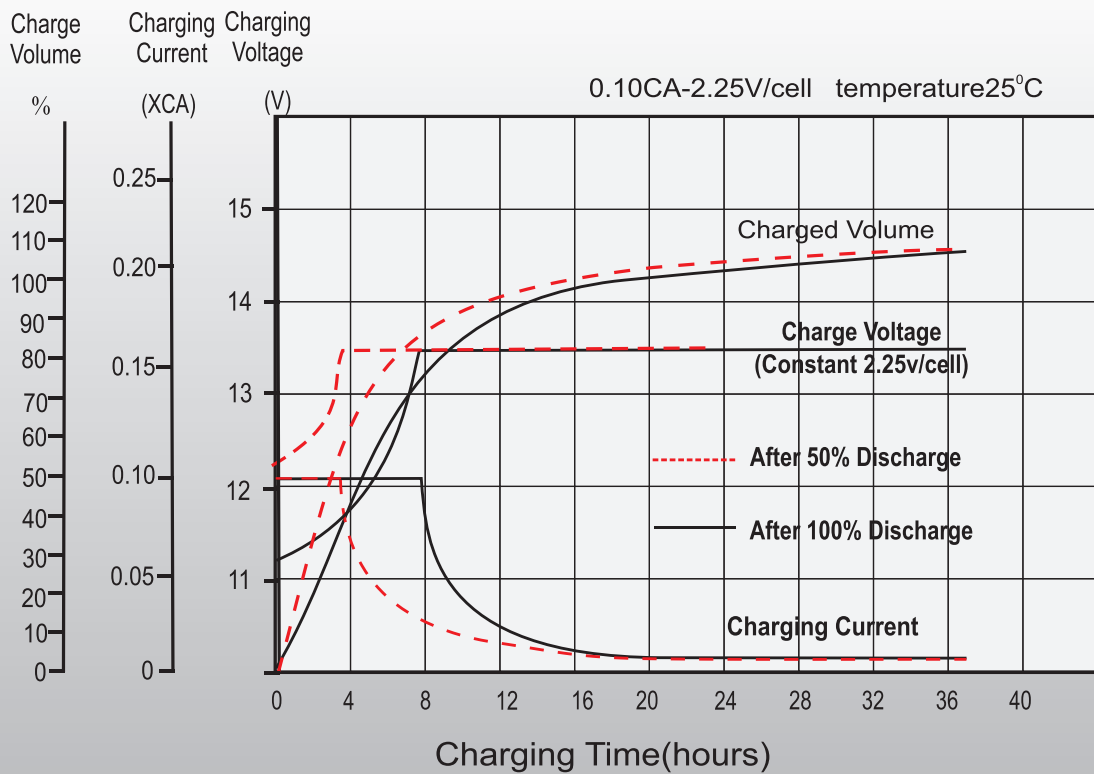
Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	380.0	315.4	250.9	195.7	127.9	92.8	73.6	52.9	43.3	32.5	27.1	23.7	17.8	15.1
1.80V/cell	429.5	351.5	279.6	236.7	137.1	99.9	79.2	56.9	46.1	34.4	28.4	24.7	18.2	15.3
1.75V/cell	462.9	366.8	291.8	247.0	146.4	105.5	83.8	60.1	48.2	35.6	29.0	25.2	18.5	15.5
1.70V/cell	491.9	371.4	295.5	250.0	160.4	113.2	88.4	63.4	49.7	36.7	29.8	25.7	18.7	15.6
1.67V/cell	510.0	377.1	300.0	253.9	166.6	118.2	91.8	65.8	51.0	37.3	30.4	26.1	19.0	15.7
1.60V/cell	517.3	382.8	304.5	257.7	169.5	118.9	92.5	66.2	51.7	37.9	30.8	26.5	19.2	15.8

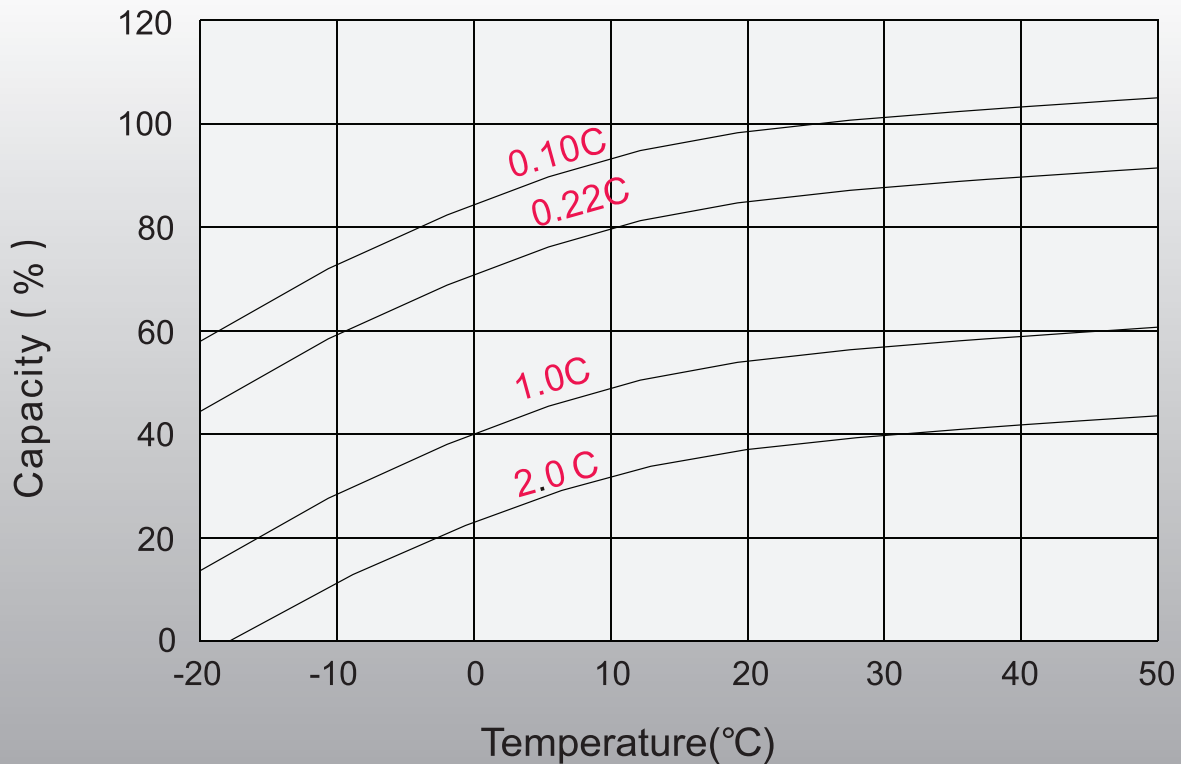
Discharge Characteristics



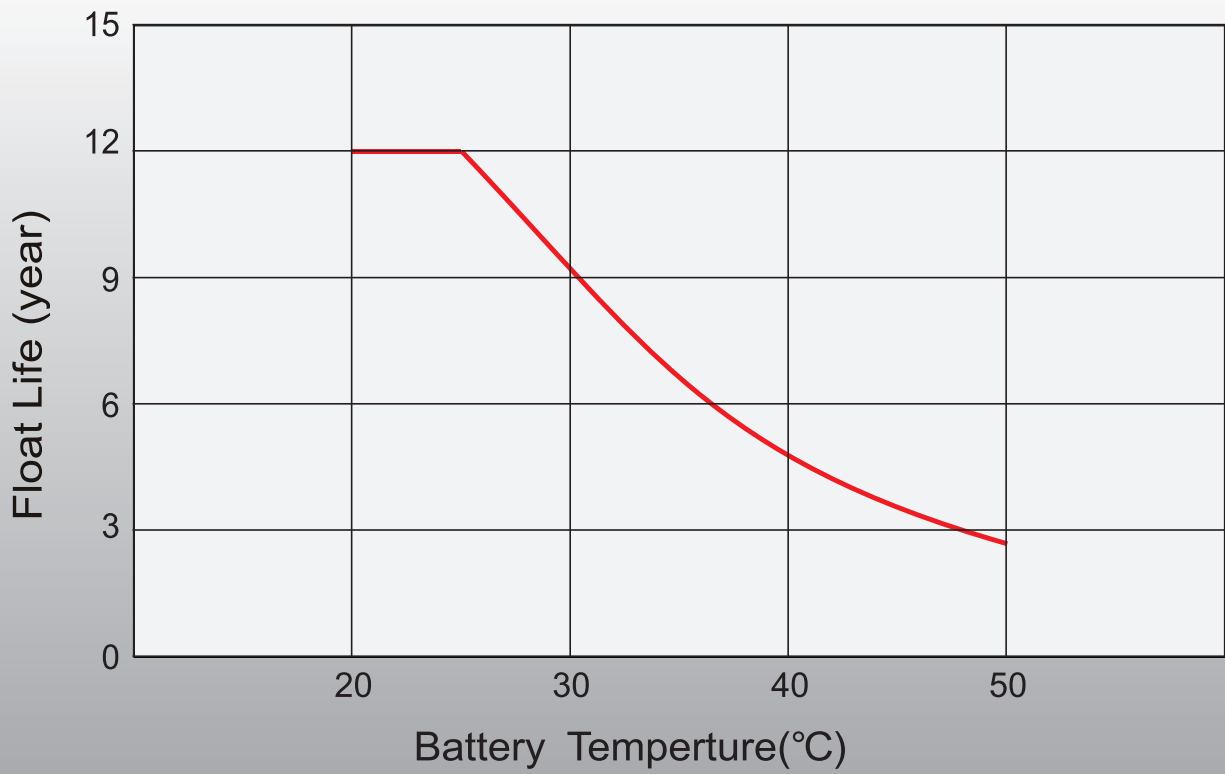
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Time Float Life





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