



The world's leading battery brand



# HRL SERIES-LONG LIFE BATTERIES

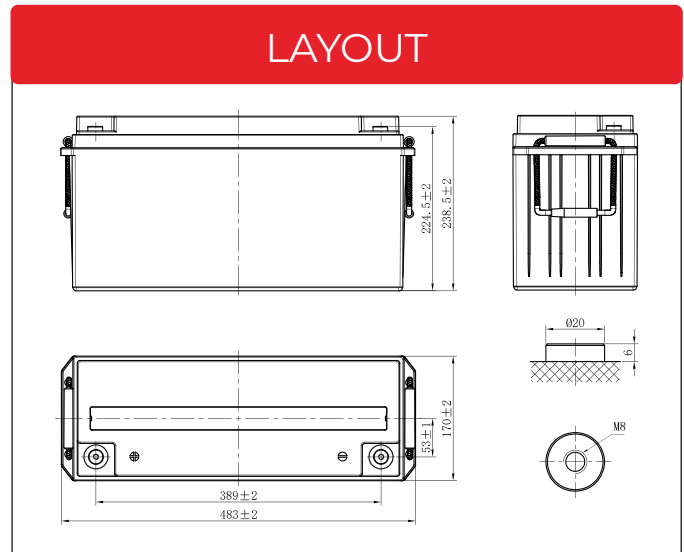
HRL 12550W



www.starmaxbatteries.com

# HRL Series

## HRL 12550W



## 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
- ✓ Manufactured in Starmax, ISO 45001, ISO 9001 and ISO 14001 certified production facilities



# SPECIFICATIONS

Rated Voltage	12V		
Nominal Rate	(W <sub>15</sub> ,1.67V/cell)	550W/cell	
Nominal Capacity	(C <sub>10</sub> ,1.80V/cell)	140Ah	
Dimensions	Length	483±2mm (19.0 inches)	
	Width	170±2mm (6.69 inches)	
	Container height	238.5±2mm (9.39 inches)	
	Total height	238.5±2mm (9.39 inches)	
Approx. weight	46.1kg (101.6 lbs)		
Terminal	M8		
Container material	ABS: UL 94 HB or V-0 optional		
Rated capacity (25°C)	140.0 Ah	C10(14.0A,1.80V/cell)	
	130.4 Ah	C8(16.3A,1.80V/cell)	
	123.0 Ah	C5(24.6A,1.75V/cell)	
	109.2 Ah	C3(36.4A,1.75V/cell)	
	89.1 Ah	C1(89.1A,1.60V/cell)	
Max. discharge current	1400A (5s)		
Internal resistance (25°C)	Approx 3.5mΩ		
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)	35.0A		
Charge voltage(25°C)	<b>Charge voltage</b>		<b>Temp. Coefficient</b>
	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		

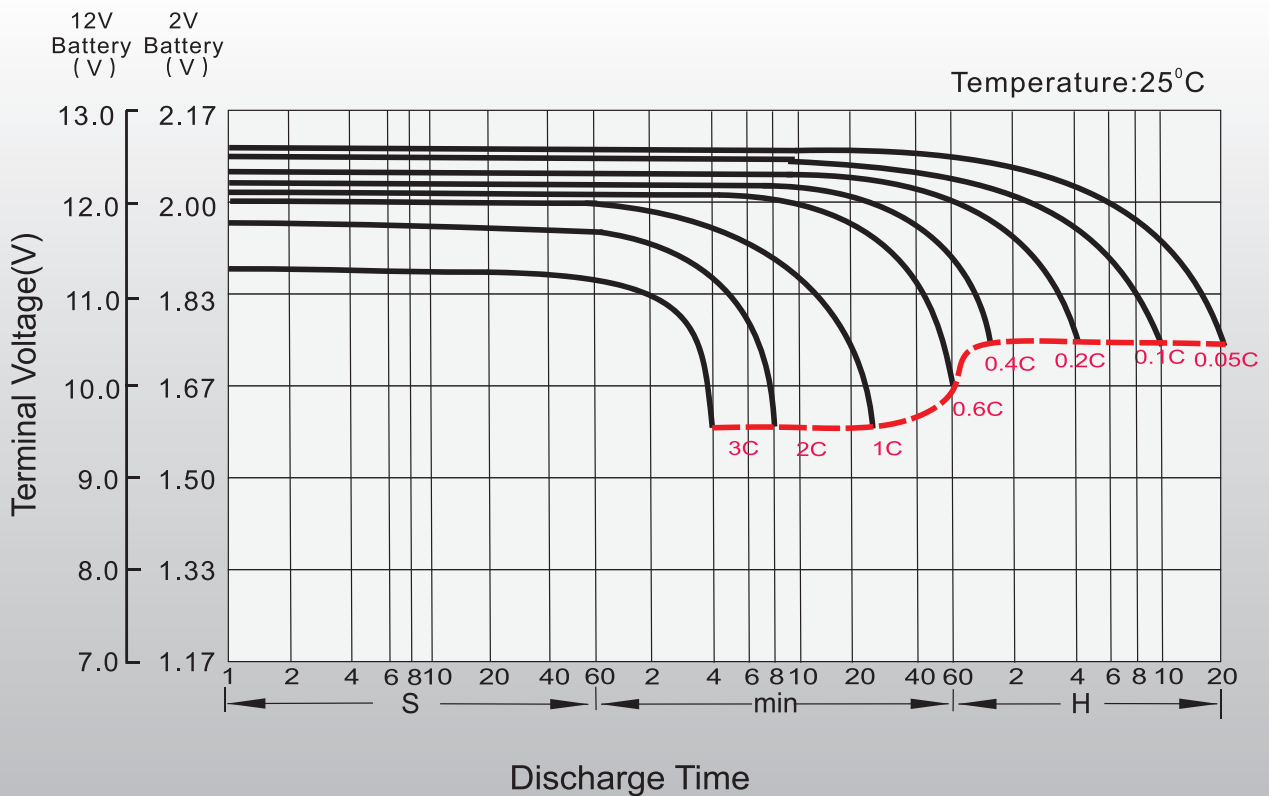
## Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	329.0	262.7	227.7	179.1	124.1	95.1	77.0	56.6	46.3	34.5	27.2	23.0	15.9	13.6
1.80V/cell	374.2	298.2	258.1	202.5	139.9	101.0	79.6	58.3	49.0	35.6	28.3	24.0	16.3	14.0
1.75V/cell	406.9	323.7	279.7	218.8	150.7	107.0	82.9	60.7	50.9	36.4	29.2	24.6	16.4	14.1
1.70V/cell	434.5	344.8	296.7	231.8	159.6	113.1	86.5	63.2	52.1	37.2	29.9	25.2	16.7	14.2
1.67V/cell	449.7	355.7	305.4	238.1	163.4	115.6	87.5	64.9	53.3	38.0	30.3	25.5	16.9	14.4
1.60V/cell	465.6	367.8	314.9	244.2	167.3	118.6	89.1	67.1	54.4	38.9	31.0	26.0	16.9	14.5

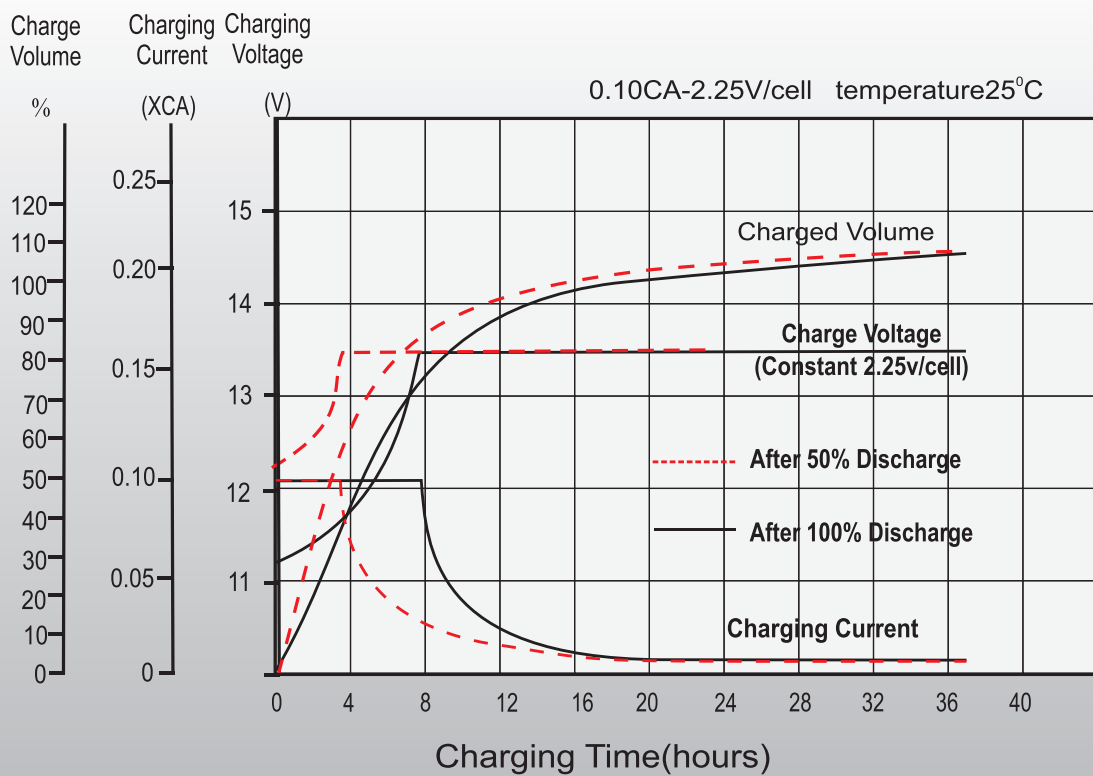
## Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	614.5	494.2	431.2	340.6	237.2	182.8	149.0	109.7	90.0	67.3	53.4	45.4	31.6	27.1
1.80V/cell	687.3	552.8	482.4	381.1	265.3	192.8	153.2	112.4	94.8	69.2	55.2	47.0	32.2	27.8
1.75V/cell	734.4	590.6	515.4	407.1	283.4	203.2	158.8	116.5	98.1	70.5	56.9	48.2	32.4	27.9
1.70V/cell	771.2	620.2	541.2	427.5	297.7	213.2	164.9	120.8	100.0	71.8	58.0	49.1	32.9	28.1
1.67V/cell	783.8	630.3	550.0	434.5	302.5	216.8	165.7	123.3	102.0	73.1	58.6	49.6	33.2	28.4
1.60V/cell	794.7	639.1	557.7	440.6	306.7	220.3	167.6	126.6	103.3	74.5	59.6	50.4	33.3	28.6

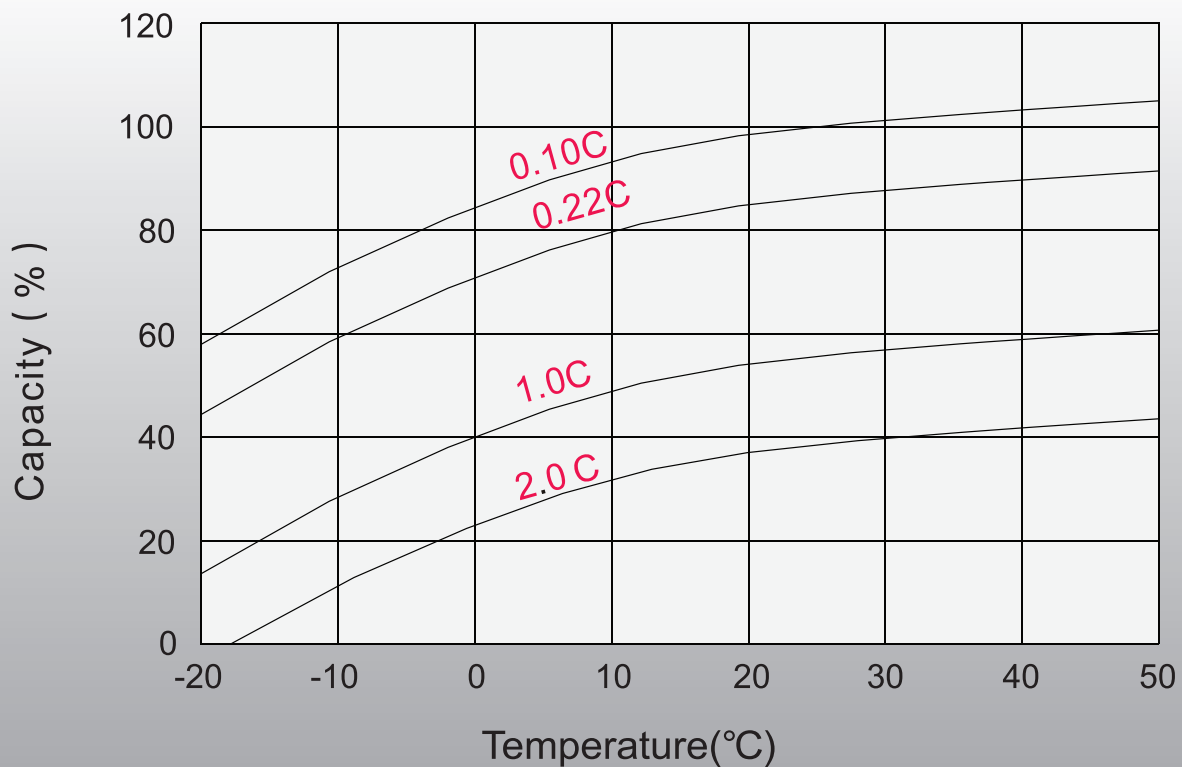
## Discharge Characteristics



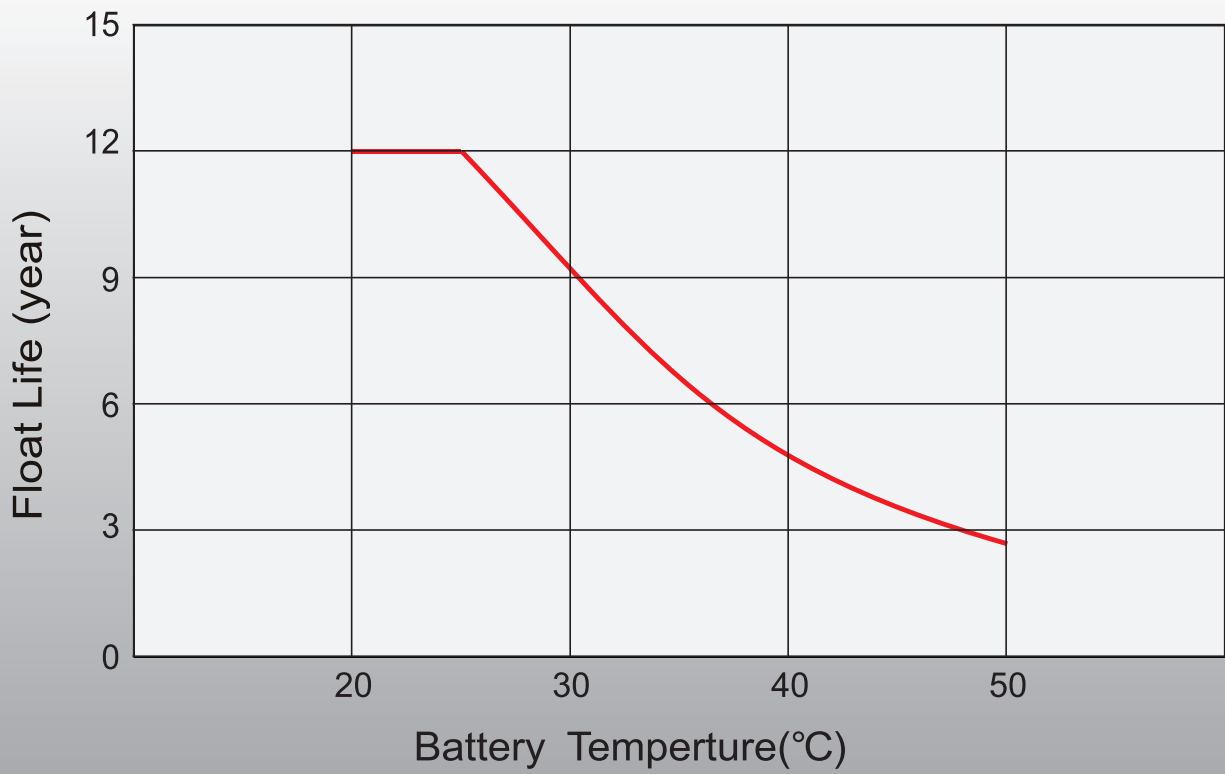
# Float Charging Characteristics



# Temperature Effects in Relation to Battery Capacity



# Effect of Temperature on Long Time Float Life







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