



The world's leading battery brand



HRL SERIES-LONG LIFE BATTERIES

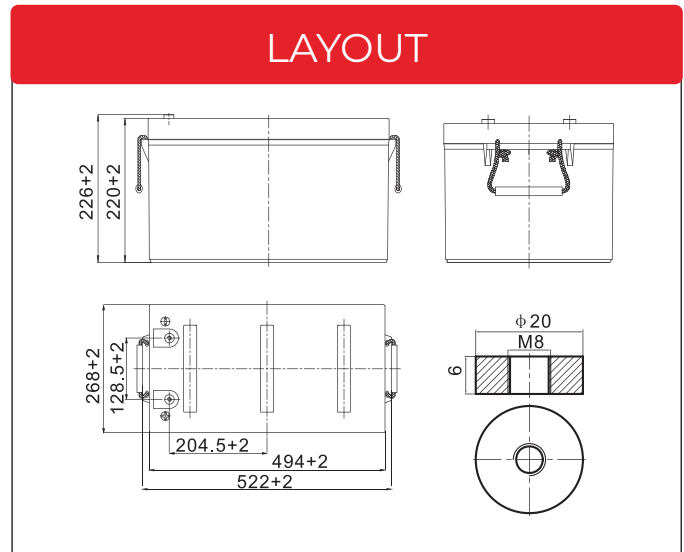
HRL 12815W



www.starmaxbatteries.com

HRL Series

HRL 12815W



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 ₁₅ ,1.67V/cell)	815W/cell	
Nominal Capacity	(C ₁₀ ,1.80V/cell)	230Ah	
Dimensions	Length	522±2mm (20.6 inches)	
	Width	268±2mm (10.6 inches)	
	Container height	220±2mm (8.66 inches)	
	Total height	226±2mm (8.90 inches)	
Approx. weight	74.1kg (163.4 lbs)		
Terminal	M8		
Container material	ABS: UL 94 HB or V-0		
Rated capacity (25°C)	230.0 Ah	C10(23.0A,1.80V/cell)	
	213.6 Ah	C8(26.7A,1.80V/cell)	
	202.5 Ah	C5(40.5A,1.75V/cell)	
	197.1 Ah	C3(59.7A,1.75V/cell)	
	146.4 Ah	C1(146.4A,1.60V/cell)	
Max. discharge current	2300A (5s)		
Internal resistance (25°C)	Approx 2.5mΩ		
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)	57.5A		
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		

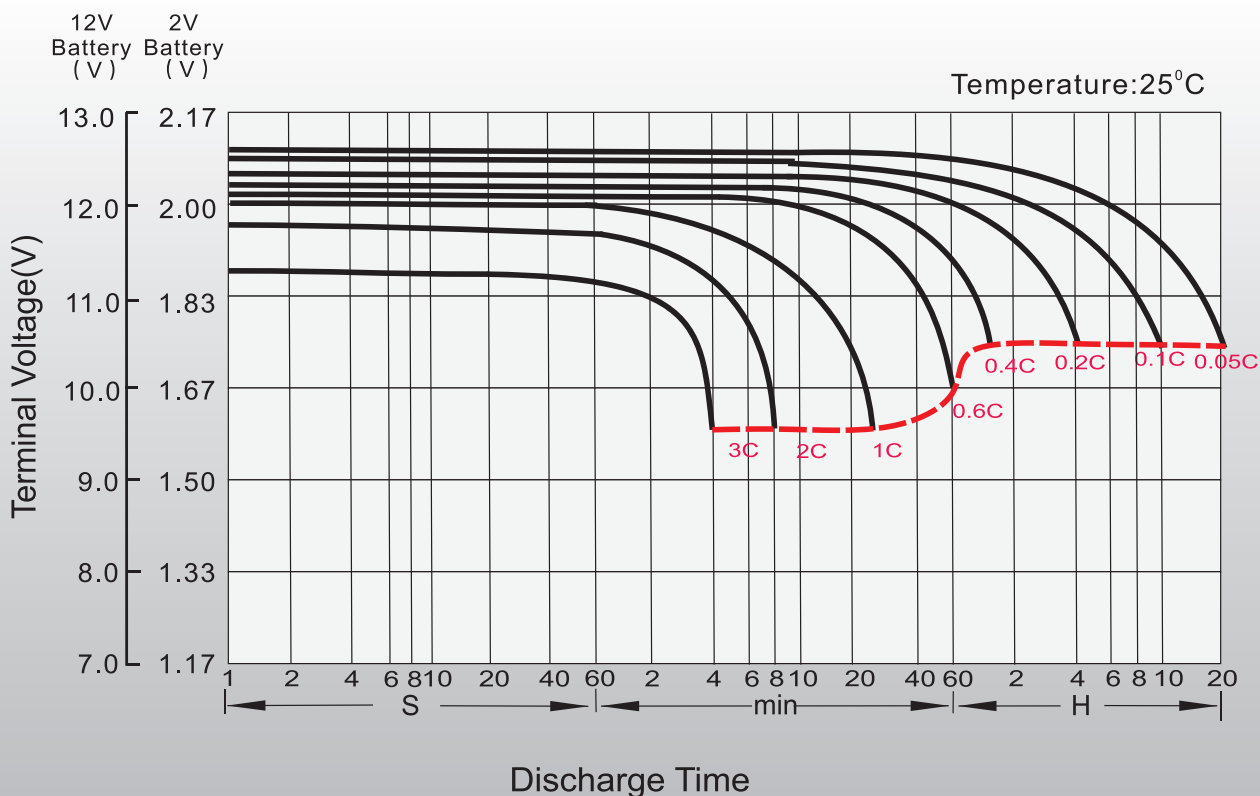
Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	490.5	391.6	339.5	267.0	188.4	140.9	126.6	93.0	76.0	56.6	44.8	37.9	26.2	22.4
1.80V/cell	557.9	444.5	384.8	301.9	212.4	150.5	130.8	95.8	80.5	58.5	46.4	39.4	26.7	23.0
1.75V/cell	605.9	482.1	416.5	325.9	228.5	157.5	136.2	99.7	83.6	59.7	48.0	40.5	27.0	23.1
1.70V/cell	647.8	514.0	442.4	345.6	242.2	163.1	142.2	103.9	85.6	61.1	49.1	41.4	27.4	23.2
1.67V/cell	670.4	530.3	455.3	355.0	248.0	171.2	143.7	106.6	87.6	62.4	49.8	42.0	27.7	23.6
1.60V/cell	694.1	548.4	469.4	364.1	254.0	180.7	146.4	110.2	89.3	64.0	50.9	42.8	27.8	23.7

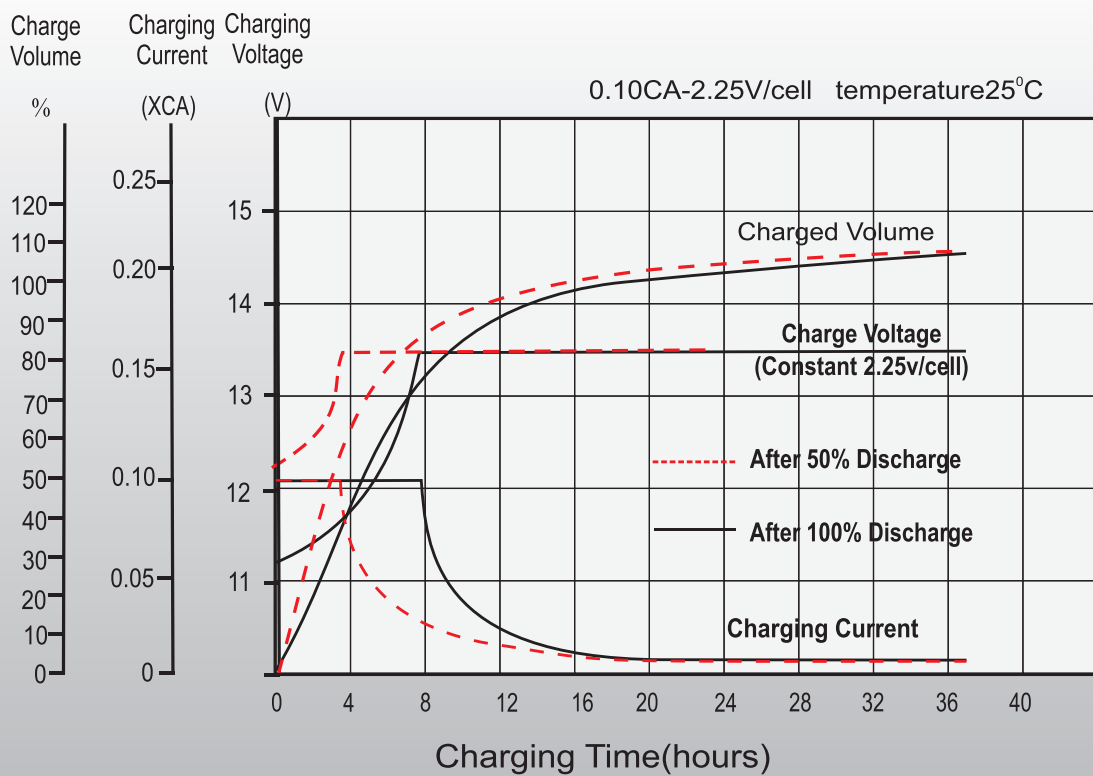
Constant Power Discharge (Watts/cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	8h	10h
1.85V/cell	916.1	736.7	642.9	507.9	360.0	270.8	244.8	180.2	147.9	110.6	87.8	74.6	51.9	44.5
1.80V/cell	1024.8	824.1	719.1	568.1	402.7	287.5	251.7	184.6	155.8	113.8	90.7	77.2	52.9	45.7
1.75V/cell	1093.7	879.6	767.5	606.3	429.8	299.0	260.9	191.4	161.1	115.9	93.4	79.2	53.2	45.8
1.70V/cell	1149.8	924.7	806.9	637.4	451.9	307.5	270.8	198.4	164.3	118.0	95.3	80.7	54.0	46.1
1.67V/cell	1168.5	939.7	815.0	647.8	459.2	321.0	272.3	202.6	167.5	120.0	96.2	81.5	54.5	46.7
1.60V/cell	1184.9	952.9	831.5	656.9	465.6	335.7	275.3	208.0	169.7	122.4	98.0	82.7	54.7	46.9

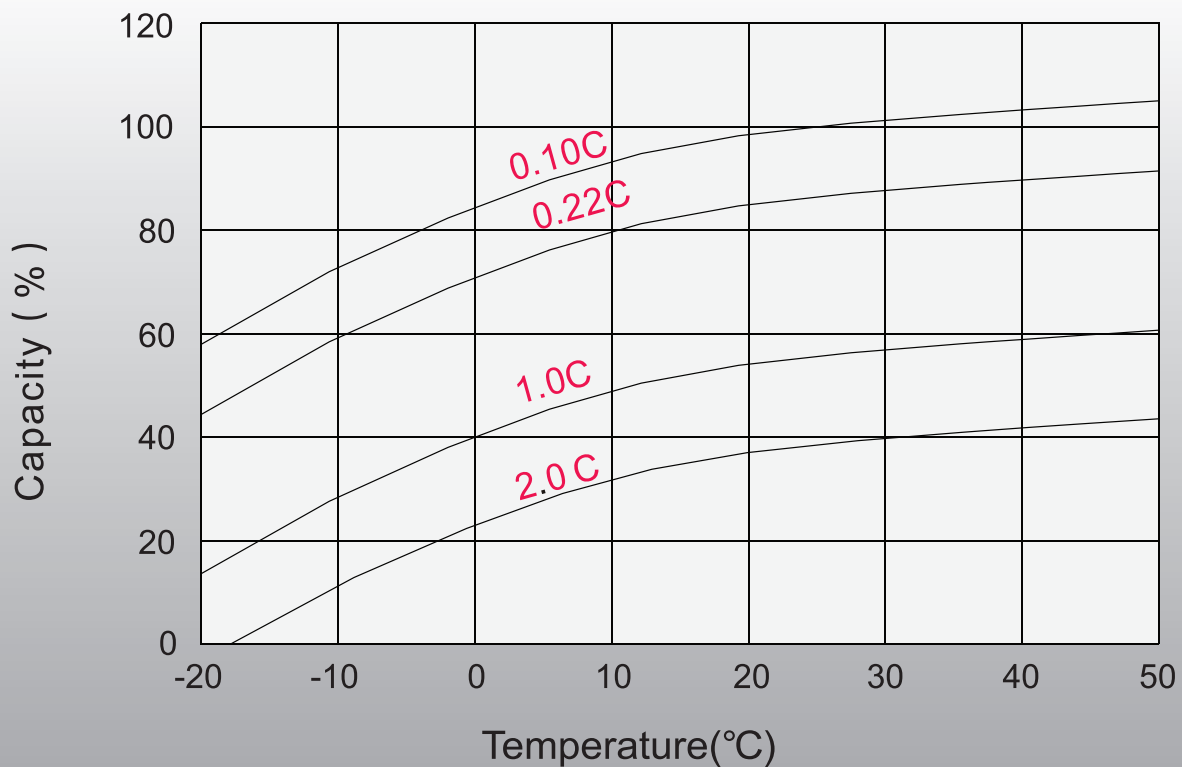
Discharge Characteristics



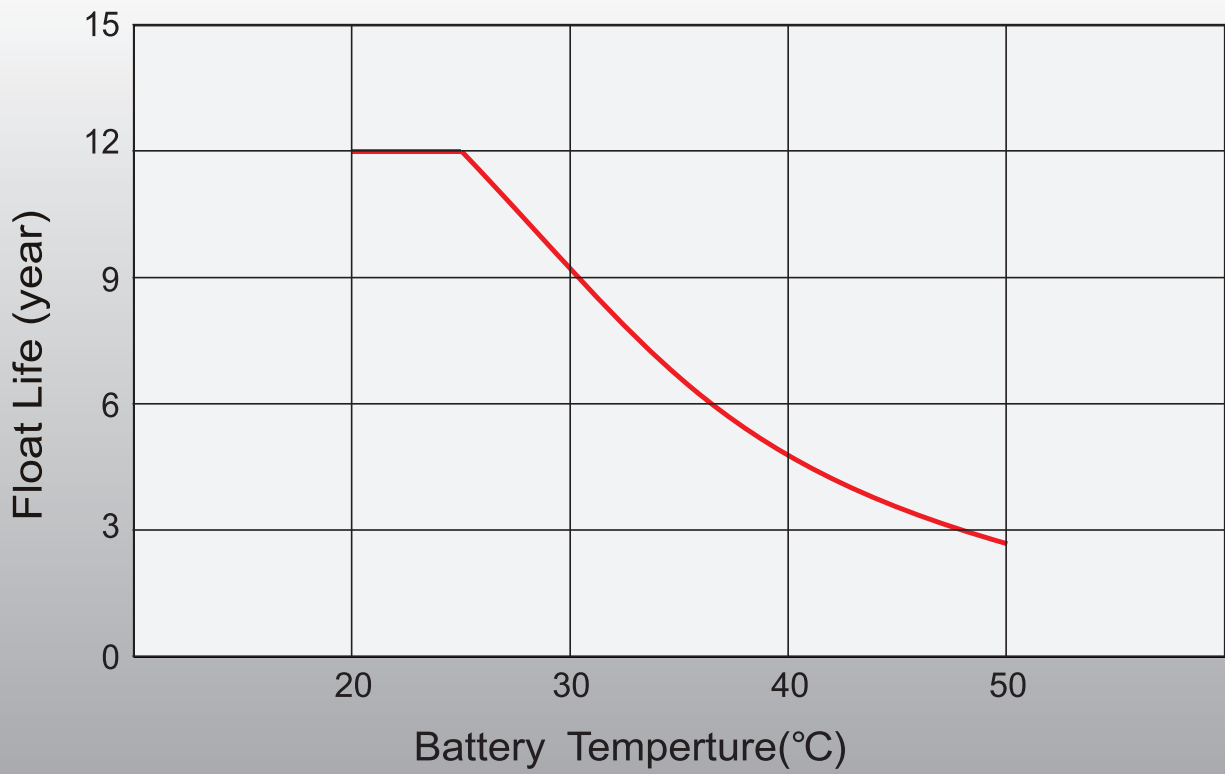
Float Charging Characteristics



Temperature Effects in Relation to Battery Capacity



Effect of Temperature on Long Time Float Life





Starmax Corporation

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

Phone: +1 888 669 1310

Email: info@starmaxbatteries.com

Website: www.starmaxbatteries.com

