



VRLA Rechargeable Battery

HR40-12 Finger Type

FEATURES

- Maintenance free(no water topping-up required)
- No free acid(Non-spillable battery)
- Can be used in any orientation(excluding used inverted)
- The battery is designed for high rate usage
- Its design life is up to 6 years in floating application
- Absorbent Glass Mat technology for efficient gas recombination
- The power density at 5 min~15min discharging rate is 30% higher than BP series

APPLICATION

- UPS
- Electronic Medical Equipment
- Wheelchairs
- Golf-Carts
- Lawn Mowers

SPECIFICATIONS

Nominal Voltage	12V		
Nominal Capacity	10 Hour Rate (3800mA, 10.5V)	38.0 Ah	
	15 Min Rate (960W, 7.8V)	20.0 Ah	
Approx. Weight	12.1Kg(26.68lbs.)		
Terminals	B7 (Fitting M6 bolt & nut) I2 is optional		
Max. Discharge Current	495 A (5 sec.)		
Max. Charge Current	11.4 A		
Operating Temperature Range	Charge	0°C~40°C(32°F~104°F)	
	Discharge	-20°C~50°C(-4°F~122°F)	
	Storage	-20°C~40°C(-4°F~104°F)	
Self Discharge	< 3% per month (25°C)		
Internal Resistance	≤ 6mΩ (Fully Charged)		



CONTAINER MATERIAL

- Standard: ABS(UL 94-HB)
Model Name: HR40-12
- Optional: Flame Retardant ABS (UL 94-V0)
Model Name: HR40-12FR

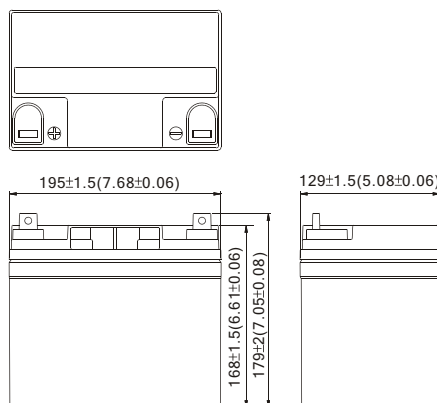
WSF ISO9001 **WSF** ISO14001 **WSF** OHSMS



- IEC 61056-1
- JIS C 8702-1
- GB/T 19639.1

OUTER DIMENSIONS mm(inch)

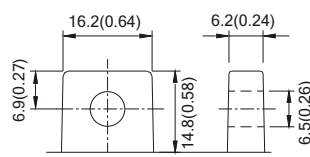
Length (L)	Width (W)	Container Height (H)	Total Height (TH)
195±1.5(7.68±0.06)	129±1.5(5.08±0.06)	168±1.5(6.61±0.06)	B7: 179±2.0(7.05±0.08) I2: 168±2.0(6.61±0.08)



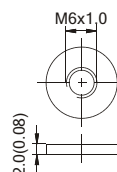
TERMINAL TYPE

- Terminal B7

- Terminal I2



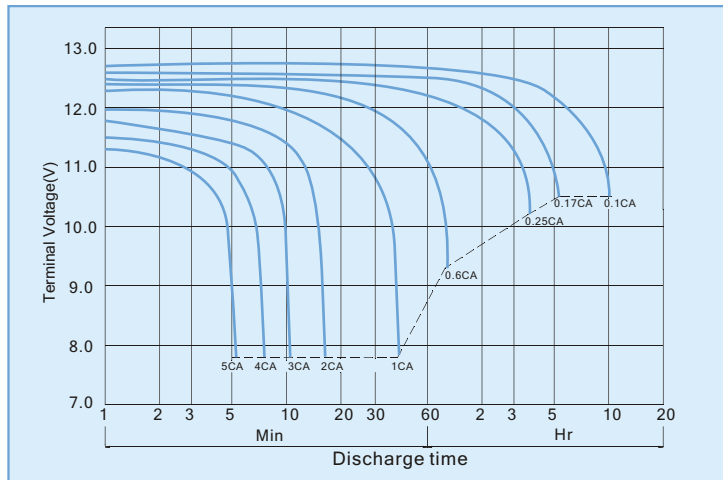
[M6 BOLT & NUT]



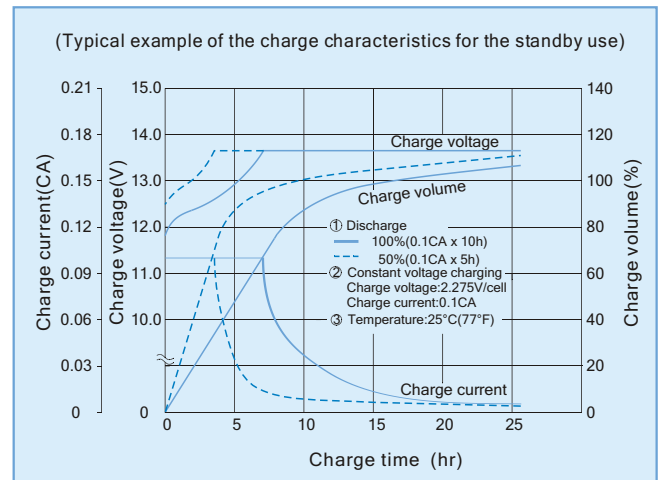
[M6 BOLT]

Terminal Hardware Initial Torque: B7/I2(5.5Nm±5%)

HR40-12 (HR40-12FR) discharge characteristics (25°C /77°F)



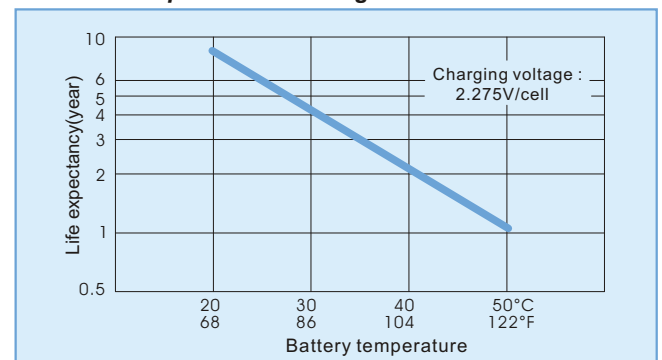
Battery Charging Characteristics



Charging Procedure

Application	Charging method	Charging Voltage at 25°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C /cell)	Max. charging current (CA)	Charging time 0.1CA, 25°C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power Source	Constant voltage & Constant current charging (with current restriction)	2.25~2.30	-3	0.3	24	20	0~40 (32~104°F)
For cycle service		2.40~2.50	-4	0.3	16	10	

Effect Of Temperature On Long Term Float Life



Constant power discharge characteristics at 25 °C/77 °F

Unit: W

F.V. (V/cell) \ Discharge Time	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min
1.80V	1640.0	1120.0	811.0	692.0	526.0	400.0	334.0	294.0	162.2
1.70V	1960.0	1250.0	882.0	733.0	548.0	415.0	345.0	301.0	165.3
1.60V	2100.0	1315.0	922.0	760.0	560.0	425.0	352.0	306.0	168.0
1.50V	2160.0	1340.0	942.0	772.0	567.0	430.0	356.0	309.0	168.9
1.40V	2200.0	1358.0	953.0	779.0	571.0	433.0	359.0	311.0	169.3
1.30V	2220.0	1370.0	960.0	784.0	574.0	435.0	361.0	312.0	169.8

Constant current discharge characteristics at 25 °C/77 °F

Unit: A

F.V. (V/cell) \ Discharge Time	5 Min	10 Min	15 Min	20 Min	30 Min	40 Min	50 Min	60 Min	120 Min
1.80V	146.43	98.25	70.16	59.35	44.58	33.64	27.95	24.50	13.52
1.70V	178.18	109.65	76.30	62.86	46.44	34.90	28.87	25.08	13.78
1.60V	190.91	115.35	79.76	65.18	47.46	35.74	29.46	25.50	14.00
1.50V	196.36	117.54	81.49	66.21	48.05	36.16	29.79	25.75	14.08
1.40V	200.00	119.12	82.44	66.81	48.39	36.42	30.04	25.92	14.11
1.30V	201.82	120.18	83.04	67.24	48.64	36.59	30.21	26.00	14.15

All data and artworks shall be changed without prior notice, BB reserves the right to explain and update the information contained herein.

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