

## VRLA Rechargeable Battery

# BP28-12 D (BP28-12FR D)

### FEATURES

- Maintenance free(no water topping-up required)
- No free acid(Non-spillable battery)
- Can be used in any orientation(excluding used inverted)
- Absorbent Glass Mat technology for efficient gas recombination
- Its design life is up to 8 years in floating application

### APPLICATION

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



Terminal TP

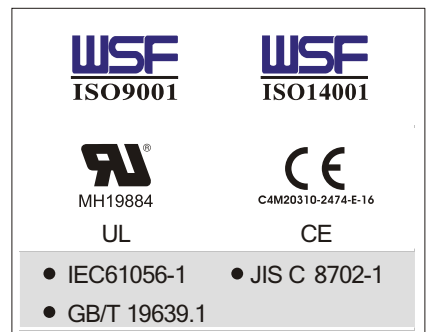
Terminal I1

### SPECIFICATIONS

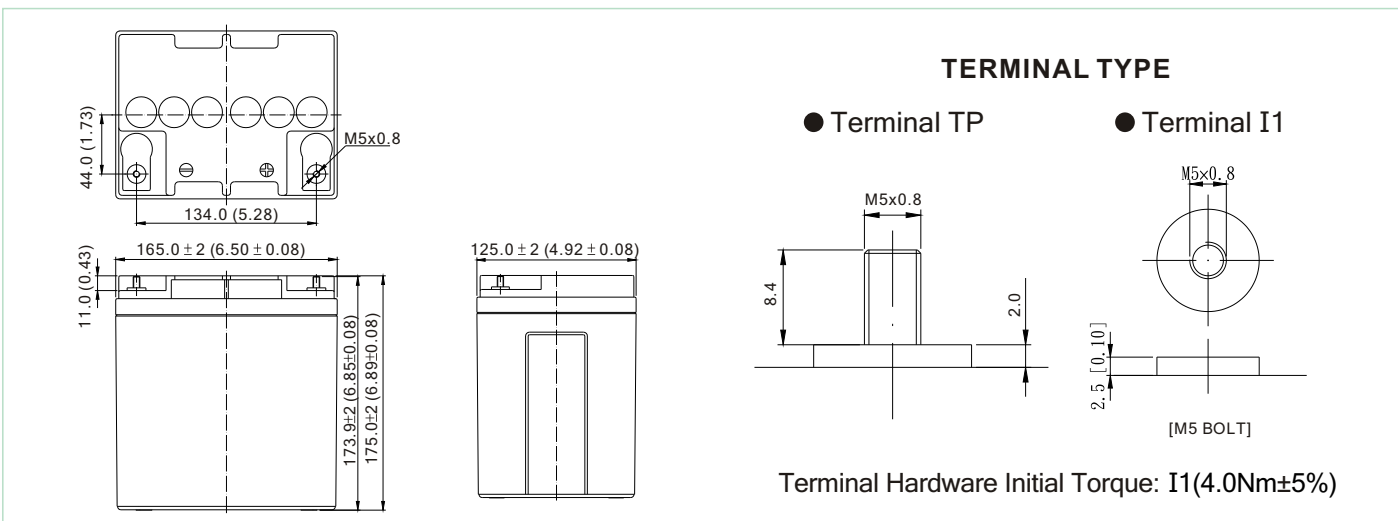
Nominal Voltage	12V	
Nominal Capacity	20 Hour Rate (1400mA, 10.5V)	28.0 Ah
	10 Hour Rate (2660mA, 10.5V)	26.6 Ah
	5 Hour Rate (4760mA, 10.5V)	23.8 Ah
	1 Hour Rate (16800mA, 9.3V)	16.8 Ah
Approx. Weight	9120g(20.11lbs.)	
Terminals	TP, I1( Fitting M5 bolt & nut) is optional	
Max. Discharge Current	420 A (5 sec.)	
Max. Charge Current	8.4 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	≤11mΩ (Fully Charged )	

### CONTAINER MATERIAL

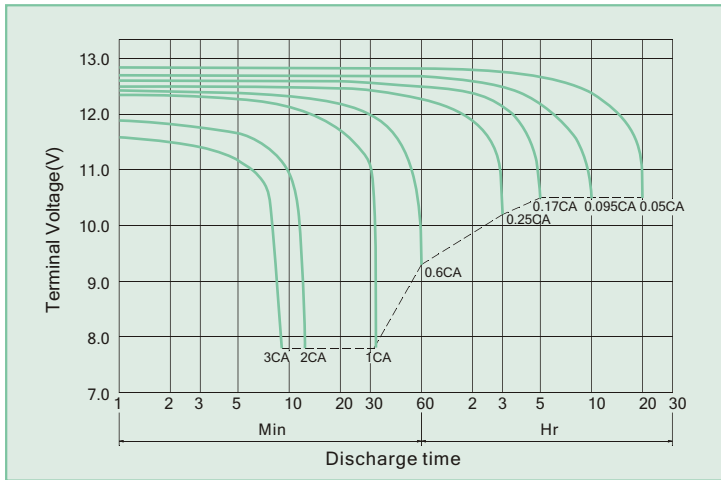
- BP28-12 D:  
ABS: UL 94-HB (Dark gray color)
- BP28-12FR D:  
ABS: UL 94-V0 (Light gray color)



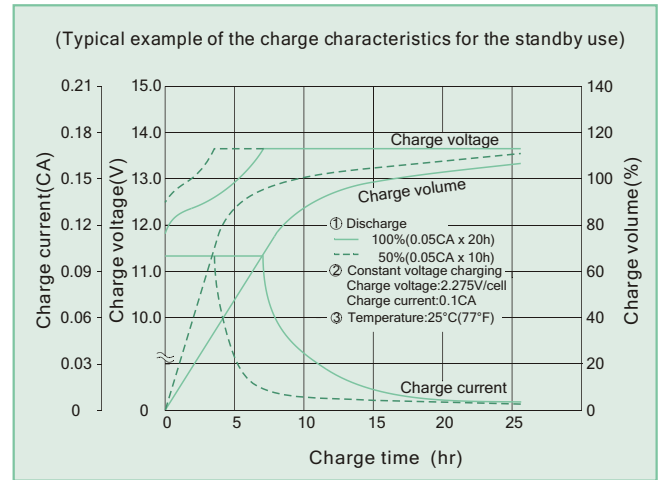
OUTER DIMENSIONS mm(inch)	Length (L)	Width (W)	Container Height (H)	Total Height (TH)
	165±2(6.50±0.08)	125±2(4.92±0.08)	175±2(6.89±0.08)	175±2(6.89±0.08)



**BP28-12 D (BP28-12FR D) discharge characteristics (25°C /77°F)**



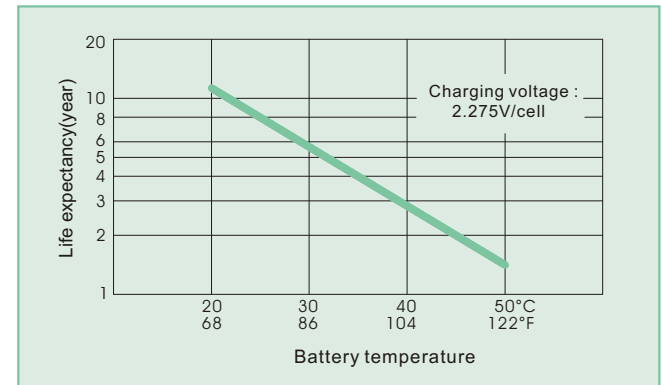
**Battery Charging Characteristics**



**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	30 Min	1 Hr	3 Hr	5 Hr	10 Hr	20 Hr
1.80V	1015	751	603	360	206.2	82.6	56.9	31.83	16.75
1.75V	1175	814	631	373	212.4	84.2	57.8	32.30	17.00
1.70V	1249	843	650	382	216.2	85.0	58.1	32.46	17.09
1.65V	1305	863	665	387	218.8	85.6	58.3	32.56	17.14
1.60V	1348	881	679	391	221.0	86.1	58.5	32.56	17.14

**Constant current discharge characteristics at 25 °C/77 °F Unit: A**

F.V. (V/cell) \ Discharge Time	5 Min	10 Min	15 Min	30 Min	1 Hr	3 Hr	5 Hr	10 Hr	20 Hr
1.80V	91.5	66.1	52.5	30.5	17.33	6.88	4.75	2.652	1.396
1.75V	107.8	71.6	54.9	31.6	17.85	7.02	4.82	2.692	1.417
1.70V	114.6	74.2	56.6	32.4	18.17	7.08	4.84	2.705	1.424
1.65V	119.7	76.0	57.9	32.8	18.39	7.13	4.86	2.713	1.428
1.60V	123.7	77.5	59.0	33.1	18.57	7.18	4.87	2.713	1.428

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

Trial A/0 REV. Nov. 2012

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