

# DC28-12 12V 28Ah Sealed Lead Acid AGM Battery

### Features

DC Extreme Cycling Series:

- Designed for long life in high cycling applications where battery is required to discharge or power and operate the application on a routine basis.
- Proprietary precious metal additives are blended into the grid materials and refined (4BS) active material to optimize the structure increasing cycle-life, and reducing internal resistance. This makes the batteries cycle longer and charge better and faster, while extending overall life.
- 7-10 year service life in standby applications at 25° C temperatures.
- Cycles over 500 times at 60% depth of discharge yet will perform equally well in standby and other applications where both conditions are required.
- Valve Regulated Lead Acid (VRLA), Absorbent Glass Mat (AGM) Technology Safe operation in any position
- Lead-calcium alloy grids and the use of high purity virgin lead
- Externally sealed Flame retardant ABS case and cover to UL94-HB specifications
- UL recognized (UR) as a component in UL approved equipment installations under File number MH46202
- Classified as non-spillable status for transportation making it non-hazardous for normal transportation processes. Approved for transport by air. Fulfills US D.O.T., I.A.T.A., F.A.A., C.A.B. handling and shipping requirements
- For more on special design and construction details see Features and Benefits publication on www.oraclebattery.com

## Specification

Cell per unit	6	Ambient Temperature			
Nominal Voltage (V)	12	Charg <mark>e 0°C (</mark> 32°F) to 40°C (104°F)			
Nominal Capacity (Ah)	28Ah @ 20 hou <mark>r rate</mark> to 1.75vpc	Discharg <mark>e -15°</mark> C (5°F) to 50°C (122°F			
Weight	Approx 10.4kg (22.59lbs.)	Storage -1 <mark>5°C (5</mark> °F) to 40°C (104°F)			
Internal Resistance (1KHz)	8m <b>Ω</b>	Max Charge C <mark>urren</mark> t			
Max Discharge Current (5s)	390A (5s)	Max charge c <mark>urren</mark> t 9A			
Battery Life	Stand by : 7~1 <mark>0 yea</mark> rs	Cycle use: Charge voltage: 14.4 to 15.0			
Terminal Type	NB(F3)/IT(F8)	Stand by: Charge voltage: 13.5 to 13.8V			
Container Material	ABS 94-HB flame retardant case (94V-0 Optional)				



#### Dimensions

			Length	Width	Height	Total Height
		Unit mm	166±1	175±1	125±1	125±1
		Unit inch	6.54±0.04	6.89±0.04	4.92±0.04	4.92±0.04
<b>⊖</b> ⊕					mm(inc	h)
166± <sup>2</sup> (6.54± <sup>0.08</sup> ) 166± <sup>2</sup> (6.54± <sup>0.08</sup> )	175± <sup>2</sup> (6.89± <sup>0.08</sup> <sub>0.04</sub> ) ←	Ne Ne		<sup>7</sup> 2	$ \xrightarrow{12\overset{12\overset{0.3}{\overbrace{0.5}}}{\longrightarrow}} \xrightarrow{3}^2 {\overset{\times}{\longleftarrow}} $	5.5 <sup>4</sup> 05 .0
			F3 (M5 Bolts)			

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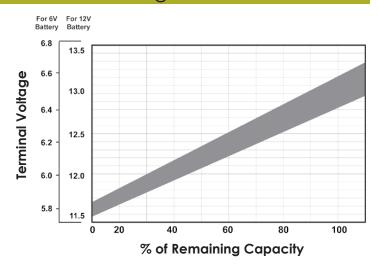
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## Terminal Voltage

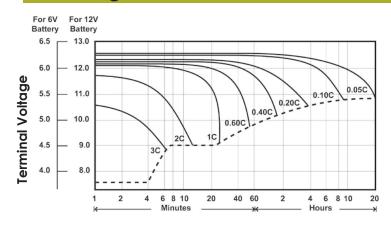


## Charge Voltages

Temperature Compensated Charging

	Average Temperature	Cycle Charging Volts Per Cell	Float Charging Volts Per Cell
	-40°C (-40°F)	2.85-2.95	2.38-2.43
	-20°C (-4°F)	2.67-2.77	2.34-2.39
	-10°C (14°F)	2.61-2.71	2.32-2.37
	0°C (32°F)	2.55-2.65	2.30-2.35
'	10°C (50°F)	2.49-2.59	2.28-2.33
	20°C (68°F)	2.43-2.53	2.26-2.31
	25°C (77°F)	2.40-2.50	2.25-2.30
	30°C (86°F)	2.37-2.47	2.24-2.29
	40°C (104°F)	2.31-2.41	2.22-2.27
	50°C (122°F)	2.25-2.35	2.20-2.25

## **Discharge Times**

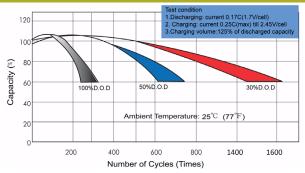


Time to Ending Voltage

## Temperature Storage

Average Storage Temperature	Recharging Interval
68°F	Every 9 months
77°F	Every 6 months
95°F	Every 3 months

## Cycle Life



### Constant Current Discharge Characteristics (25°C 77°F)

F.V/Time	5MIN	15MIN	30MIN	60MIN	2HR	3HR	5HR	8HR	10HR	20HR
1.60V	140.0	63.0	35.1	20.0	11.4	8.36	5.16	3.76	3.30	1.73
1.67V	136.0	61.0	34.6	19.4	11.3	8.10	5.05	3.75	3.27	1.72
1.70V	128.0	58.0	34.3	19.1	11.2	8.01	4.93	3.72	3.24	1.61
1.75V	120.0	54.1	32.9	18.6	11.0	7.80	4.80	3.67	3.15	1.47
1.80V	103.0	49.0	31.3	17.7	10.8	7.30	4.72	3.60	2.95	1.43

**Oracle** responsive power

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