

# HD12480 12V 48Ah

# Sealed Lead Acid AGM Battery

#### **Features**

Heavy Duty Multi-Purpose Series:

- Provides extended life in applications where variety and combination of general cycling, standby, and wider temperature fluctuation environments.
- 5 year service life in standby applications at 25° C temperatures.
- Cycles over 300 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



 For more details on special design and construction details see Features and Benefits publication on www.oraclebattery.com



\*NB Terminals shown - stocked version



#### Specification

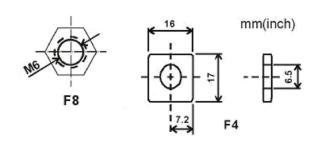
Cell per unit	6	Ambient Temperature			
Nominal Voltage (V)	12	Charge 0°C (32°F) to 40°C (104°F)			
Nominal Capacity (Ah)	48Ah @ 20 hou <mark>r rate</mark> to 1.75vpc	Discharge -15°C (5°F) to 50°C (122°F)			
Weight	Approx 14.5kg (31.96lbs.)	Storage -1 <mark>5°C (5</mark> °F) to 40°C (104°F)			
Internal Resistance (1KHz)	9mΩ	Max Charge C <mark>urren</mark> t			
Max Discharge Current (5s)	540A (5s)	Max charge c <mark>urren</mark> t 13.5A			
Battery Life	Stand by : 3~5 <mark>years</mark>	Cycle use: Charge voltage: 14.4 to 15.0V			
Terminal Type	NB(F4)* (IT(F8) available upon special order)	Stand by: Charge voltage: 13.50 to 13.80V			
Container Material	ABS 94-HB flame retardant case (94V-0 Optional)				



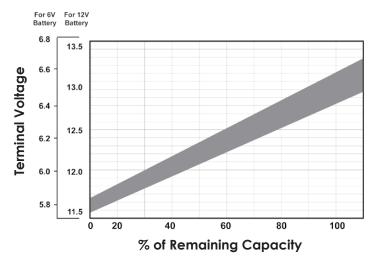
### Dimensions



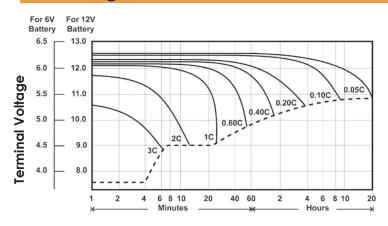
	Length	Width	Height	Total Height	
Unit mm	nit mm 197±1		170±1	170±1	
Unit inch	7.75±0.04	6.49±0.04	6.69±0.04	6.69±0.04	



# Terminal Voltage



# Discharge Times



**Time to Ending Voltage** 

### Charge Voltages

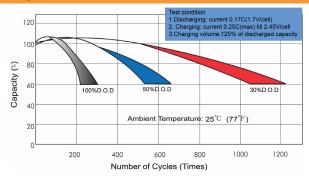
Temperature Compensated Charging

Avero Temper		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 (3	2°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 (7	77°F)	2.40-2.50	2.25-2.30		
30°C (8	36°F)	2.37-2.47	2.24-2.29		
40°C (1	04°F)	2.31-2.41	2.22-2.27		
50°C (1	22°F)	2.25-2.35	2.20-2.25		

# 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	190.00	82.50	45.00	27.50	16.90	12.90	8.44	5.58	4.73	2.45
1.67V	188.00	77.10	44.00	26.50	16.30	12.50	8.17	5.53	7.68	2.44
1.70V	186.00	72.60	43.60	25.60	15.90	12.00	7.95	5.44	4.59	2.41
1.75V	170.00	68.00	41.90	24.90	15.30	11.70	7.74	5.36	4.55	2.36
1.80V	153.00	62.20	40.40	23.80	14.70	11.50	7.56	5.27	4.50	2.34



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