

# 12V OPR60-12 Deep Cycle Rechargeable AGM / GEL Hybrid VRLA Solar Battery



## Applications

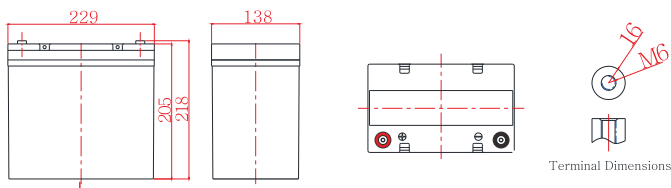
Telecommunications	Emergency Lighting
Process Control	Streetlights
Power Stations	Fire & Security Systems
Solar & Wind	Cell Towers
UPS	Hospitals
Railway Systems	Banks
Backup Power Systems	Computer Centres

## General Features

- > Nanosilica colloidal electrolyte and high tin positive plate alloy design to enhance battery performance
- > Relatively rich electrolyte, high temperature and low temperature performance is superior
- > Long cycle life, excellent deep cycle discharge ability
- > Excellent charge acceptance ability
- > Precision sealing technology
- > Long life



Dimension: 229(L)×138(W) ×205(H)×208(TH) Unit: mm



## Specification

Nominal Voltage	12V
Nominal Capacity	55Ah
Terminal	M6
Approx. Weight	Approx 17.5kg (36.6lbs)
Container Material	ABS
Rated Capacity	55.0Ah → 10Hour Rate (5.50A to 10.8V)
	43.5Ah → 3Hour Rate (14.5A to 10.8V)
	35.3Ah → 1Hour Rate (35.3A to 10.5V)
Internal resistance	Full charged at 25°C: 6.0 mΩ
Max. Discharge Current	660A(5S)
Operating Temperature	Discharge: -40 ~60' (-40~ 140°F)
	Charge : -20 ~50' (-4~ 122°F)
	Storage: -20 ~50' (-4~ 122°F)
Charge Method (25 °C)	Charge current: Max. 13.8A ; Recom.5.5A
	Float Charge:13.5-13.8V,recom.13.8V(-18mV/ °C)
	Equalize charge:13.8-14.1V,recom.14.1V(-24mV/ °C)
	Cycle charge:14.4-15.0V,recom.14.7V(-30mV/ °C)
Self discharge	3% of capacity declined per month at 25°C

## Constant Current Discharge Characteristics Unit: A (25°C,77°F)

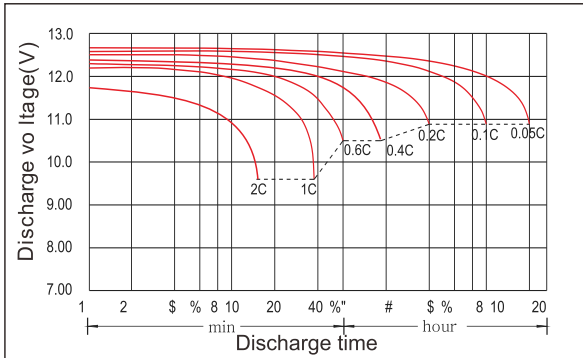
FV/Time	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	101	61.4	36.3	20.8	15.1	10.1	6.66	5.69	3.00
1.65V	97.9	60.4	36.1	20.7	14.9	10.0	6.60	5.64	2.98
1.70V	95.8	59.3	35.8	20.5	14.7	9.93	6.55	5.58	2.96
1.75V	92.7	58.8	35.3	20.2	14.6	9.82	6.50	5.53	2.95
1.80V	86.4	56.3	34.4	19.9	14.5	9.56	6.44	5.50	2.94
1.85V	77.1	51.3	31.9	18.9	13.6	9.09	6.18	5.31	2.89

## Constant Power Discharge Characteristics Unit: W/cell (25°C,77°F)

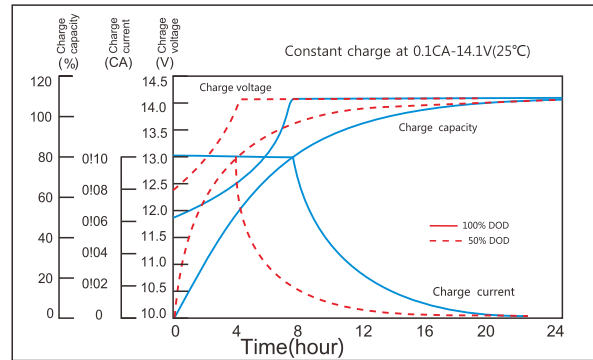
FV/Time	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	178	111	68.6	39.4	28.7	19.2	12.9	10.9	5.93
1.65V	175	110	68.1	39.2	28.4	19.1	12.8	10.8	5.90
1.70V	173	110	67.6	39.1	28.2	19.0	12.8	10.7	5.87
1.75V	172	110	67.0	38.9	28.0	18.9	12.7	10.6	5.85
1.80V	162	107	66.5	38.8	27.9	18.6	12.6	10.5	5.82
1.85V	145	98.1	61.7	37.0	26.6	17.8	12.1	10.3	5.76

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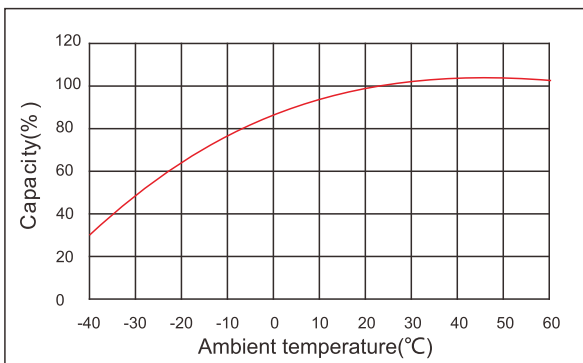
Discharge characteristic



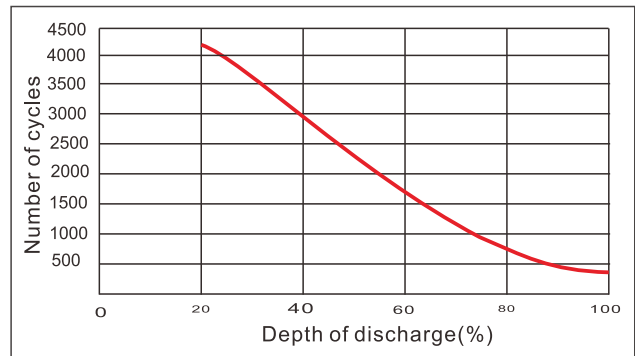
Charging characteristic



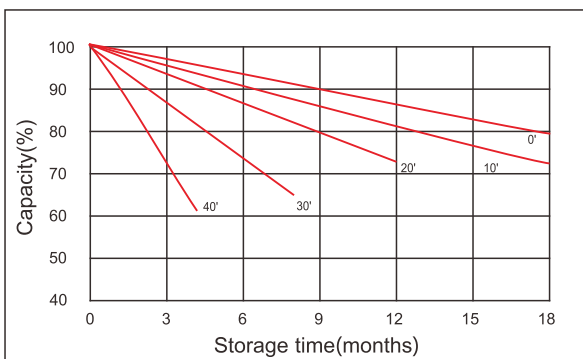
The effect of temperature on capacity



The effect of discharge depth on cycle life



Curves of self-discharge



Curves of open circuit voltage vs. capacity

