



NP Series lead-acid battery

Applications

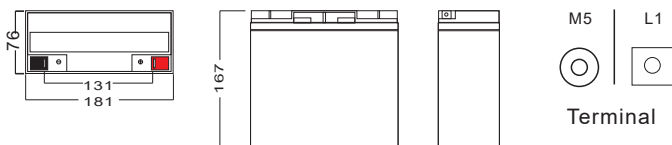
- > UPS/EPS
- > Power systems
- > Telecommunications system
- > Emergency lighting, Auto control system
- > Solar/wind generating storage cyclic
- > Other general purpose

General Features

- > High corrosion resistant performance: Pb-Ca multi-alloy grid
- > High energy density and power density
- > Optimized capability of instant high-current discharging
- > Excellent charge acceptance ability
- > Excellent deep cycle discharge capability
- > Strong high and low temperature performance
- > Precision sealing technology



Dimension: 181(L)×76(W)×167(H)×167(TH) Unit: mm



Specification

Nominal Voltage	12V
Nominal Capacity	18Ah
Design life	5 years
Terminal	M5/L1
Approx. Weight	Approx 5.00kg (11.0lbs)
Container Material	ABS
Rated Capacity	18.0Ah 20Hour Rate (0.90A to 10.5V)
	14.0Ah 3Hour Rate (4.66A to 10.5V)
	11.9Ah 1Hour Rate (11.9A to 9.60V)
Internal resistance	Full charged at 25°C: 18.0 mΩ
Max. Discharge Current	270A(5S)
Operating Temperature	Discharge: -20 ~50 (-4~ 122°F)
	Charge: -20 ~50 (-4~ 122°F)
	Storage: -20 ~50 (-4~ 122°F)
Charge current:	Max. 4.50A ; Recom.1.80A
Charge Method (25 °C)	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 (25C)

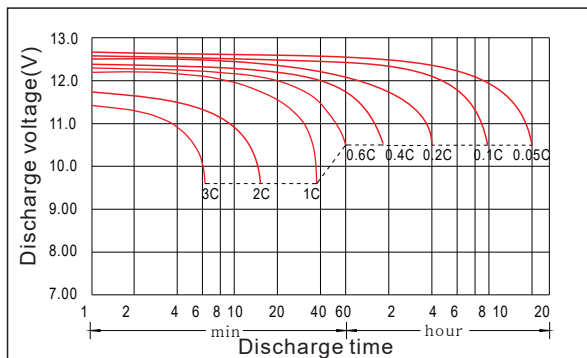
FV/Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	71.3	46.6	34.7	22.8	11.9	6.80	4.97	3.98	3.38	2.23	1.78	0.954
1.65V	70.7	44.6	31.9	21.6	11.2	6.53	4.82	3.85	3.31	2.20	1.76	0.936
1.70V	58.0	41.9	29.7	21.0	10.8	6.41	4.73	3.65	3.28	2.16	1.73	0.918
1.75V	53.8	40.0	27.7	20.5	10.4	6.25	4.66	3.60	3.13	2.11	1.69	0.900
1.80V	49.5	37.6	25.7	19.8	10.1	6.08	4.41	3.53	3.01	2.05	1.66	0.864

Constant Power Discharge Characteristics Unit: W/cell(25C)

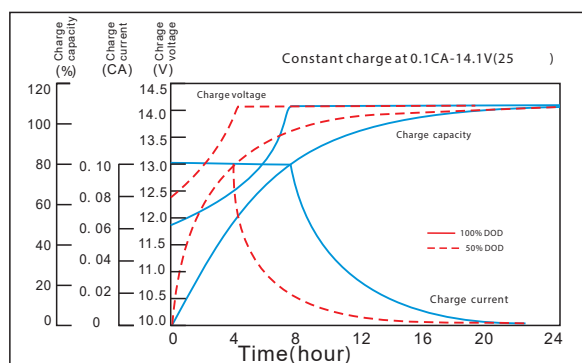
FV/Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	134	84.0	63.6	38.5	21.8	12.8	9.39	7.53	6.39	4.21	3.45	1.89
1.65V	123	79.5	59.7	38.2	20.5	12.3	9.12	7.29	6.27	4.15	3.39	1.84
1.70V	113	77.1	57.0	38.1	19.9	12.0	8.97	6.93	6.09	4.11	3.36	1.82
1.75V	102	74.7	54.9	37.7	19.3	11.8	8.85	6.84	5.97	3.94	3.28	1.79
1.80V	91.8	72.3	52.5	37.4	19.0	11.7	8.61	6.78	5.82	3.81	3.22	1.77

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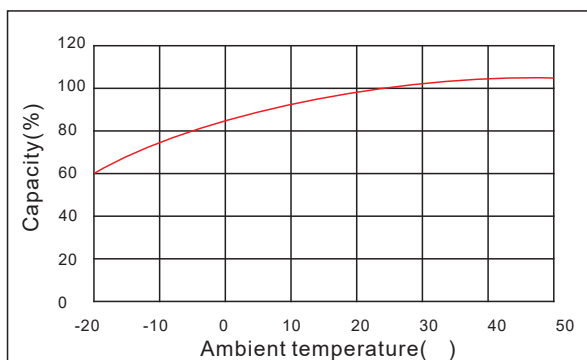
Discharge characteristic



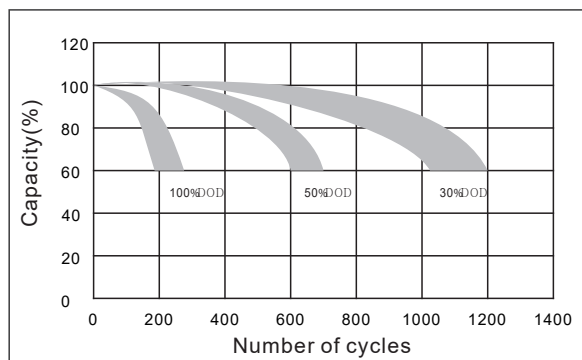
Charging characteristic



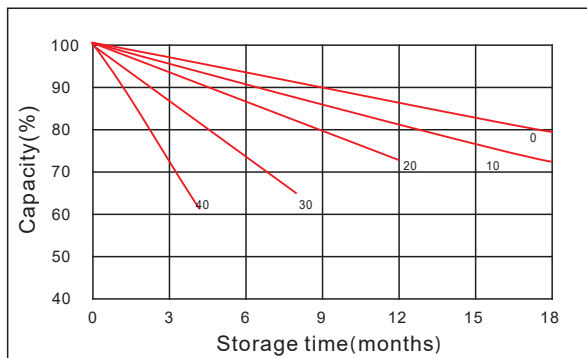
The effect of temperature on capacity



The effect of discharge depth on cycle life



Curves of self-discharge



The effect of temperature on float life

