توسعه انرژی
سنا نگار

MX Series 12V-28Ah Lead Acid Battery

MATRIX-28

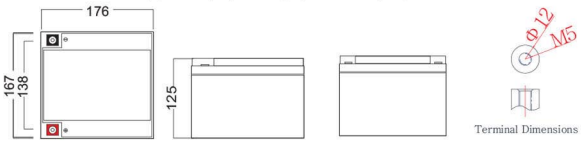
General Features

- High corrosion resistant performance
- 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
- Long life

Applications

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

Dimension: 167(L)×176(W) ×125(H) ×125(TH) Unit: mm



Specification

Nominal Voltage	12V
Nominal Capacity	28.0Ah
Design life	3 - 7 years (depends on condition of use)
Terminal	M5
Approx. Weight	Approx8.30kg (18.3lbs)
Container Material	ABS
Internal resistance	Full charged at 25°C: 14.0 mΩ
Operating Temperature	Discharge: -20 ~50℃(-4~ 122°F) Charge: -20 ~50 ℃(-4~ 122°F) Storage: -20 ~50℃(-4~ 122°F)
Charge Method (25 °C)	Charge current: Max.7.00A ; Recom.2.80A Float Charge: 13.5-13.8V,recom.13.5V(-18mV/ °C) Equalize charge:13.8-14.1V,recom.14.1V(-24mV/ °C) Cycle charge:14.4-15.0V,recom.14.4V(-30mV/ °C)
Self discharge	3% of capacity declined per month at 25°C

Constant Current Discharge Characteristics Unit: A (25℃, 77℉)

FV/Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	111	72.5	54.0	35.4	18.5	10.6	7.73	6.19	5.26	3.47	2.77	1.48
1.65V	110	69.4	49.6	33.6	17.4	10.2	7.50	5.99	5.15	3.42	2.74	1.46
1.70V	90.2	65.2	46.2	32.6	16.8	10.0	7.36	5.68	5.10	3.36	2.69	1.43
1.75V	83.7	62.2	43.1	31.8	16.2	9.72	7.25	5.60	4.87	3.28	2.63	1.40
1.80V	77.0	58.5	40.0	30.8	15.7	9.46	6.86	5.49	4.68	3.19	2.58	1.34

Constant Power Discharge Characteristics Unit: W/cell (25℃, 77℉)

FV/Time	5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
1.60V	208	131	98.9	59.8	33.9	19.8	14.6	11.7	9.94	6.55	5.37	2.94
1.65V	192	124	92.9	59.4	31.9	19.1	14.2	11.3	9.75	6.45	5.27	2.86
1.70V	175	120	88.7	59.2	30.9	18.7	14.0	10.8	9.47	6.39	5.23	2.84
1.75V	159	116	85.4	58.6	30.0	18.3	13.8	10.6	9.29	6.13	5.11	2.78
1.80V	143	112	81.7	58.2	29.6	18.2	13.4	10.5	9.05	5.92	5.00	2.76

Disclaimer: Manufacturers have the right to self-modify the parameters of the product updates, please keep in touch with manufacturers to obtain the latest information.

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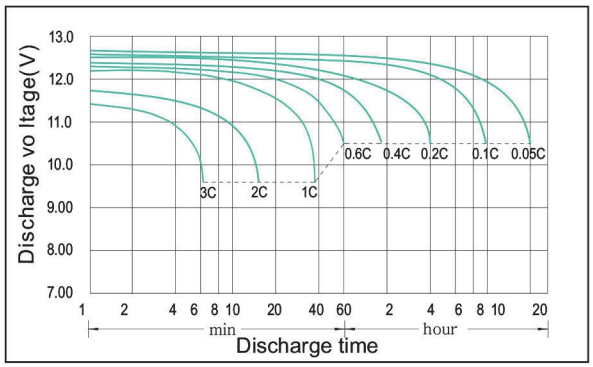
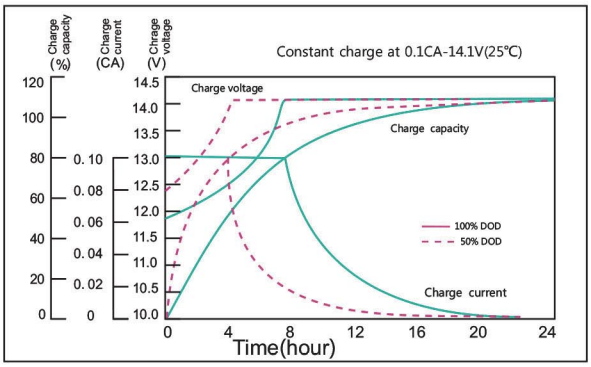
تلفن: ۰۲۱۸۸۲۱۳۹۵۴
فکس: ۰۲۱۸۸۶۰۷۲۳۳

MX Series 12V-28Ah Lead Acid Battery

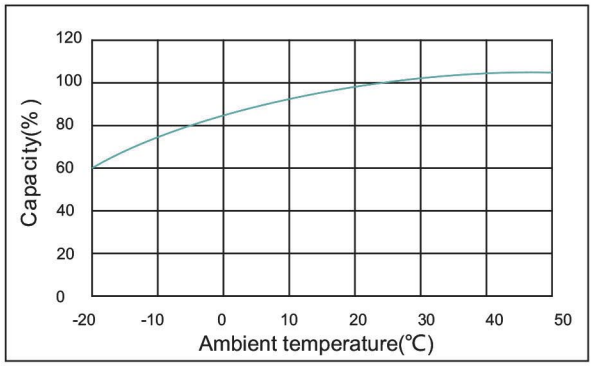
Discharge Characteristic



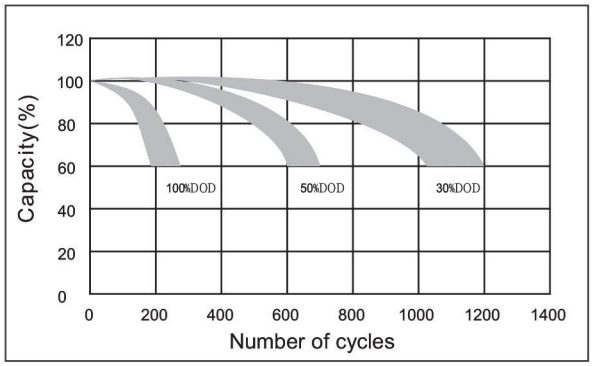
Charging Characteristic



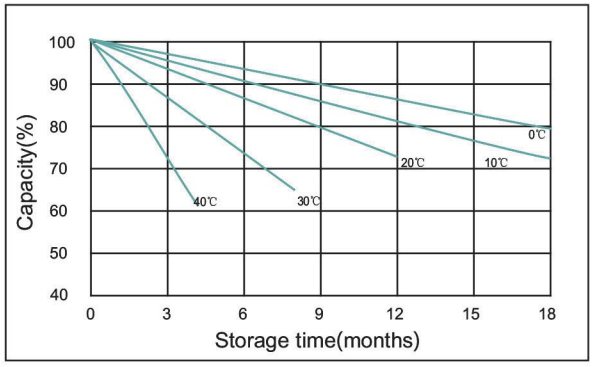
The Effect of Temperature Capacity



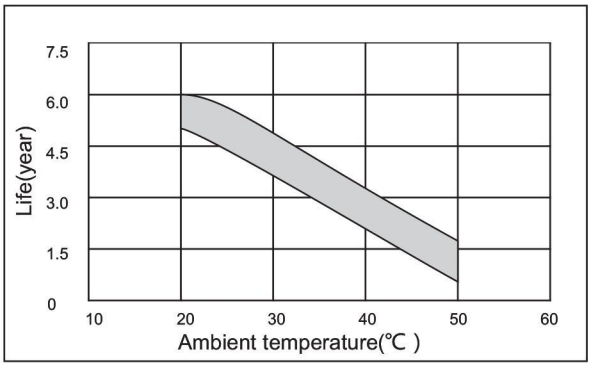
The Effect Discharge Depth on Cycle Life



Curves of Self-Discharge



The Effect of Temperature on Float Life



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توسعه انرژی
سنا نگار

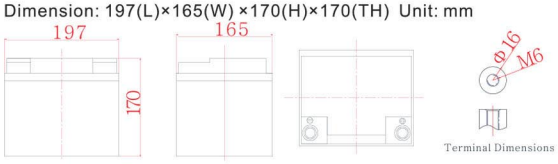
MX Series 12V-42Ah Lead Acid Battery

MATRIX-42

General Features

- High corrosion resistant performance
- 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
- Long life

Dimension: 197(L)×165(W) ×170(H)×170(TH) Unit: mm



Applications

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

Specification

Nominal Voltage	12V
Nominal Capacity	42Ah
Design life	3 - 7 years (depends on condition of use)
Terminal	M6
Approx. Weight	Approx 13.2kg (29.1lbs)
Container Material	ABS
Internal resistance	Full charged at 25°C: 12.2 mΩ
Operating Temperature	Discharge: -20 ~50℃(-4~ 122°F) Charge: -20 ~50℃(-4~ 122°F) Storage: -20 ~50℃(-4~ 122°F)
Charge Method (25 °C)	Charge current: Max. 9.5A ; Recom.3.8A Float Charge:13.5-13.8V,recom.13.5V(-18mV/ °C) Equalize charge:13.8-14.1V,recom.14.1V(-24mV/ °C) Cycle charge:14.4-15.0V,recom.14.4V(-30mV/ °C)
Self discharge	3% of capacity declined per month at 25°C

Constant Current Discharge Characteristics Unit: A (25℃, 77℉)

FV/Time	5min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	137	73.8	44.9	26.3	15.1	10.9	7.34	4.82	4.06	2.13
1.65V	133	71.6	44.1	26.1	15.0	10.8	7.26	4.78	4.02	2.12
1.70V	128	70.1	43.4	25.9	14.9	10.7	7.19	4.74	3.98	2.11
1.75V	118	67.8	43.0	25.5	14.6	10.5	7.11	4.70	3.94	2.10
1.80V	105	63.2	41.1	24.9	14.4	10.5	6.92	4.66	3.90	2.09
1.85V	94.0	56.3	37.5	23.0	13.6	9.86	6.57	4.47	3.78	2.05

Constant Power Discharge Characteristics Unit: W/cell (25℃, 77℉)

FV/Time	5min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	230	130	81.3	49.6	28.5	20.8	13.9	9.36	7.80	4.21
1.65V	222	128	80.5	49.3	28.4	20.5	13.8	9.29	7.72	4.19
1.70V	220	126	80.5	48.9	28.3	20.4	13.7	9.25	7.64	4.17
1.75V	206	125	80.1	48.5	28.1	20.3	13.6	9.17	7.57	4.15
1.80V	189	119	78.2	48.1	28.1	20.2	13.5	9.09	7.49	4.13
1.85V	169	106	71.7	44.7	26.8	19.2	12.9	8.79	7.37	4.10

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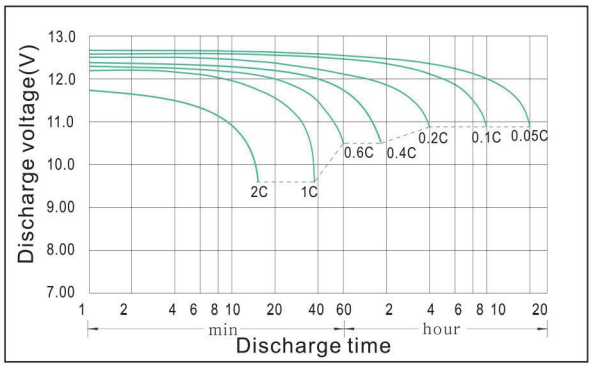
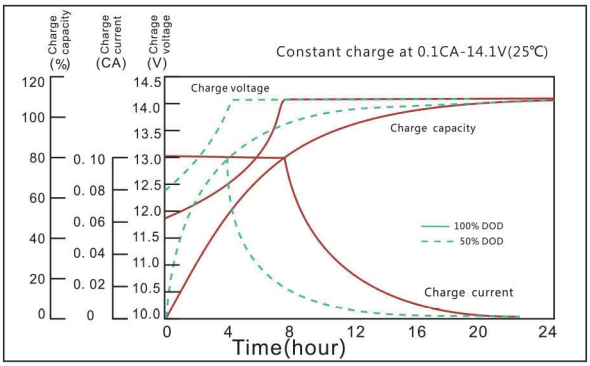
MX Series 12V-42Ah Lead Acid Battery

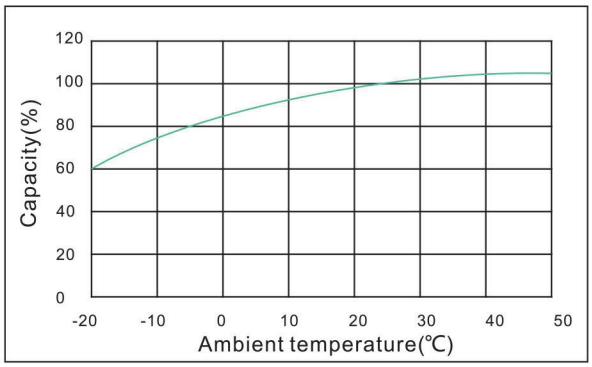
Discharge Characteristic



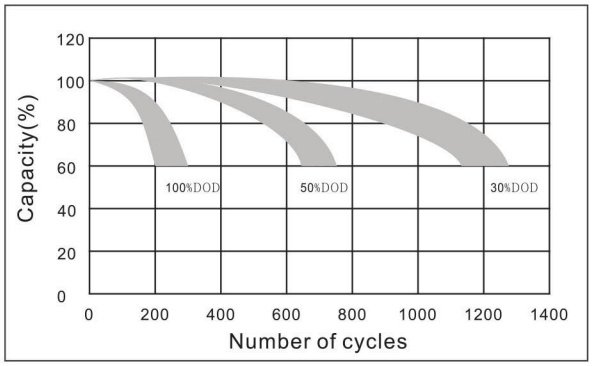
Charging Characteristic



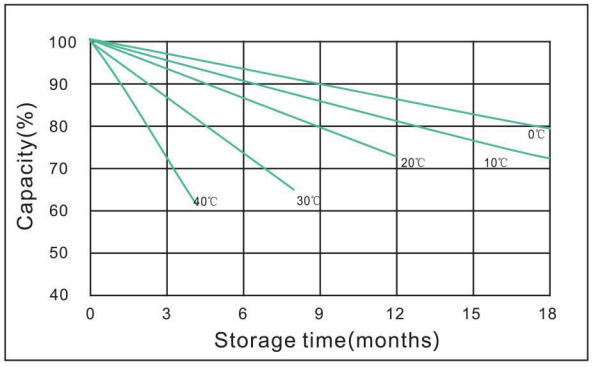
The Effect of Temperature Capacity



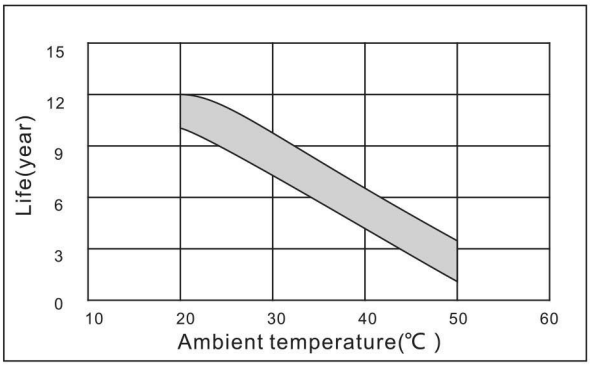
The Effect Discharge Depth on Cycle Life



Curves of Self-Discharge



The Effect of Temperature on Float Life



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توسعه انرژی
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MX Series 12V-65Ah Lead Acid Battery

MATRIX-65

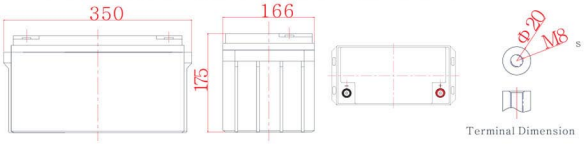
General Features

- High corrosion resistant performance
- 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
- Long life

Applications

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

Dimension: 350(L)×166(W) ×175(H)×175(TH) Unit: mm



Specification

Nominal Voltage	12V
Nominal Capacity	65Ah
Design life	3 - 7 years (depends on condition of use)
Terminal	M8
Approx. Weight	Approx 21.0kg (46.3lbs)
Container Material	ABS
Internal resistance	Full charged at 25°C: 7.5 mΩ
Operating Temperature	Discharge: -20 ~50℃(-4~ 122°F) Charge: -20 ~50℃(-4~ 122°F) Storage: -20 ~50℃(-4~ 122°F)
	Charge current: Max. 16.3A ; Recom.6.5A
Charge Method (25 °C)	Float Charge:13.5-13.8V,recom.13.5V(-18mV/ °C) Equalize charge:13.8-14.1V,recom.14.1V(-24mV/ °C) Cycle charge:14.4-15.0V,recom.14.4V(-30mV/ °C)
Self discharge	3% of capacity declined per month at 25°C

Constant Current Discharge Characteristics Unit: A (25℃, 77℉)

FV/Time	5min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	229	123	74.8	43.8	25.1	18.2	12.2	8.03	6.76	3.55
1.65V	222	119	73.6	43.5	25.0	18.0	12.1	7.96	6.70	3.53
1.70V	213	117	72.3	43.2	24.8	17.8	12.0	7.90	6.63	3.51
1.75V	196	113	71.7	42.6	24.4	17.6	11.8	7.83	6.57	3.50
1.80V	176	105	68.5	41.5	24.0	17.5	11.5	7.77	6.50	3.48
1.85V	157	93.9	62.6	38.4	22.7	16.4	11.0	7.45	6.31	3.42

Constant Power Discharge Characteristics Unit: W/cell (25℃, 77℉)

FV/Time	5min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	384	217	135	82.7	47.5	34.7	23.2	15.6	13.0	7.02
1.65V	369	213	134	82.1	47.3	34.2	23.1	15.5	12.9	6.99
1.70V	367	210	134	81.5	47.1	34.0	22.9	15.4	12.7	6.96
1.75V	343	209	134	80.8	46.9	33.8	22.7	15.3	12.6	6.92
1.80V	315	198	130	80.2	46.8	33.7	22.5	15.2	12.5	6.89
1.85V	281	177	120	74.5	44.7	32.0	21.5	14.6	12.3	6.83

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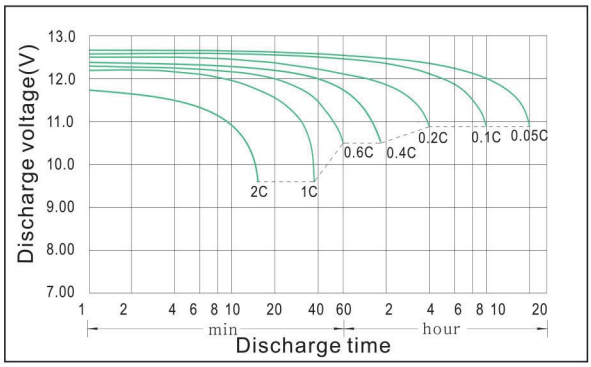
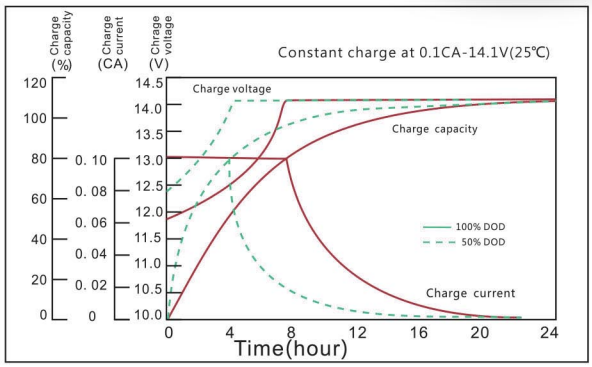
MX Series 12V-65Ah Lead Acid Battery

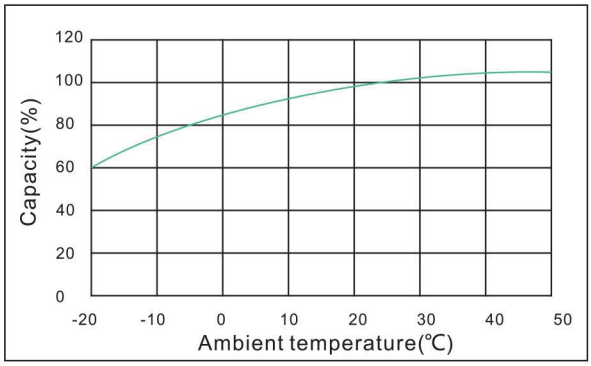
Discharge characteristic



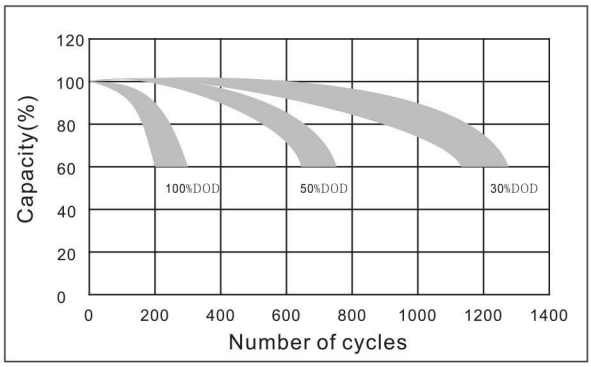
Charging characteristic



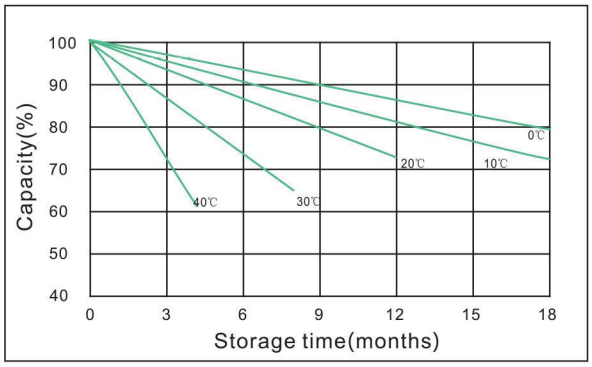
The effect of temperature on capacity



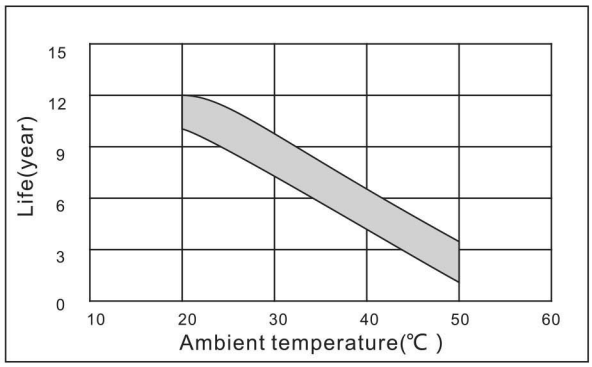
The effect of discharge depth on cycle life



Curves of self-discharge



The effect of temperature on float life



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توسعه انرژی
سنا نگار

MX Series 12V-100Ah Lead Acid Battery

MATRIX-100

General Features

- High corrosion resistant performance
- 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
- Long life

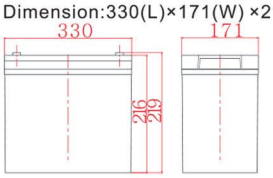
Applications

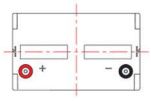
- UPS/EPS
- Power systems
- Telecommunications system
- Emergency lighting、Auto control system
- Solar/wind generating storage cyclic
- Other general purpose

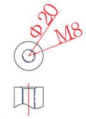
Specification

Nominal Voltage	12V	
Nominal Capacity	100Ah	
Design life	3 - 7 years (depends on condition of use)	
Terminal	M8	
Approx. Weight	Approx 29.5kg (65.0lbs)	
Container Material	ABS	
Internal resistance	Full charged at 25°C:	5.0 mΩ
Operating Temperature	Discharge:	-20 ~50℃(-4~ 122°F)
	Charge:	-20 ~50℃(-4~ 122°F)
	Storage:	-20 ~50℃(-4~ 122°F)
Charge Method (25 °C)	Charge current:	Max. 25A ; Recom.10A
	Float Charge:	13.5-13.8V,recom.13.5V(-18mV/ °C)
	Equalize charge:	13.8-14.1V,recom.14.1V(-24mV/ °C)
	Cycle charge:	14.4-15.0V,recom.14.4V(-30mV/ °C)
Self discharge	3% of capacity declined per month at 25°C	

Dimension:330(L)×171(W) ×216(H)×219(TH) Unit: mm







Terminal Dimensions

Constant Current Discharge Characteristics Unit: A (25℃, 77℉)

FV/Time	5min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	352	189	115	67.3	38.6	28.0	18.8	12.4	10.4	5.46
1.65V	342	184	113	66.9	38.4	27.7	18.6	12.3	10.3	5.43
1.70V	328	180	111	66.4	38.1	27.3	18.4	12.2	10.2	5.40
1.75V	302	174	110	65.5	37.5	27.0	18.2	12.1	10.1	5.38
1.80V	270	162	105	63.8	36.8	26.9	17.7	12.0	10.0	5.35
1.85V	241	144	96.2	59.1	35.0	25.3	16.9	11.5	9.70	5.26

Constant Power Discharge Characteristics Unit: W/cell (25℃, 77℉)

FV/Time	5min	15min	30min	1h	2h	3h	5h	8h	10h	20h
1.60V	591	333	208	127	73.0	53.3	35.7	24.0	20.0	10.8
1.65V	568	328	206	126	72.8	52.6	35.5	23.8	19.8	10.8
1.70V	565	324	206	125	72.5	52.3	35.2	23.7	19.6	10.7
1.75V	527	322	205	124	72.1	52.0	35.0	23.5	19.4	10.7
1.80V	484	304	201	123	71.9	51.8	34.6	23.3	19.2	10.6
1.85V	432	272	184	115	68.7	49.3	33.0	22.5	18.9	10.5

Disclaimer: Manufacturers have the right to self-modify the parameters of the product updates, please keep in touch with manufacturers to obtain the latest information.

توسعه انرژی
سنا نگار

دفتر مرکزی :تهران ،یوسف آباد، بزرگراه کردستان، خیابان پنجاه و سوم، پلاک۲۰، طبقه اول، واحد شرقی۹

تلفن: ۰۲۱۸۸۲۱۳۹۵۴

فکس: ۰۲۱۸۸۶۰۷۲۳۳

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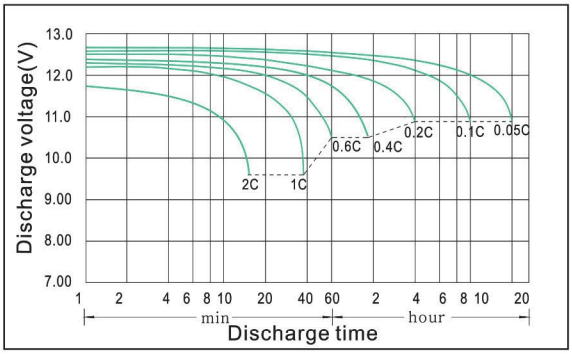
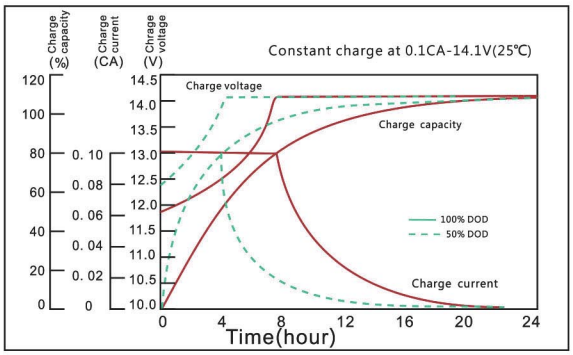
توسعه انرژی
سنا نگار

MX Series 12V-100Ah Lead Acid Battery

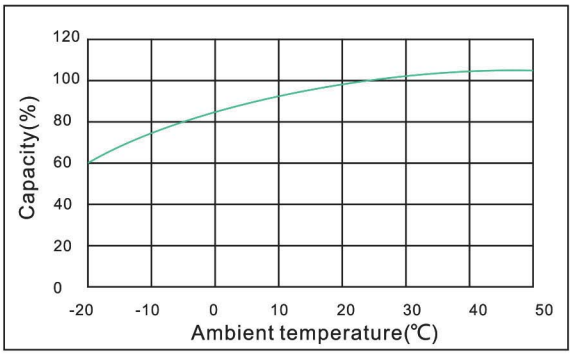
Discharge characteristic



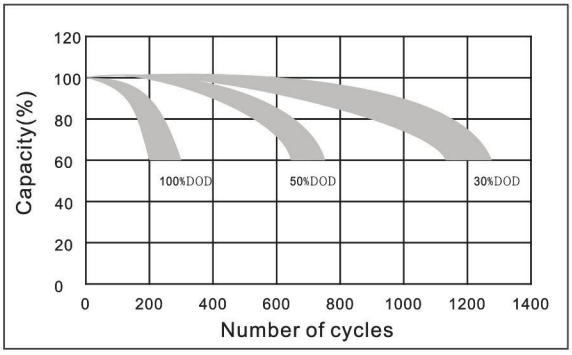
Charging characteristic



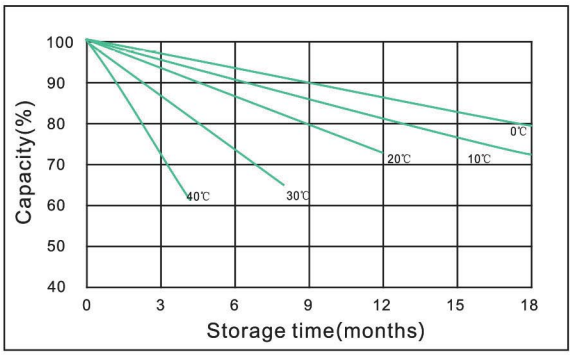
The effect of temperature on capacity



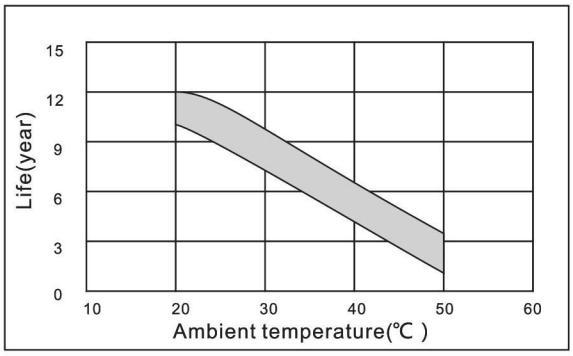
The effect of discharge depth on cycle life



Curves of self-discharge



The effect of temperature on float life



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