SIKORA Notbeleuchtungssysteme

Datasheet - TL 12-120 (12 V 120 Ah) Long Life

TL-Range Valve regulated lead-acid battery

Technical Characteristics	
Nominal Voltage:	12 V
Rated Capacity (C10, 1.80V/cell):	120 Ah
Dimension (LxWxH1xH2): H1= Height to the lid / H2= Total height	407 x 177 x 225 x 225 mm
Nominal Capacity (25 °C):	20 hour rate (6.660 A to 10.5 V) - 133.2 Ah 10 hour rate (12.42 A to 10.5 V) - 124.2 Ah 5 hour rate (21.32 A to 10.5 V) - 106.6 Ah 1 hour rate (78.00 A to 9.6 V) - 78.0 Ah 15 min rate (217.7 A to 9.6 V) - 54.4 Ah
Weight:	34.5 kg
Type Of Poles / Terminal:	T13/M6/M8
Max. Discharge Current (25 °C / 5 s):	960 A
Internal Resistance (25 °C fully charged):	4.0 mΩ
Number Of Cycles at 80 % DOD (25 °C):	> 450
Ambient Temperature:	Charge: -15 °C ~ 50 °C
	Discharge: -20 °C ~ 60 °C
	Storage: -20 °C ~ 50 °C
Container Material:	ABS, UL94-HB, UL94-V0 optional
Self Discharge Rate Per Month at 25 °C:	3%

Discharge Data in Amperes at 25 °C

VpC/Time	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
1.60	408.0	271.8	217.7	135.0	78.00	46.62	33.12	22.18	14.90	12.72	6.960
1.70	366.0	250.2	207.0	131.4	76.92	46.02	32.52	21.65	14.66	12.54	6.780
1.75	330.0	231.0	197.4	127.8	75.96	45.42	32.16	21.32	14.52	12.42	6.660
1.80	294.0	210.6	185.4	122.9	74.40	44.80	31.80	21.00	14.30	12.24	6.540

Discharge Data in Watts/Cell at 25 °C

VpC/Time	5 min	10 min	15 min	30 min	60 min	2 h	3 h	5 h	8 h	10 h	20 h
1.60	703.8	484.7	395.5	252.0	149.5	90.91	65.69	44.09	29.66	25.33	13.91
1.70	646.6	454.5	381.2	247.5	148.1	90.12	64.66	43.15	29.25	25.04	13.56
1.75	591.3	425.4	366.8	242.8	146.9	89.33	64.11	42.61	29.04	24.84	13.32
1.80	534.1	393.1	347.6	235.5	144.5	88.85	63.55	42.00	28.61	24.48	13.08

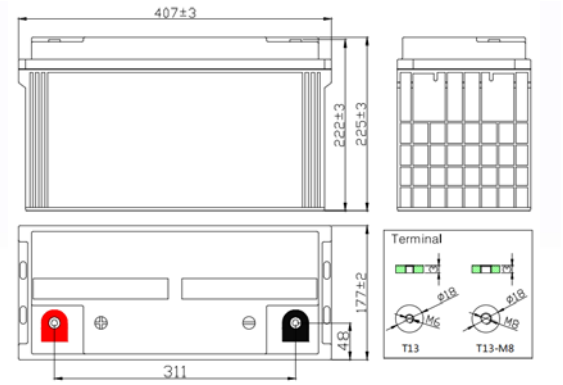


Illustration different in colour

Capacity Factors With Different Temperature

Battery Type		-20 °C	-10 °C	0 °C	5 °C	10 °C	20 °C	25 °C	30 °C	40 °C	45 °C
AGM	6 V & 12 V	46 %	66 %	76 %	83 %	90 %	98 %	100 %	103 %	107 %	109 %
	2 V	55 %	70 %	80 %	85 %	92 %	99 %	100 %	104 %	108 %	110 %

Maintenance & Cautions

Charging Procedure:

Application	Charging Method	Charge Voltage at 25 °C	Temperature Compensation Coefficient Of Charging Voltage	Max. Charging Current	Temperature
For standby power source	Constant voltage charging (with current restriction)	2.25 - 2.30 V/cell	-3 mV/°C/cell	0.2 CA	-15 - 50 °C
For cycle service		2.40 - 2.45 V/cell	-4 mV/°C/cell	0.3 CA	

Float Service:

Every month, recommend inspection every battery voltage

Every three months, recommend equalization charge for one time

Equalization charge method:
Step 1 discharge: 100 % rate capacity discharge. Step 2 charge: Max. current 0.3 CA, constant voltage 2.40 - 2.45 V/cell charge 24 h

Cycle Service:

Avoid battery over discharge, especially battery series connection use

Charge with recommend voltage, ensure battery can be full recharged

In general, recharge capacity should be 1.1 - 1.15 times discharge capacity

General Informations:

Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage

Charge the batteries at least once every six month, if they are stored at 25 °C

Charging method therefore:

Constant voltage: -0.2 C x 2 h + 2.4 ~ 2.45 V/cell x 24 h, Max. current 0.25 CA

Constant current: -0.2 C x 2 h + 0.1 C x 12 h

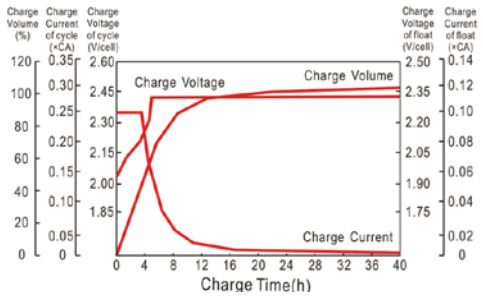
Fast: -0.2 C x 2 h + 0.3 C x 4 h

Tightening Torque:

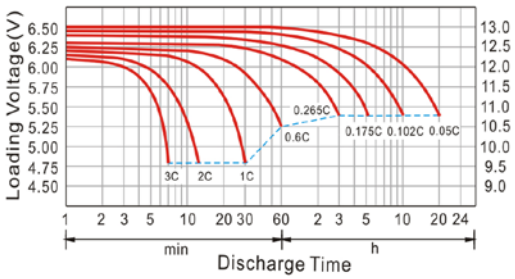
Bolt	M5	M6	M8
Terminal	T3,T10	T4, T7, T11, T12,T13	T5, T6, T8, T9, T14
Torque	6 - 7 Nm	8 - 10 Nm	10 - 12 Nm

Curves

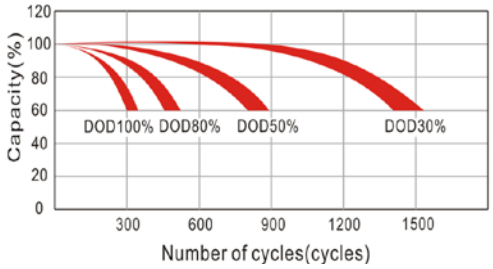
CHARGE CHARACTERISTICS CURVE



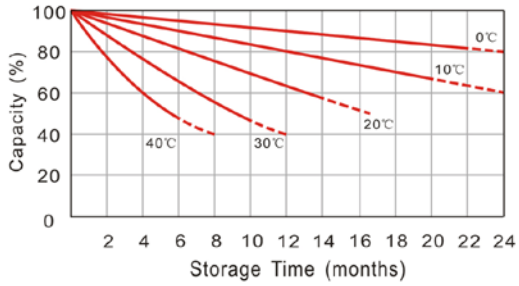
DISCHARGE CHARACTERISTICS CURVE



CYCLE SERVICE LIFE IN RELATION TO DEPTH OF DISCHARGE



CAPACITY STORAGE CHARACTERISTICS



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