



12V

220Ah

SLA

CYCLIC
AGM

12SB220CL-FR

Rechargeable AGM Sealed Lead Acid Battery

SPECIFICATIONS

Nominal Voltage 12V

Nominal Capacity

20 hour rate	(11A to 9.90V)	220Ah
10 hour rate	(20A to 10.80V)	200Ah
5 hour rate	(34A to 10.20V)	170Ah
1 hour rate	(120A to 9.60V)	120Ah

Weight Approx. 66.5kg

Internal Resistance (at 1KHz) Approx. 3mΩ

Maximum Discharge Current (5 secs) 1600A

Charge Methods at 25°C

Cycle Use

Charging Voltage	14.4V to 15.0V
Coefficient -5.0mV/°C/Cell	
Maximum Charging Current	66A

Standby Use

Float Charging Voltage	13.5V to 13.8V
Coefficient -3.0mV/°C/Cell	

Operating Temperature Range

Charge	-15°C to 50°C*
Discharge	-15°C to 50°C
Storage	-15°C to 40°C

Charge Retention (Shelf Life) at 20°C

1 month	98%
3 months	94%
6 months	85%

Case Material UL94 V-0 Flame Retardant

Termination F18 (M8 Bolt)

Description of Torque Value of Hardware for the Terminals

Recommended Torque Value	M8: 12 N-m (122kgf-cm)
Max. Allowable Torque Value	M8: 15 N-m (153kgf-cm)

Design Life 10-12 years at 20°C

Classified as a non-spillable battery.

Approved for transportation by:

- Air (IATA/ICAO provision A67)
- Road
- Sea (per IMDG Special Provision 238)



Barcode



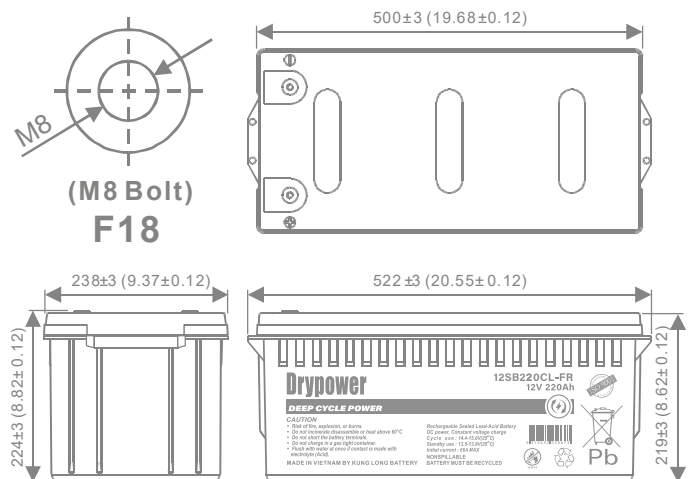
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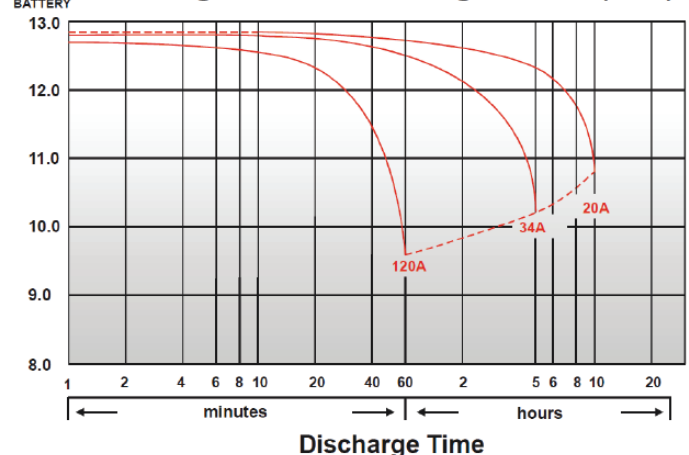
UL94 V-0
FLAME RETARDANT
CASE

DIMENSIONS

mm (inch)



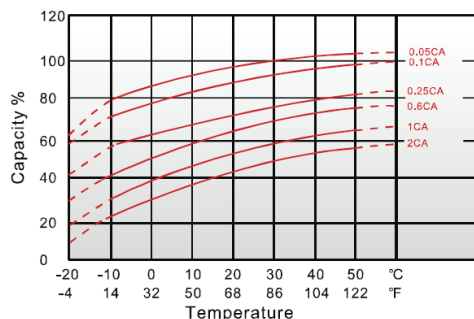
Discharge Time VS. Discharge Current (25°C)



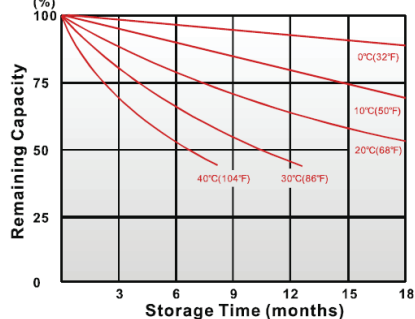
* If charging above 40°C, always use temperature-compensated charging (refer charge methods above). High temperature use accelerates ageing; as a general guide, service life halves for every 10°C sustained rise above 25°C. Consult the engineers at MI for more information if required.

CHARACTERISTICS CHARTS

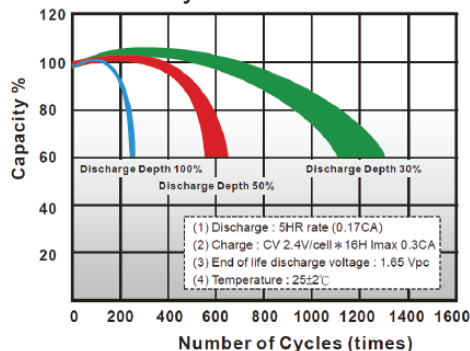
Effect of Temperature on Capacity 25°C(77°F)



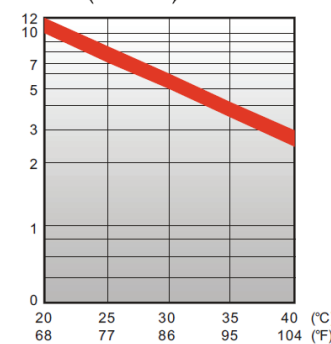
Capacity Retention Characteristic



Cycle Service Life



Trickle (or float) Service Life



FEATURES & BENEFITS

- ♦ Industry leading 99.99% pure lead content for superior service life and dependable performance.
- ♦ Special grid frame alloy design with outstanding anti-corrosion performance.
- ♦ Maintenance free technology and non-spillable design.
- ♦ Suitable for use in any orientation (except inverted) for use in hard to reach locations.
- ♦ Higher percentage of tin content compared with the industry standard. Tin extends battery standby life by minimising sulphation (corrosion) especially at higher temperatures.
- ♦ Manufactured by Kung Long Battery (KLB) at facilities in Taiwan and Vietnam. KLB is a leading manufacturer and complies with relevant international quality standards including ISO9001, CE ETL9000, UL1989, OHSAS18001 and ISO17025. KLB supports Green Sustainable supply chain practices.



PERFORMANCE DATA

Discharge Rates in Watts to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
10	min	630	700	740	780	790	810	835
15	min	585	622	660	685	700	715	720
30	min	366	389	410	429	437	448	464
60	min	220	232	242	251	254	258	264
90	min	153	164	172	179	182	185	189
120	min	115	125	132	138	140	143	147
180	min	92	98.5	104	108	109	111	112
240	min	80.5	85.2	88.7	91	91.8	92.8	94.2
300	min	70.5	74.3	76.3	77.5	78.00	78.7	79.5
600	min	37.7	39.5	40.7	41.3	41.70	42	42.5
1200	min	20.3	21.3	21.8	22.2	22.3	22.5	22.7

Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
10	min	339	387	422	445	450	462	476
15	min	292	334	361	374	382	391	393
30	min	210	225	238	249	254	260	269
60	min	128	134	143	150	153	157	162
90	min	85.5	92	97.2	102	103	105	108
120	min	66.7	72	75.9	79.1	80.2	81.6	83.5
180	min	48.7	52.3	54.7	57	57.8	58.7	60.4
240	min	37.90	41.1	43.2	44.9	45.5	46.2	47.6
300	min	31.7	34.1	35.9	37.1	37.6	38.2	39.2
600	min	19.8	20.2	20.4	20.6	20.7	20.8	20.9
1200	min	10.2	10.5	10.7	10.8	10.9	11	11.1

All data on the spec. sheet is an average value:

The tolerance range : X < 6min (+15%~-15%), 6min ≤ X < 10min (+12%~-12%), 10min ≤ X < 60min (+8%~-8%), X ≥ 60min (+5%~-5%)

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Performance may vary depending on application. All specifications are correct at time of creation. All specifications and operation conditions contained in this datasheet are subject to change or improvement without prior notice to the user. This data is for evaluation purposes only. No guarantee is intended or implied by this data. For clarification and updated information, please contact us.