

SOLAR SERIES VRLA BATTERY

The Solar series is designed for frequent cyclic charge and discharge applications under extreme environments. By combining the newly developed Nano Gel electrolyte with high density paste, the Solar series offers high recharge efficiency at very low charge current. The acid stratification is highly reduced by adding Nano Gel.

This series is suit for energy storage for renewable energies such as PV, wind turbine power systems and CATV.

12 V voltage	80Ah capacity	GEL tech	12 years design life

TECHNICAL SPECIFICATIONS

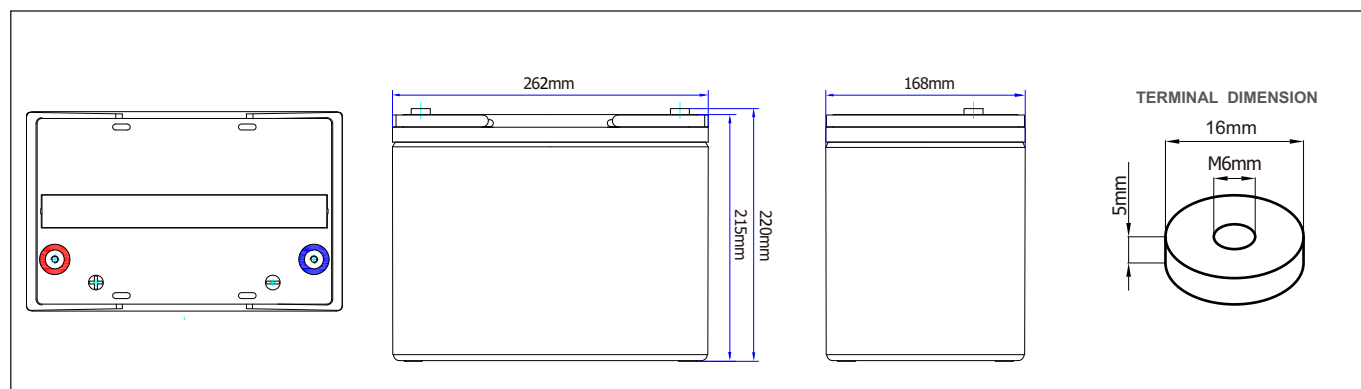
Nominal Voltage (V)	12 (6 cells per unit)
Designed Floating Life (20°C)	12 Years
Nominal Capacity (25°C)	80 Ah @ 10HR-rate (to 1.80Vpc)
Dimension (mm)	L262mm x W168mm x H220mm
Approx. Weight	24.5 kg
Terminal Type	Female Copper Insert M6 (torque:6~8N.m)
Internal Resistance	Approx. 0.006 Ohm (fully charged @ 25°C)
Max. Charge Current	20A
Max. Discharge Current (5S)	800 A
Short Circuit Current	2000 A
Self Discharge	Approx. 2.5% per month @ 20°C
Ambient Temperature	Discharge: -25~65°C Charge: -25~60°C Storage: -25~45°C
Float Charge Voltage	13.5V @25°C (-3mV/ cell/ °C)
Equalize and cycle Use Charge Voltage	14.1-14.4V @25°C
Container Material	ABS (UL94-V0 optional)



Complied standards

- IEC 60896-21/22
- GB/T19638
- IEC61427
- JIS C8704
- BS6290 part 4
- UL 1989

BATTERY DIMENSIONS



BATTERY DISCHARGE TABLE

Constant Current Discharge Characteristics: Amps (25°C)										
F.V/Time	30min	1h	2h	3h	4h	5h	8h	10h	20h	
1.70V	82.9	51.4	30.5	22.1	17.7	14.7	10.0	8.27	4.36	
1.75V	80.0	50.4	29.9	21.8	17.5	14.5	9.88	8.16	4.28	
1.80V	76.5	48.7	29.3	21.4	17.0	14.2	9.65	8.00	4.20	
1.85V	72.2	46.6	28.1	20.7	16.6	13.9	9.44	7.79	4.10	

Constant Power Discharge Characteristics: W/cell (25°C)										
F.V/Time	30min	1h	2h	3h	4h	5h	8h	10h	20h	
1.70V	155	97.1	58.0	42.4	33.9	28.4	19.5	16.2	8.60	
1.75V	151	95.9	57.5	42.0	33.8	28.3	19.4	16.1	8.49	
1.80V	146	93.6	56.7	41.6	33.3	27.9	19.1	15.9	8.39	
1.85V	139	90.4	55.0	40.6	32.7	27.4	18.8	15.6	8.24	

PARAMETERS FOR SOLAR & WIND APPLICATIONS

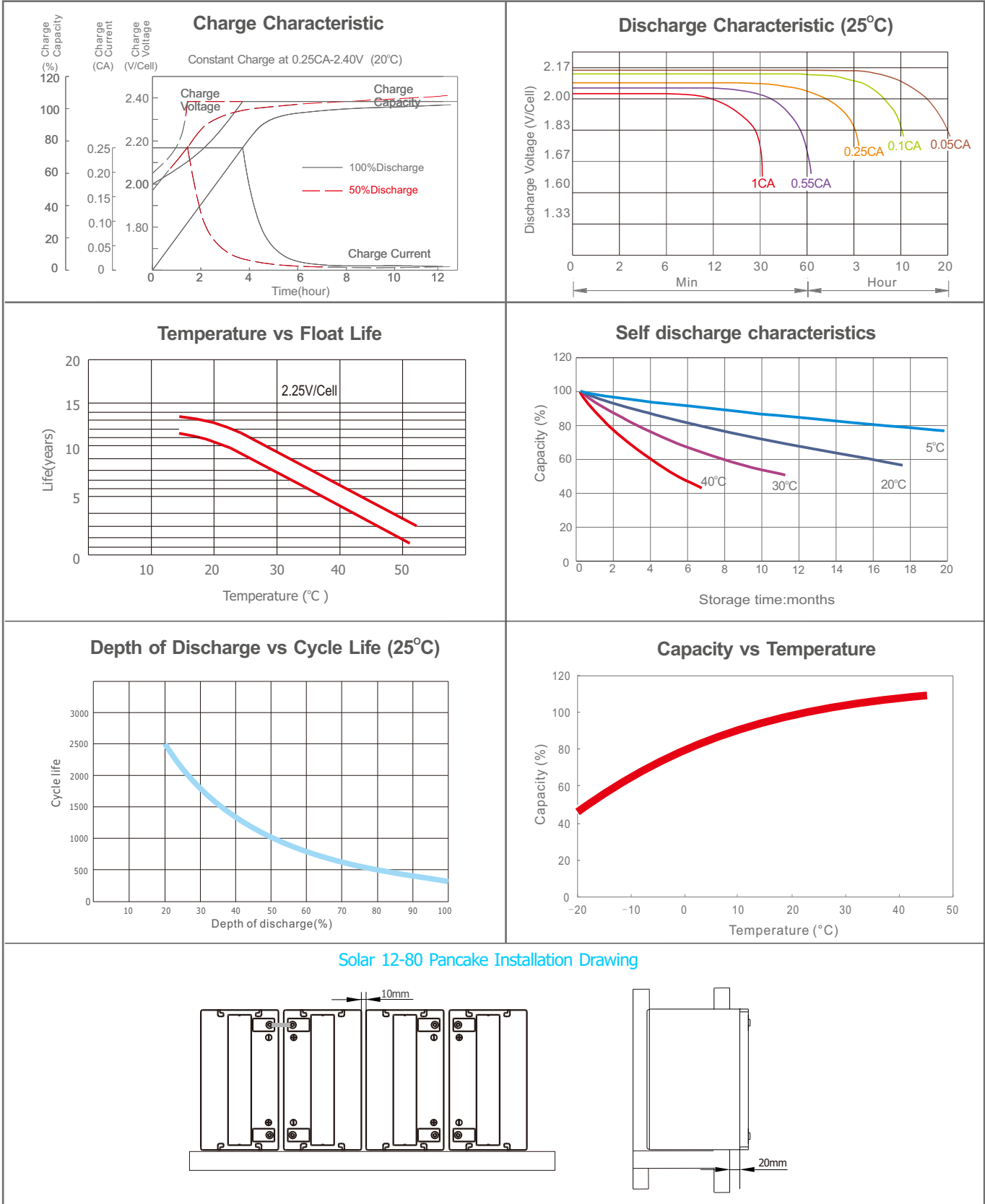
Long time discharge capacity for Solar & Wind applications

Capacity	C ₂₄ (Ah)	C ₄₈ (Ah)	C ₇₂ (Ah)	C ₁₀₀ (Ah)	C ₁₂₀ (Ah)
Solar12-80	85.6	90.4	92.8	96.8	100
Final Voltage	1.85V				

Solar & Wind applications parameters settings

Over voltage disconnect:	2.45±0.01V/cell @ 20 25°C
Regulation/equalize voltage:	2.40±0.01V/cell @ 20 25°C
Array roconnection voltage:	2.25±0.005V/cell @ 20 25°C
Float voltage setting:	2.27±0.005V/cell @ 20 25°C
Low voltage alarm voltage:	1.95±0.005V/cell @ 20 25°C
Low voltage disconnect:	1.90±0.005V/cell @ 20 25°C
Load reconnect voltage:	2.09±0.01V/cell @ 20 25°C
Temp. compensate coefficient:	-3~-5mV/cell/°C

CHARACTERISTICS



FINAL VOLTAGE SETTINGS RECOMMENDED ACCORDING TO THE DISCHARGE CURRENT

Discharge Current I (A)	$I \leq 0.08C$	$0.08C \leq I < 0.2C$	$0.2C \leq I < 0.6C$	$0.6C \leq I < 1.0C$	$I \geq 1.0C$
Final of Voltage	$\geq 1.85V_{pc}$	$\geq 1.80V_{pc}$	$\geq 1.75V_{pc}$	$\geq 1.70V_{pc}$	$\geq 1.60V_{pc}$

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