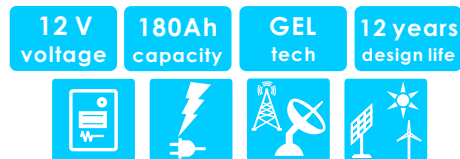


Solar12-180

SOLAR SERIES VRLA BATTERY

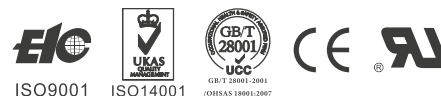
The Solar series is designed for frequent cyclic charge and discharge applications under extreme environments. By combining the newly developed Nano Gel electrolyte with high density paste, the Solar series offers high recharge efficiency at very low charge current. The acid stratification is highly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

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



TECHNICAL SPECIFICATIONS

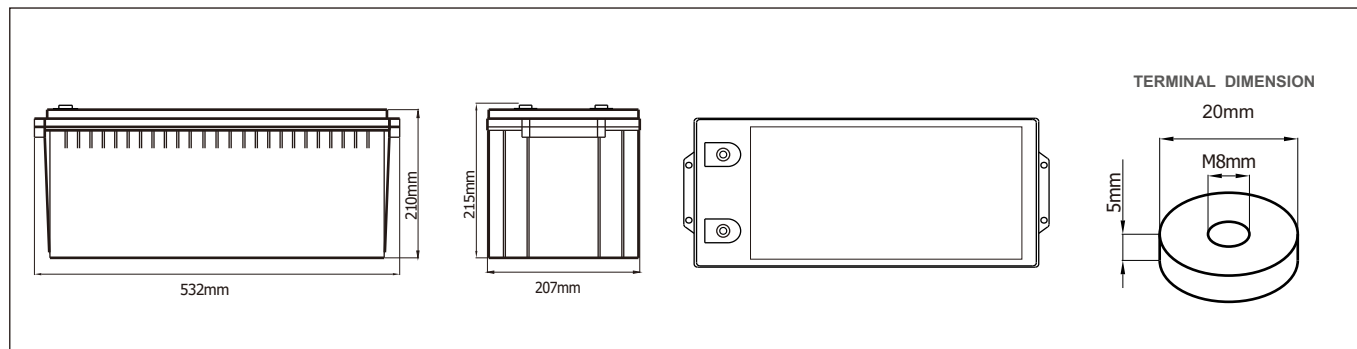
Nominal Voltage (V)	12 (6 cells per unit)
Designed Floating Life (20°C)	12 Years
Nominal Capacity (25°C)	180 Ah @ 10HR-rate (to 1.80Vpc)
Dimension (mm)	L532mm x W207mm x H215mm
Approx. Weight	53.5 kg (118 lbs)
Terminal Type	Female Copper Insert M8 (torque:8~10N.m)
Internal Resistance	Approx. 0.0032 Ohm (fully charged @ 25°C)
Max. Charge Current	45A
Max. Discharge Current (5S)	1350 A
Short Circuit Current	3600 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
- UL1989

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	186	116	68.5	49.8	39.7	33.1	22.5	18.6	9.82	
1.75V	180	113	67.3	49.0	39.3	32.7	22.2	18.4	9.63	
1.80V	172	110	65.9	48.1	38.4	31.9	21.7	18.0	9.45	
1.85V	162	105	63.3	46.5	37.3	31.2	21.2	17.5	9.23	

Constant Power Discharge Characteristics: W/cell (25°C)										
F.V/Time	30min	1h	2h	3h	4h	5h	8h	10h	20h	
1.70V	349	219	130	95.3	76.3	64.0	43.9	36.4	19.3	
1.75V	340	216	129	94.6	76.1	63.7	43.7	36.2	19.1	
1.80V	328	211	128	93.6	75.0	62.7	43.0	35.8	18.9	
1.85V	313	203	124	91.3	73.5	61.7	42.3	35.0	18.5	

PARAMETERS FOR SOLAR & WIND APPLICATIONS

Long time discharge capacity for Solar & Wind applications

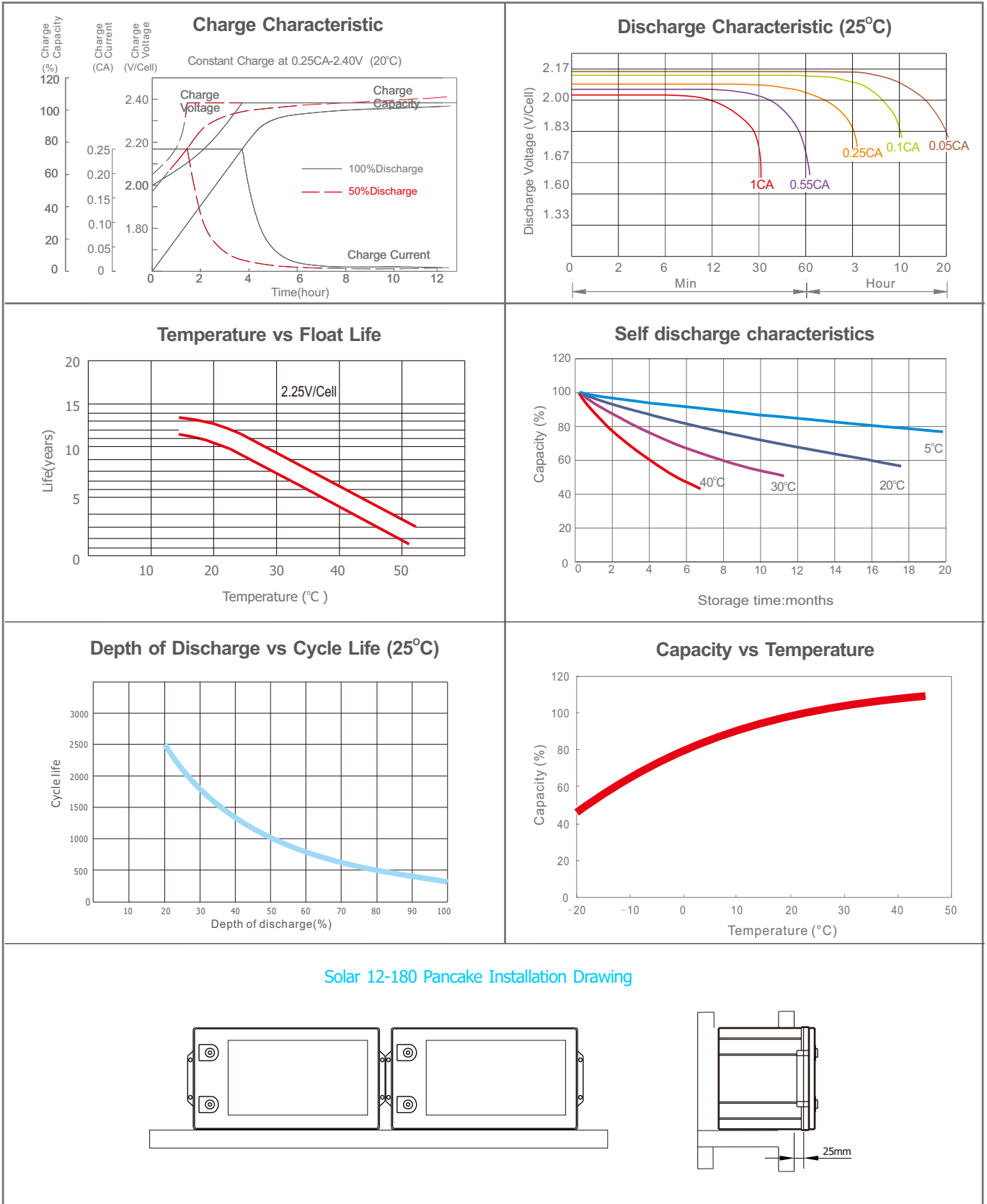
Capacity	C ₂₄ (Ah)	C ₄₈ (Ah)	C ₇₂ (Ah)	C ₁₀₀ (Ah)	C ₁₂₀ (Ah)
Solar12-180	193	203	209	218	225
Final Voltage	1.85V				

Solar & Wind applications parameters settings

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

Solar12-180

CHARACTERISTICS



FINAL VOLTAGE SETTINGS RECOMMENDED ACCORDING TO THE DISCHARGE CURRENT

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