POWERTEK

PW300- 48 [51.2V300AH]	Voltage: 51.2V | Capacity: 300 Ah | Energy: 15 Kwh

Lithium Iron Phosphate Battery

ELECTRICAL CHARACTERISTICS

Nominal Voltage	51.2V
Nominal Capacity	300Ah
Power Before Delivery (50-60%)	150-180Ah
Internal Resistance (AC)	≤100mΩ
Cycle Life @ 90% DOD	>6000 cycles
Efficiency of Charge @ 0.5C	100%
Efficiency of disharge @ 0.5C	96~ 99%
Self Discharge	<3% per Month

MECHANICAL SPECIFICATIONS

Dimensions (L x W x H /TH)	892 X 390 X 256.5mm
Approx. Weight	128.6Kgs
Display	LCD display @ Four keystrokes
Positive / Negative Termial	2+/2- with M6 Screws
Case Material	Iron Metal Plate
Power Switch	DG125A Air Switch
Communication protocol	CAN/RS232+RS485

CHARGE CHARACTERISTICS

Recommended Charge Current	60 A
Maximum Charge Current	150 A
Charge Current (14 to 32 ºF or -10 to 0 ºC)	≤0.1 C
Charge Current (-4 to 14 ºF or -20 to -10 ºC)	≤0.05 C
Recommended Charge Voltage	52.5 V - 54.60 V
BMS Charge Voltage Cut-Off	58.4V
Balancing Voltage	54.0 V (3.6 vpc)

Charge Mode: 0.25C CC (Constant current) charge to 58.4V, then CV (Constant voltage 58.4V), Charge till charge current decline to ≤0.05C

DISCHARGE CHARACTERISTICS

Maximum Continuous Discharge Current	200 A
Peak Discharge Current	200A
BMS Max.Pulse Current	400A (3 ms)
Recommended Low Voltage Disconnect	44 V
BMS Discharge Voltage Cut-Off	40V
Reconnect Voltage	30 V (2.0 ±0.08 vpc)
Short Circuit Protection	200-600 µs

DIMENSIONS

TEMPERATURE

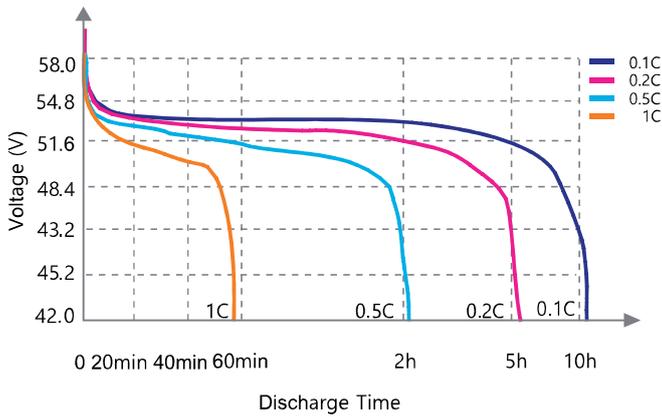|	
Discharge Temperature	- 20 to 65°C
Charge Temperature*	0 to 65°C
Storage Temperature	- 40 to 55°C
BMS High Temperature Cut-Off	75°C
Reconnect Temperature	65°C

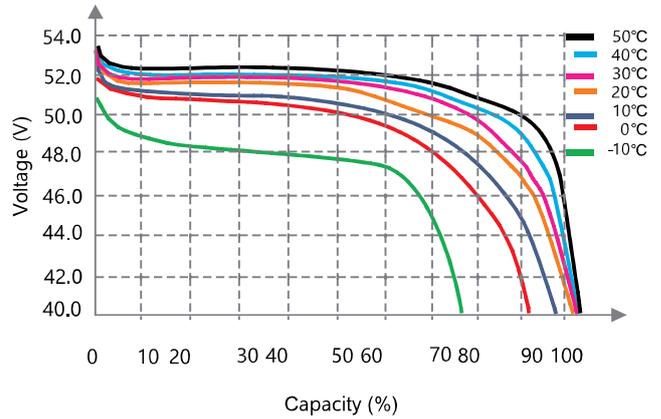*Refer to charge currents below 32° F (0° C)

COMPLIANCE

Certifications	UN38.3 (battery) CE (battery) UL1642 & IEC62619
Shipping Classification	UN 3480, CLASS 9

RoHS   ISO9001 CE IEC

PW300- 48 [51.2V300AH]

Voltage: 51.2V | Capacity: 300 Ah | Energy: 15Kwh

Characteristics Diagram

Different Rate Discharge Curve (25℃)

Legend: 0.1C, 0.2C, 0.5C, 1C

Y-axis: Voltage (V) — 58.0, 54.8, 51.6, 48.4, 45.2, 43.2, 42.0
X-axis: Discharge Time — 0 20min 40min 60min, 2h, 5h, 10h
Curve labels: 1C, 0.5C, 0.2C, 0.1C

Different Temperature Discharge Curve (40A, 25℃)

Legend: 50℃, 40℃, 30℃, 20℃, 10℃, 0℃, -10℃

Y-axis: Voltage (V) — 54.0, 52.0, 50.0, 48.0, 46.0, 44.0, 42.0, 40.0
X-axis: Capacity (%) — 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

State of Charge Curve (40A, 25℃)

Legend: Voltage, State of Charge

Left Y-axis: Voltage (V) — 56.0, 54.0, 52.0, 50.0, 48.0, 46.0, 44.0, 42.0, 40.0, 38.0, 36.0
Right Y-axis: State of Charge(%) — 100, 90, 80, 70, 60, 50, 40, 30, 20, 10, 0
X-axis: Charging Time (Minutes) — 0, 30, 60, 90, 120, 150
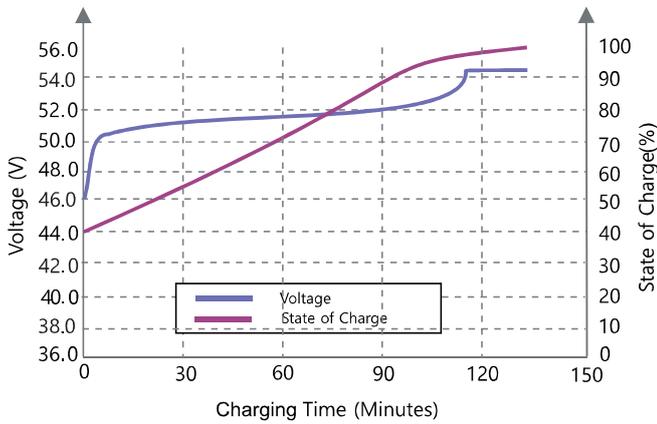
Charging Characteristics (40A, 25℃)

Legend: Voltage, Charging Current

Left Y-axis: Voltage (V) — 56.0, 54.0, 52.0, 50.0, 48.0, 46.0, 44.0, 42.0, 40.0, 38.0, 36.0
Right Y-axis: Charging Current (A) — 50.00, 2.00
X-axis: Charging Capacity (%) — 0, 20, 40, 60, 80, 100, 120
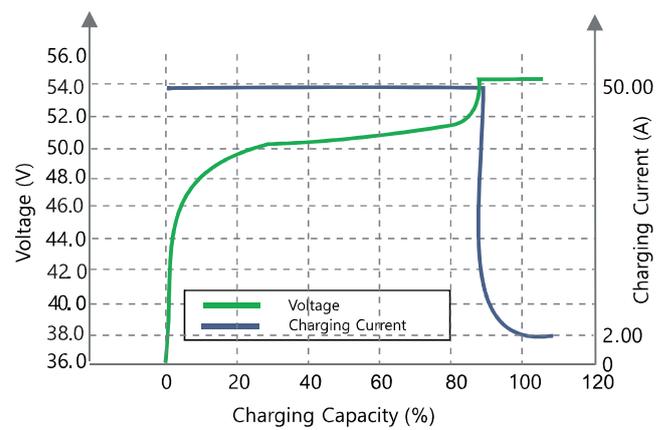
Different DOD Discharge Cycle Life Curve(1C)

Legend: 30%, 50%, 80%, 100%

Y-axis: Remaining Capacity (%) — 100, 90, 80, 70, 60
X-axis: Number of Cycles
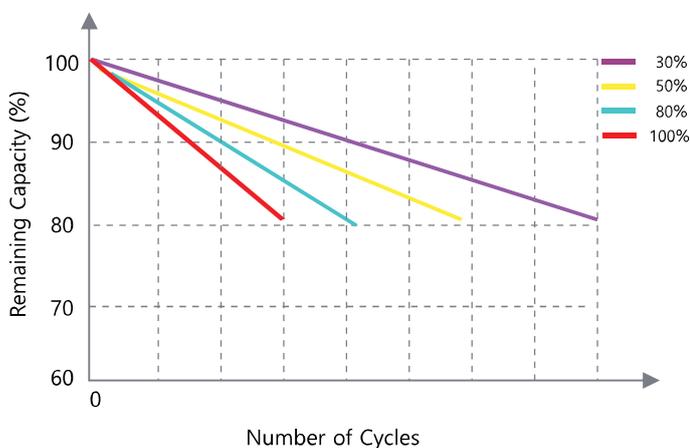
Different Temperature Self Discharge Curve

Legend: 10℃, 25℃, 30℃, 40℃, 50℃

Y-axis: Remaining Capacity (%) — 100, 90, 80, 70, 60
X-axis: Storage Time(Months) — 0, 2, 4, 6, 8, 10, 12