

High Power Li-ion Battery Solution

- for UPS Application

UZR Series



■ Features

Reduced Footprint with High Energy Density

- Max capacity 62.1KWh
- Max output power up to 500kW*

*Under Specify condition

High Safety and Protection

- MCCB and fast-melting fuse in main DC BUS line
- Pre-charge circuit to avoid inrush current
- Cell monitoring and rack BMS protection
- Cell voltage/temperature, SOC and SOH information available locally and remotely
- GR63 Zone 4 Cabinet design
- Cell / Module /Cabinet level: Safety certified with UL1973, UL9540A, IEC62619, JIS8715-2

High Integration with UPS system

- Battery status accessible in cabinet HMI
- Dynamic remaining discharge time calculation
- Support UPS N+1 structure

System Design Features

- No auxiliary power required for BMS Integrated
- Integrated Master BMS with gateway hub design for multiple parallel cabinet
- Top side power & signal connection
- Dual battery strings design
- Easy Installation & Service: Plug-in connector design with pre-wired cabinet solution
- Internal aux. power source for BMS



Datacenter



Telecom



Industrial



Network



Banking



Security



Lab



Medical



Metro



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Battery System Components

■ Technical Specification



	Cell	Module	Cabinet
Configuration	1S1P	14S1P	140S1P * 2 strings
NominalCapacity	222Wh	3.10kWh	62.1kWh
NominalVoltage	3.7 Vdc	51.8Vdc	+518Vdc
Operation Voltage Range	2.7 Vdc - 4.15Vdc	42.0Vdc – 57.6Vdc	+420Vdc - +576Vdc
OutputPower	1.8kW(max)	22.5kW(max)	500kW(max)
Dimension	110.1 x 38.2 x 166.6 mm	214 x 690 x 121 mm	668 x 875 x 1900 mm
Weight	1.45 Kg	29.2Kg ± 0.3Kg	930Kg ± 10Kg

DeltaP140-222-0

Prismatic Cell-technology

High Power

- Up to 10C-rate discharge
- Up to 2C-rate charge

Ultra Long Life

- More than 4000 cycles @ SOC range 90%-10%, 1C rate , 25 °C, EOL: 70% SOH

Safety and reliability

- UL1973, IEC62619, JIS C 8715-2 certified.



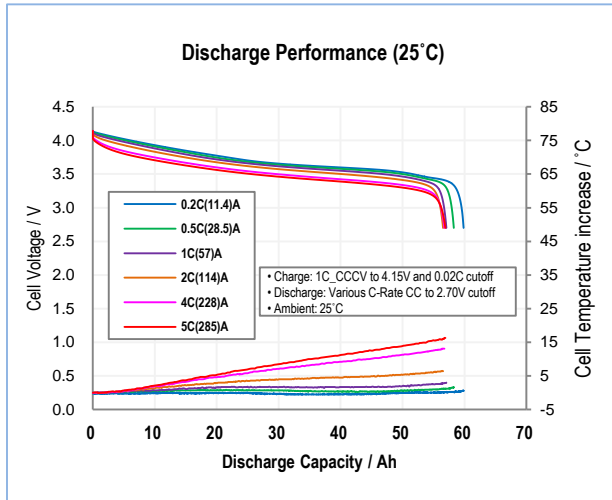
Specification

Nominal Voltage	3.7 V (NCM Chemistry)
Nominal Capacity	60 Ah
Nominal Energy	222 Wh
Energy Density	339 Wh/ L, 158 Wh/ Kg
Dimension (mm)	110.1 (W)x 38.2 (D)x 155.6 (H)
Weight	1.4 Kg +/- 100g
Certifications	UN38.3, UL1973/ 9540A ,IEC62619, IEC 62660-3 JIS C 8715-2 (S-Mark)
Operating Temperature	Charge: 0°C to +55°C, Discharge: -20°C to +55°C

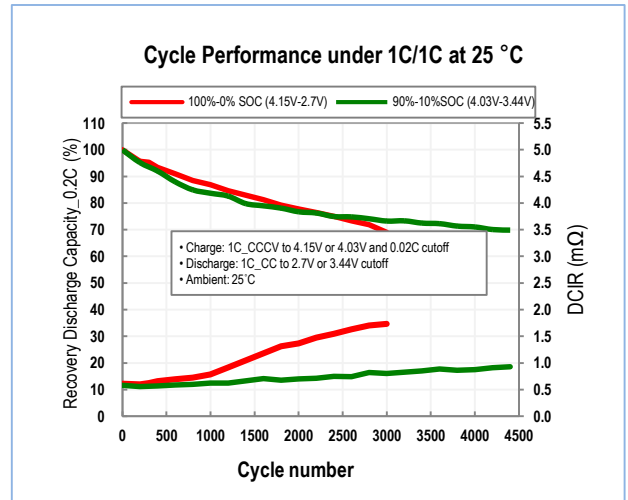
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Battery Cell Performance

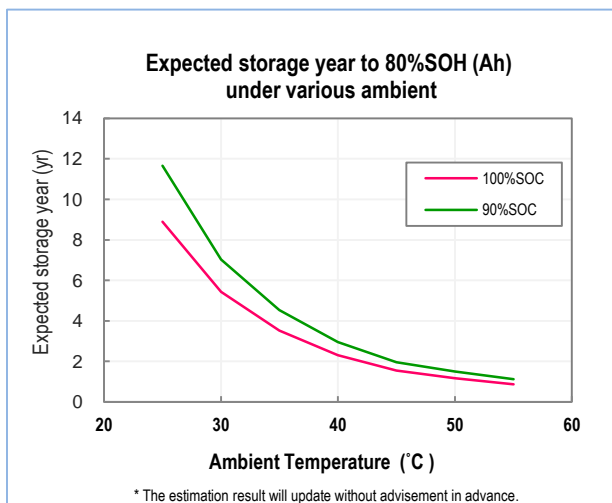
Model: DeltaP140-222-0



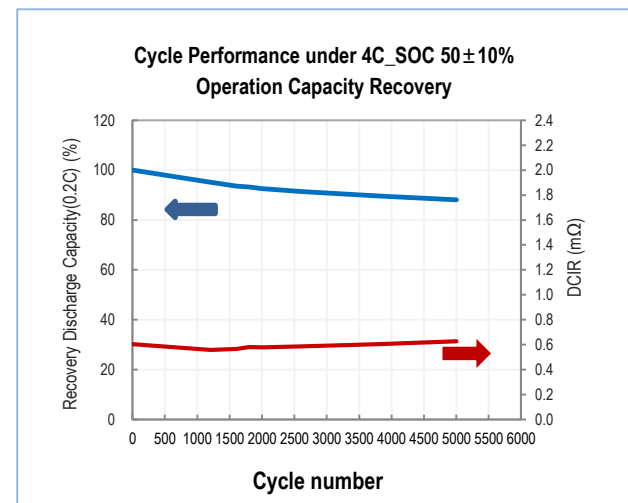
a) Discharging Performance



b) Cycle Life Performance



c) Calendar Life Performance



d) DCR Degradation Characteristic

* Estimation is based on limited database, for reference only. The estimation result will update without advisement in advance.

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Battery System Features



LIB Module

Features

- Plug-in Design → Higher Safety & Easy Maintenance.
- Smaller footprint with 3U height design.
- Light Weight <30kg with Handle
- Built-in Cell Monitoring unit with monitoring all voltages & temperatures.

Battery Management System

Features

- High Power Application Design
- Built-in Safety Breaker(MCCB)
- Fast Melting Fuse
- Pre-charge circuit
- Dual Charge/Discharge Loop
 - Relay protection (Charge)
 - Diode connection (Discharge)
- Functional Safety Certification (IEC 60730/UL1998 & 991)
- Integrated Battery Management Unit (BMU)



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Technical Specifications

Item	Specification	
Installation Capacity	31.0KWh	62.1KWh
Applied Cell type	DELTA P140-222-0 (60Ah)	
Nominal Voltage	+518Vdc (+420Vdc ~ +576Vdc)	
Floating Voltage(Suggestion)	+572V	
Max Charging Power	45KW(100A)	90KW(100A/String)
Max Discharging Power	250KW(550A)	500KW(550A/Sting)
Minimum Voltage	+420V	
Communication Bus	<u>Internal</u> CAN2.0 <u>External</u> CAN 2.0, Dry Contact, Modbus RTU/TCP (Optional)	
Environment Operation Temperature	5°C ~ +35°C	
Dimension	875mm(L) x 668mm(W) x 1900mm(H)	
Total Weight (approximate)	615kg	930kg
Storage humidity	5 ~ 85%	
Ingression Protection Level	IP 20 class Function	
Permissible Altitude	≤2000m	
Additional Accessories	Master BMS / Battery HMI / EPO	
Safety standard	<i>Certified</i> UL1973 (Cell / Module / Rack) IEC62619 (Cell / Rack) JIS C 8715-2 (S-Mark) (Cell) UN 38.3 (Cell / Module) IEC 62477-1 (BMS) IEC 60730 (BMS) UL9540A (Cell / Module/ Rack) May 2020	
Quality Standard	ISO9001	

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Back-up Time (in minutes)

UPS Power (kW)	Power Factor	Inverter Efficiency	Battery Power (kW)	1 Rack 1 string (31.1kWh)	1 Rack 2 strings (62.1kWh)	2 Racks 3 strings (93.2kWh)	2 Racks 4 strings (124.2kWh)
100	1	95.0%	105.3	13.4	28.3	43.6	60.2
150	1	95.0%	157.9	7.9	18.7	28.3	38.8
200	1	95.0%	210.5	4.9	13.4	21.0	28.3
250	1	95.0%	263.2	2.5*	10.1	16.1	22.3
300	1	95.0%	315.8	N/A	7.9	13.4	18.7
350	1	95.0%	368.4	N/A	6.2	11.3	15.8
400	1	95.0%	421.1	N/A	4.9	10.0	13.4
450	1	95.0%	473.7	N/A	3.5	7.9	11.6
500	1	95.0%	526.3	N/A	2.5*	6.5	10.1
600	1	95.0%	631.6	N/A	N/A	4.9	7.9
750	1	95.0%	789.5	N/A	NA	2.5*	5.3
1000	1	95.0%	1052.6	N/A	NA	NA	2.5*
1250	1	95.0%	1315.8	N/A	N/A	NA	NA

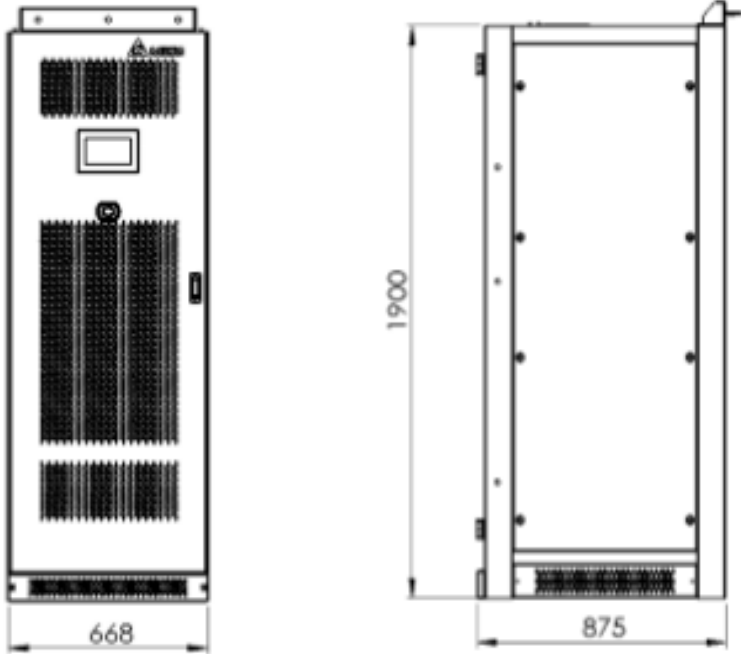
*Under specify operation condition and 400A control box

UPS Power (kW)	Power Factor	Inverter Efficiency	Battery Power (kW)	3 Racks 6 strings (186.3kWh)	4 Racks 8 strings (248.4kWh)	5 Racks 10 strings (310.5kWh)
100	1	95.0%	105.3	-	-	-
150	1	95.0%	157.9	60.2	-	-
200	1	95.0%	210.5	43.6	60.0	-
250	1	95.0%	263.2	33.9	45.2	56.5
300	1	95.0%	315.8	28.3	38.8	49.6
350	1	95.0%	368.4	24.2	32.4	41.5
400	1	95.0%	421.1	21.0	28.3	36.4
450	1	95.0%	473.7	18.7	25.2	31.4
500	1	95.0%	526.3	16.6	22.7	28.3
600	1	95.0%	631.6	13.4	18.7	23.6
750	1	95.0%	789.5	10.1	14.3	18.6
1000	1	95.0%	1052.6	6.5	10.1	13.4
1250	1	95.0%	1315.8	3.9*	7.0	10.1

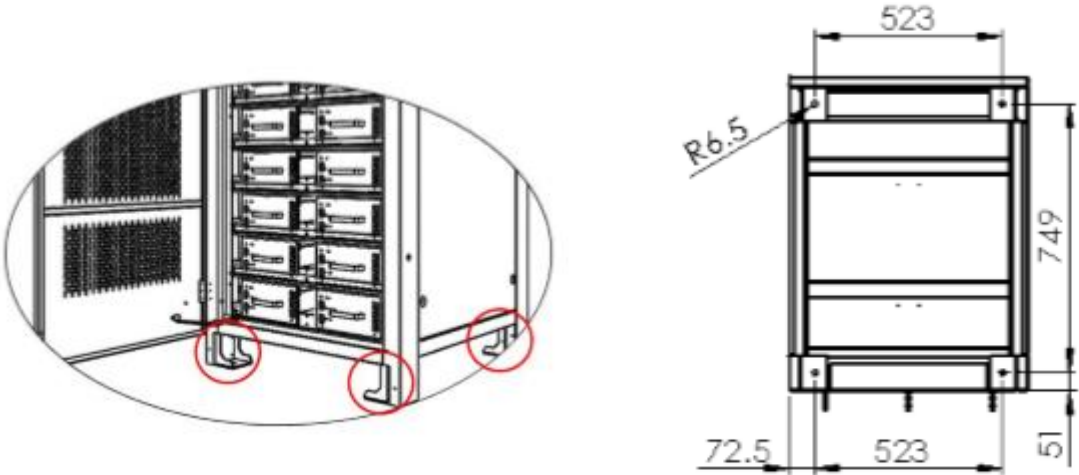
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■ Physical Dimensions



■ Fixing Bracket Details





ESDBD Storage Device BD
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