Lithium Ferro Phosphate (LFP) Battery Module Rack Mountable 48V 4.1kWh 2.9kWh Smart BMS



The genZ 4.1kWh and 2.9 kWh Batteries has been designed as a direct replacement for the genZ 48V 2RU 3kW and 2kW battery modules respectively. The RJ45 port allows for seamless wiring between batteries to allow communication to the genZ ZDC or circuit breaker monitoring. Multiple batteries can be easily connected in parallel using the genZ Distribution Module (sold separately).

Model	GZ48-058-2RU-01Z	GZ48-081-2RU-01Z
Nominal Voltage (VDC)	51.2	51.2
Nominal Capacity (Ah)	58.5	81
Nominal Capacity (kWh)	2.9	4.1
Nominal Current (A)	≤ 29	≤ 40.5
[1]Maximum Current – Primary Protection (A, Limited by BMS)	60	60
[2]Maximum Current – Secondary Protection (A, Limited by Circuit Breaker)	< 75	< 75
DC Power (W at Nominal Current)	1484.8	2073.6
Min/Cut-off Charge Current (A)	0.5 < cut-off < 1.0	0.5 < cut-off < 1.0
Maximum Charge Current (A)	29	40.5
Charge/Discharge cycles to specified Depth of Discharge (DoD) Capacity retention >80%	10,000 @ 80% DoD 5000 @ 90% DoD (2500@100% DoD and 1C)	10,000 @ 80% DoD 5000 @ 90% DoD (2500@100% DoD and 1C)
Operating Temperature Limits (°C)	Charge 0 to 55 Discharge -20 to 60	Charge 0 to 55 Discharge -20 to 60
Operating Humidity (non-condensing)	85%	85%
IP Rating	IP50	IP50
Battery Case Dimensions (mm)	450±4 D x 420±4 W x 88±2 H	570±4 D x 420±4 W x 88±2 H
Terminal Connection	Genuine Anderson SB50 BLUE	Genuine Anderson SB50 BLUE
Weight (kg)	26.6±0.5	35.7±0.5
BMS Over Voltage Cut Off (V, Approx.)	58.4	58.4
BMS Under Voltage Cut Off (V, Approx.)	40	40
BMS Short Circuit Cut Off (A)	200 ± 30 (20ms Trip)	200 ± 30 (20ms Trip)
[3]BMS Over Temp Cut Off (°C)	65	65
Charge Time Approx.	2 hours at 29 A	2 hours at 40.5 A
Self-Discharge	<14% per annum	<14% per annum
Round Trip Charge/Discharge Efficiency	≥ 96%	≥ 96%
Circuit Breaker Compliance	Double Pole, non-polarised, 60A IEC 60947-2	Double Pole, non-polarised, 60A IEC 60947-2
BMS Communications	ZDC Compatible[4]	ZDC Compatible[4]
UN Type Number (Module chemistry)	UN 3480	UN 3480
Lithium Composition	As Lithium Ferro Phosphate, $LiFePO_4$ or LFP	As Lithium Ferro Phosphate, $LiFePO_4$ or LFP
Decisive Voltage Classification (DVC)	Class A	Class A
Casing /Coating	Steel / Satin surf mist industrial coating	Steel / Satin surf mist industrial coating
Other	Certification: See genz.com.au for details Li Ion IFpR/27/66/[13P16S]E/-10+50/90	Certification: See genz.com.au for details Li Ion IFpR/27/66/[18P16S]E/-10+50/90

[1] The over and under voltage cut-out may vary from that stated due to the BMS protecting the internal cell voltages ahead of overall pack voltage.
[2] This parameter is configurable within the BMS configuration application.
[3] For charge and discharge rates of 0.5C and operating at 25°C.
[4] Communication with the batteries is managed via the genZ Data Controller (ZDC), allowing multiple batteries and banks to be controlled by a single device. Battery data can be accessed through the ZDC's built-in web interface or integrated with custom solutions via Modbus, SNMP, and other standard protocols. The ZDC operates independently of cloud-based services, running software that is fully developed, maintained, and supported by genZ Australia. It can be easily mounted on a DIN rail or directly onto an enclosure.