

Lithium Iron Phosphate (LFP)



Features

- Simple installation and load/charge system integration (Pos/Neg termination)
- Advanced intelligent lithium battery management technology
- Energy transfer patented technology provides high cell utilization efficiency for prolong system operational life
- Configuration flexibility, support parallel connection expansion up to 16 modules

Compliance

- UL1642, Standard for Lithium Batteries
- UL2054, Standard for Household and Commercial Batteries
- EN 61000-6-1:2007, Electromagnetic compatibility (EMC)
- EN 61000-6-3:2007+A1:2011, Electromagnetic compatibility (EMC)
- IEC 62133:2012, Battery Safety Testing
- UL1973 and UL9540A Tested - No Thermal Runaway
- UN 38.3

BMS – Alarming - Communication

- System monitoring of voltage, current, temperature of cells and module. Built in protection against over-current on discharge and recharge, over-temperature, low temperature, low and high voltage, and short circuit
- BMS maintenance and service communication via RS485 along with Modbus for simple interface with Inverters and other equipment
- 2 levels of remote alarming through dry contacts

Narada MPLhE series 51.2V LFP battery modules are ideally suited for telecom base station, OSP, and renewable energy applications with a max charge voltage of 58.4V. Ideally suited where voltage drop is a concern and it eliminates the need for voltage boosters in the power loop.

MPLhE series offer long cycle life, small size, reduced weight, and simplified installation as 19"/23" rack mountable modules. MPLhE LFP chemistry makes it one of the safest technologies, suitable for high and low temperature operation and capable of 1C and higher discharge rates.

Dimensions and Specifications

Width		Depth		Height	
(mm)	(in.)	(mm)	(in.)	(mm)	(in.)
442.5	17.42	440	17.3	133.5	5.26

Rack Units	Weight		Terminal
	(kg)	(lbs.)	
3U	41.5	91.5	M6

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Parallel Operation / Discharge Rate

48MPLhE100-16S	0.5C to 1C 4 Strings	0.5C to 0.2C 8 Strings	0.2C < 16 Strings
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BMS/Battery Operating Parameters

Parameters	Units	Value
Capacity	Ah	100
Rated Voltage	V	51.2
Charge voltage	V	57.5 ± 0.5
No Equalization Required	V	NA
Nominal charge current	A	20A
Charge current limitation	A	100A
LVBD (Low voltage battery disconnect)	V	> 43.2

Operating Environment Limits

Maximum Recommended Temperature Range (°C)	Discharge	-20 ~ +60
	Charge	0 ~ +60
	Storage	0 ~ +40
Recommended Temperature (°C)	Discharge	+15 ~ +35
	Charge	+15 ~ +35
	Storage	+15 ~ +30
Humidity	5% ~ 95%	

Constant Current Discharge Rate @25C for 1 Module

Current	10 A	20A	33A	50A	80 A	100A
Time	Hours					
End Voltage						
49.2 V	9.73	4.85	2.93	1.90	1.15	0.90
47.7V	9.92	4.96	3.00	1.96	1.20	0.93
46.2 V	10.05	5.03	3.05	2.00	1.23	0.96
44.7 V	10.13	5.07	3.08	2.02	1.25	0.98
43.2 V	10.18	5.10	3.09	2.03	1.26	1.00

Cycles - Temperature vs. Depth of Discharge

Temp C	Depth of Discharge				
	100%	80%	60%	40%	20%
25	2500	3100	4200	6300	11500
35	2000	2500	3350	5000	8200
45	1400	1750	2300	3300	5400

48MPLhE100-16 Accessories

MPLhE100-16 Cables	Description
NPFC-CBL-U-RJ	Communication Cable - USB to RJ45
NPFC-COM-RS485	Communication Cable - RS485-USB

Discharge Data with Constant Power @25C for 1 Module

Power (W)	512	1024	1685	2560	4050	4690
Time	Hours					
End Voltage						
49.2 V	9.83	4.89	2.92	1.85	1.05	0.82
47.7V	10.02	4.99	3.01	1.91	1.11	0.86
46.2 V	10.13	5.05	3.05	1.95	1.15	0.90
44.7 V	10.21	5.09	3.08	1.98	1.18	0.93
43.2 V	10.25	5.12	3.09	2.00	1.20	0.95

Brackets Part Numbers	48MPLhE100-16S Brackets (Blue)
MPLhE100-3RU19UB-L	Universal Mount Left Side Brackets
MPLhE100-3RU19UB-R	Universal Mount Right Side Brackets
NPFC3RU-1923L	19-23" Extension Plate Left
NPFC3RU-1923R	19-23" Extension Plate Right