

Lithium Iron Phosphate (LFP)



MPINarada MPL series 48V LFP battery modules are ideally suited for telecom, OSP, and renewable energy applications with a max charge voltage of 54.5V. MPL series offer long cycle life, small size, reduced weight, and simplified installation as 19"/23" rack mountable modules.

MPL LFP chemistry makes it one of the safest technologies, suitable for high and low temperature operation and capable of 1C and higher discharge rates. These LFP batteries are ideal for telecom growth and as direct replacement for VRLA.

Features

- Simple installation with copper inserted Pos/Neg termination
- Advanced intelligent lithium battery management technology
- Configuration flexibility, support parallel connection expansion up to 10 modules, 2000Ah
- SOC Status Indicator
- Modbus communication for active battery monitoring

Compliance

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

Dimensions and Specifications

End V	Ah 8hr to 44.8V 25C	Ah 1hr to 44.8V 25C	Max Discharge Current (A)
40.5	20.0	96.4	100

Width		Depth		Height	
(mm)	(in.)	(mm)	(in.)	(mm)	(in.)
442.5	17.42	480	18.9	222	8.74

Rack Units	Weight		Terminal
	(kg)	(lbs.)	
5U	71.5	157.6	M6

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

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Parallel Operation / Discharge Rate

48MPLhE200	0.5C to 1C 4 Strings	0.5C to 0.2C 6 Strings	0.2C < 8 Strings
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BMS/Battery Operating Parameters

Parameters	Units	Value
Charge voltage	V	54 ± 0.5
Equalization charge voltage	V	NA
Nominal charge current	A	0.2C
Charge current limitation	A	1.0C
Equalization charge interval	-	NA
Equalization charge duration	Hr	NA
Equalization charge	A	NA
Condition to float charge	A	0.05C
LVBD (Low voltage battery disconnect)	V	> 40.5

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%	
Over Temperature Protection	High temp. - charge	70±3°C
	Recover temp. - charge	60±3°C
	High temp. - discharge	70±3°C
	Recover temp. discharge	60±3°C
	Low temp. - charge	0±3°C
	Recover temp. - charge	5±3°C
	Low temp. - discharge	-10±3°C
	Recover temp. - discharge	0±3°C

Constant Current Discharge@25C in Hours (Amps)

End	10	8	5	4	3.5	2.5	2	1.5	1
45.0	19.6	24.4	38.8	45.2	48.4	76.4	87.8	87.8	87.8
44.1	19.6	24.4	39.2	46.0	49.2	77.6	90.4	90.4	90.4
43.5	20.0	24.8	39.6	46.4	49.6	78.4	92.8	92.8	92.8
42.0	20.0	24.8	39.6	46.4	49.6	79.2	95.0	95.0	95.0
40.5	20.0	25.2	40.0	46.8	50.0	80.0	96.4	96.4	96.4

Constant Power Discharge@25C in Hours (Watts)

End	10	8	5	4	3.5	2.5	2	1.5	1
45.0	1000	1228	1964	2500	2768	2728	4454	4454	4454
44.1	1004	1236	1973	2516	2784	2744	4528	4528	4528
43.5	1008	1244	1988	2532	2800	2760	4588	4588	4588
42.0	1016	1252	2000	2568	4824	2788	4668	4668	4668
40.5	1020	1256	2012	2560	2836	2804	4696	4696	4696

Cycles - Temperature vs. Depth of Discharge

Temp (°C)	100%	80%	60%	40%	20%
25	2000	3500	6000	12000	24000
35	1600	2800	4800	9600	19200
45	1200	2100	3600	7200	14400

48NPFC200 Accessories

NPFC Cables	Description
NPFC-CBL-U-RJ	Communication Cable - USB to RJ45
NPFC-COM-RS485	Communication Cable - RS485-USB
Bracket Part Numbers	48NPFC200 Brackets
NPFC200-L1901	48NPFC200 19" Rack Mount L Bracket
NPFC200-R1901	48NPFC200 19" Rack Mount R Bracket
NPFC3RU-1923L	NPFC 3RU 19-23 Universal Extension Plate Left
NPFC3RU-1923R	NPFC 3RU 19-23 Universal Extension Plate Right
NPFC200-TSBRK	48NPFC200 Top Support Bracket
NPFC200-19MPK-U	NPFC200 Battery Mounting Support Kit US: (2x) #12-24 x 0.5" Hex Head Flange Bolt (M5 Alt) (2x) 1 /4-20 Serrated Flange Head Nut (M6 Alt) (1x) Right Mounting Bracket (1x) Left Mounting Bracket (1x) Top Support Bracket