

Lithium Iron Phosphate (LFP)



Narada 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
- 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
- UN 38.3

Dimensions and Specifications

Width		Depth		Height	
(mm)	(in.)	(mm)	(in.)	(mm)	(in.)
442.5	17.42	480	19	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

MPLhp512552825 V2 Nov 2022 Subject to revision without prior notice. E. & O. E

Lithium Iron Phosphate (LFP)

Parallel Operation / Discharge Rate

48NPFC200	0.5C to 1C 4 Strings	0.5C to 0.2C 6 Strings	0.2C < 8 Strings
-----------	----------------------	------------------------	------------------

BMS/Battery Operating Parameters

Parameters	Units	Value
Capacity	Ah	200
Rated Voltage	V	48
Charge voltage	V	54.5 ± 0.5
No Equalization Required	V	NA
Nominal charge current	A	40A
Charge current limitation	A	100A
LVBD (Low voltage battery disconnect)	V	> 40.5

Operating Environment Limits

Maximum Recommended Temperature Range (°C)	Discharge	-20 ~ + 55
	Charge	0 ~ + 45
	Storage	0 ~ + 35
Recommended Temperature (°C)	Discharge	+15 ~ + 35
	Charge	+15 ~ + 35
	Storage	+15 ~ + 30
Humidity	5% ~ 95%	

Constant Current Discharge Rate @25C for 1 Module

Current	20 A	40A	66A	50/100A
Time	Hours			
End Voltage				
46.5 V	9.73	4.85	2.93	1.90
45.0V	9.92	4.96	3.00	1.96
43.5V	10.05	5.03	3.05	2.00
42.0 V	10.13	5.07	3.08	2.02
40.5 V	10.18	5.10	3.09	2.03

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

Discharge Data with Constant Power @25C for 1 Module

Power (W)	480	960	1580	2300	3800	4400
Time	Hours					
End Voltage						
46.5 V	18.93	9.39	5.60	3.70	2.00	1.64
45.0V	19.27	9.58	5.78	3.91	2.25	1.89
43.5V	19.48	9.69	5.86	3.95	2.30	1.94
42.0 V	19.62	9.77	5.90	4.00	2.33	1.95
40.5 V	19.70	9.81	5.94	4.02	2.34	1.97

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