

### 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 Certified
- UL9540A Tested Cell
- 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

MPINarada MPL series 36V LFP battery modules are ideally suited for telecom, OSP, and renewable energy applications with a max charge voltage of 43.2V. 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.

#### Dimensions and Specifications

Width		Depth		Height	
(mm)	(in.)	(mm)	(in.)	(mm)	(in.)
520	20.47	326	12.8	133.5	5.26

Rack Units	Weight		Terminal
	(kg)	(lbs.)	
3U	35.0	77.16	M8

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### Parallel Operation / Discharge Rate

36MPLhE100	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
Capacity	Ah	100
Rated Voltage	V	38.4
Charge voltage	V	43.2 ± 0.2
No Equalization Required	V	NA
Nominal charge current	A	20A
Charge current limitation	A	100A
LVBD (Low voltage battery disconnect)	V	>32.4

### 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						
37.2 V	9.73	4.85	2.93	1.90	1.15	0.90
36.0 V	9.92	4.96	3.00	1.96	1.20	0.93
34.8 V	10.05	5.03	3.05	2.00	1.23	0.96
33.6 V	10.13	5.07	3.08	2.02	1.25	0.98
32.4 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

### Discharge Data with Constant Power @25C for 1 Module

Power (W)	380	760	1260	1920	3000	3500
Time	Hours					
End Voltage						
37.2 V	9.83	4.89	2.92	1.85	1.05	0.82
36.0 V	10.02	4.99	3.01	1.91	1.11	0.86
34.8 V	10.13	5.05	3.05	1.95	1.15	0.90
33.6 V	10.21	5.09	3.08	1.98	1.18	0.93
32.4 V	10.25	5.12	3.09	2.00	1.20	0.95

### 36MPLhE100 Accessories

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