

Narada HELiON™ NPFC series 48V LiFePO₄ battery modules are ideally suited for telecom base station, OSP, and renewable energy applications.

NPFC series offer long cycle life, small size, reduced weight, and simplified installation as 19"/23" rack mountable modules.

NPFC chemistry makes it one of the safest technologies, suitable for high and low temperature operation and capable of 1C and higher discharge rates.

HELiON
LI-ION ENERGY



Technical 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

BMS - Alarming

- 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 RS232 or RS485
- 2 levels of remote alarming through dry contacts

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, Standard for -cells

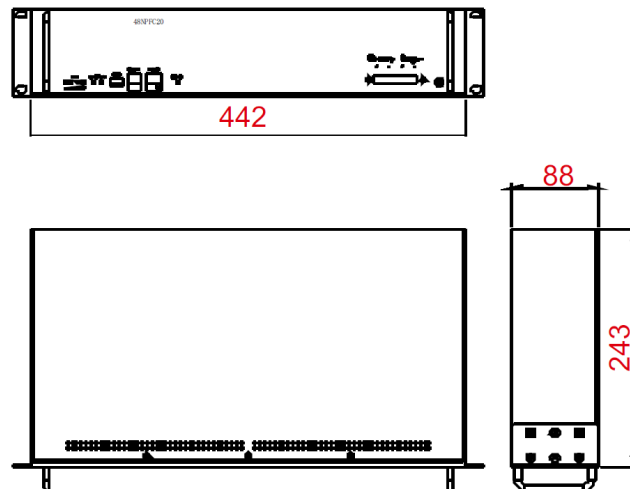
NEBS Level 1 Certified GR-1089 / GR-63

UN3800

Specifications

Battery Specification		
Rated Voltage		48V
Rated Capacity		20Ah (C ₁₀ 0.2C to 40.5V @ 25 C) ^o
Discharge Current (Max.)		20A
Discharge End Voltage		40.5V
Charge Current (Recomm.)		4A
Charge Current (Max.)		20A
Charge Voltage		54±0.5V
Dimensions	Width	442 mm
	Depth	243 mm
	Height	88 mm (2U)
Typical Weight		13.4 Kg
Layout of Front Panel		
Status Indicators		SOC / ALM / RUN
Communication Ports		RS232 / RS485
Communication in Parallel		8 modules in maximum
Reset Key		Available
Terminal Size		M4 / 10mm (Screw size / Cable Width)
LCD Screen		Not Available
Breaker		Not Available
Dry contact		Not Available
Operation Environments		
Temperature Range	Discharge	-20 to + 60°C
	Charge	0 to + 60°C
	Storage	0 to + 40°C
Temperature Recommendation	Discharge	+15 to + 35°C
	Charge	+15 to + 35°C
	Storage	+15 to + 30°C
Humidity		5% to 95%

Dimensions-mm



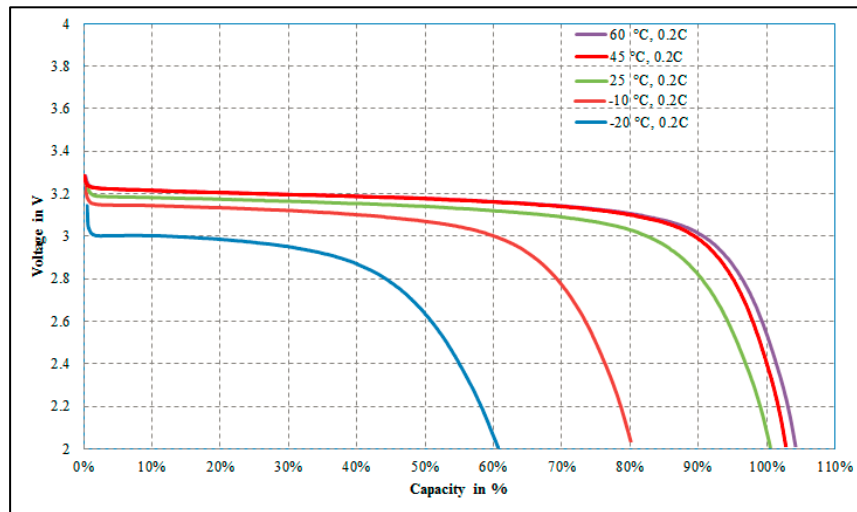
Constant Current Discharge Rates @25C in Hours (Amps)

48NFC20										-2C
End	10	8	5	4	3.5	2.5	2	1.5	1	0.5
46.5V	1.9	2.4	3.8	4.8	5.3	7.1	8.4	10.3	13.8	24.9
45.0V	2.0	2.4	3.9	4.9	5.5	7.7	9.4	13.2	17.6	33.2
44.1V	2.0	2.5	3.9	4.9	5.6	7.8	9.6	13.5	18.1	34.2
43.5V	2.0	2.5	4.0	5.0	5.6	7.8	9.7	13.9	18.6	35.1
42.0V	2.0	2.5	4.0	5.0	5.6	7.9	9.9	14.3	19.0	36.7
40.5V	2.0	2.5	4.0	5.0	5.7	8.0	10.0	14.5	19.3	37.2

Constant Power Discharge Rates @25C in Hours (Watts)

48NFC20							-2C			
End	10	8	5	4	3.5	2.5	End	10	8	5
46.5V	98	120	192	244	270	262	46.5V	1.9	2.4	3.8
45.0V	100	123	196	250	277	273	45.0V	2.0	2.4	3.9
44.1V	101	124	198	252	279	275	44.1V	2.0	2.5	3.9
43.5V	101	124	199	253	280	276	43.5V	2.0	2.5	4.0
42.0V	102	125	200	255	282	279	42.0V	2.0	2.5	4.0
40.5V	102	126	201	256	284	280	40.5V	2.0	2.5	4.0

Discharge - Temperature vs. Percent Capacity %



Cycles - Temperature vs. Depth of Discharge

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

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