

stored energy solutions for a demanding world

**Narada**

Model: 48NPFC20

NPFC Series

Narada NPFC series is a complete range of 48V LiFePO<sub>4</sub> (Lithium Iron phosphate) battery products, for a wide variety of applications, such as telecom base station, UPS, renewable energy system, etc., with advanced life, standard size, light weight and strong environmental adaptability.

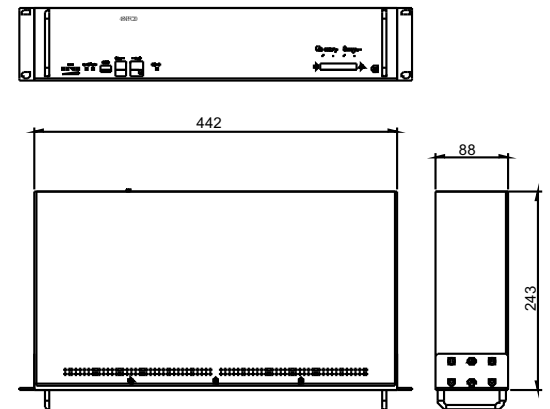


### Battery Management System(BMS)

For standard Narada lithium battery module, BMS is applied to monitor voltage, current, temperature of cells and module, take protections against over-charge, over-discharge, over-current, over-temperature, under-temperature and short circuit, etc., and provide cell balancing and current limitation during charging process to ensure a reliable safety and excellent performance.

Meantime, Narada supply customized upper computer software for BMS communication via RS232 or RS485 to set parameters or read monitoring data.

### Dimensions-mm



### Specifications

Battery Specification		
Rated Voltage		48V
Rated Capacity		20Ah (C <sub>5</sub> , 0.2C to 40.5V at 25°C)
Discharge Current (Max.)		20A
Discharge End Voltage		40.5V
Charge Current (Recomm.)		4A
Charge Current (Max.)		20A
Charge Voltage		54±0.5V
Dimensions	Width	442mm (17.40 inches)
	Depth	245mm (9.65 inches)
	Height	88mm (3.46 inches, 2U)
Typical Weight		13.4kg
Layout of Front Panel		
Status Indicators		SOC / ALM / RUN
Communication Ports		RS232 / RS485
Communication in Parallel		16 models in maximum
Reset Key		Available
Terminal Size		M4 / 10mm (Screw size / Cable Width)
LCD Screen		Optional
Breaker		Optional
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%



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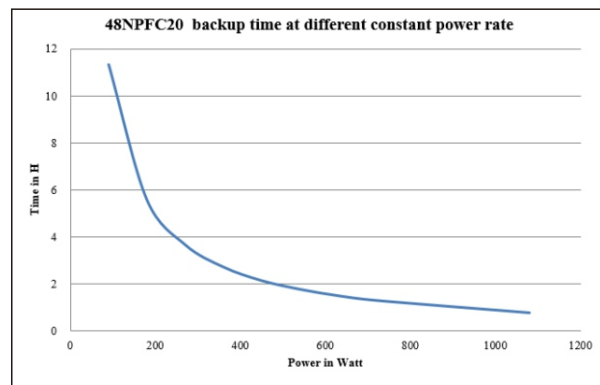
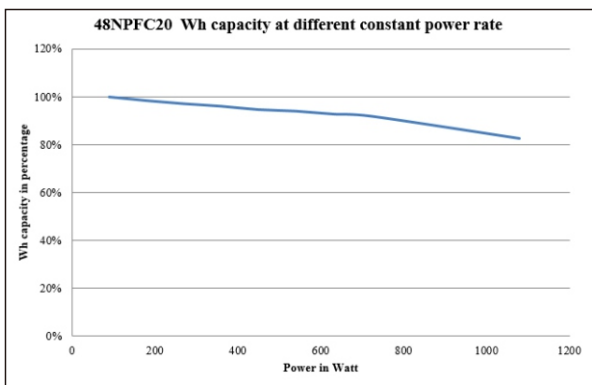
Constant Current Discharge Characteristics (25°C,77°F)

End voltage	Current(A)										1C
	0.1C	0.15C	0.2C	0.25C	0.3C	0.4C	0.5C	0.6C	0.8C	1C	
	Time										Hours
											Min
46.5V	9.61	6.36	4.74	3.80	3.14	2.21	1.68	1.31	1.02		41.3
45.0V	9.79	6.49	4.85	3.89	3.23	2.39	1.88	1.53	1.17		52.6
43.5V	9.91	6.59	4.93	3.98	3.27	2.45	1.94	1.60	1.21		55.7
42.0V	10.00	6.65	4.97	3.97	3.30	2.48	1.97	1.63	1.23		57.0
40.5V	10.05	6.69	5.00	4.00	3.33	2.50	1.99	1.65	1.24		57.9
39.0V	10.07	6.71	5.02	4.02	3.34	2.50	2.00	1.66	1.24		58.3

Discharge Data with Constant Power (25°C,77°F)

End voltage	Power	Time								1080W
		90W	180W	270W	360W	450W	540W	630W	720W	
		Hours								Min
46.5V		10.89	5.34	3.50	2.55	1.96	1.57	1.29	1.07	--
45.0V		11.09	5.45	3.59	2.65	2.07	1.70	1.44	1.24	0.5
43.5V		11.22	5.52	3.63	2.68	2.12	1.73	1.47	1.27	33.1
42.0V		11.30	5.56	3.66	2.71	2.13	1.76	1.49	1.30	43.2
40.5V		11.35	5.59	3.68	2.73	2.15	1.78	1.50	1.30	46.5
39.0V		11.38	5.60	3.69	2.74	2.16	1.79	1.51	1.32	47.9

Performance Curves



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