



Beacon Power 400 Performance Specifications

Specification	400
Design Life	
	At least 20 years and 100,00 full depth-of-discharge cycles
Electrical	
Grid output/supply voltage	3 phase, 480 VAC
Grid frequency	50/60 Hz
Nominal output rating	Up to 160 kVA
Real power and corresponding charge/discharge times	Configurable from 160 kW for 5 minutes to 50 kW for 35 minutes. Configurations can be changed during an operating day. See Output Power vs. Time plot
Reactive power	Continuous four-quadrant operations up to full kVA rating
Usable energy at full charge	30 kWh
Response time	20 ms or less from receipt of signal to start of changing output
Ramp rate	Full output in 500 ms or less following initial response time
Current source mode	Yes
Current harmonics	Per IEEE 519
Voltage source mode (grid forming)	Yes (spring 2015)
Low and high-voltage ride through	Yes (customizable spring 2015)
Low and high-frequency ride through	Up to ± 5 Hz
Output short circuit protection	Yes
Paralleling of units	Yes
Ancillary losses at idle	4.5 kW on average
Round trip efficiency	85%. 480 VAC to 480 VAC
Environmental	
PCM Enclosure	NEMA 3R
Temperature range	-20C to +35C (without de-rating)
Humidity	Up to 95% (above which a heater may be installed)
Maximum altitude (above sea level)	1200 m (without de-rating)
Flywheel installation	Below ground in concrete foundations
Seismic capability	Level 2, Sds 1.0g Per IBC 2012
Communication	
Control system interface	Modbus, TCP/IP, UDP
Monitoring	Internet-based
Data storage	Full trending and analysis available; data stored locally and offsite

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