



Beacon Power Model 400-300 Performance Specifications

| Specification | Model 400-300 |
|---|--|
| Design Life | Design Life |
| Years & Cycles | At least 25 years / continuous cycling |
| Degradation from Full Rating Charging or Deep Discharging | No degradation in performance or life / with maintenance contract |
| Degradation from Frequent Cycling | No degradation in performance or life / with maintenance contract |
| | |
| Electrical | Electrical |
| Grid output/supply voltage | 3 phase, 480 VAC |
| Grid frequency | 50/60 Hz |
| Nominal output rating | Continuous to 300 kVA / 360 KVA intermittent |
| Real power and corresponding charge/ discharge times | Configurable from 300 kW for 5 minutes; 145 kW for 15 minutes; Continuous power variability to 0 kW. 100% Real Power@ 1.0 P.F. |
| Reactive power | Continuous four-quadrant power operations up to full kVA rating |
| Response time | <1 ms from receipt of signal to start of output change |
| Ramp rate | >1,000 MW/min per unit |
| Maximum Recharge Rate | Rated Power |
| Current source mode | Yes |
| Current harmonics | Per IEEE 519 |
| Voltage source mode (grid forming) | Yes |
| Low and high-voltage ride through | Yes |
| Low and high-frequency ride through | No limit – will operate at any frequency to current limit. |
| Output short circuit protection | Yes |
| Paralleling of units | Yes |
| Round trip efficiency | 90-93%. 480 VAC to 480 VAC |
| Idling Loss | 2-3%/hr with permanent magnet motor. Lower loss motors available. |
| | |
| Environmental | Environmental |
| PCM Enclosure | NEMA 3R – Severe environment enclosures available as option |
| Temperature range | -46C to +65C (without de-rating) |
| Humidity | Up to 95% (100% with environmental cabinet option) |
| Maximum altitude (above sea level) | 2400m (without de-rating) |
| Kinetic Energy Battery installation | In-ground concrete foundations / above ground installation optional |
| Seismic capability | Level 2, Sds 1.0g Per IBC 2012 |
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| Communication | Communication |
| Control system interface | Modbus, TCP/IP, UDP |
| Monitoring | Internet-based |
| Data storage | Full trending and analysis available; data stored locally and offsite – uplinked to SkyNet@Beacon |
| | |
| Dimensions for in Ground Installation | Dimensions for in Ground Installation |
| Kinetic Energy Battery System Power Control Module (PCM) | 4' x 4' x 7' |
| Kinetic Energy Battery System Dry Air Cooler (DAC) | 4' x 4' x 4.5' |
| Concrete Foundation | 7' 2" Dia x 10' 11" (3' exposed above ground for access hatch) |