ALCHEMY INDUSTRIAL

PowerEdge BESS

Proof of Performance

Tested under real generator and load conditions.

Measured data from two independent instruments. Nothing interpolated or estimated.

91.2%

of load fluctuations absorbed by the battery

Generator carried only 8.8% of fluctuation power, running smoothly while the battery handled every transient.

<1.26s

to full frequency recovery on every transient

Nine steps of 100 kW or more. Every single one recovered within one measurement sample. No loss of control.

0

load interruptions across nine generator loss events

Generator disconnected nine times. Battery picked up every time. Hardest: 126 kW in under one sample.

147 kVA

at PF 0.63

98% of rated PCS capacity at low power factor. Sustained for 1 hour 45 minutes.

3 modes

all tested on site

Standalone. Generator hybrid. Frequency conversion. Every mode validated.

91%→21%→89%

state of charge

Full discharge to 21% SoC and complete recharge to 89% in one session.

What this means

- **Generator hybrid deployments**
  Battery absorbs virtually all transients. Generator runs stable and efficient. Lower fuel. Less wear.
- **SLA-critical applications**
  Zero interruptions across nine loss events. Full load pickup in under one sample. Uptime protected.
- **Variable and industrial loads**
  5 kW to 160 kW with no loss of control. Wide power factor range. Real industrial load profiles.

Test configuration	Battery	PCS	Operating modes
480 V, 60 Hz, load bank + diesel generator	320 kWh nominal, 90% usable	150 kVA, power factor -1.0 to +1.0, 97% efficiency	Standalone, PCS hybrid, frequency conversion

About PowerEdge

Purpose-built behind-the-meter BESS for generator-hybrid applications. Available in four configurations from 50 kW / 75 kWh to 500 kW / 1 MWh. US assembled.

Measurement methodology

Two independent instruments on a common timebase: site EMS historian (40,132 records, 1.26s resolution) and power quality analyzer (cycle-level, 1 MHz transient). Agreed within 2 kW and 0.3 V.