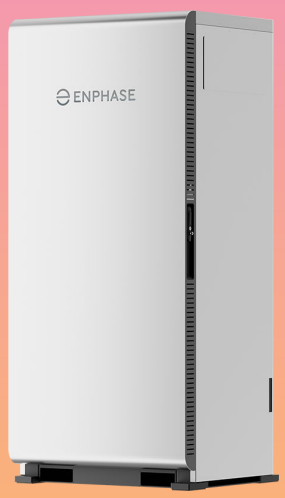
NORTH AMERICA | PRELIMINARY | DATA SHEET

IQ Vault 80

IQ Vault 80 is an all-in-one, AC-coupled energy storage system that's compact, powerful, reliable, and safe. It delivers 80 kWh of energy capacity and up to 40 kVA of continuous power in an elegant enclosure with fully integrated battery packs and microinverters. With its distributed architecture and modular design, customers can right-size and scale to meet diverse energy goals with high efficiency and uptime.



Enphase 15 year limited warranty

Key specifications	IQ-VT-80-V1-R1 (277Y/480 V)	IQ-VT-80-V2-R1 (120Y/208 V)
AC output power	40 kVA	33 kVA
Rated output current	48 A	91.7 A
Phase; Wires	Three-phase; 4-wire	
Nominal frequency	60 Hz	
Usable capacity	80 kWh	
Ambient operating temperature range	–22°F to 122°F (–30°C to 55°C)	
Chemistry	Lithium iron phosphate (LFP)	
Mounting	Pad/Floor mount	
AC round-trip efficiency	>90%	

Powerful

- Distributed microinverter-based archirecture for the highest uptime
- Starts at 80 kWh/40 kVA and scales to multi-MWh as needs grow
- Exceptional energy capacity per square foot with the AC-coupled design

Reliable

- Industry-leading 15-year warranty up to 7,000 cycles
- Domestic-content and FEOC compliant
- Modular components designed for maximum field serviceability

Simple

- Active cooling without liquid or HVAC for higher reliability and lower internal losses
- Battery module level heating for better performance

Safe

- Battery-module smoke sensing and active pressure release
- Integrated audio alarms for alerts
- UL 9540A and large-scale fire-tested for thermal runaway safety
- Supports fire alarm control panel integration and emergency stop for safe isolation

Product details	IQ Vault 80
Order code	IQ-VT-80-V1-R1 (277Y/480 V) IQ-VT-80-V2-R1 (120Y/208 V)

Output AC	Unit	IQ-VT-80-V1-R1 (277Y/480 V)	IQ-VT-80-V2-R1 (120Y/208 V)
AC output power	kVA	40	33
Rated output current	A	48	91.7
Peak output current (10 seconds)	A	77	147
Peak output current (3 seconds)	A	96	183
Power start capability (LRA)	A	143.3	273.6
Phase; Wires	—	Three-phase; 4-wire	
Nominal frequency	Hz	60	
AC round-trip efficiency	%	>90	
C-Rate	—	0.5	
Power factor (adjustable)	—	0.8 lagging ... 0.8 leading	
Total harmonic distortion	%	<3	

Battery module	Unit	
Chemistry	—	Lithium iron phosphate (LFP)
Cell ampacity	Ah	314
Battery module configuration	—	16S1P
Nominal DC voltage	V	51.2
Usable capacity	kWh	80[1]
Depth of discharge	%	97.5[1]
Ambient operating temperature range	°F (°C)	–22 to 122 (–30 to 55)

Mechanical data	Unit	
Dimensions (W × H × D)	in (mm)	36.2 × 78.7 × 31.5 (920 × 2000 × 800)
Weight	lb (kg)	2,315 (1,050)
Noise	dBA	≤70[2]
Enclosure	—	Outdoor NEMA 3R
Cooling	—	Forced air cooling
Heating	—	Battery module heaters
Mounting	—	Pad/Floor mount
Altitude	ft (m)	9,842 (3,000)
Relative humidity	%	5–95
Corrosion resistance	—	C4
Seismic category	—	D
Connectivity interface	—	Ethernet (RJ45)

[1] The usable capacity includes a safety-critical limit of 2.5% that safeguards the customer's asset in case of a long-duration grid outage. Depth of discharge excludes the 2.5% buffer.
[2] When all fans are on.

Operation and interfaces	
Communication	Sunspec Modbus; IEEE 2030.5
Monitoring	Enphase C&I Platform; API integration
Services	Peak Shaving, ToU Shifting, Self-Consumption, Grid Services, VPP, Backup (future release)

Standards	
Compliance	UL 1741 SA/SB, NFPA, CSA/ANSI C800:25, IEEE 1547, UL 9540, UL 9540A, UL 1973, UL 1642, UL 3141, UN 38.3, FCC Part 15, ASCE 7-16, Prop 65

Compatibility	
IQ Gateway Commercial 3	GW0-1CL-1N-D0-0R[3]
Solar inverters	Compatible with IQ8P-3P, IQ8H-3P (120Y/208 V), and IQ9N-3P (277Y/480 V) Series Microinverters and third-party commercial three-phase PV inverters

Designed in California, India, and New Zealand.
Made in the USA from imported parts.
Manufactured by Enphase Energy.

[3] Compatible with multi-gateway architecture depending on site requirements.

Revision history

Revision	Date	Description
DSH-00925-1.0	March 2026	Preliminary release.