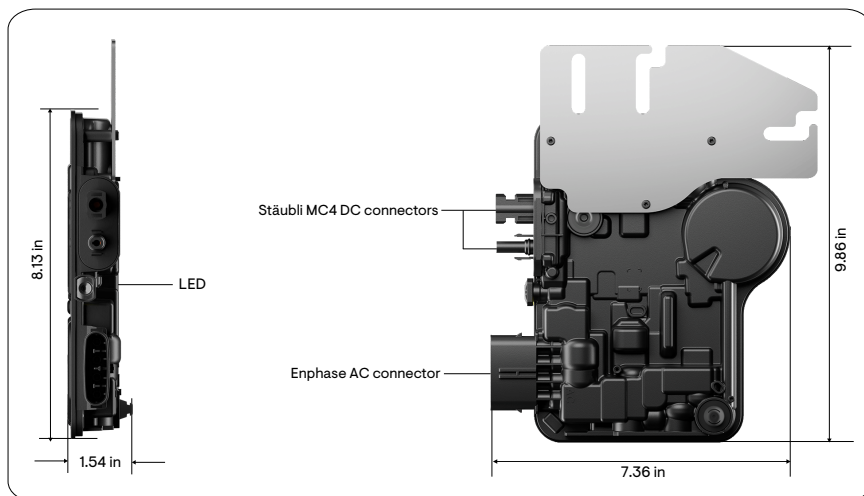


IQ9 Commercial Microinverter

The high-powered, smart grid-ready IQ9 Commercial Microinverter supports 480 VAC three-phase commercial PV systems. It boosts energy harvesting and integrates with the IQ Gateway Commercial Pro, Enphase App, and analysis software for easy operation and maintenance.¹



Key specifications	IQ9N-3P-277-A-DOM-US
Peak output power	427 VA
Nominal grid voltage	277 V (L-N)
Nominal frequency	60 Hz
CEC weighted efficiency	97.5%
Operating voltage	18–58 V
Peak power tracking voltage	28–45 V
Max. short-circuit DC input current	25 A
Ambient air temperature range	–40°C to 65°C (–40°F to 149°F)



Easy

- Lightweight design with easy plug-and-play connectors
- Power line communication (PLC) for quick and hassle-free setup

Smart

- Complies with the latest advanced grid support standards
- Remote automatic updates for current grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 and IEEE 1547 (UL 1741-SA/SB) requirements

Reliable

- Over one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules
- Tailored solutions for different grid configurations, including 480 VAC WYE
- Industry-leading limited warranty of up to 25 years

¹IQ9N-3P Microinverters are made in the USA. The PCBA, electrical parts, and enclosure are domestically manufactured to meet the eligibility requirements for the ITC domestic content bonus adder.

Input data (DC)	Units	IQ9N-3P-277-A-DOM-US
Commonly used module power for pairing	W	340–600 ²
Operating voltage	V	18–58
Min./Max. startup input voltage	V	21/58
Max. input DC voltage	V	60
Peak power tracking voltage	V	28–45
Max. DC continuous current (module I _{mp})	A	16
Max. DC short-circuit current (module I _{sc})	A	20
Max. short-circuit DC input current	A	25
DC port backfeed current	mA	0
Output data (AC)	Units	IQ9N-3P-277-A-DOM-US
Peak output power ³	VA	427
Max. continuous output power ³	VA	427
Nominal grid voltage ⁴	—	277 V (L-N)
Min./Max. grid voltage	—	243–305 V (L-N)
Max. continuous output current	A	1.54
Nominal frequency	Hz	60
Max. microinverters per 20 A 480 V WYE (277 L-N) three-phase branch circuit	—	30
Total harmonic distortion	%	<5
Power factor setting	—	1
Power factor range	—	0.85 leading ... 0.85 lagging
CEC weighted efficiency	%	97.5
Nighttime power consumption (tare loss)	mW	<250
Mechanical data		IQ9N-3P-277-A-DOM-US
Ambient air temperature range		–40°C to 65°C (–40°F to 149°F)
Relative humidity range		4% to 100% (condensing)
Overvoltage class AC port		III
AC connector type		Enphase QD 4-pin connector
DC connector type		MC4
Dimensions (H × W × D)		206.5 mm (8.13") × 187 mm (7.36") × 39.2 mm (1.54") (without mounting brackets)
Weight		1.2 kg (2.65 lb)
Cooling		Natural convection—no fans
Enclosure		Class II double-insulated, corrosion-resistant polymeric enclosure
Environmental category/UV exposure rating		NEMA Type 6; outdoor
Altitude		<3000 m (<9842 ft)
Approved for wet locations		Yes

² Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://enphase.com/installers/microinverters/calculator>.

³ IQ9 Commercial Microinverters generate a single-phase AC output. A three-phase configuration with phase balancing is achieved through the use of a three-phase QD Cable.

⁴ The nominal voltage range can be configured if required by the utility. For interconnection with other system voltages, a transformer is required to connect to the grid.

Communication	IQ9N-3P-277-A-DOM-US
Communication	Power line communication (PLC)
Monitoring	Enphase App monitoring and analysis software
Gateway compatibility	IQ Gateway Commercial Pro (GW0-1CL-1N-D0-OR)
Standards	IQ9N-3P-277-A-DOM-US
Grid compliance	CA Rule 21 and IEEE 1547 (UL 1741-SA/SB), UL 62109-1, UL 1741/IEEE 1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01. This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors, when installed according to the manufacturer's instructions.

Revision history

Revision	Date	Description
DSH-00712-6.0	January 2026	Editorial update.
DSH-00712-5.0	January 2026	Added "Maximum input DC voltage".
DSH-00712-4.0	November 2025	Updated compliance status to reflect confirmation.
DSH-00712-3.0	October 2025	Updated SKU to IQ9N-3P-277-A-DOM-US.
DSH-00712-2.0	September 2025	Updated SKUs and product names.
DSH-00712-1.0	May 2025	Preliminary release.