NORTH AMERICA | PRELIMINARY | DATA SHEET

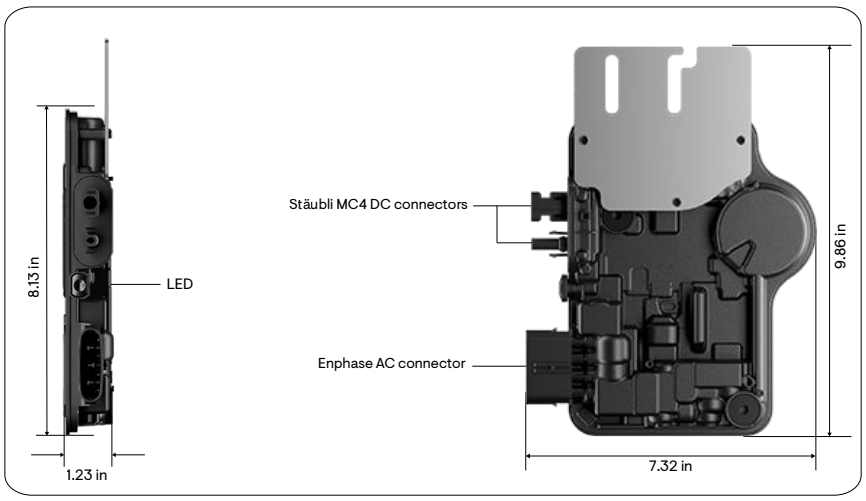
IQ9 Commercial Microinverters

The high-powered, smart grid-ready IQ9 Commercial Microinverters support 480 VAC and 208/220 VAC three-phase commercial PV systems. They boost energy harvesting and integrate with the IQ Gateway Commercial Pro, Enphase App, and analysis software for easy operation and maintenance.[1, 2]

Enphase 25 year limited warranty

Intertek 5034331

Key specifications	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Peak output power	427 VA	
Nominal grid voltage	277 V (L-N)	208 V (L-L)/220 V (L-L)
Nominal frequency	60 Hz	
CEC weighted efficiency	97.5%	
Operating voltage	16–60 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 (UL 1741-SA) and IEEE 1547 (UL 1741-SB) requirements (pending)

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 and 208 VAC/220 VAC DELTA
- Industry-leading limited warranty of up to 25 years

[1] This is a preliminary product data sheet. The products mentioned are yet to be certified. Specifications are subject to change without notice.
[2] IQ9N-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-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Commonly used module power for pairing	W	340–600[3]	
Operating voltage	V	16–60	
Min./Max. startup input voltage	V	21/60	
Peak power tracking voltage	V	28–45	
Max. DC continuous current (module Imp)	A	16	
Max. DC short-circuit current (module Isc)	A	20	
Max. short-circuit DC input current	A	25	
DC port backfeed current	A	0	

Output data (AC)	Units	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Peak output power[4]	VA	427	
Max. continuous output power[4]	VA	427	
Nominal grid voltage[5]	–	277 V (L-N)	208 V (L-L)/220 V (L-L)
Min.–Max. grid voltage	–	243–305 V (L-N)	183–229 V (L-L)/198–242 V (L-L)
Max. continuous output current	A	1.54	2.05/1.94
Nominal frequency	Hz	60	
Max. microinverters per 20 A 480 V WYE (277 L-N) three-phase branch circuit	–	30	–
Max. microinverters per 20 A, 208 V/220 V DELTA three-phase branch circuit	–	–	12
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	<150	<80

Mechanical data	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-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)	206.48 mm (8.12") × 186.03 mm (7.32") × 31.25 mm (1.23") (without mounting brackets)	
Weight	1.2 kg (2.65 lb)	
Cooling	Natural convection – no fans	
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure	

[3] 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.
[4] 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.
[5] 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.

Mechanical data	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Environmental category/UV exposure rating	NEMA Type 6; outdoor	
Altitude	<3000 m (<9842 ft)	
Approved for wet locations	Yes	

Communication	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Communication	Power line communication (PLC)	
Monitoring	Enphase App monitoring and analysis software	
Gateway compatibility	IQ Gateway Commercial Pro (GW0-1CL-1N-D0-0R)	IQ Gateway Commercial Pro (GW0-1CL-1N-D0-0R) and IQ Gateway Commercial 2 (ENV2-IQC2-AM3-3P)

Standards	IQ9N-3P-277-A-US/ IQ9N-3P-277-A-DOM-US	IQ9N-3P-208-A-US/ IQ9N-3P-208-A-DOM-US
Grid compliance (pending)	CA Rule 21 (UL 1741-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-00712-2.0	September 2025	Updated SKUs and product names.
DSH-00712-1.0	May 2025	Preliminary release.