IQ7-based M190 Series Microinverters

The IQ7-based M190 Series Microinverters on IQ7 platform allow easy replacement and site expansion* of 240 VAC M Series PV installations.

The DC circuit is isolated and insulated from ground, so no Ground Electrode Conductor (GEC) is required for the microinverter. This simplifies installation, enhances safety, and saves on labor and materials costs.

The IQ7-based M190 Series Microinverters integrates perfectly with the IQ Cables, the Envoy/IQ Gateway communications gateway, and Enphase monitoring and analysis software.

The IQ platform microinverters extend reliability standards set forth by previous generations and undergo over a million hours of testing, enabling Enphase to provide an industry-leading warranty of up to 15 years.



Productive
- Maximizes energy production
- Minimizes the impact of shading, dust, and debris
- No single point of system failure

Simple
- Lighter weight than earlier M Series Microinverters
- No GEC needed for microinverter
- No DC design or string calculation required
- Easy installation with IQ Cable

Reliable
- Envoy/IQ Gateway and internet connection required
- Configurable for varying grid profiles
- Built-in rapid shutdown compliant (NEC 2014 & 2017)
- UL Listed

* Refer to AHJ and utility regulations for allowed system expansions.

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IQ7-based M190 Series Microinverters

INPUT DATA (DC)	M190240-IQ7-S22-US	M190IG240-IQ7-S22-US	M190240-IQ7-S23-US
Commonly used module pairings[1]		160–230 W	
Module compatibility		60-cell PV modules only	
Maximum input DC voltage		56 V	
Peak power tracking voltage		22–40 V	
Operating range		16–60 V	
Maximum/Minimum start voltage		28 V/54 V	
Maximum DC short-circuit current (module Isc)		12 A	
Overvoltage class DC port		II	
DC port backfeed current		0 A	
Maximum input current		10 A	
OUTPUT DATA (AC)	**M190240-IQ7-S22-US**	**M190IG240-IQ7-S22-US**	**M190240-IQ7-S23-US**
Peak output power		190 VA	
Maximum continuous output power		190 VA	
Nominal (L-L) voltage/range[2]		240 V/211–264 V	
Nominal output current		0.8 A (Arms at nominal duration)	
Nominal frequency/range		60 Hz/57–61 Hz	
Extended frequency range		57–63 Hz	
AC short-circuit fault current over 3 cycles		5.8 Arms	
Maximum units per 20 A (L-L) branch circuit[3]		15	
Overvoltage class AC port		III	
AC port backfeed current		18 mA	
Power factor setting		>0.95	
Power factor (adjustable)		0.85 leading ... 0.85 lagging	
EFFICIENCY	**M190240-IQ7-S22-US**	**M190IG240-IQ7-S22-US**	**M190240-IQ7-S23-US**
Peak efficiency		95.5%	
CEC weighted efficiency		95%	
Static MPPT efficiency (weighted, ref. EN50530)		99.6%	
MECHANICAL DATA	**M190240-IQ7-S22-US**	**M190IG240-IQ7-S22-US**	**M190240-IQ7-S23-US**
Ambient temperature range		-40—65ºC (-40—149ºF)	
AC connector type	Q-EC-M-240 adapter	Q-ET-2LL (IQ cable to microinverter adapter)	Q-EC-M-240 adapter
DC connector type (S22 variants)	Q-DCC-2 (MC-4 dongle)	Q-DCC-14 (with TE Solarlok adapter)	Q-DCC-2 (MC-4 dongle)
Weight		4.4 lb	
Dimensions (H × W × D)		8” × 5.25” × 1.25” (without bracket)	
Cooling		Natural convection-No fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion-resistant polymeric enclosure	
Environmental category/UV exposure rating		NEMA Type 6/outdoor	

FEATURES	Details
Communication	Power Line Communication (PLC)
Monitoring	Enphase Installer Portal and Enphase App; requires installation of an Envoy/IQ Gateway
Disconnecting means	AC and DC connectors evaluated/approved by UL as load-break disconnect (NEC 690, C22.1-2018 Rule 64-220)
Integrated ground	Equipment ground provided in IQ Cable; no additional GEC required; GFP integrated into microinverter
Compliance	UL 1741/IEEE1547, FCC Part 15 Class B, UL Listed as PV Rapid Shutdown equipment meeting NEC-2014/2017 690.12

WARRANTY	
Warranty	15 years

1. No enforced DC/AC ratio. See the compatibility calculator at https://enphase.com/installers/microinverters/calculator.
2. Nominal voltage range can be extended beyond nominal if required by the utility.
3. Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

Revision history

Revision	Date	Description
DSH-00903-01	December 2025	Initial release.

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