



## Enphase Energy

### Microinverter System

Enphase Energy offers the leading Microinverter System for residential and commercial PV applications. Instead of the traditional, centralized inverter approach that converts power from strings of modules, microinverters convert the DC power from each individual module in a distributed approach. The system consists of three components: microinverter, communications gateway and remote monitoring system. The compact microinverters attach directly to solar modules or racking and are wired in parallel directly to a breaker panel sending individual module performance information to the Enphase Envoy communications gateway over a wireline network. The Envoy, mounted indoors, collects the data and transmits it through a broadband router to the Enlighten™ website, where users or installers can view and manage the performance of their solar power system 24/7. The Enlighten website automatically detects any shortfall in energy production, identifies possible causes, and sends email alerts. Microinverter system components carry an industry leading 15-year warranty.

#### Features include:

- Increased energy production, every microinverter has Maximum Power Point Tracking (MPPT)
- High reliability, no single point of failure, MTBF of 331 years, 99.8% system availability
- Simplified design, no string calculations needed, allows multiple roof pitches and orientations as well as module types

- Enables sites with some shade to be viable for solar
- Safety, no high voltage DC source wiring, reduced fire risk
- Lower installation cost, no DC disconnect or combiner boxes needed, less wiring time
- UL1741/IEEE1547, FCC Part 15 Class B
- Expansion architecture allows modules to be easily added
- Module level performance monitoring (first 3 months free).

**M190** – The M190 microinverter is compatible with a wide range of 60 and 72 cell modules up to 230 watts STC. It comes in 208 Vac and 240 models. The 208 Vac model allows 21 microinverters to be connected together in a single branch circuit while the 240 Vac model allows 15 microinverters to be wired in a circuit. The two come with either MC3 or MC4 locking connectors.

**M210** – The M210 microinverter is compatible with the 72 cell SANYO N-Series high efficiency module (HIP-200NKHA5, HIP-205NKHA5, HIP-210NKHA5, HIP-215NKHA5). The M210 in combination with SANYO N-Series modules constitutes one of the highest efficiency solar electric systems available. The 208 Vac model allows 18 microinverters to be connected together in a single branch circuit while the 240 Vac model allows 13 microinverters to be wired in a circuit. The M210 comes with MC4 locking connectors.

**D380 “Twin Pack”** – The D380 “TwinPack” is comprised of two microinverters with switchable inputs (208V or 240V) in a single enclosure and a trunk and drop cabling system. Lower balance-of-system costs and reduced installation time are realized by halving the number of microinverter units and fewer connections and junction boxes. The 12 AWG trunk cable enables 20A branch circuit allowing more modules per branch circuit –240v: 20 modules (10 TwinPacks); 208v: 30 modules (15 TwinPacks). The D380 comes with MC4 and Tyco Solarlock connectors.

Part #	Model	CEC Efficiency	Max. DC Input Voltage	Continuous Power Watts	AC Output Nominal Voltage	Dimensions	Weight (lbs.)
153027	M190-72-240-S13	95	54	190	240	8" x 5.25" x 1.25"	4.4
153021	M190-72-240-S12	95	54	190	240	8" x 5.25" x 1.25"	4.4
153023	M190-72-208-S12	95	54	190	208	8" x 5.25" x 1.25"	4.4
153026	M210-84-208-S12	95.5	62	210	208	8" x 5.25" x 1.25"	4.4
153007	M210-84-240-S12	95.5	62	210	240	8" x 5.25" x 1.25"	4.4
153032	D380-72-2LL-S12	95	54	380	208/240	12.25" x 6" x 1.33"	6.25
153033	D380-72-2LL-S13	95	54	380	208/240	12.25" x 6" x 1.33"	6.25
<b>Communications</b>							
153001	IEMU-02	Energy Management Unit, indoor enclosure					
153025	ELCF-120-001	Line Communication Filter, IEMU included					
<b>Installation Kits</b>							
153004	EKIT-01-001	240 VAC Installation Kit, AC branch circuit					
153005	K208-12-001	208 VAC Installation Kit, AC branch circuit					
<b>Accessories</b>							
153014	EEXC-01-06	6 foot cable extension					
153028	EEXC-01-20	20 foot cable extension					
153034	EEXC-G2-12	12 foot extension cable for D380 only					
153015	ECWP-01-06	6 foot AC Interconnect cable					
153016	ECWP-01-12	12 foot AC Interconnect cable					
153017	ECWP-01-20	20 foot AC Interconnect cable					
153006	EMBK-50-001	Mounting bracket (one)					
153024	ECAP-10-001	Sealing end caps (one)					