

Installing the M215™ Microinverter (M215-60-230)

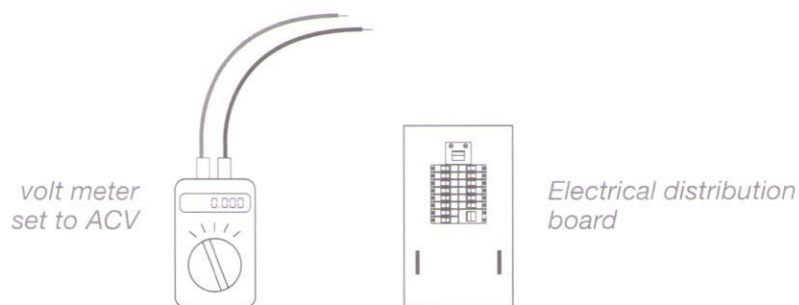
Read and follow all warnings and instructions in the *M215 Installation and Operation Manual* at <http://www.enphase.com> before using this document.

The microinverters will not produce power until the Envoy™ Communications Gateway is installed and configured with an appropriate grid profile. For instructions, refer to the *Envoy Installation and Operation Manual* at <http://www.enphase.com>.

1

Measure AC Voltage at the Electricity Network Connection

Check all phase conductors: line to neutral and line to line.



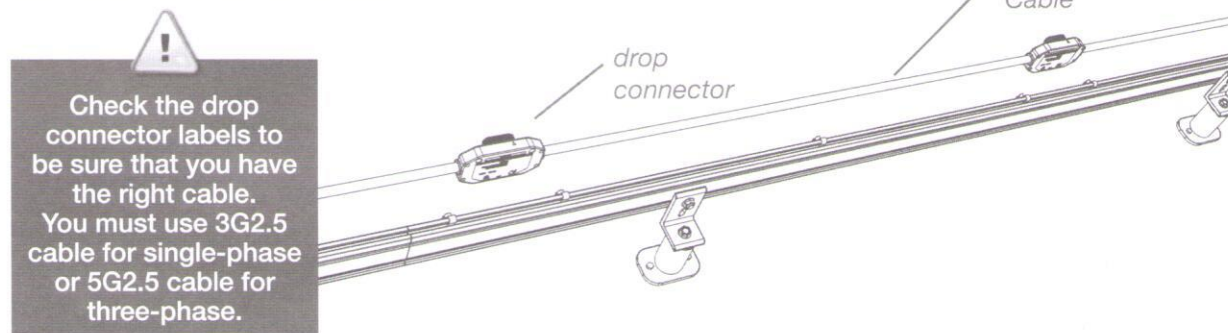
Acceptable ranges are shown in **Step Details** on back.

2

Position the Engage™ Cable

- a. Lay out the cabling along the installed mounting rail for the AC branch circuit.
- b. Install an AC branch circuit junction box at a suitable location on the mounting rail.

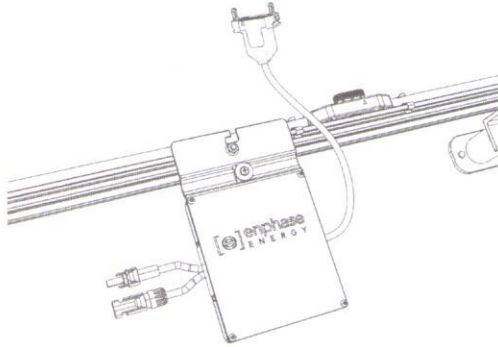
See notes in *Step Details* on back.



3

Attach the Microinverters to the Rail

- Mark the approximate centers of each PV module on the mounting rail. See notes in *Step Details* on back.

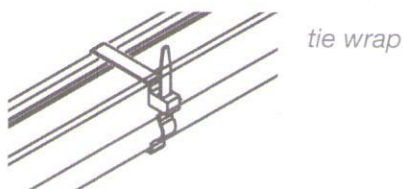


- Mount the microinverters with the silver side facing up and the black side facing down.
- If required, bond (earth) the microinverter chassis to the mounting rail.

4

Dress the Cable

- Use tie wraps to attach the cabling to the mounting rail.



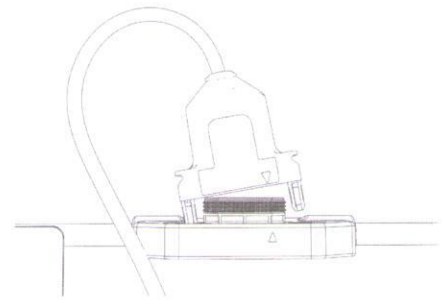
Keep the release holes clear and accessible.

- Dress any excess cabling in loops so that it does not contact the roof.

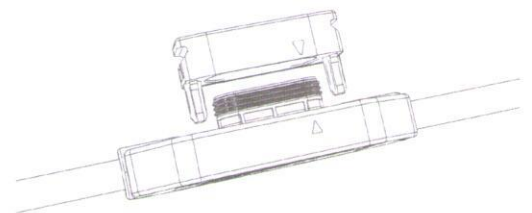
5

Connect the Microinverters

- Remove and discard the temporary shipping cap from the cable connector and connect the microinverter. Listen for two clicks as the connectors engage.



- Cover all unused connectors with sealing caps. Listen for two clicks as the connectors engage. See notes in *Step Details* on back.

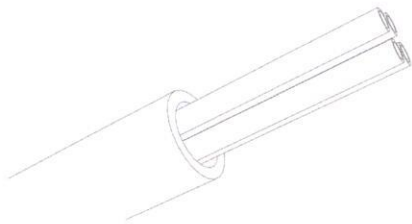


Do not use shipping caps to cover unused connectors. The shipping cap does not provide an adequate environmental seal.



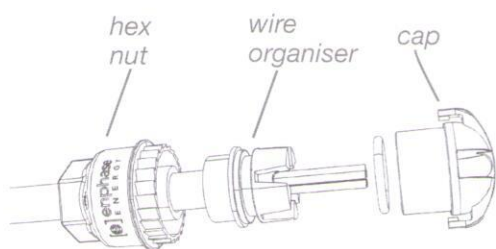
6**Terminate the Unused End of the Cable**

a. Remove 60mm of the cable sheath from the conductors.

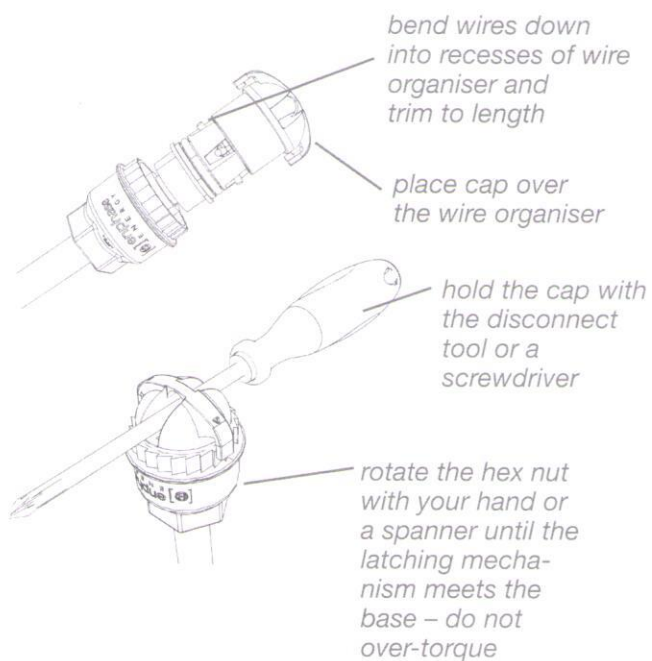


b. Slide the hex nut onto the cable.

c. Insert the cable end all the way into the wire organiser (up to the stop).



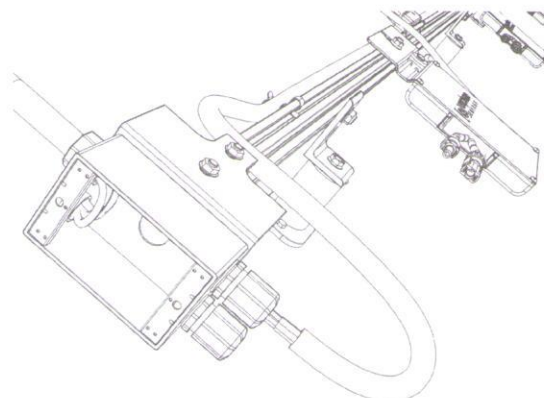
d. Attach the cap.



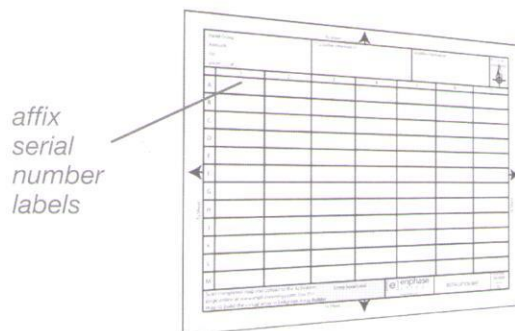
e. Use a tie wrap to attach the terminated cable end to the mounting rail.

7**Connect the Cable to the AC Junction Box**

Connect the Engage Cable to the AC branch circuit junction box. See notes in *Step Details* on back.

**8****Complete the Installation Map**

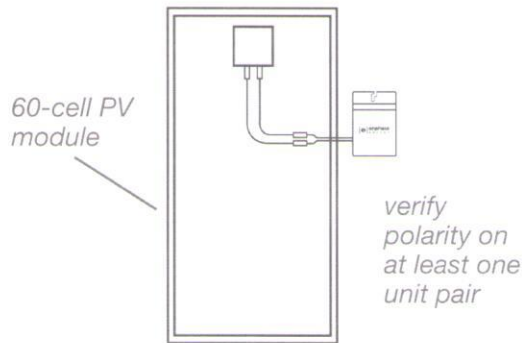
Peel the removable serial number label from each microinverter and affix it to the respective location on the paper copy of the installation map.



9

Connect the PV Modules

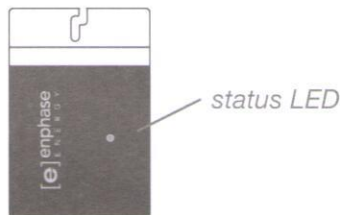
- Mount the PV modules above the microinverters.
- Connect the DC leads of each PV module to the DC input connectors of the corresponding microinverter.



10

Turn Up the System

- Turn ON the AC disconnect or circuit breaker (e.g., isolation switch) for each branch circuit.
- Turn ON the main AC switch.



The LED on the underside of each M215 will blink green six times to indicate successful connection two minutes after DC power is applied.

11

Next Steps

Refer to the *Envoy Communications Gateway Quick Install Guide* for information on Envoy installation, Enlighten set up, and grid profile configuration.

Step Details

1

Single-Phase Service		Three Phase Service	
L1 to N	207 to 253 Vac	L1 to L2 to L3	360 to 440 Vac
		L1, L2, L3 to N	207 to 253 Vac

2

WARNING: Perform all electrical installations in accordance with all applicable local electrical standards.

WARNING: Only use electrical system components approved for wet locations.

WARNING: Do NOT exceed the maximum number of microinverters in an AC branch circuit as listed in the table below. Each branch circuit must be protected with a 20A maximum breaker.

Service type	Max M215s per branch
Single-Phase Service	17
Three-Phase Service	27

WARNING: Size the AC cable/wire size to account for voltage drop. Select conductor diameter based on the distance from the beginning of the microinverter AC branch circuit to the breaker in the AC mains. See *Voltage Drop Calculations* at <http://www.enphase.com>.

3

WARNING: Allow a minimum of 1.9cm between the roof and the bottom of the microinverter. Also allow 1.3cm between the back of the PV module and the top of the microinverter.

NOTE: The AC output neutral is not bonded to earth inside the microinverter.

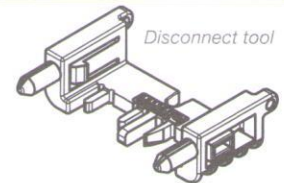
NOTE: Torque the microinverter fasteners to these values:

- 6mm mounting hardware – 5 N m minimum
- 8mm mounting hardware – 9 N m minimum
- 10/32 earthing cleat screw – 2 N m minimum

Using a power screwdriver is not recommended due to the risk of thread galling.

5

WARNING: Install sealing caps on all unused AC connectors as they become live when the system is energised. IP67-rated sealing caps are required to protect against moisture ingress.



NOTE: To remove a sealing cap, you must use the Enphase disconnect tool or a screwdriver.

7

NOTE: The cabling uses the following wiring scheme.

Single-Phase Service	Three-Phase Service
Brown – L1	Brown – L1
Blue – Neutral	Black – L2
Green/yellow – Ground	Gray – L3
	Blue – Neutral
	Green/yellow – Ground

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