

Introducing the M250 with Integrated Ground

Enphase has developed a new microinverter, the M250, with integrated (DC isolated) ground. Because the DC circuit is isolated and insulated from ground, the M250 does not require a **Grounding Electrode Conductor (GEC)** connected between each microinverter. This means you don't need to attach a separate copper grounding conductor to each microinverter or worry about a continuous run to ground. The result is faster installation with lower materials costs and a safer system.

Integrated ground and code requirements

Solar installers must comply with the National Electrical Code (NEC) when installing Enphase Microinverters. The Enphase M250 meets the requirements specified for Ungrounded PV Power Systems in sections 690.35 and 690.41 of the 2008 and 2011 NEC. It also meets the Underwriters Laboratory (UL) Standard 1741 grounding requirements.

For further information, refer to the whitepaper on M250 and Ungrounded PV Arrays at:
<http://enphase.com/global/files/M250-and-Ungrounded-Array.pdf>

Identifying a M250

Installers and inspectors can easily identify M250s with integrated ground.

Installing the M250

The M250 ships with DC and AC cables and connectors. The DC connectors attach to the PV module, while the AC connector attaches directly to the Engage™ Cable. It's that simple: no additional cabling is needed.



About system grounding

Electrical code requires two types of grounding conductors: the **Grounding Electrode Conductor (GEC)**, which is used between the grounding electrode and the point where a normally current carrying conductor is intentionally bonded to ground and the **Equipment Grounding Conductor (EGC)**, which grounds non-current carrying metal parts of the system, such as the racking and module frames.

Because the Enphase M250 Microinverter has DC integrated ground, it does not require a GEC. However electrical code still requires that exposed metal in the array be grounded (NEC 690.43 and 250.136(A)). This requirement is met for the microinverter because the ground conductor internal to the Engage Cable acts as the EGC. It may be met for racking and modules with use of an EGC or WEEBs to provide bonding to this ground system.