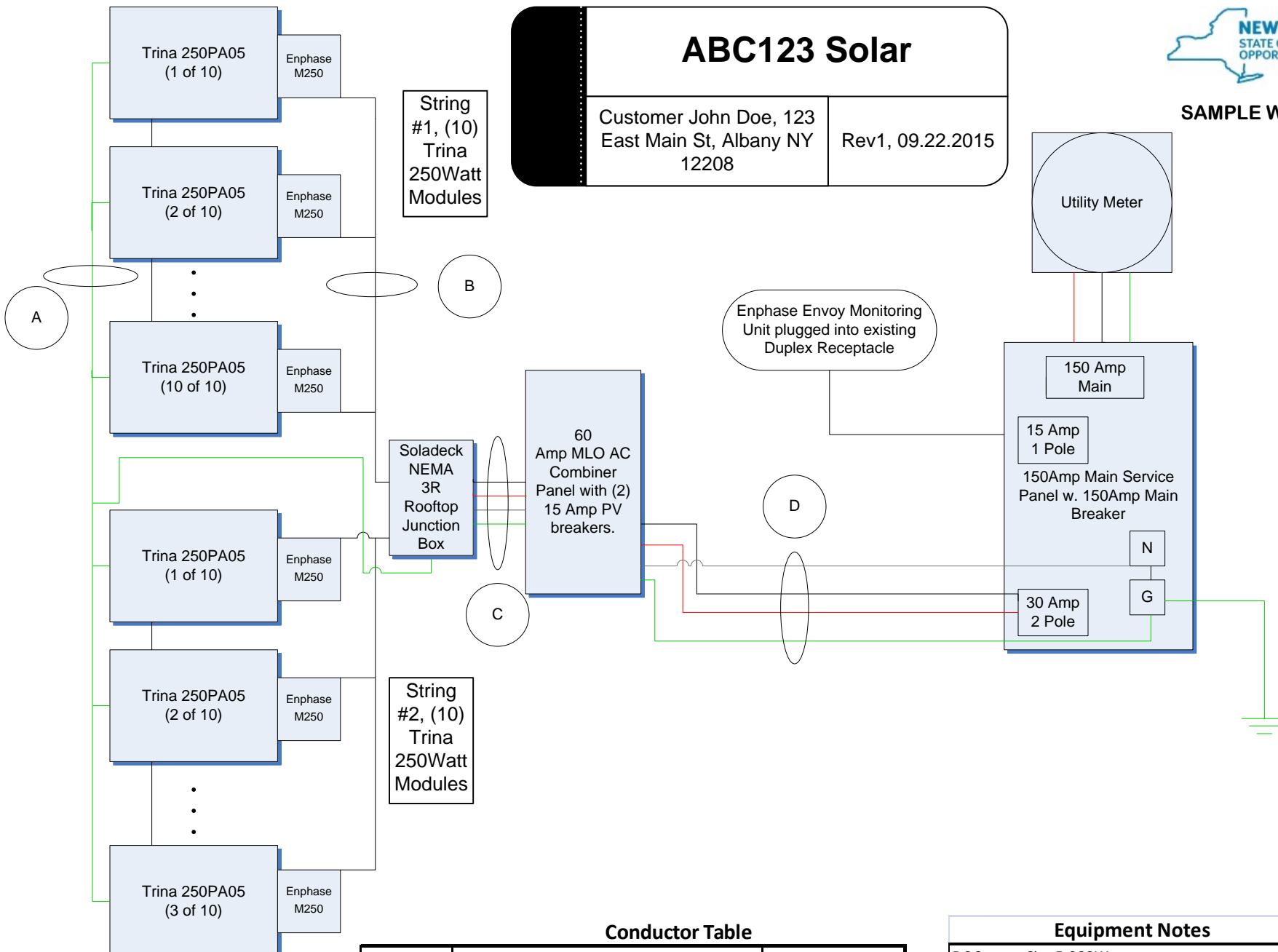


SAMPLE WIRING DIAGRAM

ABC123 Solar

Customer John Doe, 123 East Main St, Albany NY 12208	Rev1, 09.22.2015
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(1) Enphase M250 Microinverter mounted on each module, (20) total.

Conductor Table

Callout	Conductor Type & Size	Conduit/Raceway
A	(1) Bare Solid #6	None
B	Enphase Engage Trunk Cable #12 THWN-2	None
C	(6) #10 THWN-2: 4 hot, 2 neutral, 2 EGC	1" EMT
D	(4) #10 THWN-2: 2 hot, 1 neutral, 1 EGC	1" EMT

Equipment Notes

DC System Size 5,000Watts
(20) Trina TSM250PA05 Modules Voc=37.6V, Vmp=30.3V, Isc=8.85A, Imp=8.27A
(20) Enphase M250 Microinverters 250Watts each, does not require GEC
Nominal output current = 1.0Amp
Maximum 16 per string.

Common Line Diagram Issues

Please pay attention to the following items when making a wiring diagram. This is a list of common errors and issues, and is not a comprehensive list of all code requirements.

- Diagram must include the following, per Section 5.4 of the Program Manual: The quantity, conductor size, and insulation type of all energized (hot) conductors, neutral/grounded conductors, and ground conductors.
 - Type and characteristics of all raceways, conduit, and enclosures.
 - The configuration of PV array into electrical strings.
 - The voltage and amperage ratings of all combiner boxes, overcurrent protection devices, switches, inverters, batteries, electrical panels and other relevant equipment as applicable. The rating of the main service panel and its main breaker must be given.
 - The quantity, make, and model of the inverter and PV modules.
 - Customer name and address.
- The equipment on the wiring diagram must match the equipment on the project application form and in Powerclerk.
- “The sum of the ampere ratings of overcurrent devices in circuits supplying power to a busbar or conductor shall not exceed 120% of the rating of the busbar or conductor.” NEC 690.64(B)(2):
- When doing a load side connection, the backfed PV breaker must be located at the opposite end of the panelboard from the main feeder or main circuit location. NEC 690.64(B)(7).
- When doing a supply side connection (“line side tap”), the AC disconnect must be service-rated, rated for at least 60Amps, and have overcurrent protection. NEC 690.64(A), 230.79(D).
- Conductors that are readily accessible, such as conductors on the back of a ground mount, must be made inaccessible or put in a raceway. NEC 690.31(A): “Where photovoltaic source and output circuits operating at maximum system voltages greater than 30 volts are installed in readily accessible locations, circuit conductors shall be installed in a raceway.”
- The grounding electrode conductor must not be sized smaller than #8, per NEC 250.66.
- When exposed to physical harm, ground conductors must be #6 or larger. NEC 690.46.
- Sizing conductors and overcurrent protection: “The circuit conductors and overcurrent devices shall be sized to carry not less than 125% of the maximum currents...” NEC 690.8(B)(1).