



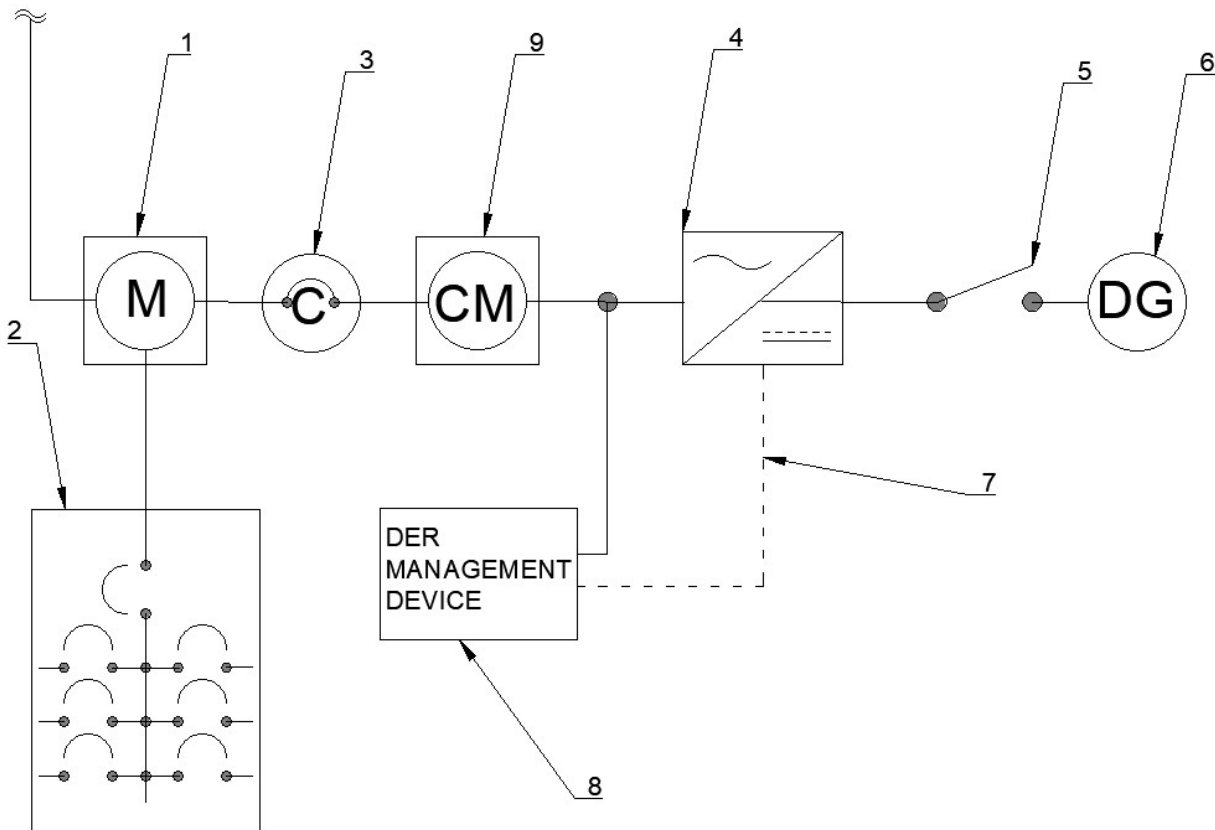
Sketch #56 Inverter-based renewable generation for DG capacity ≤ 64 amps for meter base size ≤ 200 amps for ≤ 240V installations.

<u>Voltage/ Phase:</u> 1 phase, 3 wire network 120/208V* 1 phase, 3 wire 120/240V*	<u>Amperage:</u> 200 Amps maximum	<u>Inverter Continuous Current</u> ≤ 64 Amps
<u>Service Type:</u> Overhead/Underground	<u>Meter Type/Location:</u> Self-contained/Outdoor	<u>Bus Bar Rating:</u> N/A

* The maximum parallel connection (generation) permitted on a single-phase installation is 150 kW.

DER SYSTEMS WITH TOTAL SYSTEM INVERTER CONTINUOUS CURRENT LESS THAN 64 AMPS.

PPL Electric Service
 (≤240 Volts, ≤200 Amps, 1 phase)



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Sketch #56 (cont.) Inverter-based renewable generation for DG capacity ≤ 64 amps for meter base size ≤ 200 amps for ≤ 240V installations.

CUSTOMER FURNISHES, INSTALLS, MAINTAINS

2. Load center
4. Inverter(s) (includes metering and communications features) . Inverter shall be labeled as IEEE 1547/UL 1741 listed
5. DC disconnect
6. Distributed Generation (DG) source
9. Customer meter (optional)

PPL ELECTRIC FURNISHES, INSTALLS, MAINTAINS

1. Utility meter
3. PPL Electric meter collar with circuit breaker – current ≤ 64 amps
 - meter collar is installed at location where the customer chooses to connect electrically – the collar may be used as the AC disconnect in these instances.
 - Customer conductors/equipment must meet or exceed available PPL Electric breaker size amperage to utilize meter collar.
7. Wired communication between PPL Electric DER Management Device and inverter
8. PPL Electric communication device to PPL Electric network

*Reference: SKETCH 55a

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NOTES:

- A. See PPL Electric Renewable Energy (DER) website for more information.
- B. Application for customer-owned, inverter-based renewable generation must be completed. See customer-owned generation applications.
- C. PPL Electric requires an independent electrical inspection. The inspector is required to verify the IEEE/UL listing of the inverter.
- D. Installation must adhere to requirements of National Electrical Code (NEC) article 690 and article 705. All labeling must be in accordance with NEC article 690.
- E. In addition to Note D, PPL Electric will install permanent labeling on the meter base (CID 1012171) and pad mount transformer (CID 1012171) or pole top transformer (CID 1013816) upon receipt of inspection.
- F. If a neutral connection exists at the inverter, the inverter neutral shall be connected to the service neutral.
- G. Customer shall contact PPL Electric prior to any new installations depicted in this sketch.
- H. PPL requires a local RS-485 or ethernet communication interface, also referred to as a communication port, to be open and accessible for the company owned DER management device (IEEE 1547-2018, sec. 10.1.4). Enclosure containing the communications interface shall include provisions for 120V or 277V power source, neutral, and grounding, either by way of providing safely terminated conductors or ensuring adequate space for use of insulating piercing connectors by the utility to tap existing conductors.
- I. Communication interface earmarked for utility use shall be configured to have a static IP address if using Modbus TCP (Ethernet) protocol, or a dynamic IP address (DHCP mode) if using IEEE 2030.5 protocol. For Modbus TCP: the static IP address, gateway IP address, and subnet mask IP address shall be provided to PPL Electric.
- J. Installations with multiple inverters shall be networked together by the customer per manufacturer guidelines or RS-485 multidrop networking. A communication network diagram depicting port availability and networking design shall be included with the system's interconnection application.
- K. For inverters where an additional module or kit is required to make the communication interface/port available, the module or kit must be included as part of the installed system. Reference PPL Electric's approved smart inverter list for specific information.
- L. In the event of an outage or interruption due to equipment failure, weather, etc., any connected DER systems may be temporarily interrupted during the service restoration process.
- M. PPL Electric provided meter collars are only available in 40 amp, 60 amp, and 80 amp breaker sizes. To utilize PPL Electric provided meter collar, customer conductors/equipment must meet or exceed available breaker size amperage. If the customers conductor/equipment cannot meet or exceed the available breaker size amperage, customer will need to choose a different method of interconnection.

*Reference: SKETCH 55a

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