ConnectDER, Solar Meter Socket Adapter

Usage Requirements, Connections to PSE&G, 11/13/24

Function of Device:

Enables Solar system to be connected after the meter and before an existing Electrical Panel Board at the premise. Includes a 2-pole circuit breaker to interrupt over current and support isolation of solar system for maintenance.

Required Adapter Features:

- Adapter shall connect solar system on the customer side of the PSE&G meter.
- PV/DER Circuit Breaker shall be able to interrupt fault currents up to 22,000 amps.
- PV/DER Circuit Breaker trip current rating may be between 35 and 80 amps.
- Adapters installed in 5 jaw sockets shall have a 5th terminal installed on rear of adapter.

Adapter Catalog numbers

Part Number	Features	Installation Comment
C-B-5-22-40	5 Jaw, 40 a breaker	Add 5th terminal if socket has 5 Jaws
C-B-5-22-60	5 Jaw, 60 a breaker	Add 5th terminal if socket has 5 Jaws
C-B-5-22-80	5 Jaw, 80 a breaker	Add 5th terminal if socket has 5 Jaws

Installation Requirements unique to the ConnectDER, Solar adapter

- Note that installation of the Meter Socket Adapter is subject to review by both PSE&G and the Authority Having Jurisdiction. Municipal Electric Inspectors may be interested in circuit breaker ratings, neutral pig tail connections, or other requirements of the NEC.
- Adapter may only be used in meters socket blocks rated from 100 amps thru 200 amps continuous current and may not be used with sockets rated 60 amps or 320 amps. Socket enclosures shall be a minimum of 11.5” high. Socket cover shall be ringless type.
- Adapter may be used on services described as: 120/240 volt, 3 wire, single phase service; or 120/208 volt, 3 wire, network service.
- Adapter may not be used on Conventional Underground services (120/208 volt, network feed from multiple transformers with network protectors). Concern of available fault current > 22 kA.
- When meter sockets have 5 jaws, socket adapter shall also have 5 jaws on front / 5 terminals on back.
- Adapter relocates the mounting position of meter. A clear space of at least 44 inches between the property line – as defined by the municipality – and the front of all meter sockets.
- 1” liquid-tight flexible metal core conduit for power connection to Solar equipment, is attached to either side of the top of the adapter. The 1” liquid tight shall be installed with a drip loop or in a manner that terminal box may be lifted ¾” above the meters socket adapter without changing the attitude of the terminal box. (A bubble level would maintain horizontal as the terminal box is lifted.) Straps holding the liquid-tight in place shall be oversized by at least 1/8” to allow liquid tight to move through the strap without removal of the strap. The liquid tight may not block access to other compartments or the meter socket.

- The neutral pig tail provided by the manufacturer shall connect the meter socket adapter to the neutral in the socket.
- Meter socket must have space between socket block and the socket box to accommodate 4 AWG or 6 AWG stranded conductor for neutral connection pig tail.
- Multiple methods of attaching the neutral pig tail to the neutral in the socket are acceptable. Method selected must comply with requirements of the 2020 version of the NEC, including paragraph 230.46. This paragraph specifies that pressure connectors and devices for splices and taps installed on Service conductors shall be marked "suitable for use on the line side of the service equipment" or equivalent.
    - Sockets having a Neutral Block with an auxiliary position that will accommodate a #4 or #6 stranded copper wire is preferred.
    - Milbank 125a and 200a sockets manufactured in the last 20 years may have part K1190 added to the neutral block to provide auxiliary position.
    - 2 Position Sockets and Combination Sockets with circuit breakers as emergency disconnects, that include a neutral bus may have a mechanical lug added to the bus. The lug shall be located in a compartment that is locked by PSE&G.
    - Milbank 2 position Sockets and 200a sockets may have part K4977-EXT substituted for the retaining hardware on the neutral block to add an auxiliary neutral position. Service to be de-energized before installation.
    - A parallel tap mechanical lug that meets 230.46 may be used. An example of this is the Ilsco GTA-250-0. Lug shall be installed below the Neutral Terminal in the socket.
    - A split grounding bushing may be applied to the inside of the bushing for load cable exit.
    - Clearance between bare metal with phase voltage and bare metal neutral or ground connections shall be ½" or greater.
    - Mechanical fasteners used with aluminum conductor shall not be covered with tape.
    - Connection of neutral pig tail shall not cause there to be additional connection points for neutral conductor going to the existing home panel board.

General Requirements for installation of Meter Socket Adapters

- Solar Meter Adapter installation must be performed by qualified personnel only. Follow your employer's requirements for personal protective equipment (PPE) and procedures.
- Oxide-inhibiting joint compound shall not be applied to jaws of sockets or PSE&G meter terminals.
- Socket jaw tension must meet requirements to support heat transfer away from the meter and socket adapter.
- Service conductor insulation must be in place without evidence of failure.
- Only one adapter may be installed behind a meter.
- Meter Mounting Equipment shall be for a single meter position or two meter positions.
- Meter socket must be firmly attached to it's mounting.
- Circuit Breakers, when present, shall have an interrupting rating consistent with the maximum design short circuit duty rating at the point of connection in compliance with NEC.
- Adapters used on 120/208 volt, 3-wire services shall have a 5^{th} terminal and 5^{th} jaw to supply neutral voltage to the meter.
- Meter socket adapters may not be used where customer has opted-out from having an Advanced Metering Infrastructure (AMI) Meter installed.