

EPB Metering GUIDELINES

GENERAL METERING GUIDELINES

- Meter centers and associated equipment must be mounted on the outside exterior wall or meter pedestal and be accessible by EPB for maintenance at all times. Limited exceptions must be approved by EPB Field Services in writing prior to installation.
- The centerline of the meter socket must be 4-6 feet above the final grade. 30” minimum is allowed on underground, low profile installations.
- A 3 feet or greater working clearance is required in front of all meter centers and associated metering equipment cabinets.
- All fasteners and hardware used to assemble and mount the meter center and equipment must be stainless and/or galvanized steel, tamper resistant, and removable using basic tools.
- An explanation of the different electric services and their relation to the type of meter socket needed is listed below:

| Service Type | Instrument Transformers | Meter Socket Type |
|---------------------------------|-------------------------|-----------------------|
| ≤ 200 Amps ≤ 240 Volts | None | Self-Contained |
| > 200 ≤ 400 Amps ≤ 240 Volts | None | CL 320 Self-Contained |
| > 400 Amps ≤ 240 Volts | CTs Required | Instrument-Rated |
| > 240 Volts | CTs and VTs Required | Instrument-Rated |

SELF-CONTAINED METERING APPLICATIONS

- Contractor must purchase and install self-contained meter sockets.
- Sockets must be the “plug in (S Base)” type. All three phase and 320A single phase meter sockets must have a bypass lever.
- All commercial retail sockets must have a bypass lever to allow EPB to remove the meter without service interruption.

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INSTRUMENT-RATED METERING FOR OVERHEAD SERVICES

- Contractor must pick up meter socket and instrument transformers from EPB.
- Contractor to mount meter socket and instrument transformers per instructions provided.
- Pedestals for trans-socket or instrument rated metering cabinet must be mounted on galvanized or stainless post, 10' aluminum channel for post, or stainless or galvanized strut. No wooden structures for trans-sockets or instrument rated metering pedestals will be permitted.
- 1" conduit must be installed between meter socket and instrument transformers.
- Metering equipment must be installed using lead anchors, toggle bolts, or masonry anchor screws. No plastic anchors or shoot-ins are allowed. Screws and bolts must be easily removed using ordinary hand tools.
- Contractor must bond meter socket to the service equipment ground using a minimum of #4 bare solid copper ground conductor.
- CTs must be mounted by the contractor with the white dot (H1) electrically facing the source side, or EPB side, of the service.
- A minimum of 2.5" rigid or IMC conduit must be used if service attachment is placed on conduit.
- Refer to the following information if a transocket or cabinet will be used on an overhead service.

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INSTRUMENT-RATED METERING FOR UNDERGROUND SERVICES

- Contractor must purchase and install a metering trans-socket cabinet from EPB if the service size is less than or equal to 1200 A.
- Trans-socket must be installed using lead anchors, toggle bolts, or masonry anchor screws. No plastic anchors or shoot-ins are allowed. Screws and bolts must be easily removed using ordinary hand tools.
- Contractor to mount trans-socket per instructions provided.
- If service is above 1200 Amps, contractor must purchase and install an instrument transformer cabinet. The minimum size is 36”x36”x14”, but cabinet must be sized appropriately considering the size of the conductors to ensure no unnecessary stress is placed on the conductors, the cabinet, or the CTs. Contractor must also comply with the NEC bending radius and conduit fill codes and requirements.
- Instrument cabinet must also be installed using lead anchors, toggle bolts, or masonry anchor screws. No plastic anchors or shoot-ins are allowed. Screws and bolts must be easily removed using ordinary hand tools.
- Contractor must mount the instrument transformer bracket to the center of the cabinet’s back plate and follow instructions as provided with the metering equipment. Bracket must be mounted in a way to allow the bracket to be replaced without removing the back-plate from the cabinet.
- Instrument transformer cabinet must have a stainless or galvanized steel pad-lockable hasp. Cabinet must also have a hinged cover. All fasteners must also be stainless or galvanized steel.
- Pre-wired metering in pad-mounted transformers are not being utilized by EPB. Limited exceptions must be approved by EPB Field Services in writing prior to installation.

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TRANS-SOCKET INFORMATION:

- Call 423-648-3427 to schedule a pick up time.
- Location for pick up is:
 - EPB Field Services Department – Operations Center 2
 - 1350 E 8th Street
 - Chattanooga, TN 37403
- Trans-sockets are priced at \$350, and checks are to be made to EPB.
- The dimensions are 37” x 37” x 14” and are for services up to 1200 A. The enclosure is to be mounted square and plumb, and no alterations are to be made other than holes for conduit. No taps are to be made within enclosure. Doors and covers must be able to swing freely. Place conduit to where no strain will be placed on any of the conductors or equipment.
- Hanging bracket is located inside transocket enclosure and is there to aid in installation.
- Conduit must be placed with 12” of each corner of the transocket. Myers Hub must be used if conduit is placed on the top side of the transocket to ensure a NEMA 3R rating.
- Transocket lugs can accommodate up to four 750 MCM conductors per phase.
- Line side (EPB) is H1 side of CTs, and load side (customer) is H2 side of CTs.

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INSTRUMENT TRANSFORMER CABINET INFORMATION

- CTs, VTs (if required), and meter socket are supplied by EPB at no cost and picked up at same location as transocket.
- Contractor provides the instrument transformer cabinet. Cabinet must be stainless, galvanized, powder coated steel, or aluminum. A minimum of 14-gauge steel or 10-gauge aluminum must be used.
- A hinged door with pad lock hasp for a 5/16" shank EPB lock must be used on any enclosures housing unmetered conductors. No screws or bolts are to be used to remove or open the door. Hinges and pad lock hasp must be mounted to be tamper resistant.
- No custom keys will be allowed.
- Size of cabinet is dependent on the number of conductors per phase, metering equipment, and electrical inspector requirements.
- CT & VT brackets must be replaceable without removing the cabinet back plate.
- Meter socket to be located adjacent to the instrument transformer cabinet.
- Conductors are to be formed to where no strain is placed on any equipment, including the cabinet door.
- Pedestals for trans-socket or instrument rated metering cabinet must be mounted on galvanized or stainless post, 10' aluminum channel for post, or stainless or galvanized strut. No wooden structures for trans-sockets or instrument rated metering pedestals will be permitted.

MODULAR HOME SERVICES

- Meter center must be affixed to a minimum of 6" x 6" pressure-treated wooden temporary pole or similar pedestal unless the modular home is placed on a fixed, permanent foundation.
- If an underground service is used, meter pedestal must have at least 3 feet of working clearance for access to the meter.

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MULTIPLE SERVICES

- Any installations where multiple meter centers are used must have permanent labeling with the suite number or load description. For example: “Suite A5,” “Building 6,” “Pump B.” Label must match EPB’s account records. Labeling must have a ¾” inch or larger textured font, and attached to the meter socket with two rivets, screws, or bolts that are either stainless or galvanized steel. Labels must be placed to avoid confusion if more than one meter center cover is removed.
- Each service must have its own instrument transformer cabinet. For example, EPB does not allow for CTs to be placed in a wire trough serving multiple services instead of installing one cabinet per meter.

METER EQUIPMENT SECURITY

- Instrument transformer cabinets, trans-sockets, switchgear, and gutters that contain unmetereed conductors and metering equipment must have sealing and/or locking provisions. All provisions for sealing and/or locking must be installed in a workmanlike and tamper-proof manner using stainless or galvanized hardware.
- Unmetered conductors are not to be installed in the same conduit, wire-way, or junction box as metered conductors.
- All locking provisions must be able to accept an EPB seal and/or an EPB lock. No other locks may be used that have different keys, codes, etc.
- Previous metering installations will not necessarily provide as a guide for future and current jobs.
- If multiple conductors per phase are being utilized, all conductors must be the same physical length to the point of delivery with EPB. All conductors must also be of the same diameter (neutral must be sized in accordance with the NEC and local electrical inspector). All conductors must also be of the same material. Copper and Aluminum cannot be mixed unless they are serving separate switchgear. These requirements are to ensure that no single conductor in a multi-conductor per phase service bears a majority of the load.

Any additional questions can be referred to EPB Field Services. Field Services asks that the party involved in construction of the electric service ask any questions as early in the project as possible to minimize confusion and any additional costs. Any exceptions to the above or below requirements must be approved by EPB Field Services.

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For overhead services containing multiple conductors per phase, EPB will supply a mounting bracket for the PED connectors as seen below. The customer is responsible for mounting the bracket, leaving sufficient length at the weather head, and correctly marking the load side phasing.



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Shown below is a metering cabinet for an underground service greater than 1200 A. Customer is responsible for providing the CT cabinet. EPB will provide the CTs and associated mounting brackets. Customer can purchase CT busses for each phase and neutral to provide a pull-point for the conductors. These busses are purchased from EPB and typically have a 5-6 week lead time from the manufacturer. The price of these busses is dependent on the amperage of the service and the number of conductors. Customer is responsible for the correct phasing, pulling the conductors up to, but not terminating, the secondary bushings of EPB's transformer, and ensuring that no strain is placed on the CT cabinet or CTs. Customer must also provide means for the CT control wiring to reach the meter center. In this case, see the 1" connector located on the right side of the cabinet. The meter center is located on the right outside wall of the cabinet.



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In the below scenario, customer has provided ample length for EPB to connect the service, along with clearly marking the phases. Meter center was mounted to where the center of the meter face will be within 4-6 feet above the final grade.



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