

SLEMCO

Specifications for Residential Overhead Current Transformer Metering Requirements

Applicable to residential and small noncommercial services greater than 200 Amps receiving single-phase power at 120/240 volts. **The maximum SLEMCO allowable service size of this type is 800 Amps.** Applicable metering equipment will be attached to building requiring service. The service conductors run through a weather head from an overhead source to current transformer (CT) enclosure. These requirements can also be applied to a standalone structure or rack accompanying an overhead meter pole installation.

The *Point of Connection* is the point of demarcation between SLEMCO and the customer. It shall be the customer's responsibility for compliance with the National Electrical Code (NEC) and any Governing Authority for all equipment beyond the *Point of Connection*. The customer is advised to use the services of a qualified electrician to assure compliance with all codes and regulations. According to National Electric Safety Code (NESC) Table 232-1, Item 5., Note 8(d), the lowest point of the service conductor (*drip loop*) must be at least 10' above final grade. A sufficient drip loop shall be present to prevent water ingress.

It should be noted that electrical pipe is the gray pipe and white water pipe is not acceptable. Therefore, schedule 40 or 80 electrical pipe discussed in this section is approved electrical conduit.

Items marked with ⑫ are indicated on Drawing No.12 – *Single-Phase Overhead Current Transformer Metering Requirements*.

- A. Service cable from transformer to weather head (*Point of Connection*) are furnished and installed by SLEMCO. The Point of Attachment (*eye bolt, clevis bolt, etc.*) is furnished and installed by customer and shall be mounted at a minimum height of 12' (*NESC Table 232-1, Item 5*) above finished grade. ⑫

- B. Service entrance conductors from the weather head (*Point of Connection*) to the disconnect switch are furnished and installed by customer. Termination of conductors must be made in disconnect switch by customer. Wire trough is optional. Each pole of the disconnect switch will only be allowed one lug attachment. Therefore, multi-conductor connections to a single pole made within the disconnect switch must include a multi-conductor lug. More than one conductor connected within a single lug will not be allowed. ⑫ The service entrance conductors must be copper and shall be sized according to the load, as required by the NEC or Governing Authority. An extension of at least 18" of service entrance conductor is required at the weather head (*Point of Connection*). Termination of conductors at weather head (*Point of Connection*) performed by SLEMCO.

The neutral of the service entrance conductors shall be sized no smaller than two sizes less than the other conductors and shall be identified with gray or white tape at the weather head and in the CT enclosure.

- C. The service mast and associated weather head are furnished and installed by customer. The service mast conduit shall be securely mounted with a minimum of three (3) conduit straps with a maximum of 30" (*NEC 230.51A*) apart. One (1) strap will be required installed no more than 12" (*NEC 230.51A*) from the weather head. The Service Mast conduit shall be galvanized metal rigid conduit or electrical schedule 80 pipe. If elbows are required, then PVC elbows shall be used. LB elbows and flex conduit cannot be used. ⑫

SLEMCO
Specifications for Residential Overhead
Current Transformer Metering Requirements

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- D. Meter base furnished by SLEMCO and installed by customer. The meter base shall be mounted on the outside of the building such that the center of the meter socket window is between 5' and 6' above finished grade. ⑫ Meter base cannot be mounted to the siding of a metal building unless additional support is used behind the meter base. The top hole of meter base must be plugged with 1" plug.
- E. CT furnished by SLEMCO. Must be mounted to back of CT enclosure by customer. ⑫
- F. CT enclosure is to be supplied by customer and must be a minimum of 24" x 24" x 10" and include a weatherproof hub. The CT enclosure must have a way to secure the door with a SLEMCO padlock. When installed by customer, the bottom of the CT enclosure should be at a height of 2' to 4' above finished grade. ⑫
- G. The electrical conduit from CT enclosure to meter base shall be 1" electrical schedule 40 pipe. ⑫ This conduit will be furnished and installed by customer. If elbows are required, then PVC elbows shall be used. LB elbows and flex conduit cannot be used.
- H. A ground lug will be installed by customer in the CT enclosure and must be attached with a nut and bolt. ⑫ This is the minimum required by SLEMCO. Additional grounding may be required by the NEC or Governing Authority.
- I. The customer will be responsible to furnish a metering ground wire (*minimum #6 soft drawn copper or #6 insulated copper*) and install this wire from the meter base through CT enclosure and disconnect switch to the optional wire trough. This metering ground wire must be continuous and installed in electrical conduit between the meter base, CT enclosure, disconnect switch, and optional wire trough. The metering ground wire must be connected to the ground lugs in the meter base, CT enclosure, disconnect switch, and the grounding buss bar inside of the optional wire trough. If optional wire trough is omitted, the metering ground wire would end in the disconnect switch. ⑫ This is the minimum required by SLEMCO. Additional grounding may be required by the NEC or Governing Authority.
- J. Main ground wire (*minimum #2 insulated copper*) shall be furnished and installed by customer. The main ground wire must be continuous and installed in 1/2" electrical conduit between optional wire trough and the first ground rod. The continuous main ground wire must be connected to the grounding buss bar inside of the optional wire trough and each of the ground rods. If the optional wire trough is omitted, then the main ground wire must be continuous and installed in 1/2" electrical conduit between disconnect switch and the first ground rod. The continuous main ground wire must be connected to the grounding buss bar inside of the disconnect switch and each of the ground rods, if the optional wire trough is omitted. ⑫ The main ground wire shall be sized according to the load, as required by the NEC or Governing Authority and may need to be increased to 1/0, 4/0 or larger if needed.

SLEMCO
Specifications for Residential Overhead
Current Transformer Metering Requirements

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- K. Ground rods, minimum of two 5/8" x 8' copperweld or 1/2" x 8' copper, furnished and installed by customer. Must have one ground rod for every 200 Amps of service. Ground rods shall be installed 6' apart. Ground rods must be set 1" below finished grade. ⑫ This is the minimum required by SLEMCO. Additional grounding may be required by the NEC or Governing Authority.
- L. Disconnect switch isolates power from services connected. Disconnect switch furnished and installed by customer between the CT Enclosure and services connected (*wire trough optional*). Disconnect switch is for SLEMCO use only and shall be locked and sealed open or closed by use of SLEMCO padlock. Disconnect switch shall be a double pole, be non-fused or fused with properly sized slugged (*dummy/neutral*) fuse, have a voltage rating of at least 120/240V, and have an ampacity rating no less than the total of the amp ratings of all connected services. Enclosure for disconnect switch shall be UL listed, be weather proof and rain tight (*NEMA 3R*), have a locking mechanism to secure it in the open or close position with a SLEMCO padlock. ⑫ All terminations within disconnect switch will be made by customer. Any multi-conductor connections to a single pole made within the disconnect switch must include a multi-conductor lug. More than one conductor connected within a single lug will not be allowed. The electrical conduit from CT enclosure to disconnect switch shall be a minimum of 3" electrical schedule 40 pipe. This conduit will be furnished and installed by customer. If elbows are required, then PVC elbows shall be used. LB elbows and flex conduit cannot be used.
- M. Main disconnects (*service panels*) and optional wire trough shall be furnished and installed by customer as required by the NEC or Governing Authority. ⑫ All terminations will be made in optional wire trough or to main disconnects by customer.
- N. Variations of this design may be considered equal as long as NEC requirements are met. To assure acceptability where variations arise, contact SLEMCO prior to installation.
- O. If a Governing Authority requires inspection, inspection tag must be in place and marked approved before SLEMCO will connect service. ⑫
- P. Prior to secondary service connection and meter installation, a SLEMCO serviceman must inspect the total job for readiness. When ready for this inspection, notify the Lafayette Service Department by calling (337) 896-5551.