APPENDIX

CHOOSING THE PROPER METER SOCKET

In the Metering Devices book (Book 2 Section D), meter sockets are listed by the number of terminals. The intent of this article is to help the installer verify that the correct meter socket is installed. The type of meter socket is determined by the voltage, number of conductors, if the service is 1-phase or 3-phase, and the size of the service.

Types of Meters

Meters can be broken into two types: Self Contained and Transformer Rated.

Self Contained Meters contain everything needed for metering within the meter, as the name implies. Self contained meters are limited to 200 A. services, both 1-phase and 3-phase. The only exception in the We Energies service territory is the 320 A. 120/240 Volt, 1-phase meters.

The configurations for self contained meter sockets are shown in Figure 1. The number of terminals, layout of the terminals in the meter socket, and the voltages that use that configuration are shown below.

Self Contained Meter Sockets for Services 30 – 200 Amperes

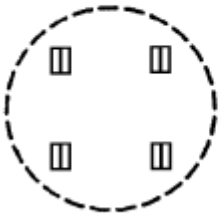
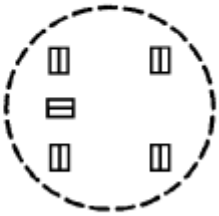
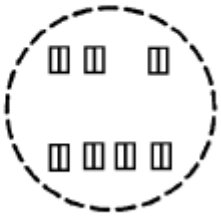
4 Terminal	5 Terminal	5 Terminal	7 Terminal
			
1Ø, 2 Wire 120 Volt	1Ø, 3 Wire 208Y/120 Volt	3Ø, 3 Wire 480 Volt*	3Ø, 4 Wire 208Y/120 Volt 480Y/277 Volt
1Ø, 3 Wire 120/240 Volt 240/480 Volt		3Ø, 3 Wire 240 Volt* *Grounded BØ	
1Ø, 3 Wire 320 Ampere 120/240 Volt		* Has a Sliding Link Disconnect for the center phase	

Figure 1

By-passes are required on all self contained meter sockets. Horn type bypasses are usually used on four terminal 1-phase and five terminal single phase, 208Y/120 Volt, 3-wire meter sockets. Occasionally horn type by-passes will be found on 3-phase meter sockets, but they are generally limited to sockets where lighter loads are anticipated.

Lever operated by-passes are found on most 3-phase meter sockets and 320A. 120/240 Volt 1-phase meter sockets. These by-passes also have a jaw release mechanism which provides a higher clamping force on the blades of the meter to improve the connection.

Transformer rated meter sockets do not require by-pass means.

The 480 Volt, 3Ø, 3-Wire Meter Socket is a 5 terminal socket with the 5th terminal in the 6 o'clock position as shown in Figure 1. This socket is also equipped with a sliding link disconnect for disconnecting the center phase when the meter is removed. To operate the link, the retaining bolt is loosened and the link drops down disconnecting the center phase. It should also be noted that generally the manufacturer provides these sockets with a bonding screw or jumper that bonds the center phase to the case. For proper operation of the customer's equipment, it is important to verify that the bonding means has been removed.

Transformer Rated Meters are used for services larger than 320A. These meters require the use of external current transformers. The current transformers are generally located in transockets or could also be in a dedicated compartment in a switchgear unit.

The configurations for transformer rated meter sockets are shown in Figure 2. Again, the number of terminals, layout of the terminals in the meter socket, and the voltages are shown below.

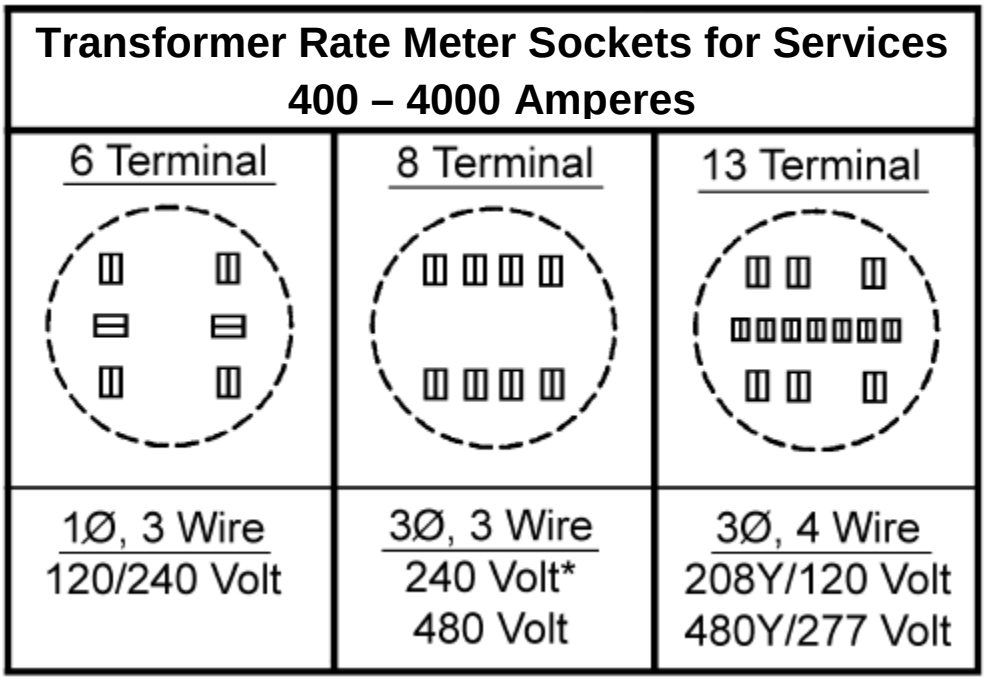


Figure 2

Transockets are supplied with the proper transformer rated meter socket by the manufacturer. If the meter socket is not the socket required for the type of service, it usually means the transocket is the wrong unit.

The transformer rated meter sockets are not supplied with other types of current transformer metering installations such as switchgear. For these other types of installations, the transformer rated meter socket must be supplied separately by the customer.

As with all electrical installations, it must be verified that the metering equipment is correct for the voltage and type of service. We hope you find this information useful. Should you have any questions regarding a service installation, please contact your local We Energies job representative.

Helpful links on the We Energies website:

Energy Service for New Construction: http://www.we-energies.com/residential/new_construction/index.htm

Customer Owned Generation: http://www.we-energies.com/business/altenergy/custgen_wisc.htm

APPENDIX
RESIDENTIAL DECK PROCEDURE

1. When building a deck, service entrance equipment must remain accessible at all times. This procedure is on how to deal with problems once decks are built around meters.
2. **Avoid installing the deck around the service entrance equipment.** If a deck is built over a service lateral and a fault on the service lateral occurs, outage times may be long and costly to repair. The Company must be able to safely work on its equipment. The National Electric Code, NEC, Article 110 *Requirements for Electrical Installations* requires the follow working space clearances be met.

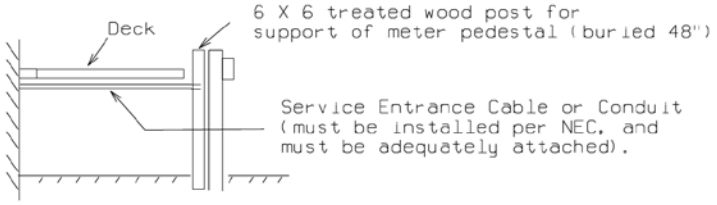
    a. *110.26(A)(1) Depth of Working Space*: A 3 ft. minimum from the front or opening of the enclosure containing live parts shall remain clear.

    b. *110.26(A)(2) Width of Working Space*: Width of working space in front of electrical equipment shall be the width of the equipment or 30 in., whichever is greater.

    c. *110.26(A)(3) Height of Working Space*: The work space shall be clear and extend from the grade to 6½ ft.

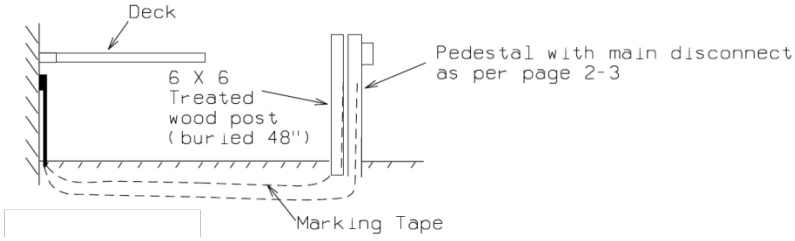
Option 1

Move meter pedestal to the edge of the deck and mount against a treated wood post. Service entrance cable can be installed in conduit under the deck and back to the dwelling.



Option 2

Move meter pedestal to the edge of the deck and mount against a treated wood post. Service entrance cable can be direct buried under the deck and back to the dwelling. Marking tape is required in Michigan for cable protection [NEC 300.5(D)] but not required for Wisconsin per COMM 16.300(2).



Option 3

Move meter pedestal to an area on the house away from the deck. The service entrance conduit or cable can then go around the house to the old service pedestal site. Marking tape is required in Michigan for cable protection [NEC 300.5(D)] but not required for Wisconsin per COMM 16.300(2).

APPENDIX
METER PROTECTION FROM SNOW AND ICE