

Appendix – Choosing The Proper Meter Socket

In the Metering Devices (D Section) 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 1Ø or 3Ø 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 Ampere (A.) services, both single phase and three phase. The only exception, in our service territory, is the 320A., 120/240 Volt, 1Ø 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.

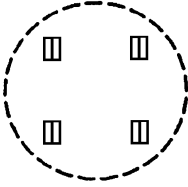
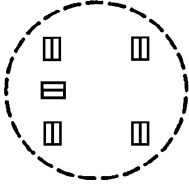
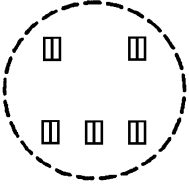
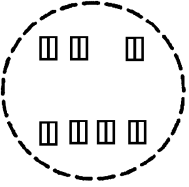
Self Contained Meter Sockets for Services 30-200 Amperes			
4 Terminal	5 Terminal	5 Terminal	7 Terminal
			
<u>1Ø, 2 Wire</u> 120 Volt	<u>1Ø, 3 Wire</u> 208Y/120 Volt	<u>3Ø, 3 Wire</u> 480 Volt*	<u>3Ø, 4 Wire</u> 208Y/120 Volt 480Y/277 Volt
<u>1Ø, 3 Wire</u> 120/240 Volt 240/480 Volt	<u>3Ø, 3 Wire</u> 240 Volt* *Grounded BØ	*Has a Sliding Link Disconnect for the center phase	
<u>1Ø, 3 Wire</u> 320 Ampere 120/240 Volt			

Figure 1

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

Lever operated by-passes are found on most three phase meter sockets and 320 Ampere, 120/240 Volt, 1Ø 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 a by-pass means.

The 480 Volt, 3Ø, 3 Wire Meter Socket is a 5 terminal socket with the fifth 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 200A. These meters require the use of external current transformers. The current transformers are generally located in transockets or in the case of very large services, 2000A. and larger, in a dedicated compartment in the switchgear.

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.

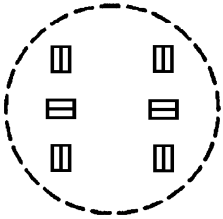
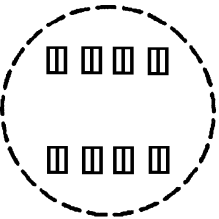
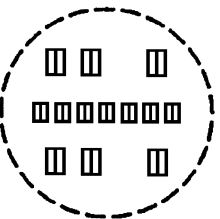
Transformer Rated Meter Sockets for Services 201-4000 Amperes		
6 Terminal	8 Terminal	13 Terminal
		
1Ø, 3 Wire 120/240 Volt	3Ø, 3 Wire 240 Volt* 480 Volt	3Ø, 4 Wire 208Y/120 Volt 480Y/277 Volt

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 that 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.

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 the local office listed on Page G-2 in Book 1.