

WattNode 3D and 3Y model differences

The $\emptyset A$, $\emptyset B$, and $\emptyset C$ phase voltage connections on WattNode meters have two functions:

1. The phase voltage is measured in order to calculate energy.
2. The voltage connections also supply power to operate the meter.

The "3D" and "3Y" characters in WattNode meter part numbers indicate how the meter gets its operating power. The "D" refers to a delta type electric service and the "Y" refers to a wye type of electric service. Either style of meter can measure 1, 2, or 3 phases depending on the number of current transformers (CTs) that are used. Either style of meter can measure delta or wye loads. The key difference between delta and wye style meters is how they are powered.

Delta (3D) meters are powered from the $\emptyset A$ and $\emptyset B$ phase voltage connections. A neutral connection is not required, but you must connect the safety ground because it is used as the meter's voltage measurement reference point. Delta model WattNode meters can be installed at any location where there are at least two phase conductors present. Delta meters must be used for four wire delta or grounded delta services. Additional information on these types of services is available from the [Four Wire Delta Circuits](#) and the [Three-Phase Grounded Delta Circuits](#) pages on our website.

Wye (3Y) meters are powered from the $\emptyset A$ phase voltage and neutral connections. A safety ground connection is not required because the meter's voltage measurements are referenced to the neutral connection. Wye model WattNode meters can be installed at any location where there is one phase conductor and neutral present. The phase conductor can be any of the three phases in the system. Wye meters must be used for single phase (120, 230, 277, and 347 volt) applications, when the meter is installed near the load and only one phase voltage and neutral are available.

Note that the $\emptyset A$, $\emptyset B$, and $\emptyset C$ phase voltage inputs are arbitrary labels. Unlike a three phase motor where phase rotation is important, the utility phase voltage inputs to a WattNode meter can be connected to any phase voltage input, in any sequence. But remember, the current transformers connected to the $\emptyset A$, $\emptyset B$, and $\emptyset C$ CT input channels must be installed on a conductor drawing current from the same phase as the voltage input for that channel.

Because the power supply in a wye model meter operates at a lower voltage than a delta model meter, wye meters cost about \$30 less than delta models. If you are not sure that there is a neutral present at the location where the meter will be installed, order a delta model.

For a listing of the minimum and maximum power supply voltages for all WattNode meter models, please refer to the [Operating Voltage Ranges](#) page on our website. For information on the different types of utility services, see the [Electrical Service Types and Voltages](#) page.