

ICS-200 Service Connections

CAUTION !! This is a *Single-Phase* device. Do not connect all 3 phases of a 3-phase feed !!!

CAUTION!! Both phases must each measure 120V to Neutral. Earth Ground must be connected to Neutral at only one point, normally in the Service Panel (check local codes).

CAUTION!! If the 3-phase feed is from a Delta-connected secondary, the leg used must have a center-tap. That tap must be used as Neutral, and Grounded. See Fig. 3 below.

CAUTION !! Warranty is void if this unit is wired improperly.

WARNING !! Only a qualified electrician should perform the installation. The installation must be performed in accordance with all local electrical codes and ordinances.

Instructions

Please read these instructions carefully before connecting power to the ICS-200. Note: 4 wires (L1, L2, N, & Gnd) need to be connected, but care must be taken that the service transformer secondary connection is definitely known, and the 4 wires from the service panel are connected and labeled correctly. Figures 1, 2, and 3 below show the most common service transformer secondary wiring formats.

Notice that L1, L2, N, & Gnd are labeled on each diagram. The transformer outputs correspond to the same inputs on the ICS-200. Also notice that both of the 3-phase diagrams shown below have an additional leg or phase (L3), which *is not used*. **Do not connect all three phases of a 3-phase secondary to the ICS-200.** The ICS-200 is a single-phase device that can safely use any two phases of a 3-phase feed as the power source.

Note that the neutral must be connected to safety ground *somewhere* in the system on any of the three connections. Ground-fault protection is not possible unless the Neutral is connected to an earth ground. If no ground is provided by the electrical service, a Ufer ground must be installed or grounding rod must be driven into the ground nearby, following local electrical codes. The rod must be connected to the ground bar in the main breaker panel, and Neutral connected to ground at that point.

WARNING !! *Local electrical codes should always be followed when installing the ground.*

Diagrams

The diagrams on the following page illustrate the 3 service transformer secondary connections most common in the United States.

Note: Refer to the ICS-200 Installation Guide for details on the ICS-200 wiring terminals. The ICS-200 can be installed using either 208V or 240V single-phase power only.

Figure 1. 208 or 240V single phase - L1, L2, Neutral, & Ground

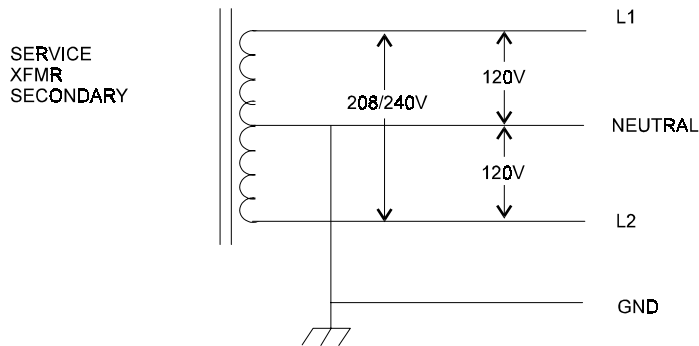


Figure 2. 208V 3-phase, Y-connected - Any 2 phases, Neutral, and Ground.

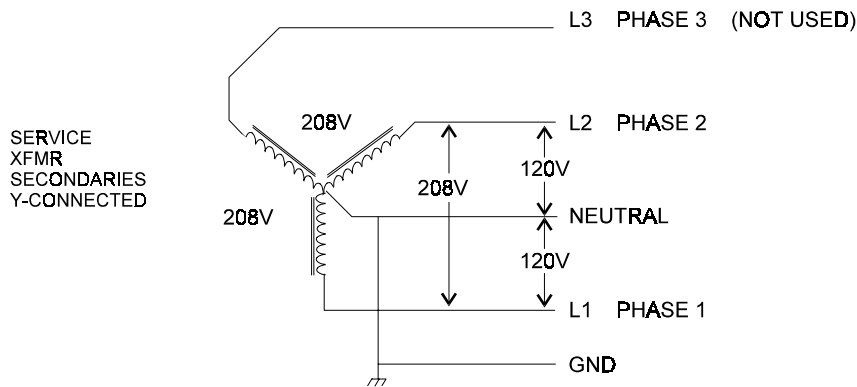
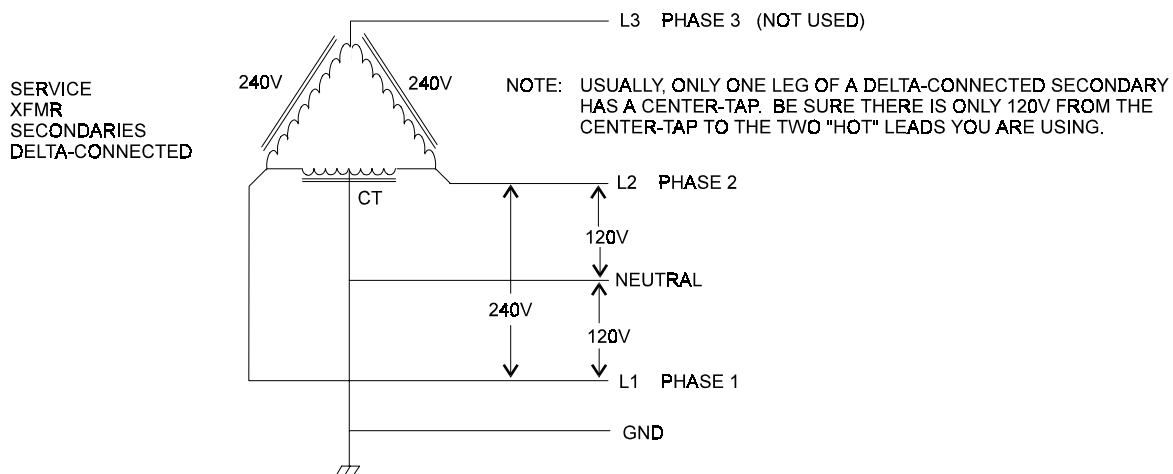


Figure 3. 240V 3-phase, Delta-connected - With a center-tap on one leg.



NOTE: Only the two phases on either side of the center tap can be used. The two phases must both measure 120V to neutral. The third leg of the delta is 177V, with respect to neutral, and is sometimes referred to as a “stinger” or high leg. Do not use this third phase!