

Single phase input power is possible for select models of the SW and TW Series. This article covers only single chassis SW series units and TW Series units equipped with the European PFC input. This type of input can be identified by the full model number as shown on the SW /TW series nameplate. A -4 in the first dash number indicates the unit is equipped with the European PFC input i.e. SW5250A-4-3-2 or TW5250-4. The European PFC input version of the SW/TW series allows a single phase voltage of 230VAC (nominal) to power the unit as well as the 230 L-N/400 L-L 3 phase commonly used overseas.

Don't let the name mislead you; this configuration can be used in the US as well. In many facilities, three phase 208V power may not be available. If this is the case, a 220-230 single phase or two phases from a 208 three phase system may be used to power a -4 input version. Figure 1 below shows a typical 208Vac 3 phase configuration.

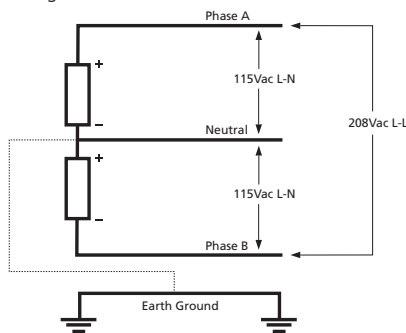


Figure 2

All of the Elgar field demo SW units are built to this configuration to allow the units to be used in the US or overseas. The SW/TW PFC option input voltage allows a wide range of 187-264VAC between the line and neutral terminations and will operate at 50,60, and 400Hz. As long as the voltage between the paralleled fuse inputs and the neutral clamp is within the 187-264VAC range, the system will operate. The common distribution for 230VAC in the US is a split phase created by a 230VAC

transformer secondary with a grounded center tap. The neutral of the two lines from the secondary are grounded conductors (neutral).



The Neutral lug in this case is actually 115VAC with respect to ground.

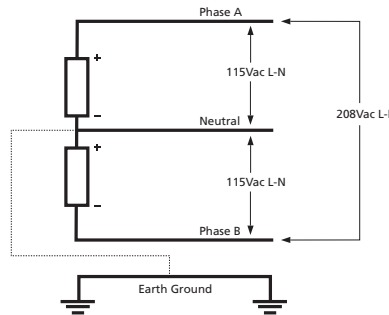


Figure 2

Figure 2 shows a typical split single phase configuration.

The warning listed in the SmartWave Operation Manual regarding the breaking of the neutral line to the unit does not apply in when wired as a single phase input.



For safety reasons, you must break both poles to prevent a shock hazard at the input wiring terminations.

Another means to get the required voltage for this configuration is to take two of the phases from a 208 3 phase system (See Figure 1) and attach one phase to the neutral and one phase to the parallel fuse block inputs.

NOTE: The Neutral lug in this case is actually 115VAC with respect to ground.

The circuit breaker and wiring that feeds these single phase configurations will need to be rated at 40A per pole service for the units larger than 1850VA and 20A for the 1850VA and 1750VA models. See figure 3

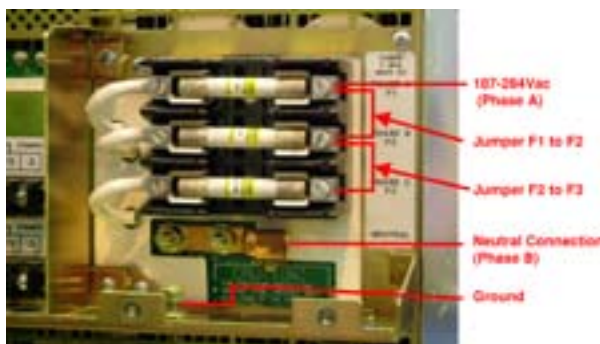


Figure 3