

320amp service vs. 200amp service

Within this article we hope to explain the difference and the reasons for choosing one amperage service over the other.

First let's start with some definitions:

Service: the conductors and equipment for delivering electrical energy from the serving utility (local PUD) to the wiring system of the home being served.

Service Entrance: describes the method in which the service is brought to the service meter, this is either overhead or underground.

Service Meter: is the actual glass meter supplied & installed by the local PUD that reads and records the electrical usage.

Service Panel: the electrical panel which contains all the circuit breakers, This panel is communally located in the garage.

Branch Circuit: the circuit conductors (wiring) between the final overcurrent device (breaker) and the outlet(s), switch etc.

Conductor: is the electrical wiring used to deliver electrical current.

Overcurrent device: breaker, fuse etc.

The amperage of the service brought to the home is determined by the transformer capability which is installed and maintained by the local PUD. Normally residential service is rated at 200amp. However, if one had a need for a larger service (320amp) it could be requested of the PUD but the cost of that increased amperage service would fall on the home owner and can be quite expensive.

The service meter and service panel must be sized to the service being provided by the PUD, for example if the service being supplied is 200amp a 200amp service meter must be installed. If the service is 320amp then the same applies, a 320amp service meter must be installed. Now because they do not produce a residential 320amp service panel dual 200amp service panels wired in parallel should be installed. Again the capacity of the service is determined by the size of the service conductors.

So, Why would you want dual 200amp service panels, simply put If a load calculation on a particular dwelling yields a required ampacity of 320, then twin 200 amp panels might be selected for the simple reason that no one makes a 320 amp panel or a 160 amp panel. Sometimes multiple panels are used to obtain more breaker slots than a single panel could furnish.

A normal 200amp service panel holds 30/40 spaces (30 regular sized breakers or 40 if using wafer breakers) therefore some larger homes have a greater demand and need additional breaker space and the most common way to accomplish that is by installing dual 200amp panels.

One other reason for a 320amp service would be because there might be a detached shop or cascade dwelling in which case a 320amp service would be required with a 320amp service meter and dual 200amp service panels one located in the main house and the other in the detached building. This allows 2 building to be serviced by only one service meter.