

Glossary of Terms

Blackout = Total loss of utility power caused by excessive demand on the power grid, lightning storms, ice on power lines, car accidents, backhoes, earthquakes and other catastrophes. Effects include loss of current work in RAM or cache and possible loss of the hard drive file allocation table (FAT), which results in total loss of data stored on drive.

Dumb terminals = A terminal that passively serves for input and/or output but performs no local processing. KVA. VA times 1000.

Noise = More technically referred to as electromagnetic interference (EMI) and radio frequency interference (RFI), electrical noise disrupts the smooth sine wave one expects from utility power. Electrical noise is caused by many factors and phenomena, including lightning, load switching, generators, radio transmitters and industrial equipment. It may be intermittent or chronic. Noise introduces glitches and errors into executable programs and data files.

Sags = Also known as brownouts, sags are short term decreases in voltage levels. This is the most common power problem, accounting for 87% of all power disturbances according to a study by Bell Labs. Sags are usually caused by the start-up power demands of many electrical devices (including motors, compressors, elevators, shop tools, etc.) Electric companies use sags to cope with extraordinary power demands. In a procedure known as "rolling brownouts," the utility will systematically lower voltage levels in certain areas for hours or days at a time. Hot summer days, when air conditioning requirements are at their peak, will often prompt rolling brownouts. A sag can "starve" a computer of the power it needs to function, and cause frozen keyboards and unexpected system crashes which both result in lost or corrupted data. Sags also reduce the efficiency and life span of electrical equipment, particularly motors.

Single-phase VA rating = Volts times Amps = VA per device.

Spike = Also referred to as an impulse, a spike is an instantaneous, dramatic increase in voltage. Akin to the force of a tidal wave, a spike can enter electronic equipment through AC, network, serial or phone lines and damage or completely destroy components. Spikes are typically caused by a nearby lightning strike. Spikes can also occur when utility power comes back on line after having been knocked out in a storm or as the result of a car accident. Spikes cause catastrophic damage to hardware and loss of data.

Surge = A short term increase in voltage, typically lasting at least 1/120 of a second, resulting from presence of high-powered electrical motors, such as air conditioners, and household appliances in the vicinity. When this equipment is switched off, the extra voltage is dissipated through the power line. Computers and similar sensitive electronic devices are designed to receive power within a certain voltage range; anything outside of expected peak and RMS (considered the "average" voltage) levels will stress delicate components and cause premature failure.

Watts-to-VA conversion = Watts times 1.35 = VA per device.