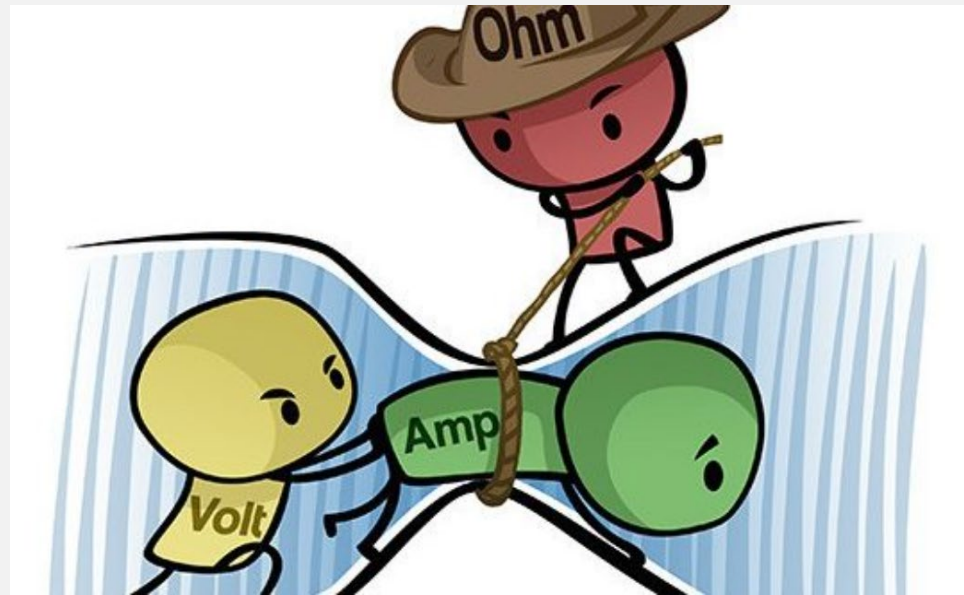


# Surge Protectors Demystified

Surge protectors are our fixtures body guards, protecting against transient voltage. Voltage is electrical pressure, making electric current travel from point to point because there is greater pressure at one end of the wire than there is on the other. Think of it like a hose, higher pressure at one end causes water to flow out of the other. Transient voltage is a surge or spike that has the same effect as putting too much pressure through the hose with the nozzle closed, the hose/wire will burst.

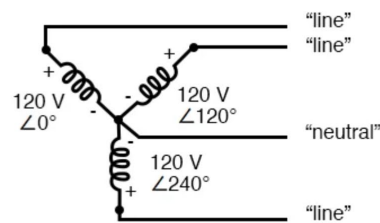


Surge protectors work by redirecting the transient voltage with a MOV (metal oxide varistor). The MOV works like a pressure sensitive valve, when the MOV detects high voltage levels it kicks in automatically to redirect excess voltage. This doesn't always work, and the level of protection varies. Low cost MOVs commonly catch on fire during long lasting surges, and can sustain a lower amount of strikes. This is why we prefer Littelfuse surge suppressors. Littelfuse developed the first fire safe MOVs, they have an added built in thermal disconnect and they have a long history of being the best on the market for outdoor LED lighting fixtures.

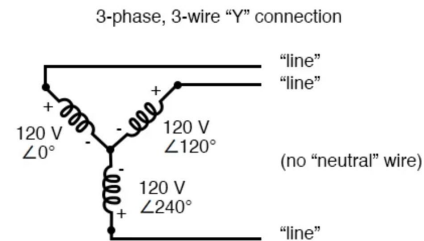


# The Down Side

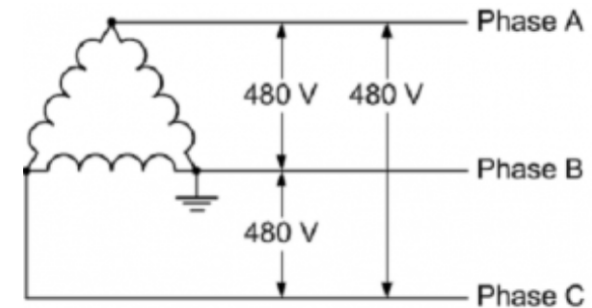
Due to the added protection that Littelfuse offers, they are sensitive to power distribution configurations. The most common power distribution is called Wye, or “Y” which has a three and a four wire configuration. The second distribution configuration is called a delta. The four wire Y is the most common, and our 277VAC surge protector covers this configuration at 120VAC, 208VAC and 277VAC. Both Y and Delta have a three wire configuration that has no neutral (white) wire. This is why the 240VAC, 347VAC and 480VAC are voltage specific in our product line.



Three-phase, four-wire “Y” connection uses a “common” fourth wire.



Three-phase, three-wire “Y” connection does not use the neutral wire.



\* With slight modifications in the field, the 277VAC surge suppressor can work at 240VAC. We don't generally do this because the wire color mismatching causes confusion for the contractors in the field; however, the wire diagram on the newest surge protector installation instructions that we provide to our customers does show how to bypass this.

THANK YOU