Class 2 or Class II power supplies?

One question we are frequently asked is:

"Customer is looking for a Class two power supply; what can you offer him?"

Our response is always "Class 2" or "Class II (with Roman numerals)", or both? The pause on the end of the phone signifies an explanation is in order.

Class 2 is a classification referring to the NEC – National Electric Code. To avoid potential cable overheating due to excessive currents and electric shock, the output of the power supply is limited to 60VDC or 100VA, (100W when used with an AC-DC power supply).

You will often see 24V output DIN rail power supplies or LED drivers rated at 91W rather than 100W because if the power supply is overloaded, any tolerance in the over current protection has to be accounted for.

Often these products will be certified to UL1310 and will list this in the datasheet and that output currents of 4.2A or greater are not approved to UL1310.

Class II (with Roman numerals) refers to power supplies with either a double or reinforced insulation barrier between the input and the output. Class II supplies do not rely on an earth connection to protect against shock hazard. Many cell phone chargers and laptop power supplies are Class II.

Many external power supplies are also Class II, having just a Line and Neutral AC input without a ground connection.

A Class II power supply rating label will show this symbol: