



DONGAN ELECTRIC INTRODUCES OUR NEW PRODUCT OFFERING

Class 2 Transformers



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Defining a Class 2 circuit

The NEC defines a Class 2 circuit as that portion of the wiring system between the load side of a Class 2 power source and the connected equipment. Due to its power limitations, a Class 2 circuit is considered safe from a fire initiation standpoint and provides acceptable protection from electrical shock.. These are typically low-current applications operating at 100VA or less and 30 volts or less. Some Class 2 circuits include air conditioning thermostats, garage door openers and sprinkler system controls. A Class 2 transformer is used to supply Class 2 circuits.



What is a Class 2 Transformer?

Class 2 transformers have a maximum VA rating of less than 100 VA with most being in the 10-40 VA range. Voltages are a maximum of 240 volts on the primary and these transformers

can have multi-tap primary voltages. The secondary is typically 24 volts or less. All class 2 transformers are limited by either the circuit safety device or their own design.

If a transformer is said to be **inherently** protected that indicates the transformer is designed in such a way as to protect itself and the load without the addition of any fuse. This is accomplished by designing the unit with high impedance. A **non-inherently** protected transformer is protected by an internal fuse or circuit breaker. In the instance of an internal fuse it is a one shot fail fuse, so once the fuse trips, the transformer is rendered inoperable. Smaller class 2 transformers of 50VA or less typically do not have fuses or circuit breakers with the circuit as the transformer is designed to prevent overload by failing before the circuit overheats. In essence the VA determines whether the transformer is inherently or non-inherently protected.

Class 2 Transformer Applications

Class 2 transformers are used in many home and business settings. Common residential items include the power supply on a cordless phone, transformer on a plug-in coffee maker, laptops, the transformer for a plug-in toy and an antenna signal booster. A wall plug is sometimes referred to as a Wall Wart and is another example of a Class 2 transformer found in a business environment might include the power supply for a PBX phone switcher, bakery ovens or external landscape lighting. The market for these is OEM based.

UL

Class 2 transformers must be used in conjunction with Class II circuits. The maximum secondary output cannot exceed 30 alternate current voltage (VAC). The most common combination is 75 VA and 24 VAC. They are regulated by Underwriters Laboratories (UL) guidelines and can be either inherently or non-inherently limited. Dongan sells UL listed Class 2 transformers. However this file is much different that our typical Class 1 transformer file with UL. We must submit each new model for rigorous testing by UL and then that catalog number gets added into our file.

Industries

- Commercial Ovens
- Commercial and Industrial Air handling Equipment
- Low voltage lighting
- Irrigation Equipment
- Residential Furnaces
- Residential and Commercial Appliances
- Commercial Laundry Equipment
- Battery Chargers
- Vending Machines
- Espresso Machines
- Ice Cream machines



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