



## Technical Bulletin

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### Lighting Cables 300V or 600V?

This document is a clarification of the 300 Volt and 600 Volt issue occasionally encountered when selling OEM support cables in support of Low Voltage lighting control circuits. Due to industry changes and the appearance of limited energy lighting and appliance control systems offered by AMX, Lutron, Vantage, and others the NEC® code published in 1999 listed exceptions to allow electric light, power, Class 1, non-power-limited fire alarm and medium power network-powered broadband communications cable to be located in the same enclosure as Class 2, and Class 3 conductors. NEC® 2011 Article 725.136(D) addresses the application that most Low Voltage lighting control installation manuals reference.

A trend noted by Liberty Wire and Cable is multiple wire providers offering a dual purpose cable that is listed under Tray Cable and listed under Communications Cable. This is permissible marking under UL444 if the manufacturer has both listings. There is a key small word on the print legend, it will state "or" between the two certification groups. This "or" has to be on the print legend when dual purposes are indicated and the two different ratings cannot be partially applied. This cable will look like a "600 Volt rated CMR" cable when the voltage rating is borrowed off of the Tray Cable rated side and the CMR borrowed off of the Communications Side. This cable is then installed as an electric light, power, Class 1, non-power-limited fire alarm and medium power network-powered broadband communications cable and hooked up to the Class 2 or 3 circuitry. This defeats the purpose of NEC® 2011 article 725.136 as the separation is specified to eliminate the possibility of hazardous voltage potential introduction into the Class 2 or 3 circuits. NEC® 2011 Article 725 Table 725.154(G) lists the permissible substitute ratings allowed for Class 2 and Class 3 circuits. Type TC cable is not an authorized substitute and also is not authorized to be installed in a wall. It has to be installed in a Cable Tray and its use and application is directed by NEC® Article 336

Liberty Wire and Cable also possesses the applicable ratings to mark cables as indicated but in deference to the requirements of the NEC® code and human safety we will continue to offer only CL3 – CMR rated non-plenum and CL3P or CMP rated plenum products for low voltage lighting control.

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