

Application Note

Copper Communication Cables, 600 V Rating

This application note addresses 600 V-rated Industrial Ethernet (IE) products. This rating comes from UL 758, the Appliance Wiring Material (AWM) safety standard. General commercial-grade copper communication cables are rated for 300 V applications under ANSI/UL 444 and are intended for installation in accordance with Article 800 of NFPA 70, the National Electrical Code (NEC).

The applicable AWM Style defines the conditions under which the cable is considered to have a 600 V rating. When the installation falls outside the scope of that AWM Style and the end-product installation instructions, the IE cable should be treated as having the same voltage rating as other commercial-grade copper communication cable, 300 V. Information on AWM Styles can be found on UL's website.

In general, for Leviton's BERK-TEK™ IE cables, the 600 V AWM Style is typically relevant inside equipment or internal wiring of appliances, such as interconnection of electronic equipment, where copper communication cables and power cables may be routed together as part of listed equipment. Outside the equipment or control panel, power and communication cables must be separated as required by the applicable code and installation method. This separation may be achieved by a permanent barrier, separate raceway, or sufficient spacing between cables.

Industrial Ethernet category cables are not tray cables (Type TC), due to not meeting the minimum gauge size required. Installation in a basket tray does not, by itself, require Type TC cable; the required cable type depends on the circuit classification, installation location, and applicable NEC article. Type TC is governed by NEC Article 336 and is generally used for power and control tray-cable applications. Power-Limited Tray Cable (PLTC) is a cable designed for Class 2 and Class 3 circuits; they are 300 V rated cables used with circuits defined in Article 725 of the NEC. Instrumentation Tray Cable (ITC) is also typically rated 300 V and is intended for industrial instrumentation and control circuits covered by Article 727 (NEC 2020 or before) or 335 (2023 or later) of the NEC.

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Product Line:
Copper Industrial
Ethernet Cables, 600 V
AWM Style

Part Numbers Affected:
A689, A750, A753,
A774, B535, B536,
B537, B540, B585,
B587, B751, B752,
B789, B840, B907,
C538, C539, C541,
C542, C545, C547,
C637, C826, C851

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