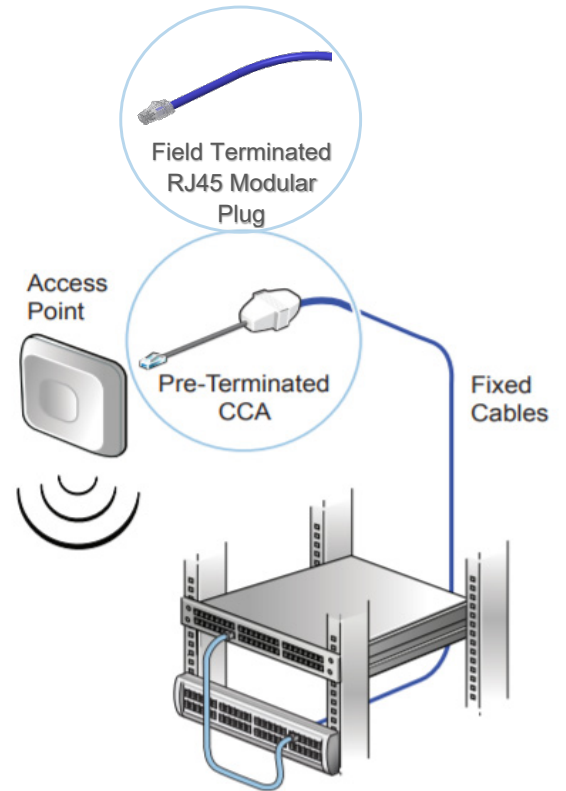# COMMSCOPE®

Design Guidelines for

Modular Plug Terminated Link (MPTL)

September 2020

APPLICATIONS

Today's intelligent buildings have some of the latest technology deployed inside which is causing ICT designers to re-consider traditional installation practices. For example, previously, most network computing devices were in offices or equipment rooms, with the horizontal cable terminating at an equipment outlet or panel – with devices connected via a conventional patch lead. With the proliferation of IoT sensors/devices and other advanced technologies, there is an increase in devices being placed in remote locations. These applications require a more contemporary approach to their management and connectivity.

The ANSI-TIA568.2-D standard contains a new link model named Modular Plug Terminated Link or MPTL. This link model, described in Annex F, differs from the traditional two or three connector permanent link specified in Annex L in that it is terminated on one end with a traditional RJ45 style jack/interconnect and on the other end with a modular plug. There is the option to include a consolidation point between the ends of the MPTL. The MPTL link model is intended for installations where a horizontal cable needs to be converted to an assembly terminated with a modular plug. This modular plug termination can be plugged directly into an access point or other such device.

CommScope supports different methods for establishing a connection to remote devices. In most cases the traditional method to run pre-terminated cable assemblies to remote devices provides the most cost-effective installation and highest performing solution. It is recognized that alternate solutions for termination in the field are necessary to meet installation challenges. CommScope provides two solutions for implementing a Modular Plug Terminated Link. These are the CommScope Ceiling Connector Assembly (CCA) and CommScope Field Terminated RJ45 Modular Plug.

Traditional method of connecting to remote device

MPTL termination in field method of connecting to remote device
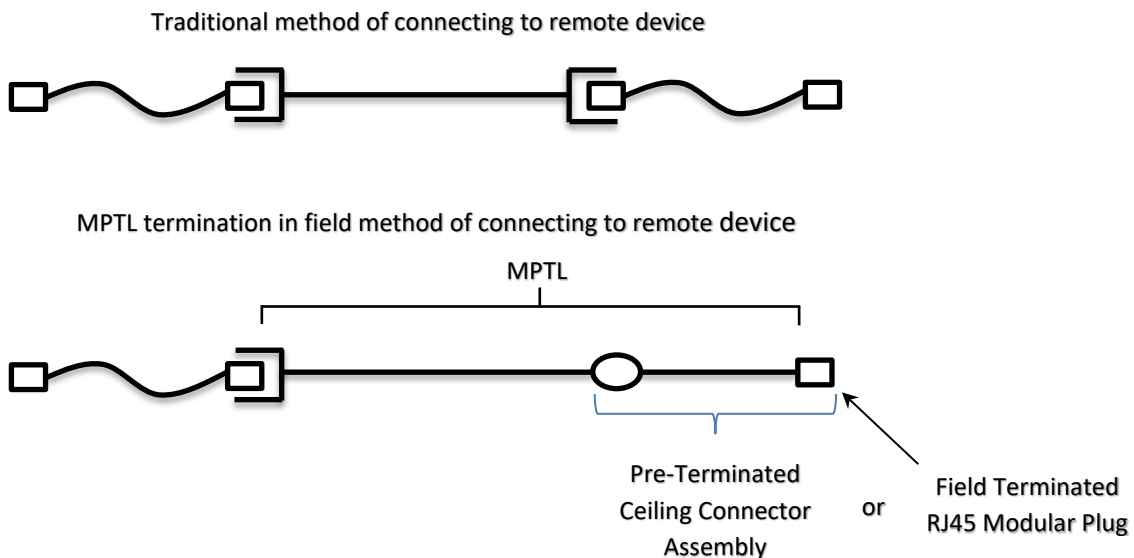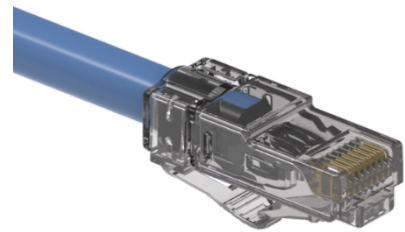
CEILING CONNECTOR ASSEMBLY

The CommScope Ceiling Connector Assembly (CCA) provides a field installable method of connecting a UTP horizontal cable to a single-ended patch cord. The CCA is also available as a pre-terminated cable assembly with an RJ45 modular plug. Once installed, the RJ45 modular plug end can be directly connected to cameras, access points, and other ceiling mounted devices in MPTL configurations. The CCA supports SYSTIMAX, NETCONNECT, and Uniprise channel configurations. For more details on the application of the Ceiling Connector see Design Guideline for Ceiling Connector.

FIELD TERMINATED RJ45 MODULAR PLUG

The CommScope Field Terminated Plug provides a traditional RJ45 Modular Plug for use in end point terminations at access equipment. When paired with CommScope UTP horizontal cables it provides a convenient method of implementing a modular plug terminated link. The Cat6A version of the plug is compatible with SYSTMAX 1091B/2091B/3091B and CommScope CS44 UTP cables. The Cat6 version of the plug is compatible with SYSTIMAX 1071E/2071E/3071E and CommScope CS34/CS37 UTP cables. The Cat6A Large Wire version of the plug is compatible with CommScope CS41 UTP cables. Refer to: 860650055 Field Terminated RJ45 Modular Plug Termination instructions for the method of installation.

The CommScope Field Terminated Modular Plug is ideal for high density MPTL applications where a transition from horizontal cable to RJ45 plug is required. While, the Field Terminated Plug is designed for up to Cat6A permanent link performance, it is not intended for use in the construction of modular patch cords. CommScope factory terminated modular patch cord products are designed and tested to offer maximum system performance when paired with their corresponding CommScope information outlet/jack in the channel.

FIELD TESTING

Field testing of a Modular Plug Terminated Link using the Ceiling Connector Assembly and/or the Field Terminated RJ45 Modular Plug is described in ANSI-TIA568.2-D Annex F and for lengths up to 90 meters. Most field testers are capable of evaluating the performance of Modular Plug Terminated Links using a combination of appropriate adapters.

MPTL

Ceiling Connector Assembly

MPTL

Field Terminated RJ45 Modular Plug
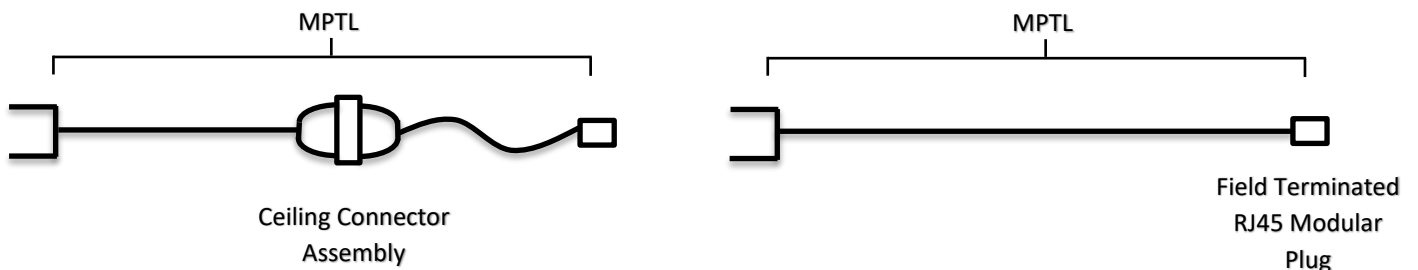
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