

High Performance Plug Terminated Link Technology

Network infrastructure pros are well aware of the revolution happening inside the walls and ceilings of modern buildings and they know what is driving it. It's the advent of intelligent buildings where virtually every device is connected to network cabling infrastructure allowing building systems to communicate via the IoT. Thanks to advancements in PoE technology, that cabling infrastructure is often expected to go beyond data communications delivering low-voltage power to a variety of end devices.

In a traditional network infrastructure, horizontal cables terminate to work area outlets with equipment connections made via double-ended patch cords. While this configuration is commonly used in intelligent buildings to connect IP devices – like PoE lighting, security cameras, wireless access points, digital displays, and building automation controls – it is not always the most efficient method. Instead, the use of plug terminated links allow for custom length connections directly into many of these devices which do not require connections via network boxes, outlets and patch cords.



5 BENEFITS OF PLUG TERMINATED LINK TECHNOLOGY



The direct configuration of plug terminated link technology offers a range of benefits, such as:

- Rapid deployment of IP devices via custom-length quick connections
- Simplified project bills of materials (BOMs), reducing unnecessary costs
- Improved performance and more efficient power delivery by eliminating extra connection points introduced by outlets and patch cords
- Improved security by eliminating patch cords that can be easily disconnected from devices like surveillance cameras.
- Easy transition from OSP copper cable to indoor cable via plug-to-outlet connection at the building entrance

TECH BRIEF

SLOW PROGRESS AND GROWING ADOPTION

Despite the market availability of field-terminable plugs, widespread adoption of plug terminated links has so far been limited by a number of factors, most critically performance limitations and ease of use. In the simplest terms, these plugs did not originally perform as well as traditional outlet and patch cord configurations and were difficult to terminate. Thanks to continuous improvement and innovation, the benefits of plug terminated links for high performance direct connections to IP devices has been realized today.

Having previously been highlighted in the TIA-862 Building Automation Standard only, plug terminated links will now appear in the upcoming TIA 568-2.D standard. The standard will include a new modular plug terminated link (MPTL) test procedure using a permanent link adapter and patch cord test adapter that includes the final plug connection at the far end.

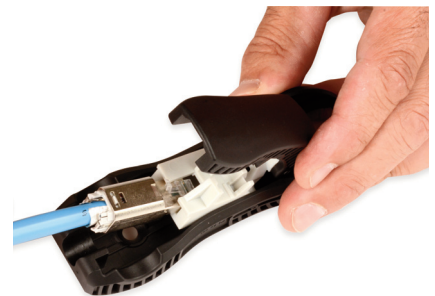
Plug terminated links are also recognized in the newly released BICSI 033 "Information Communication Technology Design and Implementation Practices for Intelligent Buildings and Premises."

WHAT TO CONSIDER WITH FIELD TERMINATED PLUGS

In terms of performance, plug terminated links should deliver 10 gigabit system transmission performance and support advanced PoE — both of which are required for the latest 802.11ac Wi-Fi access points.

When selecting a field terminated plug to deploy plug terminated links, look for plugs that can also deliver excellent flexibility supporting the most common cabling types and configurations in a single product/part number. For example, a field terminated plug that can be quickly terminated to both shielded and UTP, solid and stranded Category 6A and Category 6 cables in conductor sizes from 22 to 26 gauge, allows for easily deploying plug terminated links in a wide range of projects and applications. To further improve usability, make sure that field terminated plugs are plenum-rated for use in air handling spaces since many of the devices that are better supported by plug terminated links connect within these spaces.

In addition to application flexibility, plug terminated link termination processes should save time while simultaneously helping to ensure repeatable connection performance. A contractor-friendly intuitive termination process that centers on hand-held, ergonomic plug termination link tools will ensure the fastest, most reliable connections. Another feature to consider in a field terminated plug is the ability to re-terminate the connection to accommodate any future reconfigurations and changes.



TECH BRIEF

Many devices that connect via plug terminated links, such as cameras, access points and LED lights may have limited space and depth for making connections. It is therefore important to consider the overall size and profile of a field terminated plug as longer plug bodies may not accommodate these devices. For example, field terminated plugs that feature rounded corners, a reduced-length plug body and the ability to be terminated with or without a boot are ideal for connecting devices with limited plug space and depth. Image: Z-PLUG in POE light (from 1 page flyer)



Another unique technology feature to look for is a latch guard that protects the plug latch during cable routing and provides improved accessibility when unplugging/connecting devices in tight spaces. Color-coding of links is also a useful feature for consideration, such as latch guards that are available in a variety of colors.

SEIZING THE OPPORTUNITY

The exponential growth of intelligent buildings and PoE device technology presents an excellent opportunity for network infrastructure professionals. The technology is established, the devices exist, and the volume of network cables needed to support this trend will increase. With the right field terminated plug solution in place, the straight-to-the-point approach of plug terminated link technology can create a significant advantage for IP end-device connectivity and more.

TECH BRIEF

Because we continuously improve our products, Siemon reserves the right to change specifications and availability without prior notice.

**Worldwide Headquarters
North America**
Watertown, CT USA
Phone (1) 860 945 4200

**Regional Headquarters
Europe Russia Africa**
Chertsey, Surrey, England
Phone (44) 0 1932 571771

**Regional Headquarters
China**
Shanghai, P.R. China
Phone (86) 215385 0303

**Regional Headquarters
Latin America**
Bogota, Colombia
Phone (571) 657 1950/51/52

**Regional Headquarters
India Middle East**
Dubai, United Arab Emirates
Phone (971) 4 3689743

**Regional Headquarters
Asia Pacific**
Sydney, Australia
Phone (61) 2 8977 7500

**Siemon Interconnect Solutions
Watertown, CT USA**
Phone (1) 860 945 4213 US
www.siemon.com/SIS

TB_ZPLUG_ Rev A. 4/18

© 2018 Siemon