

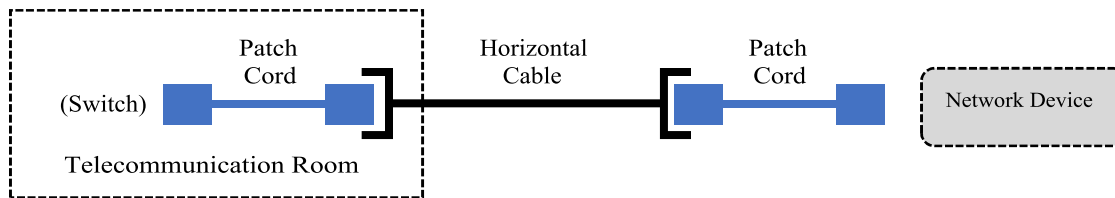
June 2019

TX6A™ UTP and Shielded Field Term Plugs and Direct Cabling Systems

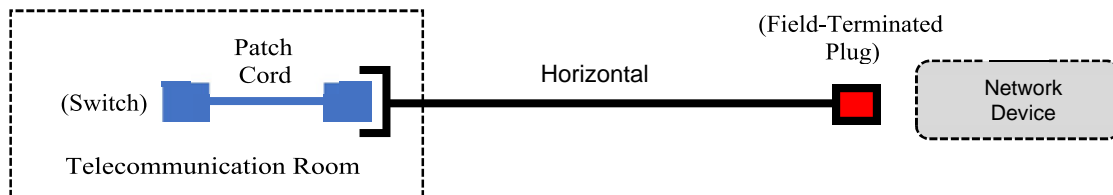
What is “Direct Connect” Cabling and Why is it Used?

Direct connect cabling is an approach increasingly being used to attach deployed devices in enterprise networks. In direct connect cabling the horizontal link is plugged directly into the network device rather than using a patch cord.

Typical structured cabling approach: horizontal cable terminates to a modular jack and a patch cord is used to connect the device to the network:



Direct Connection cabling: horizontal cable link terminates to a plug which is inserted directly into the device, connecting it to the network:



Direct connection makes the most sense with devices that are in less-accessible areas, require little or no contact, and are not moved very often.

Good Candidates for Direct Connection

In these types of applications, direct connection is a simple, cost effective alternative to the traditional structure cabling approach which provides advantages such as fewer connectors, easier running of the cable link and higher reliability.

Device Examples	Wireless access points, security cameras, sensors, digital signage, PoE lighting, etc.
Typical location of device or termination	Ceiling level or high on wall
Need for access to device or termination	Limited
Need for future movement of device	No

Direct Connection Made Easy – The Panduit TX6A™ Field Terminable Plugs

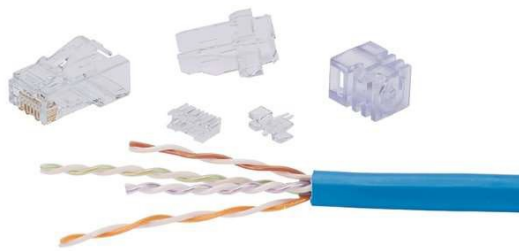
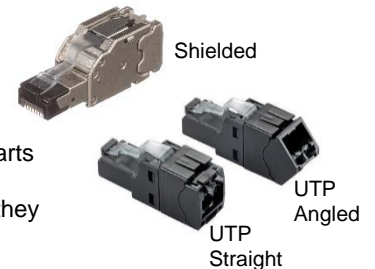
While TX6A™ Field Term Plugs work with any architecture, the plugs are ideally suited for direct connect applications which depend upon a high-performance plug which can be terminated on site.

Designed for a quick and easy termination in the field, the simple-to-attach TX6A™ Field Term Plugs are ideal for connecting network devices such as wireless access points, LED lighting, security cameras, sensors, building access units, display panels, audio visual systems, and others.

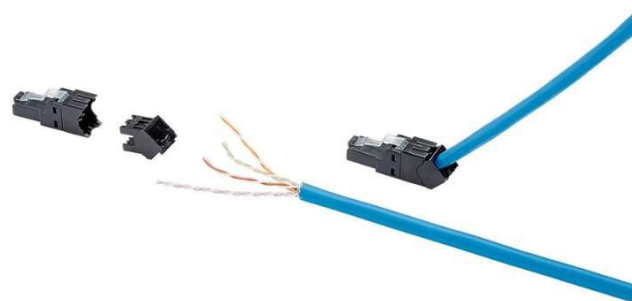
What is Different About the TX6A™ Field Term Plugs?

Its unique design enables quick and easy termination to cabling while at the same time being compact enough to fit in similar spaces as traditional modular plugs.

Compact and cost effective, traditional modular plugs are typically comprised of several small parts and require multiple steps to terminate properly. Therefore, those plugs are poorly suited when attaching to cable in field conditions. While there are some plugs promoted as field-terminable, they are often bulky and not very easy to assemble quickly or properly in typical field conditions.



Typical Modular Plug (5 pieces)



TX6A™ Field Term Plug (2 pieces) – UTP angled version shown

TX6A™ UTP and Shielded Field Term Plugs and Direct Connect Cabling Systems

All TX6A™ Field Term Plugs utilize the Panduit pioneering “TG Style” wire cap termination technology. This is the same easy “forward motion” technology used for more than 12 years with Panduit modular jacks. The method features:

- Simple two-part assembly
- Ability to handle a wide range of cable gauges
- An easy-to-learn yet reliable termination, even with Category 6A
- Fast termination times
- A compact and lightweight termination tool
- Capability for straight or angled UTP versions

Terminating the Panduit Field Terminable Plug



TX6A™ Field Term Plugs use a TG Style Wire Cap like those used on Panduit TG Mini-Com® Modular Jacks.

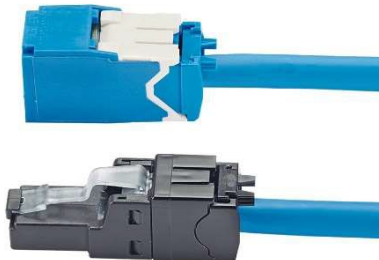
Terminating TX6A™ Field Term Plugs are as simple and easy as terminating a Panduit TG Style Jack. The wire cap of the field term plug has the identical wire map pattern and conductor retention features as a TG Style Jack for fast and reliable field termination.



Terminating TG Jack with the EGJT-1 Tool



Terminating Field Term Plug with EGPT Tool



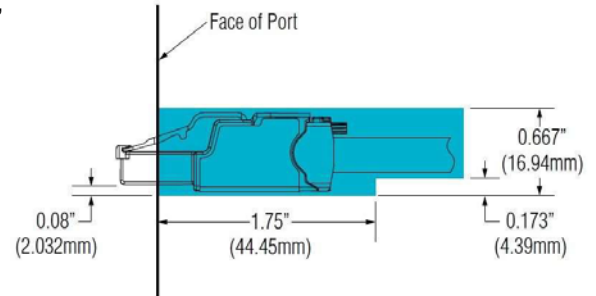
Terminated TG Jack and Field Term Plug

Plug Fit and Compatibility with Devices

The compact footprint of the field term plug enables it to fit in smaller spaces than most other field-terminable plugs.

- The “Space Required” shown to the right (straight version shown), includes length clearance to insert and remove the plug
- Always confirm the fit of the TX6A™ Field Term Plug with the intended device
- An angled version is available for more cable routing options

Space Required to Fit the TX6A™ Field Term Plug

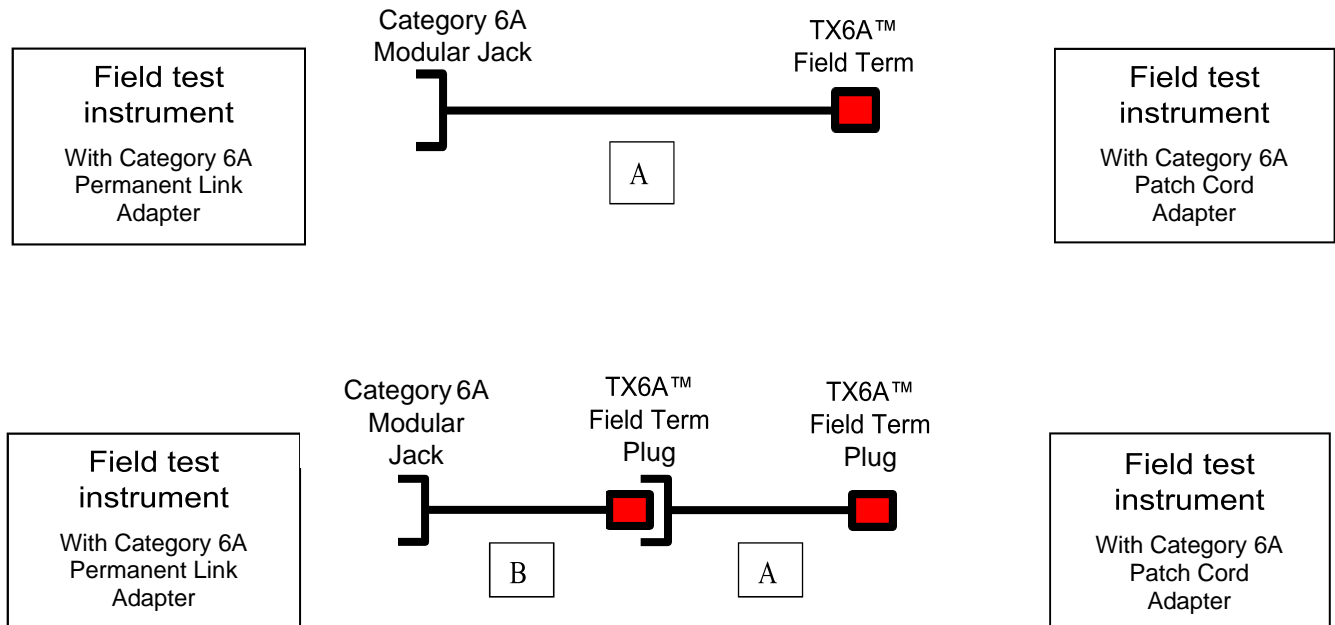


How to Test Direct Connected Links

Panduit supports two ways to test direct connected links for performance and warranty purposes. In both cases, up to two TX6A™ Field Term Plugs may be present in the link.

Test Method 1 – Standards Method:

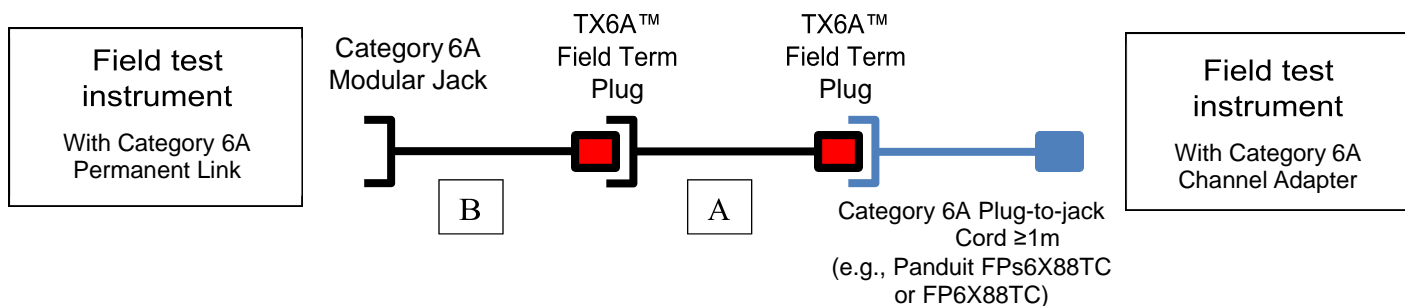
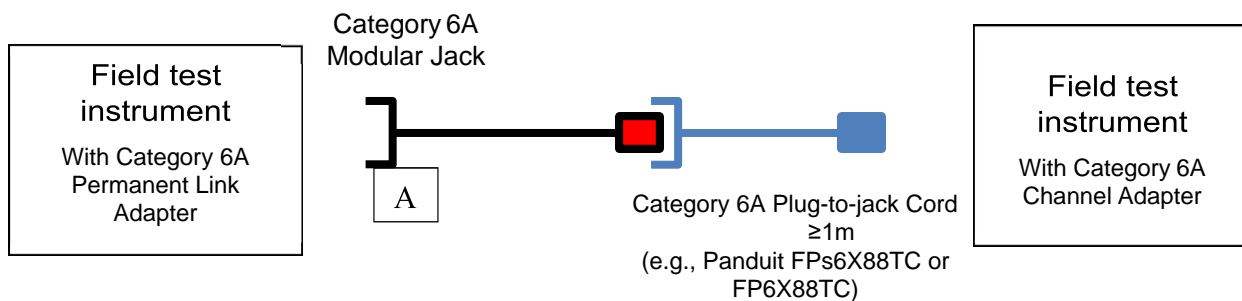
The MPTL Field Terminable Plug Standards Method is to be used by system designers and users of data communications systems to verify the performance of the permanent link used in a direct-connect designed infrastructure. The permanent link tested in this model includes up to 90m (295 feet) of horizontal cable with a maximum of two (2) field terminable plugs. The connection to the equipment at either end of a permanent link is only included in the permanent link definition if measured via the Standards Model. Schematic representations of the permanent link testing via the Standards Model can be found below.



Minimum segment “A” length = 1m (3.28 ft)
 Minimum segment “B” length = 9m (29.53 ft)
 Maximum PL length = 90m (295.2 ft)

Test Method 2 – The Alternate Method:

The Alternate Method Field Terminable Plug test configuration is to be used by system designers and users of data communications systems to verify the performance of the permanent link used in a direct-connect designed infrastructure where the Standards Method is not possible. In the Alternate Method, the permanent link continues to have a maximum total horizontal cable length of 90m (295 feet) and a maximum of two (2) field terminable plugs. The connection to the equipment at either end of a permanent link is not included in the Alternate Method test and therefore requires a $\geq 1\text{m}$ plug-to-jack cord to properly test the TX6A™ as part of the permanent link performance. Schematic representations of this permanent link test configuration can be found below.



Minimum segment "A" length = 1m (3.28 ft)
Minimum segment "B" length = 9m (29.53 ft)
Maximum PL length = 90m (295.2 ft)

Summary

Direct connect cabling is gaining popularity as a cost-effective and reliable way to connect stationary network devices such as wireless access points, cameras, sensors, PoE lighting, digital signage and others. The easiest way to deploy direct connect cabling is to attach a field-installable plug at the end of the horizontal cable link where it is inserted into the network device. The TX6A™ Field Term Plugs, shielded or UTP straight and angled versions, all are simple, easy to install two-piece plugs that can be used in all direct connect cabling applications in the field today for fast and reliable terminations.