

What type of PON pigtail does a home gateway use



Overview

Because PONs are intended to carry voice, data and video, virtually any network carrying any type of traffic can use a PON.

Key Takeaways

Most XGS-PON home gateways use a single-mode fiber with an SC/APC connector for the PON port. PON Port and Connector Type

Home gateways or ONTs designed for XGS-PON networks, such as the HALNy HLX-TGV and Comtrend GRG-4286, typically feature one PON port using an SC/APC connector. This connector type is standard for FTTH deployments because it provides low back-reflection, which is critical for high-speed optical signals in GPON and XGS-PON networks.

Fiber and Pigtail Considerations

- **Fiber Type:** Single-mode fiber (SMF) is used for PON connections, supporting long-distance transmission and high-speed symmetric 10G/10G services.
- **Pigtail Definition:** In this context, a pigtail refers to a short length of fiber with a factory-terminated SC/APC connector on one end, which is spliced to the incoming fiber from the OLT or distribution point.

- **Installation:** The pigtail is typically fusion-spliced to the drop fiber, ensuring minimal signal loss and reliable connectivity. The home gateway itself does not require a separate pigtail if the fiber drop is pre-terminated with an SC/APC connector.

Compatibility and Standards

- **Standards Compliance:** XGS-PON ONTs comply with ITU-T G.987.1, ensuring interoperability with most OLT vendors .

- **Connector Orientation:** APC (Angled Physical Contact) connectors are preferred over UPC (Ultra Physical Contact) for PON ports to reduce reflection and maintain signal integrity.

- **Optional Pigtail Lengths:** If a pigtail is needed for installation, lengths typically range from 0.5 to 2 meters, depending on the installation environment.

Summary

For home gateways in XGS-PON networks:

- **PON port:** Single-mode fiber
- **Connector type:** SC/APC
- **Pigtail usage:** Optional, mainly for splicing to the drop fiber
- **Standards:** ITU-T G.987.1 compliant, ensuring high-speed 10G/10G service and broad OLT compatibility . This setup ensures reliable, high-speed fiber connectivity for residential FTTH deployments.

Article Content

Can I use the pigtail breaker in a plug on neutral panel?

These specific breakers were designed for compatibility with our legacy panels (non-PON). However, in our plug-on-neutral (PON)

Fiber Optic Pigtails: Uses & Differences from Patch Cords

In this guide, we will break down what fiber optic pigtails are, how they differ from patch cords, what types exist, and

Passive optical network

A fiber optic cable assembly with SC APC connectors, as commonly used to link optical network terminals to passive optical

The FOA Reference For Fiber Optics

Because PONs are intended to carry voice, data and video, virtually any network carrying any type of traffic can use a PON. PONs

What Is Passive Optical Networking (PON)?

Passive optical networking (PON), like active optical networking, uses fiber-optic cabling to provide Ethernet connectivity from a main

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