

Classification Uses and Prices of Pigtail Fiber



Overview

Fiber Optic Pigtail: Types, Splicing Guide, Specs & Price [2026] Fiber optic pigtail guide [2026]: SC/APC & LC/UPC connectors, 0.9/2.0/3.0 mm buffers, singl.

Key Takeaways

Fiber optic pigtails are short optical fibers with a factory-terminated connector on one end and a bare fiber on the other, classified by fiber type, connector type, and fiber count, and widely used for efficient network terminations. Classification of Fiber Optic Pigtails

1. By Fiber Type:

- Single-mode (SM): Yellow jacket, wavelengths 1310nm or 1550nm, suitable for long-distance transmission up to 10-40 km .
- Multimode (MM): Orange (OM1/OM2) or aqua (OM3/OM4) jacket, wavelengths 850nm, suitable for short-distance connections up to 500m .

2. By Connector Type:

- LC, SC, ST, FC, MU: Each connector type has specific ferrule designs and applications. SC and FC are common in telecom and industrial applications, while ST is popular in multimode LANs .

3. By Fiber Count:

- Single-core, dual-core, 4-core, 6-core, 12-core, and higher: Higher fiber counts are ideal for data centers and high-density installations .

4. By Polish Type:

- UPC (Ultra Physical Contact) and APC (Angled Physical Contact): Affect return loss and signal reflection, with APC preferred for high-precision applications .

5. Special Features:

- Armored pigtails: Stainless steel or strong steel inside the jacket for protection against physical damage .

- Waterproof pigtails: Designed for outdoor or harsh environments, often with reinforced PE jackets .

Uses of Fiber Optic Pigtails

- Network Termination: Connect backbone cables to active equipment in ODFs, terminal boxes, or patch panels .

- Splicing: Fusion or mechanical splicing to bulk fiber cables ensures minimal insertion loss and high return loss .

- Data Centers and LAN/WAN: Facilitate high-density connections and efficient cable management .

- Telecom, CATV, Industrial, and Military Applications: Armored and waterproof pigtails provide reliability in harsh conditions .

- FTTH Deployments: Enable clean, low-loss terminations for fiber-to-the-home installations .

Advantages over Field-Terminated Connectors:

- Factory-polished connectors ensure low insertion loss and high reliability.

- Reduce installation time and labor costs.

- Provide scalability for multi-core cable terminations .

Prices of Fiber Optic Pigtails

Pricing varies based on fiber type, connector type, fiber count, and protective features:

- Single-mode, single-core LC/SC pigtails: Typically range from \$1 to \$5 per unit for standard lengths (1–3 meters).

- Multimode pigtails: Usually slightly lower, around \$0.8 to \$4 per unit .

- Armored or waterproof pigtails: Can cost \$5 to \$15 or more per unit, depending on specifications and environmental protection.

- Bulk or high-count pigtails (12-core or more): Prices increase proportionally, often negotiated for large-scale deployments. Note: Prices fluctuate based on supplier, region, and order volume. Customizable solutions from vendors like ETU-LINK or FS.com may affect cost .

Summary

Fiber optic pigtails are essential components for reliable, low-loss fiber network terminations. They are classified by fiber type, connector type, fiber count, and polish type, and are widely used in telecom, data centers, LAN/WAN, and FTTH applications. Pricing depends on specifications, with standard single-mode pigtails being the most cost-effective, while armored or high-count pigtails command higher prices. Proper selection ensures network performance, scalability, and long-term reliability .

Article Content

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