# Category 8 network cable and fiber optic hybrid cable

## Overview

CommScope bundles hybrid cabling to your custom specifications, using our high-performance fiber-optic, unshielded twisted pair and coaxial cables.

## Key Takeaways

Category 8 cables are high-speed copper Ethernet cables for short-range, high-bandwidth applications, while hybrid fiber-optic cables combine fiber and copper to deliver both data and power over longer distances. Category 8 Network CableCategory 8 (Cat8) cables are the latest standard in copper Ethernet cabling, designed for high-speed data transmission up to 40 Gbps over distances up to 30 meters (approximately 100 feet). They consist of four twisted pairs of copper conductors with enhanced shielding to reduce crosstalk and electromagnetic interference.

Cat8 supports Power over Ethernet (PoE), allowing devices like switches, cameras, and access points to receive both data and low-voltage power through the same cable. Cat8 is ideal for data centers, server rooms, and high-performance LANs where ultra-fast, short-distance connections are required.

## Fiber Optic Hybrid Cable

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Hybrid fiber-optic cables integrate fiber optic strands and copper conductors within a single jacket, enabling simultaneous data transmission via light and power delivery via copper. These cables are often used in long-reach or remote applications, such as outdoor Wi-Fi, security cameras, small cells, and distributed antenna systems, where standard power infrastructure is unavailable or costly. Hybrid cables can support distances over 2,000 feet, far exceeding Cat8 limits, and are compatible with structured cabling systems and intelligent power solutions.

They reduce installation complexity by eliminating the need for separate power and data cables, saving space and deployment time. Key DifferencesFeatureCat8 CableHybrid Fiber-Optic CableData MediumCopper twisted pairsFiber optic strandsMaximum Data Rate25–40 GbpsDepends on fiber type (up to 40 km for single-mode)Maximum Distance~30 meters2,000+ feet or morePower DeliveryPoE (low voltage)Direct power via copper conductors (Class 2/3 or bulk power)Typical UseData centers, LANsRemote devices, outdoor networks, campus-wide Wi-FiInstallationShort-range, high-speedLong-range, combined data and powerApplications and AdvantagesCat8: Best for high-speed, short-distance connections in controlled environments like server racks and switch-to-switch links.

It ensures minimal latency and high bandwidth for critical network infrastructure.

### Hybrid Fiber-

Optic: Ideal for edge deployments, where devices need both data and power over long distances without separate cabling. It simplifies infrastructure, reduces pathway congestion, and future-proofs networks for technology upgrades. In summary, Cat8 excels in ultra-fast, short-range copper networks, while hybrid fiber-optic cables provide flexible, long-distance solutions combining high-speed data and power delivery, making them complementary technologies depending on network requirements.

## Article Content

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From durability to data rates, learn everything about Cat8 vs Fiber cables to improve your network''s performance and reliability.

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