



YDSAOC-40G-USB4-CM-CM

40Gbps Active Fiber Optical USB 4.0 ThunderBolt4 Extension Cable

Overview

YDSAOC-40G-USB4-CM-CM is a **USB 4.0 Gen 2 Active Optical Cable (AOC)** featuring a **Type-C male to Type-C male** connector. It is designed to meet growing demands for high-bandwidth, long-distance connectivity by combining fiber optic technology with standard USB connectivity. This hybrid approach overcomes the distance and interference limitations of traditional copper cables while delivering reliable, high-performance connections.



Key Performance Specifications

- ◆ **High Bandwidth:** Compliant with the latest USB 4.0 Gen 2 standard, delivering super-speed data transfer up to **40Gbps**
- ◆ **Video Resolution:** Supports **8K at 60Hz** and **4K at 240Hz**
- ◆ **Backward Compatibility:** Compatible with USB 3.2 (10Gbps), USB 3.1, USB 3.0 (5Gbps), and USB 2.0/1.1 (within 5m); also compatible with **Thunderbolt 4/Thunderbolt 3** interfaces
- ◆ **Extended Range:** Delivers lossless signals over a maximum of **30 meters**, but **capped at 8m** in standard configurations (customizable longer lengths available)
- ◆ **Power Delivery:** Supports fast charging via **9–20V @ 3A**, up to **240W PD** power delivery to remote devices
- ◆ **Design:** Unidirectional, plug-and-play; requires **no external power supply** or drivers
- ◆ **Construction:** Premium OM3 optical fiber core, Kevlar reinforcement for strength and pull resistance, zinc-alloy housing with corrosion-resistant gold-plated connectors, and braided nylon exterior
- ◆ **EMI/RFI Resistance:** Practically zero electromagnetic/radio-frequency interference profile for a safe, radiation-free environment and flawless signal performance
- ◆ **Certifications:** Meets FCC/CE standards for EMI/RFI emissions.



ACTIVE OPTICAL CABLES

your best fiber optics partner

Key Advantages

- ◆ **Placement Flexibility:** Long-distance connectivity enables optimal device arrangement in an organized, convenient, and quieter workspace
- ◆ **Uncompromised Speed:** Stable 40Gb/s data transfer even over extended distances
- ◆ **Versatile Connections:** Works with Thunderbolt 4/3 and USB4/3/2 USB-C devices, including docks, displays, eGPUs, PCIe expansion, external SSDs, and RAID storage
- ◆ **Diverse Displays:** Supports high-resolution displays up to 8K, including DisplayPort over Thunderbolt, Apple Pro Display XDR, and Apple Studio Display
- ◆ **Customizable:** OEM/ODM options include custom length, logo, and packaging

Applications

- ◆ **Professional AV & Digital Signage:** Long-distance USB-C links for media players, interactive displays, and LED video walls
- ◆ **Video Conferencing:** Compatible with systems such as Logitech Rally, Yealink MeetingBar, Poly Studio, Bose Videobar, and Crestron
- ◆ **Medical Imaging:** Stable, EMI-free transmission for ultrasound, medical cameras, and diagnostic workstations
- ◆ **Industrial & Machine Vision:** Factory automation, AI vision inspection, robotics, and control systems
- ◆ **Broadcasting & Live Streaming:** 8K/4K capture devices, PTZ cameras, and studio production systems
- ◆ **VR/AR & Gaming:** Extended reach for VR headsets (e.g., Quest 2) and immersive simulation environments
- ◆ **Artificial Intelligence:** AI robotics, data centers, and smart home/office/market systems, neural networks, machine learning, deep learning, smart technology, data processing, security and reliability
- ◆ **Other Uses:** Home theater, projectors, security monitoring, airplane on-board video, webcams, docking stations, and external storage

Ideal Use Case

This cable is best suited for environments requiring **extended transmission distances without on-site power**, offering **high reliability in electromagnetically complex environments** where conventional copper USB-C cables reach their limits.

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Key Specifications

YDSAOC Model Number	YDSAOC-40G-USB4-CM-CM
Order Part Numbers	YDSAOC-40G-USB4-CM-CM-1003 YDSAOC-40G-USB4-CM-CM-3009 YDSAOC-40G-USB4-CM-CM-50015 YDSAOC-40G-USB4-CM-CM-100030 YDSAOC-40G-USB4-CM-CM-200060
Length	1m(3ft), 3m(9ft), 5m(15ft), 10m(30t), 20m(60ft)
Maximum Support Length	up to 30m(90ft)
Maximum Data Speed	up to 40Gbps (Data) and 80Gbps (Video)
Connector A	USB4 Type-A Male
Connector B	USB4 Type-A Male
USB Protocols	USB4, Thunderbolt 4, Thunderbolt 3, USB 3.2, USB 3.0
Maximum Resolutions	8K 60Hz, 4K 240Hz, 4K 120Hz, 4K 60Hz 4:4:4
Cable Diameter	6.0mm
Cable Jacket Type	PVC
Cable Color	Black
AOC Constructions	Hybrid, 4x OM3 10G Optical Fiber + 8x Copper Wire Pro: 6x Fiber + 8x Copper. Plus: 8x Fiber + 8x Copper
Minimum Bending Radius	50mm
Operating Temperature	0°C to 70°C
Storage Temperature	-40°C to 85°C
Installation Direction	Bidirectional, No Check on Directions
Power Connect	No External Power is Required
Support Fast Charging	Maximum PD3.1 240W <3m(9ft) or PD 120W < 5m(15ft)

YDSAOC



Neural
Networks



Machine
Learning



Deep
Learning

Artificial
Intelligence



Smart
Technology



Data
Processing



Secure
& Reliable



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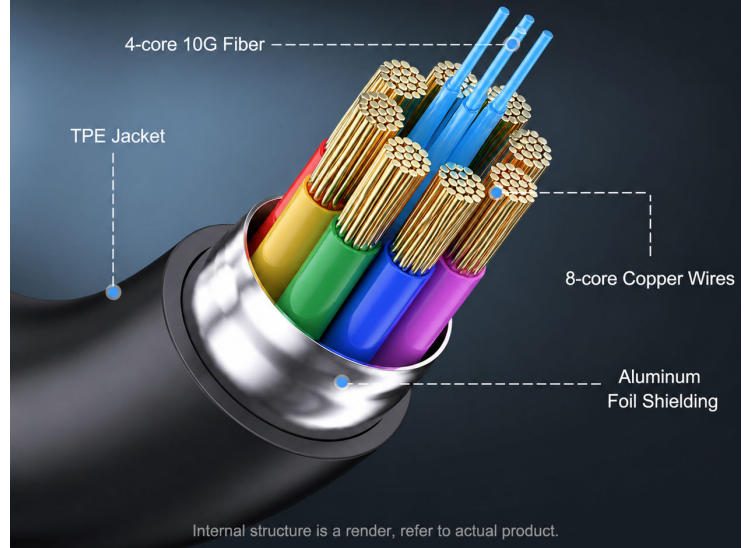
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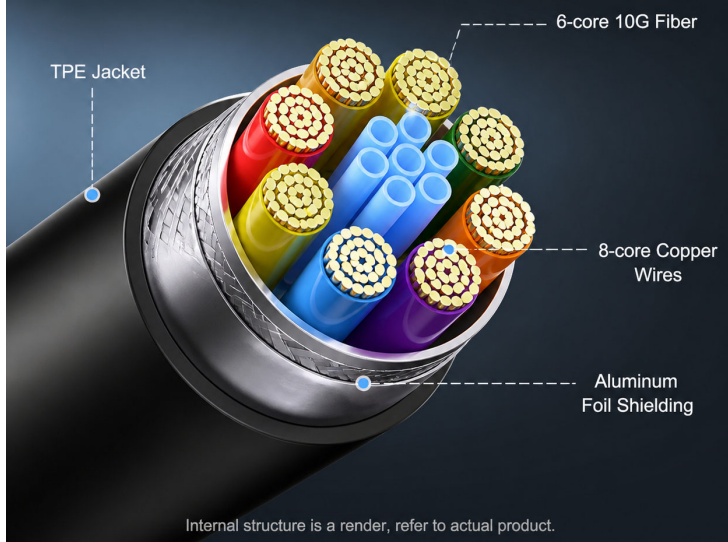
10G Fiber: Zero Radiation Anti-Interference

Hybrid fiber-copper design for stable, interference-free signals.



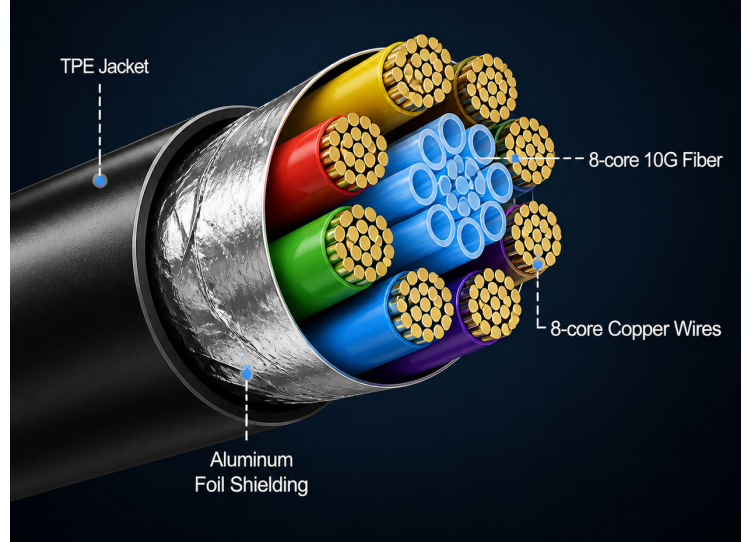
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10G Fiber: Zero Radiation Anti-Interference

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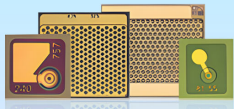
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Mature long-life laser solution, lossless & anti-interference transmission



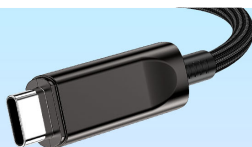
OM3 10G fiber with aramid reinforcement, ROHS compliant



40Gbps high-speed data transfer, supports PD 240W



15m fiber optic lossless transmission, solves copper attenuation



Zinc alloy painted casing, corrosion & scratch resistant



For monitors, PCs, GPUs, cameras, home & commercial use

Images for reference only, please refer to the actual product. PD240W length not exceeding 3 meters.

8K Ultra HD Transmission

Supports 8K@60Hz, delivers crisp 8K video and high-fidelity audio to monitors/TVs.



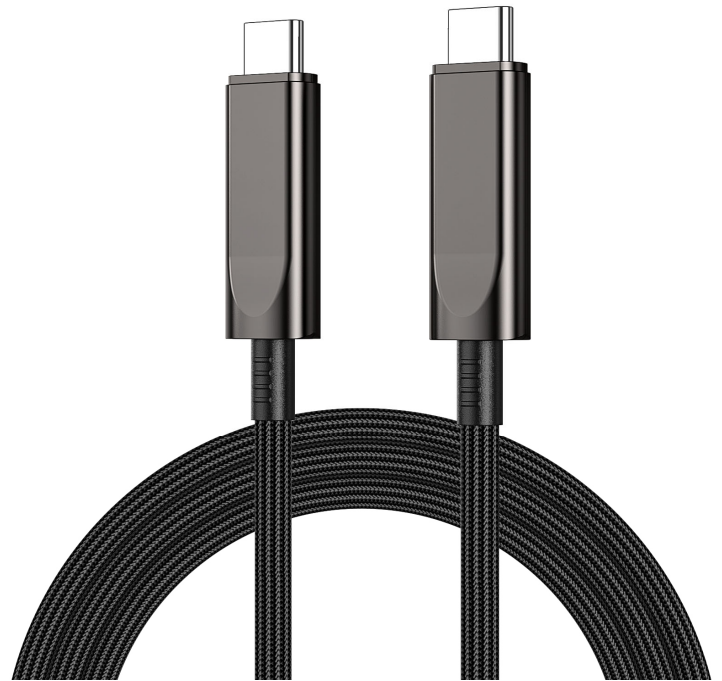
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Laptop to Big Screen

Smooth work & entertainment with synced audio/video.
Supports Type-C displays, 8K@60Hz, crisp visuals.



40Gbps File Transfer

Transfers a 10G file in 4 seconds, 2500MB/s high-speed transfer.

USB4 40Gbps

USB3.2 20Gbps

USB3.0 5Gbps



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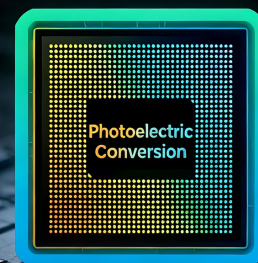
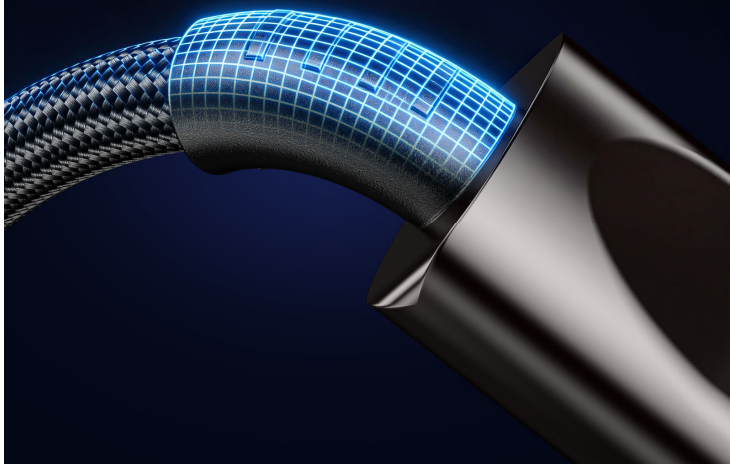
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Flexible Cable One-piece Design

One-piece molded connector & strain relief
for durable, break-resistant cable.



Photonic

Mature Long-life Laser & Chip

Opto-electronic chip design, near-zero signal
loss, reliable long-distance transmission.

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Lossless Transfer

15m Fiber Optic Lossless Transfer

OM3 10G fiber core, near-zero signal loss,
solves copper cable attenuation.



Compatible Docking Double transfer efficiency.

Works with Type-C docks, connects more devices.

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Product Specifications

Model: Fiber USB4 Type-C Straight Cable

Version: USB4 Full-Featured / 40Gbps + 8K60Hz + PD240W

Instructions for Use: USB4 C TO C 40Gbps (data) / 80Gbps (video), supports 8K/60Hz and 4K/240Hz.PD3.1 (supports 5A current and max. 240W power within 3 meters; supports 3A current and max. 120W power within 5 meters), backward compatible with USB 2.0 and USB 3.1 full functions.

Cable Core: OM3 10G Fiber + Copper Core

Attenuation: Near-zero loss $\leq 0.0035\text{db/m}$

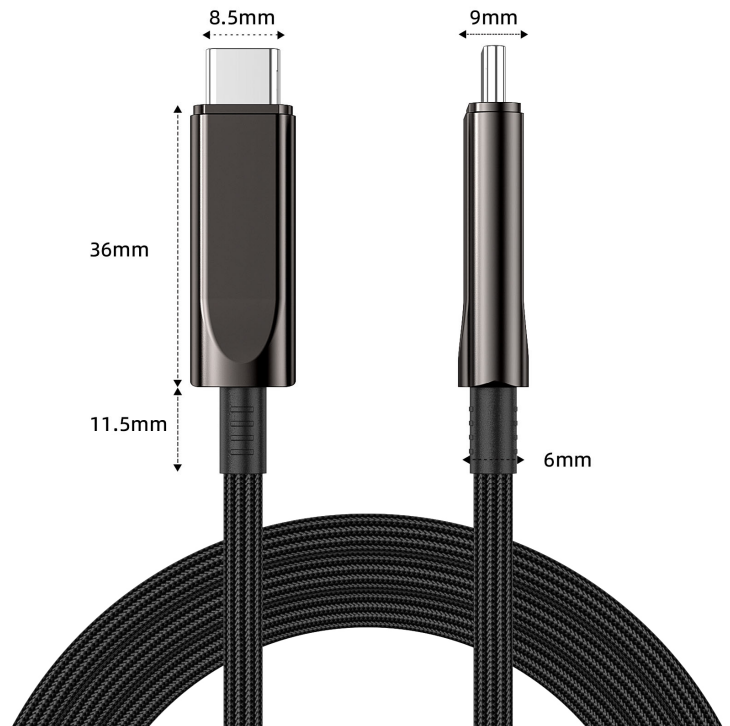
Feature: Bidirectional transmission, no direction limit

Length: 3m (Length customization available)

Packaging Size: 16.5*16.5*6cm

Weight with Box: 176g

Note: Manual measurement, slight size variations may occur.



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COMMERCIAL / AV APPLICATIONS



Digital Signage



LED Signboards



Projector



Home Theater / Blu-ray / 3D Video



Broadcast Stations
(Radio & TV)



Machine Vision Camera Links



Medical Imaging Equipment



DVR & Game Console Monitoring



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Touch Control Pass-Through

Touch-enabled interactive display,
not just a secondary screen.



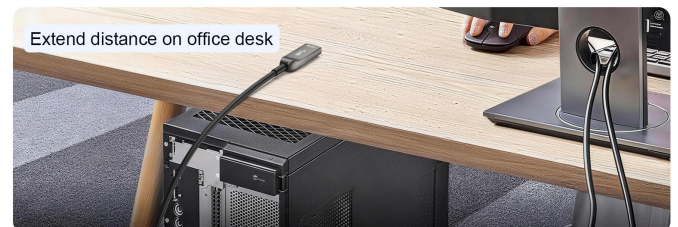
Connect to printer



Connect to camera



Extend distance for digital devices



Extend distance on office desk

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8K Ultra HD Screen Mirroring

Up to 8K@60Hz, 4K@144Hz/120Hz Resolution



Widely Compatible with USB-C Devices



Machine Vision



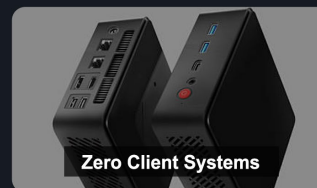
Industrial Printing



Security & Surveillance



Digital Signage & Video Walls



Zero Client Systems



Remote Storage Systems

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AI APPLICATIONS

Powering the Future with Intelligent Technology



01

Artificial Intelligence

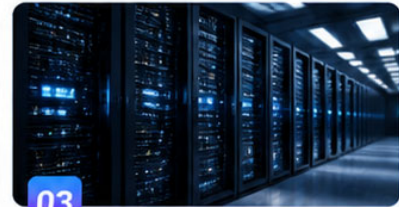
Computers solving complex problems with human-like intelligence.



02

AI Robotics

Intelligent robots performing tasks autonomously with precision.



03

Data Centers

High-performance infrastructure for AI training and data storage.



04

Smart Homes

AI-powered devices for automation, security, and energy efficiency.



05

Neural Networks

Systems inspired by the human brain for pattern recognition.



06

Machine Learning

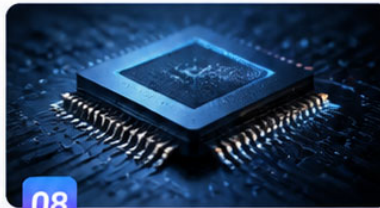
Algorithms that learn from data to make accurate predictions.



07

Deep Learning

Advanced AI models using deep neural network architectures.



08

Smart Technology

AI integrated into devices for smarter everyday experiences.



09

Data Processing

Processing large volumes of data for actionable insights.



10

Automation Manufacturing

AI-driven automation for efficient, precise, and scalable production.



11

Security and Reliability

AI-enhanced systems for threat detection, protection, and system reliability.



USB-C Fiber Optic Cable Applications

High-performance connectivity for demanding environments



1. Professional AV & Digital Signage

Long-distance USB-C links for media players, interactive displays, and LED video walls



2. Video Conferencing

Compatible with systems such as Logitech Rally, Yealink MeetingBar, Poly Studio, Bose Videobar, and Crestron



3. Medical Imaging

Stable, EMI-free transmission for ultrasound, medical cameras, and diagnostic workstations



4. Industrial & Machine Vision

Factory automation, AI vision inspection, robotics, and control systems



5. Broadcasting & Live Streaming

8K/4K capture devices, PTZ cameras, and studio production systems



6. VR/AR & Gaming

Extended reach for VR headsets (e.g., Quest 2) and immersive simulation environments



7. Artificial Intelligence

AI robotics, data centers, smart homes, neural networks, machine learning, deep learning, smart technology, data processing, automation manufacturing, security and reliability



8. Other Uses

Home theater, projectors, security monitoring, airplane on-board video, webcams, docking stations, and external storage





YDSAOC-40G-USB4-CM-CM

USB 4.0 Gen 2 Active Optical Cable



KEY PERFORMANCE



High Bandwidth
40Gbps
(USB 4.0 Gen 2)



Video Resolution
8K@60Hz,
4K@240Hz



Extended Range
Up to 30 meters



Power Delivery
240W
(9-20V @ 3A)



Construction
OM3 optical fiber,
Kevlar reinforcement



KEY ADVANTAGES



Placement Flexibility
Optimal device
arrangement



Uncompromised Speed
40Gb/s stable
transfer



Versatile Connections
Compatible with
Thunderbolt 4/3,
USB 4/3/2



Diverse Displays
High-resolution
up to 8K support



EMI/RFI Resistance
Zero interference
profile



APPLICATIONS



Professional AV &
Digital Signage



Video Conferencing
Systems



Medical Imaging &
Diagnostics



Industrial &
Machine Vision



Broadcasting &
Live Streaming



VR/AR & Gaming



Artificial Intelligence
& Robotics



Premium OM3 optical fiber | Zinc-alloy housing | Gold-plated connectors | Braided nylon exterior | Plug-and-play, no drivers required

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1. DisplayPort 1.4



2. Mini DisplayPort



3. HDMI 2.1



4. Mini HDMI (Type C)



5. Micro HDMI (Type D)



6. DVI-D



7. VGA



8. USB-C



9. Thunderbolt 4
(USB-C form factor,
40 Gbps) ⚡



10. Toslink



Row 1 - Legacy/USB 2.0 Connectors



USB Type A



USB Type B



USB Mini A



USB Mini B



USB Micro A



USB Micro B

Row 2 - Modern Connectors



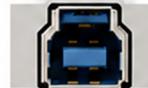
USB Type C



USB Micro B 3.0



USB 3.0 Type A



USB 3.0 Type B



USB 3.0 Micro B

Applications of Active Optical Cable (AOC)

High-speed, long-distance connectivity across diverse industries.



1 Traffic Monitoring

Uninterrupted connectivity for real-time traffic data, safety and efficiency.



2 Security & Surveillance

HD/4K/8K video support, effective monitoring without downtime.



3 Control Rooms

Ultra-high bandwidth for instantaneous data and video switching.



4 Healthcare

EMI/RFI immunity ensures reliable transmission in medical environments.



5 Education

Connectivity in large lecture halls, overcoming copper cable limits.



6 Digital Signage

High-quality displays with consistent transmission of information.



7 Conference Rooms

Plug-and-play design makes connectivity easy for presenters.



8 Government Campuses

Thinner and more flexible than copper, reducing cable clutter.



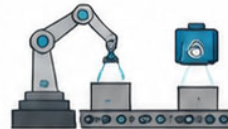
9 USB4 Applications

Extends reach while maintaining power and signal integrity.



10 Audio Visual Entertainment

Superior signal quality for home theaters and gaming.



11 Industrial & Machine Vision

Durable, high-performance for automated inspection.



12 Broadcast Systems

High bandwidth and low latency for seamless content delivery.



13 Simulation Systems

Real-time transmission for realistic training.



14 Data Centers & HPC

Pivotal for high-performance computing and extensive configurations.



15 Consumer Electronics & IT

High-res displays, VR devices, and high-bandwidth apps.



16 Aerospace, Defense & Automotive

High-speed, robust connectivity for critical sectors.

Core Benefits



Reliability



Long Distance



EMI Immunity



High Bandwidth



Flexible Installation



Power Delivery



Plug-and-Play