

USB-C Active Optical Cable (Data Only)

USB 3.2 Gen 2x1 10Gbps Type C to Type C AOC

SKU: UDC-CCF10G-XXXM

PRODUCT OVERVIEW

DSGIO's **USB 3.2 Gen 2x1 Type C AOC** is the first-generation active optical cable of its kind in the market. It offers super-speed data transmission using optical fiber, supporting lengths up to a maximum of 15 meters while ensuring highly stable signal quality with no electromagnetic interference (EMI). The cable supports a data transfer rate of 10Gbps, fully meeting the USB 3.2 Gen 2x1 (USB 3.1) standard, and is also backward compatible with USB 2.0/1.1. This makes it a mature and competitive solution in the high-speed data transmission market.



(Downward Compatible
with USB 2.0/1.1)

KEY FEATURES

- **Meets USB 3.2 Gen 2x1 Standard:** Supports a bandwidth of up to 10Gbps super speed, previously known as USB 3.1 Gen 2.
- **Uncompressed Signal:** Ensures signal integrity and maintains high image quality without distortion.
- **Hybrid Copper and Fiber Design:** Combines copper and fiber optics to reduce interference, eliminate radiation, and enhance resistance to EMI (Electromagnetic Interference).
- **Standard USB Type-C Interface:** Compatible with modern USB Type-C ports for versatile connectivity.
- **850nm VCSEL and PIN Photodetector:** Utilizes advanced optical components for reliable data transmission.
- **Plug and Play:** Supports hot plug functionality for effortless setup and use.
- **Slim Cable Design:** Features a compact outer diameter (OD) of less than $\Phi 4.5$ mm, making it lightweight and easy to handle.

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- **No External Power Required:** Operates without the need for an external power supply, enhancing portability.
- **Power Delivery Support:** Provides up to 5V/1.5A maximum power to connected devices.
- **Flexible Length Options:** Available in lengths ranging from 5 to 15 meters, with customization options for specific distance requirements.

APPLICATIONS

- **Industrial Control:** A USB-C 3.2 Gen 2x1 AOC can effectively transmit data in industrial settings, supporting control systems and automation devices that require reliable and fast communication.
- **Digital Signage:** It enables seamless transmission of multimedia content to digital signage displays, ensuring high-quality video and audio delivery.
- **Home Network Integration:** Facilitates integration within home networks for fast data transfer, enhancing multimedia streaming and file sharing capabilities.
- **Medical Device Connectivity:** Provides secure and efficient data transmission for medical devices, supporting real-time monitoring and diagnostic equipment.
- **KVM Extension:** Extends KVM signals over longer distances without degradation, allowing users to control remote systems efficiently.
- **Remote Desktop USB 3.0 and USB 2.0 Connections:** Supports remote desktop applications by transmitting USB signals effectively, enabling remote access and control.
- **Security (Web Cameras, Access Control):** Enables reliable data transmission for security cameras and access control systems, enhancing surveillance and security monitoring capabilities.
- **USB 3.0 & USB 2.0 Device Sharing:** Facilitates sharing of USB devices such as printers, scanners, and storage devices across multiple users or locations, ensuring efficient device utilization.

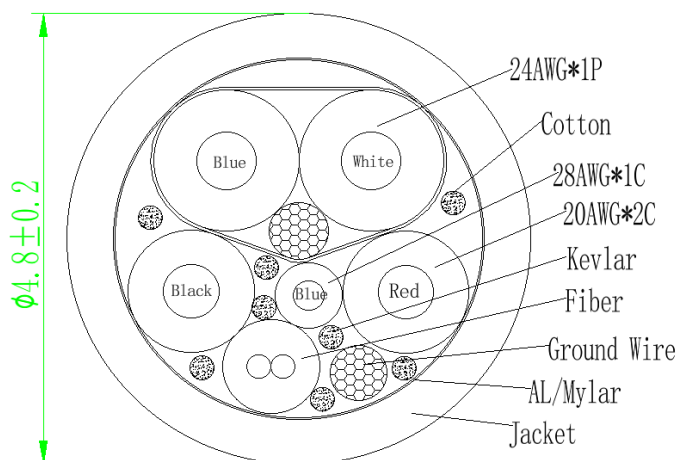
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PRODUCT SPECIFICATIONS

Parameter	Minimum	Value / Typical	Maximum	Unit	Remarks
USB 3.1 Transfer Rate		10	10		10Gbps
Operating Temperature	-20	25	50	°C	-20°C to 50°C (-4°F to 122°F)
Consumption	0.35	0.4		W	TX & RX AOC
Supply Voltage	4.5	5	5.5	V	
Working Current		80		mA	
Tensile Strength		200		N	Short term 300N, Long term 150N
Crush Resistance		100		N	Short term 500N/100mm, Long term 100N/100mm
Minimum Bending Radius	20	40		mm	Static (working) 40mm
Minimum Bending Radius (dynamic)		20000		cycle	180° swing, NO Open
Diameter		4.5		mm	
Cable length	0.2	15		M	
Wavelength		850		nm	
Execution Error Rate		1.00E-11			
VCSEL Output Power		Class 1			EN 60825-1 2007 EN 60825-2 A2 2010
Hot Plug		Yes			
Wire Spec.		2*OM3-850 fiber		nm	G651 OM3
Connector Structure		24		Pins	USB C Type Port
RoHS Directive		RoHS			

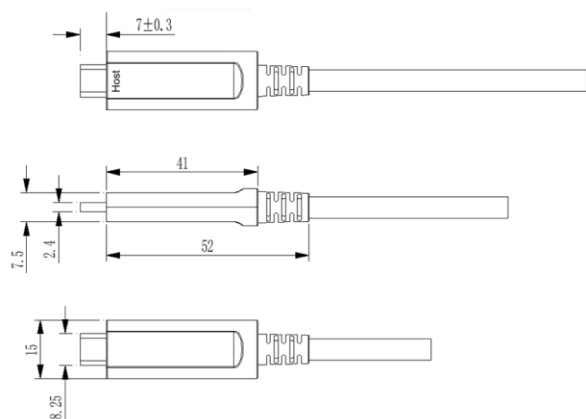
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CABLE CONSTRUCTION

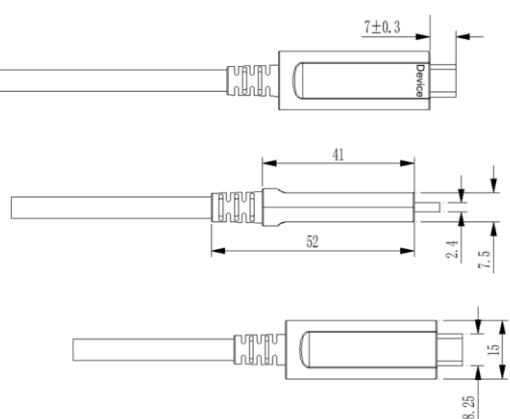


CONNECTION DIAGRAM

Connect to Host (e.g., PC)



Connect to Remote Device (Peripheral)



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HANDLING AND INSTALLATION

Proper installation and handling of USB-C Active Optical Cables (AOC) are crucial to ensure optimal performance and longevity. Follow these guidelines to maintain signal integrity and ensure reliable data transmission:

Installation Instructions:

1. **Handle with Care:** When installing the cable, avoid any sharp bends or kinks that could damage the delicate optical fiber strands inside.
2. **Secure Connections:** Connect one end of the cable to the USB Host device, ensuring a snug fit to prevent any signal loss. Connect the other end to the peripheral device, such as a monitor or external storage, ensuring a secure connection.
3. **Avoid Excessive Strain:** Provide adequate support for the cable to avoid unnecessary tension on the connectors.
4. **Gentle Handling:** Avoid pulling or twisting the cable excessively. Always disconnect devices by gripping the connectors rather than pulling on the cable itself.

Additional Notes:

- **Directional Use:** This cable can only be used in one direction. The connectors are marked with “Host” and “Device”. Each connector must be plugged into the correct port to avoid signal loss.
- **No Intermediate Adapters and Cables:** We do not recommend using any intermediate adapters or cables between the connections. This can attenuate signal transmission performance and may result in insufficient power being supplied to the USB connection, preventing the internal fiber optic module from functioning correctly.

Following these guidelines will help ensure the longevity and reliability of your USB-C Active Optical Cable, providing consistent high-speed data transmission and device connectivity.

PACKAGE CONTENTS

- 1 × USB 3.2 Gen2x1 10Gbps, Type C to Type C, Data Only, AOC

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WARRANTY

- 2-Year Limited Warranty
- Advance Replacement Warranty is available and optional

ORDERING INFORMATION

Part Number	Descriptions	Length
UDC-CCF10G-005M	USB 3.2 Gen2x1 10Gbps Type C to Type C, Data Only, Backward Compatible, PVC, 5m	5m
UDC-CCF10G-008M	USB 3.2 Gen2x1 10Gbps Type C to Type C, Data Only, Backward Compatible, PVC, 8m	8m
UDC-CCF10G-010M	USB 3.2 Gen2x1 10Gbps Type C to Type C, Data Only, Backward Compatible, PVC, 10m	10m
UDC-CCF10G-012M	USB 3.2 Gen2x1 10Gbps Type C to Type C, Data Only, Backward Compatible, PVC, 12m	12m
UDC-CCF10G-015M	USB 3.2 Gen2x1 10Gbps Type C to Type C, Data Only, Backward Compatible, PVC, 15m	15m

CONTACT INFORMATION

For more information, please visit our website or contact our customer service team:

- **Website:** www.dsgio.com
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