

# HDMI 2.0 Active Optical Cable (AOC)

## Type A (Male) to Type A (Male) AOC

Model: VDC-HF20-XXXM



### PRODUCT OVERVIEW

The **HDMI 2.0 Active Optical Cable (AOC)** is designed to provide high-speed, long-distance transmission of uncompressed video and audio signals. Utilizing a hybrid construction of optical fibers and copper conductors, this cable delivers exceptional performance and signal integrity over extended distances, making it ideal for professional audio-visual installations, home theatres, and other demanding applications.

Our HDMI Active Hybrid Cable is a leading solution for long-distance HDMI connections. Leveraging the capabilities of HDMI 2.0, it supports a maximum data rate of 18 Gbps, utilizing three TMDS (Transition-Minimized Differential Signaling) channels, each capable of 6 Gbps. This allows for high-resolution video (up to 4K at 60Hz), enhanced audio quality, and support for a broader range of color spaces. The cable is lightweight, flexible, and features an ultra-small long-term bending radius of 45mm, making it ideal for installations in tight spaces. With our advanced optical engine embedded, this HDMI Hybrid Cable ensures full HDMI signal integrity over lengths of up to 100 meters. It is plug-and-play with no external power required, providing a hassle-free solution for your high-definition audio and video needs.

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## KEY FEATURES

- **4K UHD and HDR Support:** Delivers stunning 4K resolution at 60Hz with high dynamic range for vivid, lifelike visuals
- **Maximum Length:** Up to 100 meters (Custom lengths available)
- **Data Transmission:** Supports up to 18 Gbps super speed with high bandwidth for high-definition video and audio formats
- **Resolution and Audio Support:** Up to 4K@60Hz (color space 4:4:4), 3D, Deep Color, and multi-channel audio including Dolby TrueHD and DTS-HD Master Audio
- **Plug and Play:** No need for external power supplies or software drivers, ensuring hassle-free setup
- **HDMI 2.0 Compatibility:** Supports EDID, CEC, HDCP 2.2, HDR, HEC, ARC, etc.
- **Easy Identification:** Connectors clearly marked with "Source" and "Display"
- **Hybrid Optical Construction:** Composed of 4 optical fibers and 7 copper wires
- **Signal Integrity:** No loss of signal, delivering crystal-clear digital images instantly; reduced EMI and RFI due to hybrid optical design
- **Durability:** High pulling strength and compression load
- **Interference Immunity:** Optical fiber construction provides immunity to electromagnetic interference (EMI) and radio frequency interference (RFI)
- **Lightweight and Flexible Design:** Facilitates easy installation and cable management for various routing scenarios

## APPLICATIONS

- **Professional AV Installations:** Ideal for conference rooms, auditoriums, and broadcast studios requiring high-quality long-distance signal transmission.
- **Digital Signage:** Suitable for retail displays, public information systems, and large-scale advertising boards.
- **Home Theatre Systems:** Enhances home entertainment setups with superior video and audio quality.
- **Gaming Setups:** Provides gamers with the highest quality graphics and sound with minimal latency.
- **Medical Imaging:** Ensures high-definition image transmission in medical environments.

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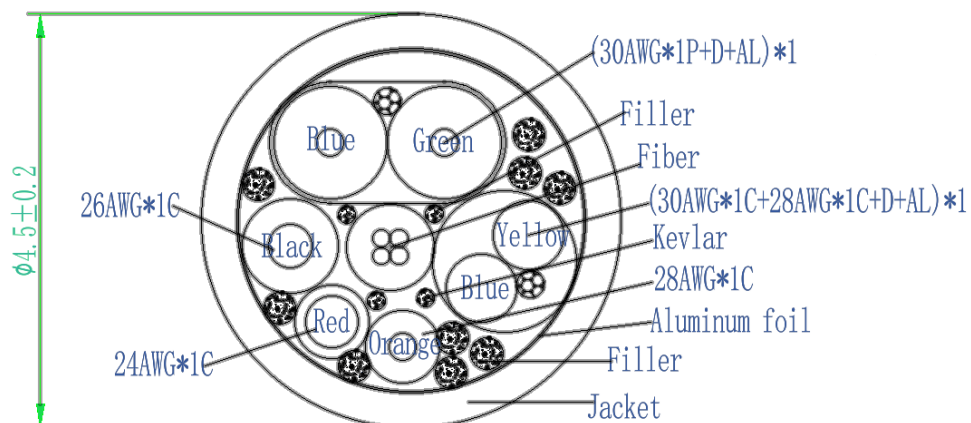
## PRODUCT SPECIFICATIONS

| Parameter                | Descriptions  |
|--------------------------|---|
| SKU Code                 | VDC-HF20-XXXX (XXX denotes length in meters)  |
| Cable Lengths Available* | 10m, 15m, 20m, 25m, 30m, 40m, 50m, 70m, 90m, 100m   |
| Connector Type           | HDMI Type A (Male to Male)  |
| HDMI Version             | HDMI 2.0  |
| Bandwidth                | Up to 18Gbps  |
| Resolution Support       | Up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:4:4)  |
| Color Depth              | 24-bit, 30-bit, 36-bit, 48-bit  |
| HDR Support              | HDR10, HLG  |
| Audio Formats            | Supports 8 channels PCM channels, DTS-HD Master, and Dolby Digital True HD Surround Sound   |
| Compatibility            | HDMI 2.0b, HDCP 2.2, EDID, CEC, HDR, HEC, ARC   |
| O/E Converter            | Transmitter (Source): 4 Channel 850nm VCSEL array<br>Receiver (Display): 4 CH GaAs PD array |
| Cable Type               | Hybrid Type with OM3 fibers and OFC copper wires  |
| Cable Shielding          | Double layer aluminium foil   |
| Cable Filling            | DuPont Kevlar filling   |
| Cable Outer Diameter     | 4.5mm   |
| Cable Jacket Material    | PVC   |
| EMI/RFI Resistance       | Yes   |
| Operating Voltage        | 4.75V min, 5.0V typical, 5.25V max  |
| Power Consumption        | 250mW (max)   |
| Differential Input       | 100 ohm (typical)   |
| Power Supply             | External power not required   |
| Operating Temperature    | 0°C to 50°C (32°F to 122°F)   |
| Storage Temperature      | -40°C to 70°C (-40°F to 158°F)  |
| Relative Humidity        | 10 to 80% RH, noncondensing   |
| Compliance               | CE, FCC, RoHS, REACH  |
| Warranty                 | 2-Year Limited Warranty. Advance Replacement Warranty is available and optional.            |

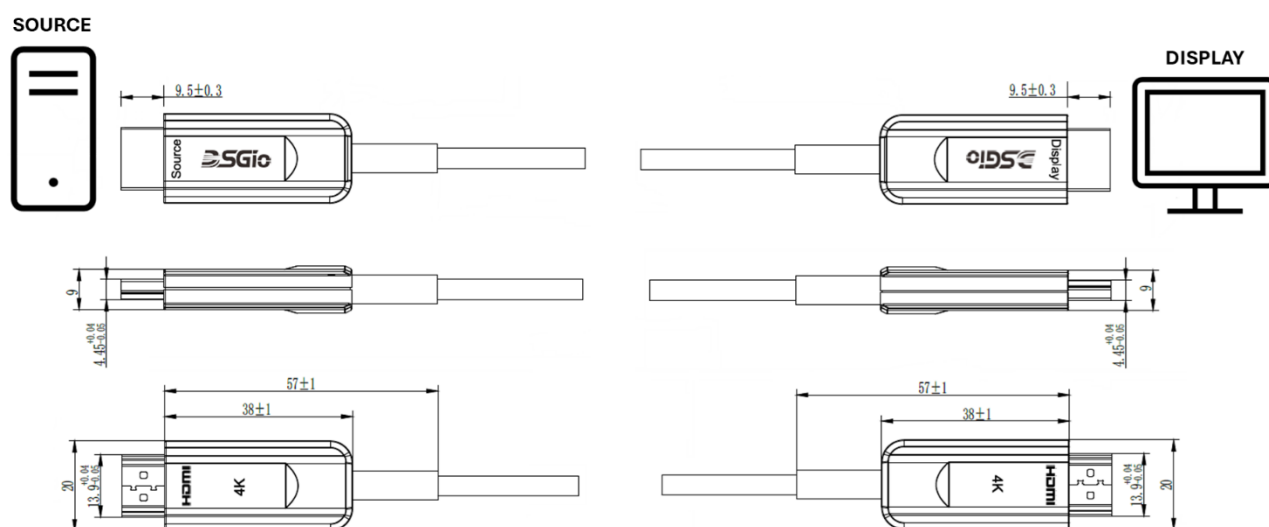
\* Ready stock is based on default 15m and 30m. Other lengths and jacket types, such as CMP, LSZH, may require build on demand and subject to a minimum order of quantity e.g. 2 to 5 pieces.

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## HYBRID CABLE PROFILE



## CONNECTION DIAGRAM



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## Handling and Installation

Proper installation and handling of HDMI active optical cables are crucial to ensure optimal performance and longevity. When installing the cable, make sure to handle it with care, avoiding any sharp bends or kinks that could damage the delicate optical fibers inside. Securely connect one end of the cable to the HDMI source device, ensuring a snug fit to prevent any signal loss. Similarly, connect the other end to the display device, ensuring a secure connection. Avoid placing excessive strain on the connectors by providing adequate support and avoiding unnecessary tension. When handling the cable, avoid pulling or twisting it excessively, and always disconnect devices by gripping the connectors rather than pulling on the cable itself. Following these guidelines will help maintain signal integrity and ensure reliable transmission of high-definition content.

### Additional Notes:

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

## PACKAGE CONTENTS

- 1 × HDMI 2.0 Active Optical Cable

## WARRANTY

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

# HDMI 2.0 Active Optical Cable (AOC)

## ORDERING INFORMATION

| Part Number          | Descriptions   | Length* |
|----------------------|--|---------|
| <b>VDC-HF20-010M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 10m  | 10m     |
| <b>VDC-HF20-015M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 15m  | 15m     |
| <b>VDC-HF20-020M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 20m  | 20m     |
| <b>VDC-HF20-025M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 25m  | 25m     |
| <b>VDC-HF20-030M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 30m  | 30m     |
| <b>VDC-HF20-040M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 40m  | 40m     |
| <b>VDC-HF20-050M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 50m  | 50m     |
| <b>VDC-HF20-070M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 70m  | 70m     |
| <b>VDC-HF20-090M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 90m  | 90m     |
| <b>VDC-HF20-100M</b> | HDMI 2.0 Type A (Male) to Type A (Male) AOC, 4K60, 18Gbps, PVC, 100m | 100m    |

\* Ready stock is based on default 15m and 30m. Other lengths and jacket types, such as CMP, LSZH, may require build on demand and subject to a minimum order of quantity e.g. 2 to 5 pieces.

## CONTACT INFORMATION

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

- **Website:** [www.dsgio.com](http://www.dsgio.com)
- **Email:** [sales.apac@dsgio.com](mailto:sales.apac@dsgio.com)

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