

# **HD4K18GB-FO-xx-MM**

## HDMI 2.0 Active Optical Cables

### **Instruction Manual**



# **HDMI 2.0 Active Optic Cable**

## **INTRODUCTION**

This Fiber Optic HDMI 2.0 Active Optical Cable (AOC) allows you to transmit HDMI signals to a distance of up to 100m without external power supply. This cable is a hybrid cable containing both fiber optic and copper cores.

Our HDMI Active Hybrid Cable is the most competitive long distance HDMI interconnection solution on the market. It supports a maximum data rate of 6Gbps per channel, is light-weight, flexible, and has an ultra-small fixed installation bending radius of 48mm.

With our advanced optical engine embedded the HDMI Hybrid Cable provides full HDMI signal integrity.

## **INTENDED USE**

This product is intended for indoor use only. Do not use it outdoors. Contact with moisture, e.g. in bathrooms, must be avoided under all circumstances.

For safety and approval purposes (CE), you must not rebuild and/or modify this product. If you use the product for purposes other than those described above, the product may be damaged. In addition, improper use can cause hazards such as short circuiting, fire, electric shock etc.

Read the instructions carefully and keep them. Make this product available to third parties only together with its operating instructions.

## **SAFETY INSTRUCTIONS**

Read the operating instructions carefully and especially observe the safety information. If you do not follow the safety instructions and information on proper handling in this manual, we assume no liability for any resulting personal injury or damage to property. Such cases will invalidate the warranty/guarantee.

The device is not a toy. Keep it out of the reach of children and pets.

The maximum pulling tensile load of the cable is 150N (15kg). Never pull the cable with higher load.

The minimum bending radius of the hybrid cable is approximately 45mm. Bending the cable to a smaller radius will irreversibly destroy the cable.

Pay attention to trip hazards; make sure that the cable is installed safely.

Do not leave packaging material lying around carelessly. These may become dangerous playing material for children.

Protect the product from extreme temperatures, direct sunlight, strong jolts, high humidity, moisture, flammable gases, vapors and solvents.

Do not place the product under any mechanical stress.

If it is no longer possible to operate the product safely, take it out of operation and protect it from any accidental use. Safe operation can no longer be guaranteed if the product:

- is visibly damaged,
- is no longer working properly,
- has been stored for an extended period in poor ambient conditions or
- has been subjected to any serious transport-related stresses.

Please handle the product carefully. Jolts, impacts or a fall even from a low height can damage the product.

Also observe the safety and operating instructions of any other devices which are connected to the product.

## **DELIVERY CONTENT**

1x HDMI 2.0b AOC Cable

-Available lengths include: 10/15/20/25/30/50/70/100 meters

1x User Manual

1x Warning Insert

## FEATURES

This HDMI 2.0b AOC Cable has many features that enable it to perform in a superior manner. Among those features you will find:

- Supports HDMI 2.0b specification with data rates up to 18Gbps
- Supports HDCP 1.4 & HDCP 2.2
- Supports resolutions up to Ultra HD 4K (4096x2160) 60Hz, 4:4:4
- Supports computer resolutions including 1080P and 4K2K(60Hz)
- Supports 48 bit color depth (16bit per channel)
- Supports lossless HDMI audio formats like Dolby True HD and DTS-HD, etc.
- Supports ARC, HEC and CEC
- Supports EDID incl. self-detecting function
- Long-term bending radius (48mm)
- Plug and Play
- Low Power Consumption: 250mW (max) (Power Required)
- No loss of signal
- Delivering crystal clear digital images instantly

## APPLICATION

This product is for example applicable to:

- Digital Signage
  - LED Signboards
  - Home Theater
  - Blu-ray, 3D Video, Projector, Set-top box, DVR, Game Consoles and Computer
  - TV Broadcast Station
  - Conference Room
  - Video Equipment
  - Security Systems
- and more.

## SPECIFICATIONS

Item	Description	
Units	Transmitter (Source)	Receiver (Display)
HDMI Version	HDMI 2.0b, Fully Support bi-directional EDID and HDCP communication HDCP 1.4/2.2 pass through, Audio, CEC, support HEC&ARC	
Video Bandwidth	18Gbps - 6 Gbps per Channel + Clock.	
Supported Resolution & Distance	Max. resolutions: 2160p60 4:4:4 8/10bit PC: 4096x2160 @ 60Hz up to 100 meters HDTV: 480p, 720p, 1080i and 1080p deep color, 4K(60P), 3DFull HD 1920x1080 up to 100 meters	
O/E Converter	4 channel 850 nm VCSEL array	4 CH GaAs PD array
Connector Type	HDMI Type A	

Cable Type	Hybrid type with OM3 fiber and copper wire
Connector Width	19.74mm (0.78 in.)
Cable Outer Diameter	4.72mm (0.186 in.)
Jacket Outer Material	PVC
Differential Input	100 Ohm
Power Consumption	250mW (max.)
Power Supply	Non external power required
Passive Power Supply	4.75-5.5 V

#### Environmental Conditions

Operating Temperature	-10-50 °C
Storage Temperature	-20-60 °C
Relative Humidity	10-80 %RH

#### Mechanical properties and Environmental performance

Item	Units	Specified values
Tensile strength(Long-term)	N	Up to150
Crush resistance(Long-term)	N/100mm	300
Minimum bending radius (dynamic)	mm	20D*
Minimum bending radius (static)	mm	10D*

\*D = the diameter of the cable body, in this case it is 4.72mm

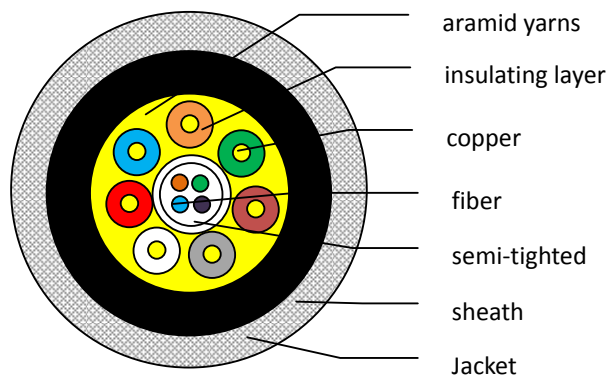
### CROSS SECTION

#### Construction:

Hybrid cable, fiber (high speed data) & copper (low speed signals)

#### Cable construction:

4 fiber cores and 7 copper conductors  
 Cable jacket: PVC, diameter ~4.72mm  
 Connector dimensions ~39x20x9mm.  
 Connector material: Zinc-Alloy



# OPERATION AND CONNECTION DIAGRAM

## ATTENTION

The HD4K18GB-FO-XX-MM is designed for use with +5V passive power, supplied through pin 18 on the HDMI connection from the source device. This +5V connection, as well as powering the internal fiber optic module, is also carried through to the other sink via a full standard copper connection. Please make sure that the source device is capable of delivering more than 500mA.

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.

Before using this cable, please make sure that all devices which will be connected with the AOC HDMI Cable are shut down and without power.

Then, connect the "source side" of the HDMI plug to the video source. Next connect the "display side" (the other HDMI plug) to the monitor/display.

This works without additional power supply.

We do not recommend using any intermediate cables or adapters between the connections, as the signal transmission performance may be attenuated.

Switch ON the power of the HDMI source and the display.



If the system does not work properly, see trouble shooting guide in next section.

## **TROUBLESHOOTING**

### **THE DISPLAY SHOWS:**

- **A BLACK SCREEN**
- **SCREEN IS DISTORTED**
- **NOISE INTERFERENCE**

1. Check that the connectors are in the correct ports of the source and display devices – check the labels on the connector housing to be sure.
2. Ensure that the HDMI plugs are firmly inserted into the HDMI source and display.
3. Check if the HDMI source and display are powered ON and properly booted.
4. Reset the system by unplugging and re-plugging the source or display HDMI port.
5. Re-boot the system with the optical HDMI cable system reconnected.

## **MAINTENANCE**

There are no components located inside the product you need to maintain. Never open/dismantle the product.

## **CLEANING**

Before cleaning the product it must be disconnected from all other connected products.

Do not use abrasive or solvents or any aggressive cleaning agents, rubbing alcohol or other chemical solutions as they can cause damage to the housing and malfunctioning.

To clean the product, a dry, soft and clean cloth is sufficient. Do not apply too much pressure to the housing as this may cause scratch marks. You can easily remove dust using a long-haired, soft and clean brush.

## WARRANTY AND LIABILITY

The product carries a 2 year warranty.

As the manufacturer has no influence on installation, warranty only applies to the product itself.

The manufacturer is not liable for damages to persons or property caused by improper installation, operation or maintenance, not described in this manual.

Do not alter or modify the product or its accessories.

Any use other than described in this user`s manual is not permitted and causes loss of warranty, loss of guarantee, and non-liability.

## DISPOSAL OF THE DEVICE



WEEE-Reg. No.: DE 93847290

According to the European WEEE directive, any electrical and electronic equipment must not be disposed with consumers waste. As a consumer, you are committed by law to reposit electrical and electronic devices to public collecting points or to the dealer for free at the end of the device's lifetime. Details are regulated in the respective national legislations. The garbage can symbol on the product, in the manual or on the packaging refers to these terms. With the return of your used devices you actively take part in protecting the environment.

## DISCLAIMER

This product complies with the statutory national and European requirements. All company names and product names are trademarks of their respective owners.

All rights reserved.

We reserve our right for misprints and changes of the device, packing or user`s manual.

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