

DVI-25xxx-AOC

HDMI Active Optical Cables



FEATURES

- Lightweight, compact, flexible, plenum-rated Active Optical Cables (AOC)
- Supports HDMI with 4K/60 signals and HDCP 2.2/1.4
- Supports data rates of up to 18 Gbps total
- Extends HDMI signals at resolutions of up to 4K /60p (4:4:4) 8-bit or (4:2:2) 10-bit up to 328 ft. (100 meters)
- Detachable HDMI docking connectors can be secured with included locking pins
- Can be powered by HDMI source, or by an external USB power supply using optional powered docking connector.
- Supports DDC communications for EDID and HDCP
- Low RFI / EMI profile for sensitive applications

Shattering Limitations – DVI Gear’s HyperLight® Series is a new generation of advanced Active Optical Cables (AOC) that employs cutting edge technology to deliver unprecedented resolution, performance and value. HyperLight HDMI cables provide robust features in a rugged yet compact and lightweight form factor. They are fully HDCP 2.2 and 1.4 compliant and support signals with data rates of up to 18 Gbps. These features enable HyperLight HDMI cables to support resolutions of up to 4K /60p (4:4:4) 8-bit or (4:2:2) 10-bit with cable lengths of up to 100 meters.

Easy to Install, Even in Plenum Spaces – HyperLight cables are plenum rated (UL CMP-OF), compact, lightweight and highly flexible. Constructed using a hybrid design of 4x POF (Polyfluorinated Optical Fiber) and 6x copper wires, they are rugged yet flexible, with a minimum bend radius of only two millimeters. To minimize cable diameter, two removable HDMI docking connectors may be detached, revealing a connector cross section that measures a mere 12.4 x 10.0 millimeters. The docking connectors include a locking pin for added security. These features make the cables easy to install even in narrow conduits, as well as in plenum spaces.

Professional Environments – HyperLight cables are designed for use in mission-critical applications where image quality and dependability are paramount. The video signals are transmitted over four optical fibers, which make them immune to interference from environmental noise. The optical transmission path provides a very low RFI / EMI profile, which allows the cables to be installed in sensitive applications with strict security requirements. In most cases, the cables draw power from the connected HDMI source, eliminating the need for an external power supply. HyperLight AOC cables are ideally suited for applications that require ultra-high resolution HDMI signals to be extended over long cable runs with flawless image quality.



Cable and HDMI Docking Connector



Cable mated in HDMI Docking Connector

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AVAILABLE DOCKING CONNECTORS



HDMI TX/RX

Each HyperLight HDMI AOC comes with a standard set of non-powered docking connectors. Since the total cable power consumption is < 235 milliwatts, these docking connectors are compatible with most source devices, and require no external power. Cables under 30 meters (98.4 ft.) come with a set of passive docking connectors. Longer cables include docking connectors with active buffers to mitigate losses in the cable for the HDMI DDC signals.



POWERED / EQUALIZED HDMI TX/RX

These HDMI docking connectors provide equalized signals and require an external USB power supply. These docking connectors are required for special applications, such as when two or more cables must be cascaded using a repeater, or when the HDMI source does not supply enough power to energize the cable.



DVI TX/RX

DVI docking connectors allow HyperLight HDMI AOC to be used with single-link DVI sources and/or displays. For cables under 30 meters (98.4 ft.), passive DVI docking connectors are recommended. For longer cables, use active DVI docking connectors.



DISPLAYPORT TX

The DisplayPort TX docking connector contains a conversion chip that allows the HyperLight HDMI AOC to be used with DisplayPort Dual-Mode (DP++) source devices. This enables DisplayPort to HDMI extension for all cable lengths up to 100 meters (328 ft.) without the need for external power.

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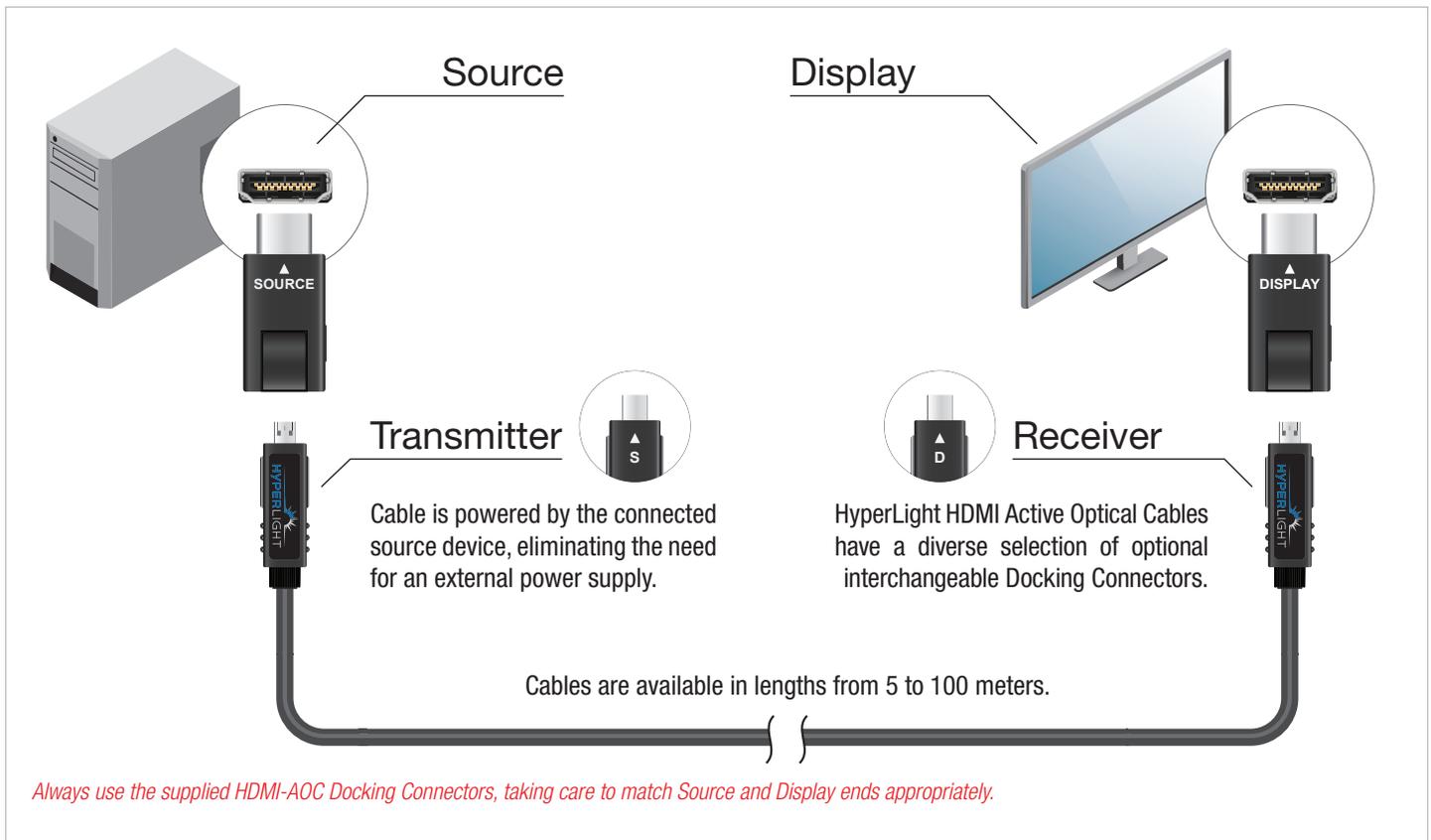
AVAILABLE DOCKING CONNECTORS

Model Number	Description	TX	RX	Cable Length	Standard/Optional ⁽¹⁾	Dimensions (H x W x D)
DVI-2500-AOC-TX	Passive HDMI Docking Transmitter	X		< 30m	Standard	12.2 x 21.0 x 45.0 mm
DVI-2500-AOC-RX	Passive HDMI Docking Receiver		X	< 30m	Standard	12.2 x 21.0 x 45.0 mm
DVI-2500-AOC-TX B	Active HDMI Docking Transmitter	X		30m – 100m	Standard	12.2 x 21.0 x 45.0 mm
DVI-2500-AOC-RX B	Active HDMI Docking Receiver		X	30m – 100m	Standard	12.2 x 21.0 x 45.0 mm
DVI-2500-AOC-TX EQ	Equalized HDMI Docking Transmitter	X		5m – 100m	Optional	12.0 x 20.8 x 55.0 mm
DVI-2500-AOC-RX EQ	Equalized HDMI Docking Receiver		X	5m – 100m	Optional	12.0 x 20.8 x 55.0 mm
DVI-2500-AOC-TX D	Passive DVI Docking Transmitter	X		< 30m	Optional	15.1 x 39.4 x 45.9 mm
DVI-2500-AOC-RX D	Passive DVI Docking Receiver		X	< 30m	Optional	15.1 x 39.4 x 45.9 mm
DVI-2500-AOC-TX DB	Active DVI Docking Transmitter	X		30m – 100m	Optional	15.1 x 39.4 x 45.9 mm
DVI-2500-AOC-RX DB	Active DVI Docking Receiver		X	30m – 100m	Optional	15.1 x 39.4 x 45.9 mm
DVI-2500-AOC-TX DP	Active DisplayPort Docking Transmitter ⁽²⁾	X		5m – 100m	Optional	14.4 x 20.0 x 58.0 mm

Note 1: Standard connectors are included with the appropriate length of each cable; optional connectors are available separately and are sold individually.

Note 2: The Active DisplayPort Docking Connector is only available as a transmitter, and may be used with any receiver of the appropriate length.

APPLICATION DIAGRAM



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SPECIFICATIONS

Performance	
Standards Compliance	HDMI 2.0, HDCP 1.4 / 2.2, UL CMP-OF (File E471410)
Maximum Pixel Clock Frequency	600 MHz
Maximum Video Bit Rate	Supports up to 6.0 Gbps per lane, 18.0 Gbps total
Maximum Color Depth	Up to 24 bits/pixel RGB (4:4:4)
Maximum Supported Resolutions	3840×2160 @ 60 Hz with 24 bits/pixel RGB color
Digital Audio Support	1-8 channels, 16 or 24-bit Linear PCM, 32-192 kHz sampling rate; maximum bitrate 36 Mbps
Connections	
HDMI Input / HDMI Output	19-pin HDMI Male connectors
Power	No external power supply is required
DDC Support	
EDID Support	Supports live EDID communications
HDCP Support	Supports HDCP 1.4 and HDCP 2.2
Optical	
Optical Technology	4x Discrete Optical Channels, 10 GHz, 850 nm
Optical Transmitter / Receiver	Tx Module: 4x 850 nm Multi-Mode VCSELs Rx Module: 4x GaAs PIN Photo Diodes
Cable	
Fiber Cable Type	Hybrid cable with 4x POF (Polyfluorinated Optical Fiber) and 6x copper members
Cable Jacket	Plenum Rated, Black
Standard Lengths (meters)	5, 7.5, 10, 12.5, 15, 20, 25, 30, 40, 50, 60, 75, 80, 90, 100
Standard Lengths (feet)	16.4, 24.6, 32.8, 41.0, 49.2, 65.6, 82.0, 98.4, 131.2, 164.0, 196.9, 246.1, 262.5, 295.3, 328.1
Maximum Cable Length	328 ft. / 100 meters
Mechanical – Cable	
Product Weight	Varies with length
Maximum Tensile Load	> 200N
Minimum Bend Radius	2 mm (fiber and jacket)
Crush Resistance	> 500N
Cable Connector (L x W x H)	Male Micro HDMI Type D with pulling eye, 1.67" x 0.49" x 0.31" (42.3 mm x 12.4 mm x 8.0 mm)
Cable Outside Diameter (W x H)	0.2" x 0.1" (5.1 mm x 2.9 mm)
Mechanical – Tx and Rx Docking Plugs	
Docking Connectors	A complete range of DVI, HDMI and DisplayPort docking connectors is available
Construction	High-impact plastic enclosures with removable locking pin
Dimensions (L x W x H)	See page 3
Environmental	
Operating / Storage Temperature	-4° to +158° F (-20° to +70° C); -4° to +185° F (-20° to +85° C)
Operating / Storage Humidity	5% to 85% (non-condensing)
Power Requirements	
Power Source	Powered from HDMI source device
Power Consumption	< 0.235 watt / 47 mA
Regulatory Approvals	
Fiber Optic Cable	FCC, UL, CE, RoHS
Warranty	
Limited Warranty	3 Years Parts and Labor
Model Number	
DVI-25xxx-AOC	HDMI HyperLight® Active Optical Cable (xxx = length in meters)
Docking Connectors	See Page 3
Accessories	
Included: 1x Quick Start Guide; 2x HDMI Passive or Active Docking connectors, dependent on cable length [(1) TX and (1) RX]	
Optional: Interchangeable Docking Connectors (see Page 3); HyperLight Cable Pull Cover (p.n. DVI-2600-AOC-CVR); HyperLight Pull Sleeve Kit (p.n. DVI-2600-AOC-PSK)	

Note: All specifications are subject to change without notice.