

OPF-TH1000-A/OPF-RH1000-A



HDMI Fiber Optic Extender

The IDK OPF-H1000-A Fiber Optic Extender is an extender for long haul transmission of HDCP-compliant HDMI video, stereo audio, and bidirectional RS-232 control signals over fiber optic cabling. Input signals are extended without the loss of quality since they are extended without compression.

FRONT & REAR PANEL



FEATURES

Video

- Up to WUXGA (RB)¹ or 1080p
- Extension distance
 - Multimode fiber (OM3): 984 ft. (300 m)
 - Multimode fiber (OM4): 0.62 mi. (1 km)
 - Singlemode fiber (OS1): 2.92 mi. (4.7 km)
 - Singlemode fiber (OS1): 6.21 mi. (10 km) (Optional)
- HDCP (Pass through)

Audio

- Extends analog audio

Control

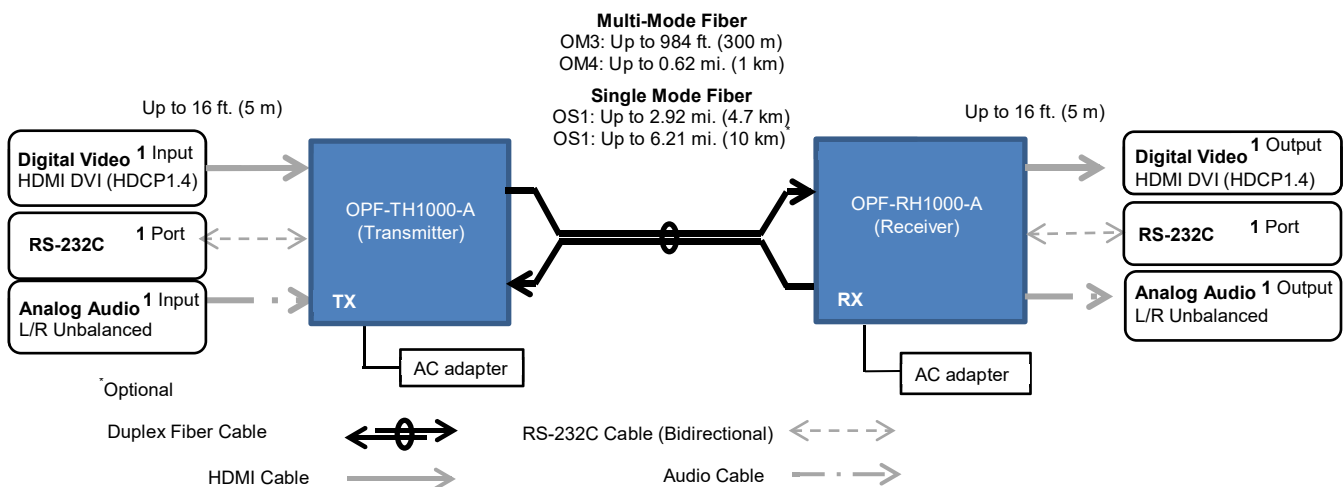
- Bidirectional communication via RS-232C

Others

- CEC (Pass through)
- AC adapter mechanical lock

¹ WUXGA only supports RB (Reduced Blanking) and DVI signals.

CONNECTION EXAMPLE



Ver.1.8.0 (181003)

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SPECIFICATIONS



Item			OPF-TH1000-A (Transmitter)	OPF-RH1000-A (Receiver)		
Input	Video	HDMI / DVI	Number / Signal	1 input / HDMI (*1) / DVI 1.0 - HDCP: Pass through - CEC: Pass through - TMDS Single Link - TMDS clock: 25 MHz to 165 MHz - Dot clock: 25 MHz to 165 MHz	1 input / Optical signal for extension	
			Connector	1 female HDMI Type A (*2)		2 LC connectors
		Others	Color depth: 24bit			
		Formats	480i / 480p / 576i / 576p / 720p / 1080i / 1080p VGA / SVGA / XGA / WXGA (1280 x 768) / WXGA (1280 x 800) / Quad-VGA / SXGA / WXGA (1360 x 768) / WXGA (1366 x 768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / WUXGA * WUXGA only supports DVI signal and Reduced Blanking			
	Audio	Digital	Number / Signal	1 input / Multi-channel LPCM up to 8 channels - Sampling frequency: 32 kHz to 192 kHz - Sample size: 16 bit to 24 bit - Reference level: -20 dBFS - Max. input level: 0 dBFS	1 input / Optical signal for extension	
			Connector	1 female HDMI Type A (*2)		2 LC connectors
		Analog (*4)	Number / Signal	1 input / Stereo LR unbalanced signal - Input impedance: 75 Ω - Reference level: -10 dBu - Max. input level: +3 dBu	1 input / Optical signal for extension	
			Connector	1 stereo mini jack (3.5 mm)		2 LC connectors
	Output	Video	HDMI / DVI	Number / Signal	1 output / Optical signal for extension	1 output / HDMI (*1) / DVI 1.0 - HDCP: Pass through - CEC: Pass through - TMDS Single Link - TMDS clock: 25 MHz to 165 MHz - Dot clock: 25 MHz to 165 MHz
				Connector	2 LC connectors	
Others			Color depth: 24bit (*3)			
Formats			480i / 480p / 576i / 576p / 720p / 1080i / 1080p VGA / SVGA / XGA / WXGA (1280 x 768) / WXGA (1280 x 800) / Quad-VGA / SXGA / WXGA (1360 x 768) / WXGA (1366 x 768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / WUXGA * WUXGA only supports DVI signal and output as Reduced Blanking			
Audio		Digital	Number / Signal	1 output / Optical signal for extension	1 output / Multi-channel LPCM up to 8 channels - Sampling frequency: 32 kHz to 192 kHz - Sample size: 16 bit to 24 bit - Reference level: -20 dBFS - Max. input level: 0 dBFS	
			Connector	2 LC connectors		1 female HDMI Type A (*2)
		Analog (*5)	Number / Signal	1 output / Optical signal for extension	1 output / Stereo LR unbalanced signal - Output impedance: 75 Ω - Reference level: -10 dBu - Max. input level: +3 dBu	
			Connector	2 LC connectors		1 stereo mini jack (3.5 mm)
Plug & Play			DDC2B (EDID is copied from a connected monitor automatically)			
Fiber optic cable		Suitable cable		Duplex fiber cable, SFP module (2 LC connectors)		
	Polishing (*6)		SFP for Multimode: PC (recommended) SFP for Singlemode: UPC (recommended), SPC supported * APC is not supported			
Signal transmission distance (*7)			Multimode fiber (OM3): 984 ft. (300 m) Multimode fiber (OM4): 0.62 mi. (1 km) Singlemode fiber (OS1): 2.92 mi. (4.7 km) Singlemode fiber (OS1): 6.21 mi. (10 km) (Optional)			
Control	Serial control port	Number / Signal	1 port / Full duplex up to 115.2kbps			
		Connector	1 male D-Sub (9-pin)			
Others	AC adapter		Input: 100 - 240 VAC ± 10%, 50 Hz/60 Hz ± 3 Hz Output: DC 5V 3A (AC adapter is supplied)			
	Power consumption		About 6 Watts	About 6 Watts		
	Dimensions		4.2 × 1.2 × 3.5" (106 (W) × 30 (H) × 90 (D) mm) (EIA quarter rack wide) (Excluding connectors and the like)			
	Weight		0.9 lbs. (0.4kg)	0.9 lbs. (0.4kg)		
	Temperature		Operating: 32°F to 104°F (0°C to +40°C) Storage: -4°F to +176°F (-20°C to +80°C)			
	Humidity		Operating/ Storage: 20% to 90% (Non Condensing)			

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SFP

Item		Multimode fiber	Singlemode fiber
Wave length		850 nm (Oxide VCSEL Laser (*8))	1310 nm (Fabry-Perot laser (*8))
Max. extension distance		OM3: 984 ft. (300 m) OM4: 0.62 mi. (1 km)	OS1: 2.92 mi. (4.7 km) OS1: 6.21 mi. (10 km) (Optional)
Optical power level	Input	Over -13 dBm	Over -18 dBm
	Output	-9 dBm to -2.5 dBm	-8.4 dBm to -3 dBm
Max. input power		0 dBm	0 dBm
Connector		2 LC connectors (Duplex)	

If SFP is for Singlemode fiber, we have modules which can extend up to 6.21 mi. (10 km). (OS1)
For request, please ask our Sales division.

(*1) HEC and ARC are not supported.

(*2) Please use an HDMI cable shorter than 5 meters.

(*3) Deep Color is not supported.

(*4) Separate analog audio input cannot be embedded onto digital video

(*5) Analog audio cannot be de-embedded (de-multiplexed) from digital audio.

(*6) It is possible to connect without using the recommended polishing method, but that may cause a change of extension distance ability due to an increase in return loss.

(*7) Max. Extension distance is measured under following condition; using fiber of recommended polishing method, without connection at the transmission path and not exceeding the value of allowable bending radius.

(*8) This device uses laser certified to be Class 1 as measured in JIS C 6802, which means they are designed to be fundamentally safe

PRODUCT SELECTION

Parts Number	Fiber Type	Max. Distance
OPF-TH1000-A-MM	Multimode	OM3: 984 ft. (300 m)
OPF-RH1000-A-MM		OM4: 0.62 mi. (1 km)
OPF-TH1000-A-SM	Singlemode	OS1: 2.92 mi. (4.7 km)
OPF-RH1000-A-SM		OS1: 6.21 mi. (10 km) (Optional)