HDMI Fiber Optic Cable Extender

OPF-TH1000-A/OPF-RH1000-A

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.

■ Specification

Item		OPF-TH1000-A (Transmitter)	OPF-RH1000-A (Receiver)
Input		1 input HDMI (*1)/DVI 1.0 TMDS single link HDCP 1.4 (Pass-through) CEC (Pass-through) Connector: Female HDMI Type A (19-pin) (*2)	1 input Digital optical signal for extension RS-232C
Output		1 output Digital optical signal for extension RS-232C	1 output HDMI (*1)/DVI 1.0 TMDS single link HDCP 1.4 (Pass-through) CEC (Pass-through) Connector: Female HDMI Type A (19-pin) (*2)
Format		VGA / SVGA / XGA / WXGA (1280x768) / WXGA (1280x800) / Quad-VGA / SXGA / WXGA (1360x768) / WXGA (1366x768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / WUXGA For WUXGA, only Reduced Blanking and DVI signal are supported. 480i / 480p / 576i / 576p / 720p / 1080i / 1080p	
Color depth		24 bit (*4)	
Dot clock		25 MHz to 165 MHz	
TMDS clock		25 MHz to 165 MHz	
Plug & Play		Pass-through	
Digital audio input/output		Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz, Sample size: 16 bit to 24 bit	
Analog audio input		1 input Unbalanced Stereo LR Input impedance: 11 kΩ Reference level: -10 dBu, Max. input level: +3 dBu Connector: Stereo mini jack (3.5 mm)	-
Analog audio output		-	1 output Unbalanced Stereo LR Output impedance: 60 Ω Reference level: -10 dBu, Max. output level: +3 dBu Connector: Stereo mini jack (3.5 mm)
Cable for extension	Cable	Duplex fiber cable SFP optical transceiver (2 LC connectors)	
	Polishing (*5)	SFP optical transceiver for Multimode : PC polishing (Recommended) SFP optical transceiver for Singlemode : UPC polishing (Recommended), SPC *APC is not supported	
	Transmission distances (*6)	Multimode fiber (OM3) : Up to 984 ft. (300 m) Multimode fiber (OM4) : Up to 0.62 mi. (1 km) Singlemode fiber (OS1) : Up to 2.92 mi. (4.7 km) Singlemode fiber (OS1) : Up to 6.21 mi. (10 km, optional)	
Control	RS-232C	1 port/male D-sub (9-pin), full duplex, up to 115.2 kbps	
General	AC adapter	Input : 100 - 240 VAC ±10%, 50 Hz/60 Hz ±3 Hz Output : DC 5 V 3 A (A dedicated AC adapter is provided)	
	Power consumption	About 6 Watts	About 6 Watts
	Dimensions	4.2 × 1.2 × 3.5" (106 (W) × 30 (H) × 90 (D) mm) (Quarter rack wide, thin type) (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)	

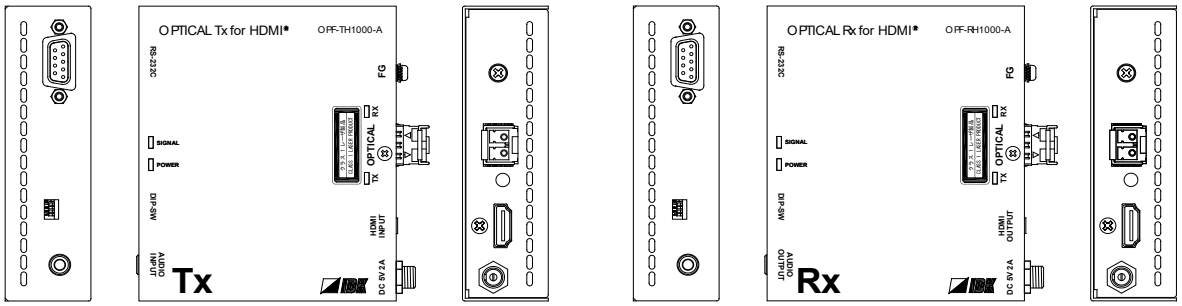
*1 HEC and ARC are not supported.
*2 Use 16.4 ft. (5 m) or shorter HDMI cables.
*3 Deep Color is not supported.
*4 Separate analog audio input cannot be embedded onto digital video.
*5 Analog audio cannot be de-embedded (de- multiplexed) from digital audio.
*6 It is possible to connect without using the recommended polishing method, but that may cause a change of transmission distance ability due to an increase in return loss.
*7 The maximum transmission distance is measured under the following conditions: Fiber that is polished by a recommended method is used, there is no interconnection, and the allowable bending radius is not exceeded.

■ SFP Specification

Item	Multimode fiber	Singlemode fiber
Wave length	850 nm (Oxide VCSEL laser*)	1310 nm (Fabry-Perot laser*)
Max. transmission distances	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)
Receiver sensitivity (OMA) @10.3Gbps	-13 dBm or higher	-18 dBm or higher
Average Launch Power	-9 dBm to -2.5 dBm	-8.4 dBm to -3 dBm
Max. input power	0 dBm	0 dBm
Connector	LC (Duplex)	

*The lasers in these models meet class1.

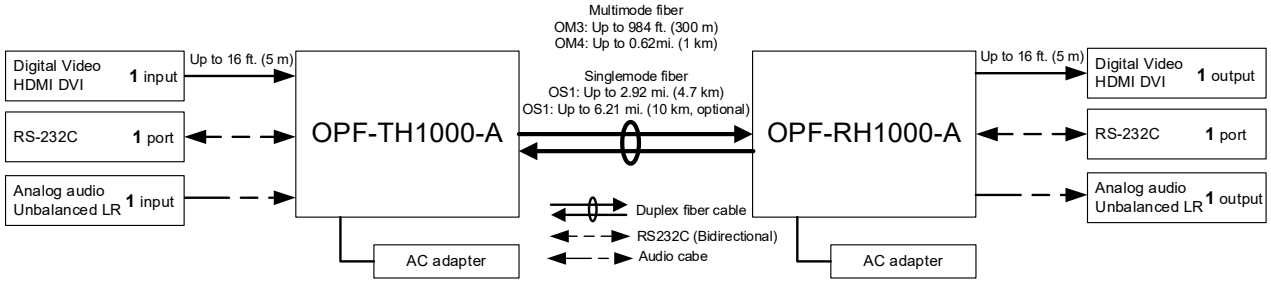
■ **Front & Rear Panels**



HDMI Fiber Optic Cable Extender

OPF-TH1000-A/OPF-RH1000-A

■ Diagram



■ Models

Model		Type	Model number
Fiber optic	Multimode fiber	Transmitter	OPF-TH1000-A-MM
		Receiver	OPF-RH1000-A-MM
	Singlemode fiber	Transmitter	OPF-TH1000-A-SM
		Receiver	OPF-TH1000-A-MM

[Features]

■ Video

- Up to 1080p/WUXGA* (Reduced Blanking)
- HDCP 1.4 (Pass-through)
- Transmission distances
  Multimode fiber (OM3) : 984 ft. (300 m)
  Multimode fiber (OM4) : 0.62 mi. (1 km)
  Singlemode fiber (OS1) : 2.92 mi. (4.7 km), (Up to 6.21 mi. (10 km, optional))

■ Audio

- Analog audio transmission

■ Communication

- Bidirectional RS-232C

■ Others

- CEC (Pass-through)
- AC adapter with locking mechanism

*DVI signal only