



HDMI Fiber Optic Cable Extender

OPF-TH1000D/OPF-RH1000D

The IDK OPF-1000D Fiber Optic Extender is an extender for long haul transmission of HDCP-compliant HDMI video, and unidirectional RS-232 control signals over fiber optic cabling. And it also supports Daisy Chain. Input signals are extended without quality lessening as they are extended without compression. Audio can be audio de-embedded from HDMI signal and output as analog audio at transmitter side.

■ Specification

Item	OPF-TH1000D (Transmitter)	OPF-RH1000D (Receiver)	
Input	1 input HDMI (*1)/DVI 1.0 TMDS single link, HDCP 1.4 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 Digital optical signal for daisy chain 1 output HDMI (*1)/DVI 1.0 TMDS single link, HDCP 1.4 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 is supported. 480i / 480p / 576i / 576p / 720p / 1080i / 1080p		
Color depth	24 bit (*3)		
Dot clock	25 MHz to 165 MHz		
TMDS clock	25 MHz to 165 MHz		
Plug & Play	DDC2B (Built-in EDID) Max. resolution selectable using built-in EDID		
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 Reference level: -20 dBFS, Max. input/output level: 0 dBFS		
Analog audio output	1 output Unbalanced Stereo LR Output impedance: 75 Ω Reference level: -10 dBu, Max. output level: +10 dBu Connector: Stereo mini jack (3.5 mm)	-	
Cable for extension	Cable	Simplex fiber cable, SFP optical transceiver (2 LC connectors)	
	Polishing (*4)	SFP optical transceiver for Multimode : PC polishing (Recommended) SFP optical transceiver for Singlemode : UPC polishing (Recommended), SPC *APC is not supported	
	Transmission distances (*5)	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) simplex, 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 9 Watts	About 8 Watts
	Dimensions	4.2 × 1.1 × 7.9" (106 (W) × 28 (H) × 200 (D) mm) (Quarter rack wide, thin type) (Excluding connectors and the like)	4.2 × 1.0 × 7.9" (106 (W) × 26 (H) × 200 (D) mm) (Quarter rack wide, thin type) (Excluding connectors and the like)
	Weight	1.3 lbs. (0.6 kg)	1.3 lbs. (0.6 kg)
	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 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.

*5 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

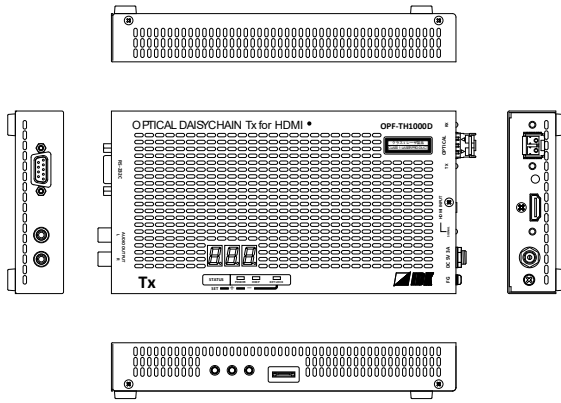
Item	Multimode fiber	Singlemode fiber
Wave length	850 nm (Oxide VCSEL laser*)	1310 nm (Fabry-Perot laser*)
Max. transmission distances	OM3: 984 ft. (300 m) OM4: 0.62 mi. (1 km)	OS1: 2.92 mi. (4.7 km) OS1: 6.21 mi. (10 km, optional)
Receiver sensitivity (OMA) @10.3Gbps	-13 dBm or higher	-18 dBm or higher
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.

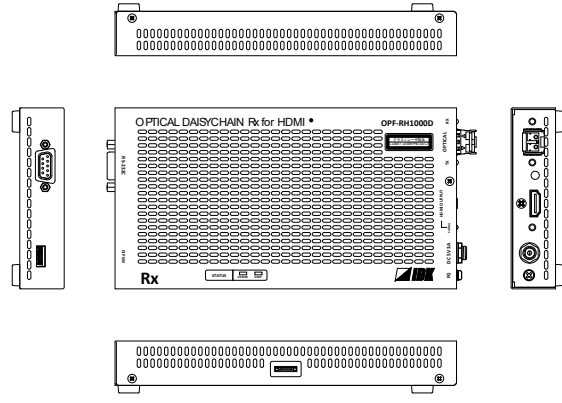
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■ Front & Rear Panels

OPF-TH1000D



OPF-RH1000D



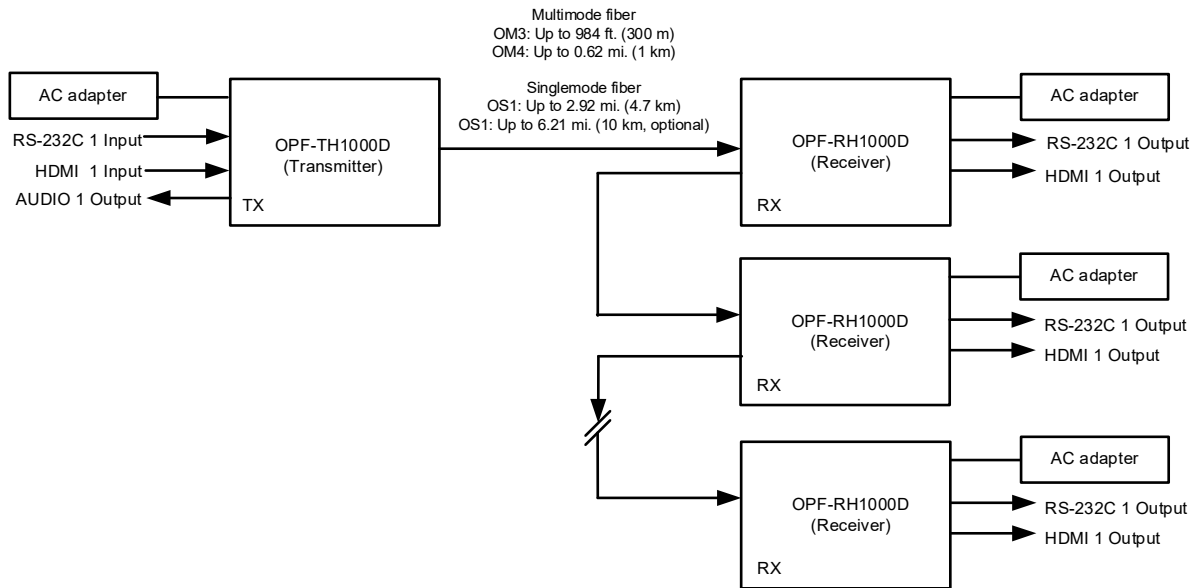
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■ Diagram



■ Models

Model		Type	Model number
Fiber optic	Multimode fiber	Transmitter	OPF-TH1000D-MM
		Receiver	OPF-RH1000D-MM
	Singlemode fiber	Transmitter	OPF-TH1000D-SM
		Receiver	OPF-RH1000D-SM

[Features]

■ Video

- Up to 1080p/WUXGA (Reduced Blanking)
- HDCP 1.4
- Daisy chain connection
- 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

- De-embedding (OPF-TH1000D)

■ Communication

- RS-232C

■ Others

- AC adapter with locking mechanism

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