HDMI Fiber Optic Extender (Daisy Chain model)

OPF-H1000D

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				Description	
Model number				OPF-TH1000D (Transmitter)	OPF-RH1000D (Receiver)
Input	Video	HDMI / DVI	Number / Signal	1 input / HDMI (*1) - 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)	1 LC connector
		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 linear PCM 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)	1 LC connector
		Analog (*4)	Number / Signal	1 input / Stereo LR unbalanced signal - Input impedance: 75 Ω - Reference level: -10 dBu, - Max. output level: +10 dBu	1 input / Optical signal for extension
			Connector	1 stereo mini jack (3.5 mm)	1 LC connector
Output	Video	HDMI / DVI	Number / Signal	1 output / Optical signal for extension	1 output / HDMI (*1) - HDCP: Pass through - CEC: Pass through - TMDS Single Link - TMDS clock: 25 MHz to 165 MHz - Dot clock: 25 MHz to 165 MHz
			Connector	1 LC connector	1 female HDMI Type A (*2)
		Daisy Chain	Number / Signal	-	1 output / Optical signal for extension
			Connector	-	1 LC connector
		Others	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 linear PCM 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	1 LC connector	1 female HDMI Type A (*2)
		Daisy Chain	Number / Signal	-	1 output / Optical signal for extension
			Connector	-	1 LC connector
		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. output level: +10 dBu
			Connector	1 LC connector	1 stereo mini jack (3.5 mm)
Plug & Play				DDC2B (Built in EDID) *Max. resolution selectable using built in EDID	
Fiber optic cable	Suitable cable			Simplex 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): 985 ft. (approx.) / 300 m Multimode fiber (OM4): 3,280 ft. (approx.) / 1 km Singlemode fiber (OS1): 2.92 miles (approx.) / 4.7 km	
Control	Serial control port		Number / Signal	1 port / simplex up to 115.2kbps	
			Connector	1 male 9-pin D-Sub	
Others	AC adapter			Input: 100 - 240 VAC ± 10 %, 50 Hz / 60 Hz ± 3 Hz Output: DC 5V 3A 15 Watts (AC adapter supplied)	
	Power consumption			About 9 Watts	About 8 Watts
	Dimensions			7.87 x 1.18 x 4.17“ (approx.) / 200 (W) x 30 (H) x 106 (D) mm (Quarter rack, not including projections)	
	Weight			0.88 lbs. (approx.) / 0.6 kg	
	Temperature			Operating: 32°F to 104°F / 0°C to +40°C Storage: -4°F ~ +176°F / -20°C to +80°C	
	Humidity			Operating/ Storage: 20 % to 90 % (Non Condensing)	

■SFP

Item		Multimode fiber	Singlemode fiber
Connector		2 LC connectors (Duplex)	
Wave length		850 nm (Oxide VCSEL Laser (*8))	1310 nm (Fabry-Perot laser (*8))
Max. extension distance		OM3: 985 ft. (approx.) / 300 m OM4: 3,280 ft. (approx.) / 1 km	OS1: 2.92 miles (approx.) / 4.7 km
Optical power level	Input	Over -13 dBm	Over -18 dBm
	Output	-9 dBm to -2.5 dBm	-8.4 dBm to -3 dBm

If SFP is for Singlemode fiber, we have modules which can extend up to 30 km. (OS1)
For request, please ask our Sales division.

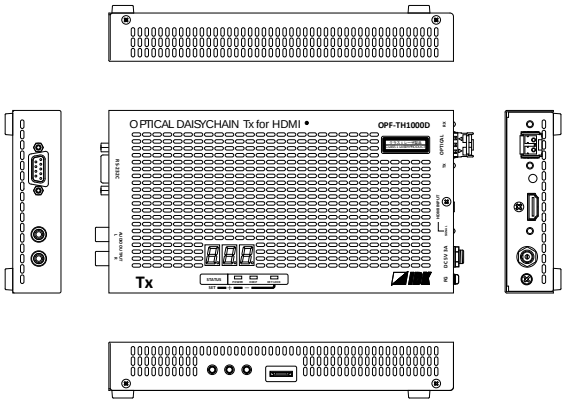
■Product Selection

Parts Number	Fiber Type	Max. Distance
OPF-TH1000D-MM	Multimode	OM3: 985 ft. (approx.) / 300 m OM4: 3,280 ft. (approx.) / 1 km
OPF-RH1000D-MM		
OPF-TH1000D-SM	Singlemode	OS1: 2.92 miles (approx.) / 4.7 km
OPF-RH1000D-SM		

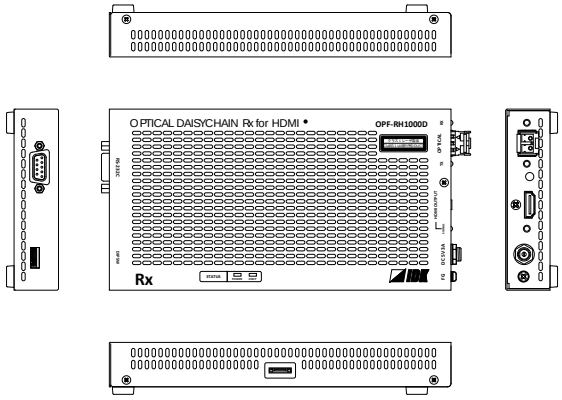
(*1) HEC and ARC are not supported.
(*2) Please use an HDMI cable shorter than 5 meters.
(*3) Deep Color is not supported.
(*4) Separate analog audio input cannot be embedded onto digital video
(*5) Analog audio cannot be de-embedded (de- multiplexed) from digital audio.
(*6) It is possible to connect 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

■ Front & Rear Panel

OPF-TH1000D



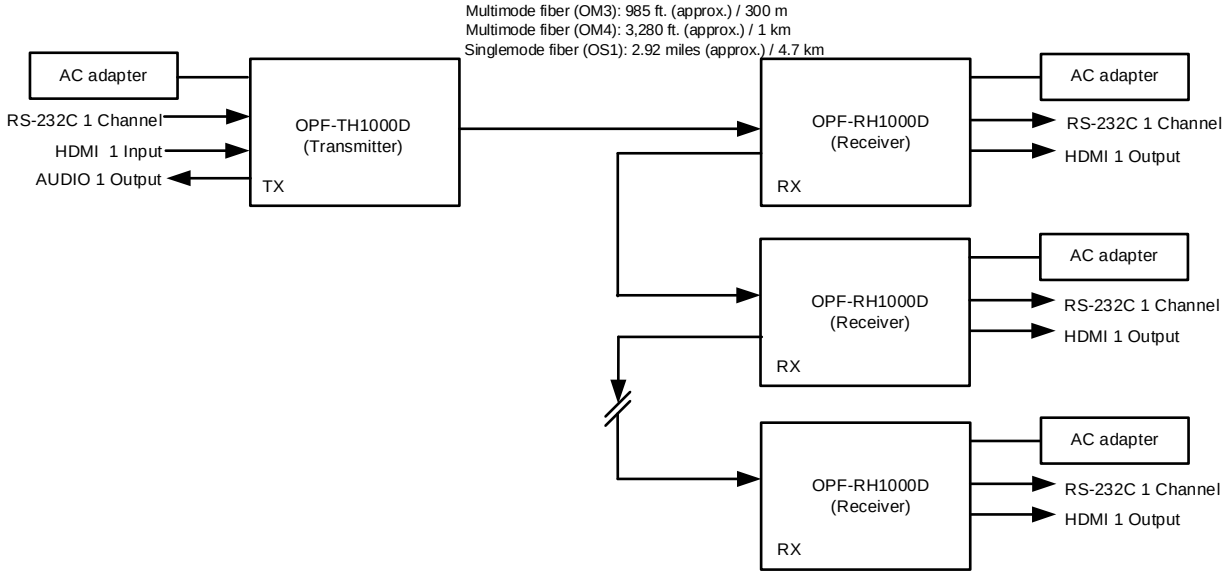
OPF-RH1000D



HDMI Fiber Optic Extender (Daisy Chain model)

OPF-H1000D Diagram and Features

■ **Diagram**



[Features]

■ **Video**

- Up to WUXGA (RB)* or 1080p
- Extension distance
  Multimode fiber (OM3): 985 ft. (approx.) / 300 m
  Multimode fiber (OM4): 3,280 ft. (approx.) / 1 km
  Singlemode fiber (OS1): 2.92 miles (approx.) / 4.7 km
- Daisy Chain Connection with single SFP module
- HDCP1.4

■**Audio**

- Analog audio de-embedded (Transmitter only)

■**Control**

- Unidirectional communication via RS-232C

■**Others**

- 7 segment LED signal status check on Transmitter
- AC adapter mechanical lock

*WUXGA only supports RB (Reduced Blanking)