VE883

4K HDMI Optical Extender (4K@300m (K1, MM) / 10km (K2, SM))

The VE883 is a fiber-based extender designed to extend uncompressed 4K signal up to 300 m (using VE883K1) or 10 km (using VE883K2) over duplex fiber optic cables. The VE883 meets HDMI Specifications, including 3D, Deep Color (up to 12 bit), and signaling rates (up to 10.2 Gb) to ensure superior video quality. With ATEN's exclusive FarSmooth technology, the VE883 prevents lagging and freezing by matching the output rates to the input rates and ensures the video display is stable, smooth and identical to the source, particularly in long-distance extension applications where uninterrupted video streams are required. The VE883 features an HDMI input and output, analog audio input and output, USB2.0, IR, RS-232 control port, and a Gigabit Ethernet port. For point-to-point extension, the VE883 can receive fiber optic cables by inserting SFP+ modules to its optic port.

To avoid bulky cable setup, the VE883 guarantees a simple and fast solution for optimum transmission of Ethernet, IR, HDMI, RS-232, and USB signals up to 10 km simply via a set of duplex optic fiber. The VE883 is also USB transparent, making it compatible with a wide range of USB peripherals.

Engineered to meet the latest trend of lossless 4K and long distance signal extension, VE883 is suitable for where   long distance transmission is a must and little interference is allowed, such as in traffic station and modern office buildings.

Features

- Extends HDMI video, stereo audio, IR, RS-232 control, and Ethernet signals over duplex fiber optic cabling
- Applies duplex fiber optic cables to connect the transmitter and the receiver
- Supports ultra long distance transmission up to 10 km*
- HDMI (3D, Deep Color, 4K); HDCP 2.2 compliant
- Supports lossless 4K video up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:2:0)
- FarSmooth – ATEN's exclusive FarSmooth technology prevents lagging and freezing by matching the output rates to the input rates and ensures the video display is stable, smooth and identical to the source, particularly in long-distance extension applications where uninterrupted video streams are required.
- Supports Gigabit Ethernet Channel
- Supports USB 2.0, with a maximal transfer rate of 25MByte/s
- Bi-directional IR signal transmission – IR transmission is processed one direction at a time, ranged from 30 kHz to 56 kHz
- Features RS-232 serial port for connecting peripherals such as touch screens, and barcode scanners
- Supports batch upgrades using Firmware Upgrade Utility
- Built-in 8 kV / 15 kV ESD protection
- Plug-and-play
- Hot-pluggable
- Rack-mountable
  Note:
  • The maximum transmission distance may vary depending on the fiber type, bandwidth, connector splicing, losses, model, chromatic dispersion, environmental factor, and kinks.
  • For long distance transmissions, ATEN recommends using SFP+ modules to allow compatibility with single or   multi mode fibers. Depending on the chosen package (VE883K1 or VE883K2), different SFP+ modules are supplied:
   • VE883K1: 10 Gbps/300m SFP+ Duplex Multi Mode Transceiver
   • VE883K2: 10 Gbps/10 km SFP+ Duplex Single Mode Transceiver
  • ATEN recommends using Single Mode fibers that conform to IEC 11801 (OS1, OS1a, OS2), and   Multi Mode fibers that conform to IEC 11801 (OM3, OM4) specifications.
  • The Device is class 1 laser product. It meets the safety regulations of IEC/EN 60825-1, 21 CFR 1040.10, and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.
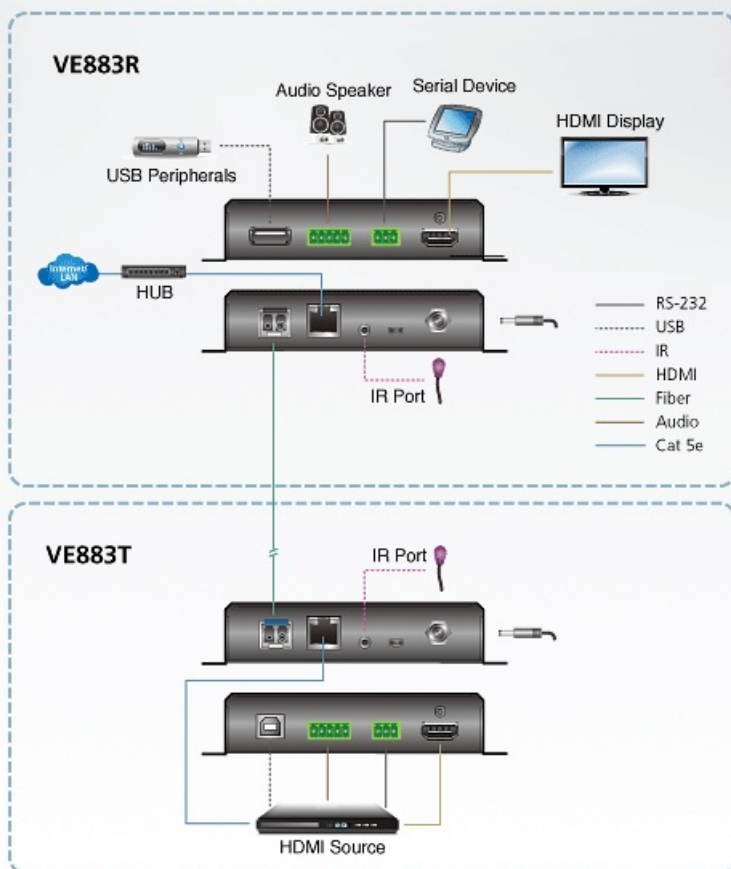
Specification

Function	VE883R	VE883T
Video Input		
Interfaces	N/A	1 x HDMI Type A Female (Black)
Impedance	N/A	100 Ω
Max. Distance	N/A	Up to 5 m
Video Output		
Interfaces	1 x HDMI Type A Female (Black)	N/A
Impedance	100 Ω	N/A
Max. Distance	Up to 10 m	N/A
Video		
Max. Data Rate	10.2 Gbps (3.4 Gbps Per Lane)	10.2 Gbps (3.4 Gbps Per Lane)
Max. Pixel Clock	340 MHz	340 MHz
Compliance	HDMI (3D, Deep Color, 4K) HDCP 2.2 Compatible	HDMI (3D, Deep Color, 4K) HDCP 2.2 Compatible
Max. Resolution	4096x2160/3840x2160@60Hz (4:2:0); 4096x2160/3840x2160@30Hz (4:4:4)	4096x2160/3840x2160@60Hz (4:2:0); 4096x2160/3840x2160@30Hz (4:4:4)

Max. Distance	1 x SFP Module (*Note) VE883K1: up to 300m (MM, OM3, Black) VE883K2: up to 10km (SM, Blue)	1 x SFP Module (*Note) VE883K1: up to 300m (MM, OM3, Black) VE883K2: up to 10km (SM, Blue)
Audio		
Input	N/A	1 x Terminal Block, 5 pole (Green)
Output	1 x Terminal Block, 5 pole (Green)	N/A
Connectors		
Unit To Unit	1 x bi-directional SFP (LC)	1 x bi-directional SFP (LC)
Firmware Upgrade	1 x Micro USB (Type B) Female (Black)	1 x Micro USB (Type B) Female (Black)
Power	1 x DC Jack with locking	1 x DC Jack with locking
Fiber Optics		
Data Rate	10.3 Gbps	10.3 Gbps
Wavelength	VE883K1: 850 nm VE883K2: 1310 nm	VE883K1: 850 nm VE883K2: 1310 nm
Fiber Type	VE883K1: Multimode(MM), OM3, LC Duplex Type VE883K2: Singlemode(SM), LC Duplex Type	VE883K1: Multimode(MM), OM3, LC Duplex Type VE883K2: Singlemode(SM), LC Duplex Type
Control		
USB Channel	1 x USB Type A Female (White)	1 x USB Type B Female (White)
RS-232 Channel	1 x Terminal Block, 3 pole (Green)	1 x Terminal Block, 3 pole (Green)
IR Channel	1 x Mini Stereo Jack Female (Black); 30~56 KHz full range transmission	1 x Mini Stereo Jack Female (Black); 30~56 KHz full range transmission
Ethernet Channel	1 x RJ45 Female	1 x RJ45 Female
LEDs		
Power	1 (Green)	1 (Green)
Link	1 (Orange)	1 (Orange)
Video Output	1 (Orange)	N/A
Power Consumption	DC5V:6.77W:42BTU Note: ● The measurement in Watts indicates the typical power consumption of the device with no external loading. ● The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.	DC5V:7.05W:33BTUBTU Note: ● The measurement in Watts indicates the typical power consumption of the device with no external loading. ● The measurement in BTU/h indicates the power consumption of the device when it is fully loaded.
Environmental		
Operating Temperature	0-40°C	0-40°C

Storage Temperature	-20 - 60°C	-20 - 60°C
Humidity	0 - 80% RH, Non-Condensing	0 - 80% RH, Non-Condensing
Physical Properties		
Housing	Metal	Metal
Weight	0.64 kg (1.41 lb)	0.64 kg (1.41 lb)
Dimensions (L x W x H) with bracket	16.94 x 14.69 x 3.00 cm (6.67 x 5.78 x 1.18 in.)	16.94 x 14.69 x 3.00 cm (6.67 x 5.78 x 1.18 in.)
Dimensions (L x W x H) without bracket	16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)	16.60 x 12.49 x 2.90 cm (6.54 x 4.92 x 1.14 in.)
Carton Lot	5 pcs	5 pcs
Note	1. Operating distance is approximate. A typical maximum distance may vary depending on factors such as fiber type, bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks. 2. It is recommended that you use Single Mode fibers that conforms to IEC 60793- 2-50 B1.1 or ITU-T G.652.B specifications; Use Multi Mode fibers that conform to IEC 11801 (OM3) specifications. 3. The Device is class 1 laser product. It meet the safety regulations of IEC-60825, FDA 21 CFR 1040.10, and FDA 21 CFR 1040.11.	1. Operating distance is approximate. A typical maximum distance may vary depending on factors such as fiber type, bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks. 2. It is recommended that you use Single Mode fibers that conforms to IEC 60793- 2-50 B1.1 or ITU-T G.652.B specifications; Use Multi Mode fibers that conform to IEC 11801 (OM3) specifications. 3. The Device is class 1 laser product. It meet the safety regulations of IEC-60825, FDA 21 CFR 1040.10, and FDA 21 CFR 1040.11.

Diagram