

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.

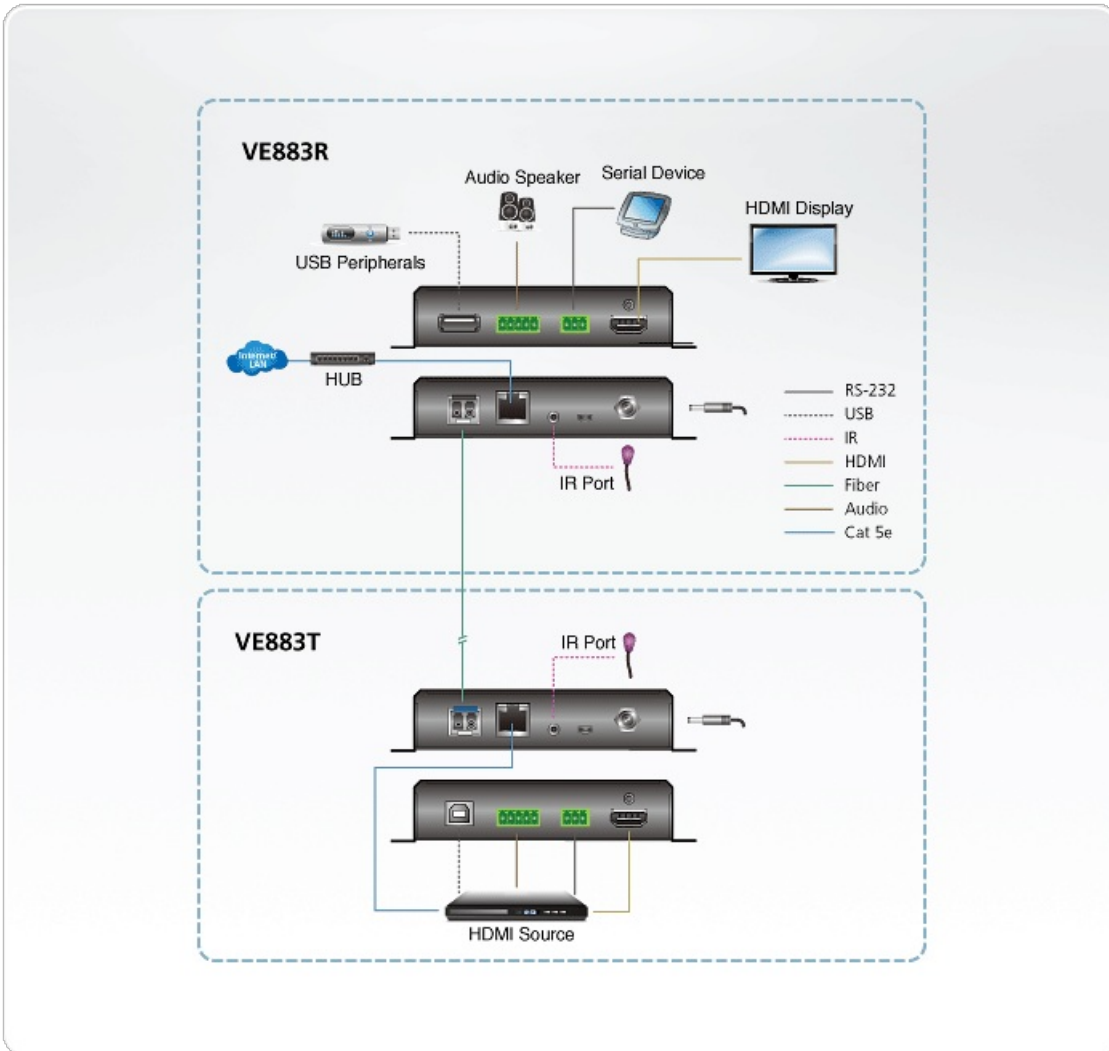
Specifications

| 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:33BTU 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 | <p>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.</p> <p>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.</p> <p>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.</p> | <p>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.</p> <p>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.</p> <p>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.</p> |

Diagram



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