

ENFORCER®

MVE-AH1H1-02ZQ ENHANCED HDMI® Extender over Cat5e/6

Manual



HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE



- Extend HDMI signals up to 330ft (100m) at 1080p over a single Cat5e/6 cable
- Supports resolutions from 480i up to 4Kx2K/UHD
- Plug and play operation – comes as a complete set
- Bi-directional IR for remote control extension
- 100BaseT Ethernet pass-through
- Bi-directional RS-232 pass-through
- Includes one (1) 24VDC locking power supply – set can be powered at either end

Introduction:

The ENFORCER Enhanced HDMI Extender over Cat5e/6 extends the range of HDMI signals by using an active transmitter and receiver to send video and audio over a single Cat5e/6 cable. 1080p HDMI Signals can be transmitted up to 330ft (100m) between the two units with zero signal loss, while 4Kx2K/UHD HDMI Signals can be transmitted up to 230ft (70m). The extender supports IR signals using the included IR transmitter and receiver, allowing the user to use a remote control from one end of an installation to control a device such as a TV or media player at the opposite end of the installation. The extender also supports 100BaseT Ethernet pass-through and bi-directional RS-232 control. A single power supply can power both devices from either end of the installation.

Features:

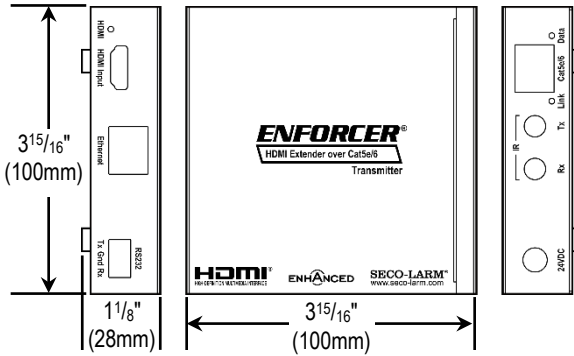
- **Signal Strength** – Active operation ensures that the signal strength will remain strong over the length of the cable.
- **Distance** – The Enhanced HDMI Extender over Cat5e/6 can transmit a clear HDMI signal up to 330ft (100m).
- **Formats Supported** – The Enhanced HDMI Extender over Cat5e/6 support both progressive and interlaced formats: 4K/1080p/1080i/720p/576p/576i/480p/480i.
- **Plug and Play** – The Enhanced HDMI Extender over Cat5e/6 come as a complete set consisting of a transmitter, receiver, power supply, and IR adapters. No adjustments or settings need to be made. The unit is ready to use right out of the box.
- **Zero Signal Loss** – Integrated circuits in the transmitter and receiver clean, buffer, and amplify the HDMI signal. This prevents signal loss and ensures a clear signal regardless of the length of the cable up to the maximum range.
- **Bi-Directional IR** – Send IR signals from the source to the monitor or from the monitor to the source for discrete operation of devices.
- **Bi-Directional RS-232** – Send RS-232 commands from a control system to the display and back without extra cabling.
- **Ethernet pass-through** – 100BaseT Ethernet pass-through to connect remote displays to local networks.
- **Connect Multiple Units** – Repeat up to four sets to extend HDMI range up to 1300ft (400m).

Specifications:

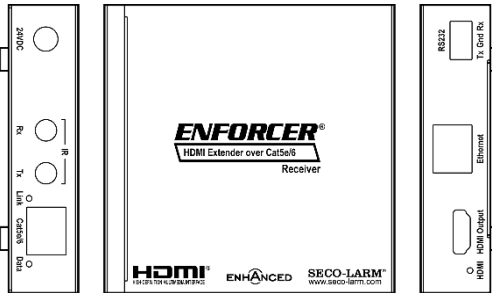
Model		MVE-AH1H1-02ZQ
Input video signal		3.3V
Input DDC signal		5Vp-p (TTL)
Maximum single link range		4Kx2K@30Hz
Deep color		48-bit
Video formats supported		High-speed HDMI with 3D, HDCP 1.2
Audio formats supported		LPCM, Dolby-AC3, DTS 7.1, DSD
Output video		HDMI
Resolutions supported		4K/1080p/1080i/720p/576p/576i/480p/480i
Range – 1080p	Cat6	Up to 330' (100m)
	Cat5e	Up to 295' (90m)
Range – 4K	Cat6	Up to 230' (70m)
	Cat5e	Up to 196' (60m)
Video amplifier bandwidth		10.2Gbps
Video input connector		HDMI Type A 19-pin female
Maximum input cable length		24AWG: 50' (15m); 26AWG: 32' (10m); 28AWG: 16' (5m)
Cat5e/6 wiring standard		T568-B
IR pass-through		30–50kHz
RS-232 pass-through		115,200 baud
Ethernet pass-through		100BaseT
Operating voltage		24VDC
Power supply		1A@24VDC (1 adapter) (2.1mm plug)
ESD protection (human body model)		±8kV (air-gap discharge), ±4kV (contact discharge)
Current draw	Transmitter	150mA@24VDC
	Receiver	250mA@24VDC
Operating temperature		32°~104° F (0°~40° C)
Operating humidity		20~90% RH (no condensation)
Dimensions		3 ¹⁵ / ₁₆ "x3 ¹⁵ / ₁₆ "x1 ¹ / ₈ " (100x100x28mm)
Weight		11.3-oz (300g) (each)

Overview:

Transmitter



Receiver



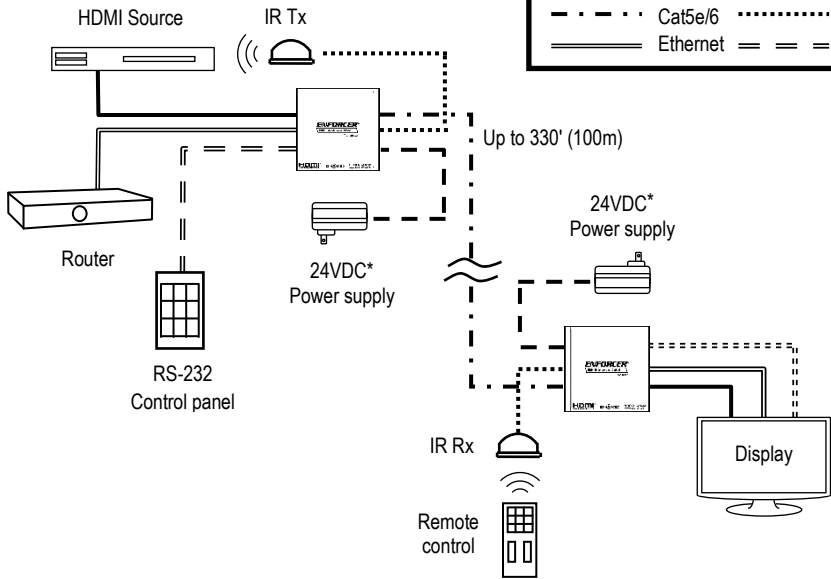
Parts List:

1x Transmitter	1x Receiver	1x Manual
2x IR Transmitters	2x IR Receivers	1x 24VDC Locking power adapter
2x 3-Pin RS-232 connectors	4x Mounting brackets	8x Mounting bracket screws

Installation:

1. Determine where the transmitter and receiver will be wired as well as how much Cat5e/6 cable will be necessary.
2. Connect the HDMI cable to both the transmitter and the source device.
3. Connect the HDMI cable to both the receiver and the display.
4. Connect the Cat5e/6 cable to both the receiver and transmitter units.
Note: For best results, use Cat6 or better cable.
5. Connect the 24VDC adapter to either the transmitter or receiver.
6. Determine which device, if any, will be controlled by the remote control. Install the IR transmitter to the IR-TX port of the extender nearest the device to be controlled, pointing the IR transmitter at the device. Install the IR receiver to the IR-RX port of the other extender unit. Point the remote control at the IR receiver when in use.
7. Connect an RS-232 controller unit to the RS-232 terminal on the transmitter. Connect the receiver RS-232 terminal to the remote device to be controlled.
8. Connect the Ethernet port on the transmitter to the local area network or router. Connect the Ethernet port on the receiver to the remote device that requires internet.
9. Switch on the HDMI source and display to verify that the system is functioning properly.
10. If necessary, use the included brackets and screws to mount the extender to a wall or desk.

Sample Application:



* Power supply can be installed at either end

Troubleshooting:

HDMI device does not function correctly

- Use T568-B wiring standard
- Make sure the maximum lengths are not exceeded for either the type of HDMI or Cat5e/6 cable used (see specifications chart for both cables)
- Make sure the source and the display are powered.
- Test the Cat5e/6 cable between the receiver and transmitter and make sure it is functional.
- Make sure that there are no problems with the HDMI source, HDMI cables, or HDMI display by plugging the source directly into the display using an HDMI cable
- Make sure that the transmitter and receiver are plugged into the correct units
- Make sure the HDMI source is compatible with the HDMI display.

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This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair, or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship.

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