

**DESCRIPTION**

The Real4K™ HDMI Optical Extender kit supports HDMI signal transmission of up to 18 Gbps without compression and with zero latency for the highest quality HDMI signals for 4K/60 HDR, for all HDR formats, including HDR10+ and Dolby Vision, as well as support for the Audio Return Channel (ARC). The included power cable is optionally upgradable to an IR-USB power accessory cable to provide support for the bi-directional IR channel for control as well. The single optical fiber link uses industry standard fiber and SC fiber connectors allowing up to 1000m links along with variable length HDMI interface cables up to 3m and enabling 4K video the way it was meant to be seen.



**FEATURES**

- Supports both HDMI 2.0x and HDMI 1.x signals
- Full, **uncompressed** 4K/60 HDR and 4K/60 4:4:4 video transmission
- Supports all HDR formats, including HDR10+, Dolby Vision, HLG, etc.
- Transmits superior HDMI video up to 1000m\*
- Supports both HDCP 2.2 and HDCP 1.4 content protection
- All video transport, content protection and maintenance operation transmitted over a single fiber
- Integrated safety feature turns off lasers when an open fiber is detected
- Multicolor LED provides status indication and alerts
- Support HDMI 18 Gbps interface cable from 0.5m to 3m
- Audio Return Channel (ARC) support included
- Bi-directional Infrared Channel (IR) support is included through the use of the IR-USB Power Cable accessory

**LED STATUS INDICATORS**

COLOR	LINK STATUS
Off	Extender end has no power
Red	Extender detects an open fiber connection and has disabled the lasers
Yellow	Fiber detected but link initialization failed
White	Link functional with no HDCP video
Green	Link functional with HDCP 1.x video
Blue	Link functional with HDCP 2.x video
Purple	Fiber connection is open and lasers have been disabled. Bootloader connected for firmware upgrade.

**HDMI INTERFACE**

- Transmitter and receiver automatically select between HDMI 2.0x and HDMI 1.x based on the video source
- Content protection is based on the auto-detected HDCP of the source for No HDCP, HDCP 1.4 and HDCP 2.2
- Support is provided for Consumer Electronics Control (CEC) over HDMI
- Support is provided for Audio Return Channel (ARC) over HDMI
- Single optical fiber link also handles all DDC and EDID
- Modules each require an HDMI Premium High Speed 18 Gbps Type A-Type A copper cable to interface with the source/sink. Cable lengths from 0.5m to 3m are guaranteed when using Inneos High Performance HDMI cables.

**USB INTERFACE**

- Kit supplied with two USB Standard – A connector cables
- Provides power to the Receiver module from the video sink
- Provides power to the Transmitter module from the video source
  - This can be simultaneously connected to HDMI power without adverse effects
  - If the source can supply sufficient current from the HDMI 5V supply, USB power is not required
- Enables firmware upgrades to the local module via a USB 2.0 or 1.1 compatible Host
- If the optional IR-USB Power Cable is used, the cable provides a breakout for USB power and support for transmitting/receiving an infrared (IR) signal.

**FIBER INTERFACE**

- The Real4K Extenders require an industry-standard SC-terminated simplex fiber cable and can use a range of fiber types, depending on the application requirements
  - Inneos offers a full range of OM4 plenum rated and InvisiCable fiber cable options
- Recommended Fiber type: OM4 Multimode fiber (MMF), Simplex fiber cable

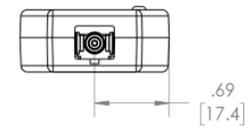
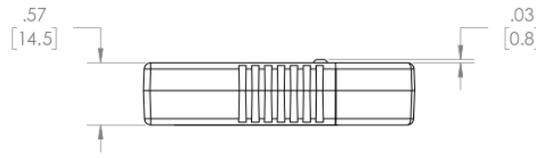
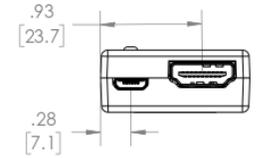
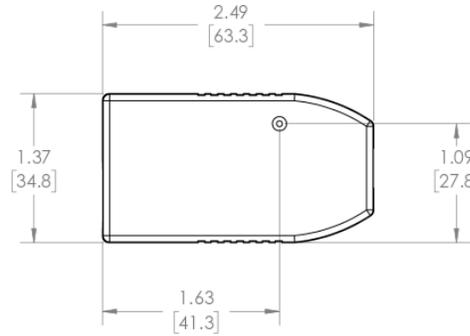
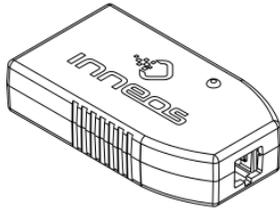
**ELECTRICAL OPERATING CONDITIONS**

PARAMETER	SYMBOL	MIN	MAX	UNIT
USB Supply Voltage	$V_{dd}$	4.75	5.25	V
Transmitter Supply Current	$I_{TX}$	0	500	mA
Receiver Supply Current	$I_{RX}$	0	250	mA
Operating Temperature Range	$T_C$	0	50	°C

**ABSOLUTE MAXIMUM RATINGS**

PARAMETER	SYMBOL	MIN	MAX	UNIT
Storage Temperature Range	$T_S$	0	85	°C
Electrostatic Discharge Contact (IEC)	ESD		8	kV
ESD Air Discharge (IEC)			15	kV
Supply Voltage	$V_{dd}$		5.5	V

**DIMENSIONS**



**COMPLIANCE**

- FCC Part 15 Class B for Susceptibility, Radiated and Conducted
- CE for Susceptibility, Radiated and Conducted
- Optical Fiber Communication System Class 1 Eye Safety per IEC 60825-1
- RoHS - Directive 2002/95/EC

\* Maximum fiber length supported depends on quality of the fiber deployed. 1000m based on OM4 having 6000 MHz-km bandwidth and typical coupling and transmitter and receiver optical performance limits. Contact Inneos for additional information.