

HDMI Optical Transceiver



FEATURES

- Supports HDMI Video up to 4Kx2Kx30 Resolution
- HDMI 1.4a with HDCP Support
- DDC HPD Signal Support
- No Settings or Adjustments Necessary, Automatically Recognizes HDCP & EDID
- Supports up to 300m Transmission Distance with OM4 multimode fiber
- Standard HDMI Connector
- Integrated USB Connector for Power
- Double Power Supply (HDMI 5V&USB)
- Hot-Pluggable
- EMI/RFI Resistant
- 850nm VCSEL and PIN Photo detector
- Uses Small, Reliable LC Optical Connector
- Operating Case Temperature: 0~74°C

MARKETS

- ✓ Digital Signage
- ✓ Video distribution systems
- ✓ Educational
- ✓ Video walls
- ✓ Home theater
- ✓ Entertainment centers

DESCRIPTION

The Meridian **MT/MR-1DM-0** HDMI optical transmitter and receiver is designed to send 1 channel of 1.4a compliant HDMI Video with embedded audio over two optical fibers. HDCP is automatically supported for the transmission of content-protected video.

The 4K HDMI optical transceiver supports transmission of an uncompressed lossless HDMI 1.4a signal over multimode optical fiber at 850nm, for distances up to 300 meters, at a resolution of 4Kx2K.

Transmitter converts an HDMI signal to a single 10Gb/s serial data stream for transmission over first Optical fiber and HDCP & EDID sent back over second optical fiber.

Receiver converts the serial data back to an HDMI signal. The link will operate over one fiber in DVI mode when the HDCP compliance is not required.

This product is ideal for large-screen displays, conferencing systems and home entertainment.

This fiber link meets all of the standards of interference immunity, to ensure the stability of the signal.

The transceivers are RoHS compliant and lead-free. These micro modules utilize two multimode fibers with a standard locking LC optical connector.

Operating on 5V DC power over a standard micro-USB connector, these modules are ready for easy installation and operation.

Note: This system is fully compatible with Meridians one slot cards ST/SR-2DM-0 (2 channel HDMI optical Tx/Rx).

CONFIGURATIONS

The MT/MR-1DM-0 micro modules easily mounted on the camera (Tx unit) and monitor (Rx unit) via HDMI connector. Other product configurations include Tx/Rx, two channel rack mount cards that can be installed in either Meridian desk/shelfmount chassis or in 19", 3RU racking frames.

SPECIFICATIONS:

Video

HDMI compliance	1.4a
HDCP compliance	v1.2
Max resolution	Up to 4Kx2K
Refresh Rate	Up to 120 Hz
Depth	Up to 48-bit
Bit-Error Rate	10 ⁻¹²
Support 3D	Yes

Optical

Optical Fiber	multimode fiber
Wavelength	850 nm
Data Rate Per Lane	10Gb/s
Laser Output Power	Class 1 EN 60825-1 2007
	EN 60825-2 A2 2010
Operating distance	Up to 300m
Loss budget	12dB

Connectors

Power	4 Pins micro-USB Standard B
Video	19 Pins HDMI A Type Port
Optical	LC
Pulling Force	111 N

Power

TX	1.4 Watts @ 5VDC
RX	1.2 Watts @ 5VDC

Physical

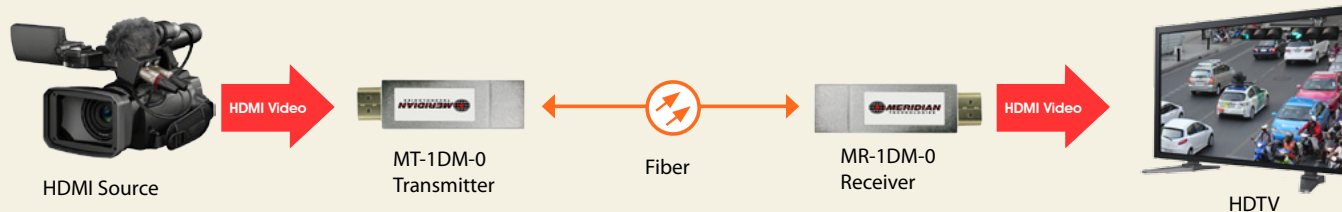
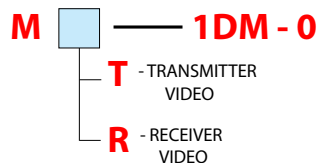
Dimensions	0.4"x 0.79" x 2.36"
	10 x 20 x 60mm
Weight (unit)	50 gms (0.11 lb.)

Enviromental

Operating Temperature	0°C to +74°C
Storage Temperature	-20°C to +85°C
Relative Humidity	10 to 90% Non-condensing

Quality

MTBF	>170,000 hours @ Ground Fix 35°C per MIL217F
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OPTICAL:

Meridian Fiber Code	Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)	Fiber Standard	Estimated Maximum Transmission Distance (meters)
0	Multimode (VCSEL)	-3	-15	12	850	LC	12	OM4 OM3 VSDN	300m 150m 30m

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