

## **DATA SHEET**

### **HDMI – Active Optical Cable**

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## ■ Description

OPTICIS active optical HDMI 2.0 cable, LHM2-Pxxx is designed for critical display applications that demand flawless HDMI signal integrity and it provides transparent signal transmission over plenum graded, LSZH graded, or TPU hybrid cable.

It enables to deliver 4K DCI (4096x2160) at 60Hz signal up to 100m (384ft). It avoids any scaling or data compression for lessening a burden of data transmission.

LHM2-Pxxx offers perfect flexibility during installation by separating HDMI connector part and Active Optical Cable part. It gives slim, light, easy installation like a general copper HDMI cable.

LHM2-P is powered by external 5V micro USB power supply cable

It passes CEC, EDID & HDCP (High Definition Contents Protection) for better installation flexibility and compatibility.

## ■ Features

- Extends 4K DCI (4096x2160) at 60Hz,
- (RGB & YCbCr : 4:4:4)
- Transmits HDMI data up to 100m (328feet) over hybrid cable
- Cable options available:
  - LHM2-PPxx : Plenum Jacket
  - LHM2-PLxx: LSZH Jacket
  - LHM2-PTxx:TPU Jacket
- \*Note: "xx" stands for the length of the cable.  
Ex: 10m of LHM2-PP → LHM2-PP10 ("A0" for 100m)
- Offers perfect flexibility during installation by separating HDMI connector from cable
- Offers 500N pulling and crush load strength with bending radius of 6mm
- Supports 3D contents transmission
- Supports HDMI2.0 standards feature
- Complies with CEC, EDID, and HDCP 2.2
- Supports HDR at 10 bit or 12 bit speeds respectively within its maximum bandwidth, 18Gbps

## ■ Applications

- Professional AV System Interconnection
- Digital Signage
- Home Theater
- Facility Automation System
- Rental staging

## ■ Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the datasheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min	Typ	Max	Units
Storage Temperature <sup>1</sup>	T <sub>ST</sub>	-30		70	°C
Supply Volt <sup>1</sup>	V <sub>CC</sub>	-0.5		6	V
Operating Humidity <sup>2</sup>	RH	5		85	%
Electrostatic Discharge*	ESD	-8		+8	KV

\* test environment standard: "Air:  $\geq \pm 8KV$ , Contact :  $\geq \pm 4KV$ "

## ■ Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Bitrate/Channel	B	-	-	6	Gbps
Operation Temperature Range	T <sub>O</sub>	0	-	50	°C
Supply Voltage	V <sub>CC</sub>	4.8	5	5.3	V
Operating Current	I <sub>CC</sub>		52		mA
Power Consumption*	P <sub>O</sub>		0.26		W
Differential Impedance	R		100		ohm

\* The result may vary depending on the device that it is connected to. Above data was collected from a connection with a 4K DVD Player.

## ■ Physical Characteristics

Parameter	Description
Cable Type	Hybrid Cable MMF(OM2) + 6C Electrical Wires
Cable Jacket	Options: LSZH/Plenum/TPU
Cable Dimensions	3.4 mm ( $\pm 0.2$ )
Pull Strength	10 kg
Minimum Bend Radius	6 mm

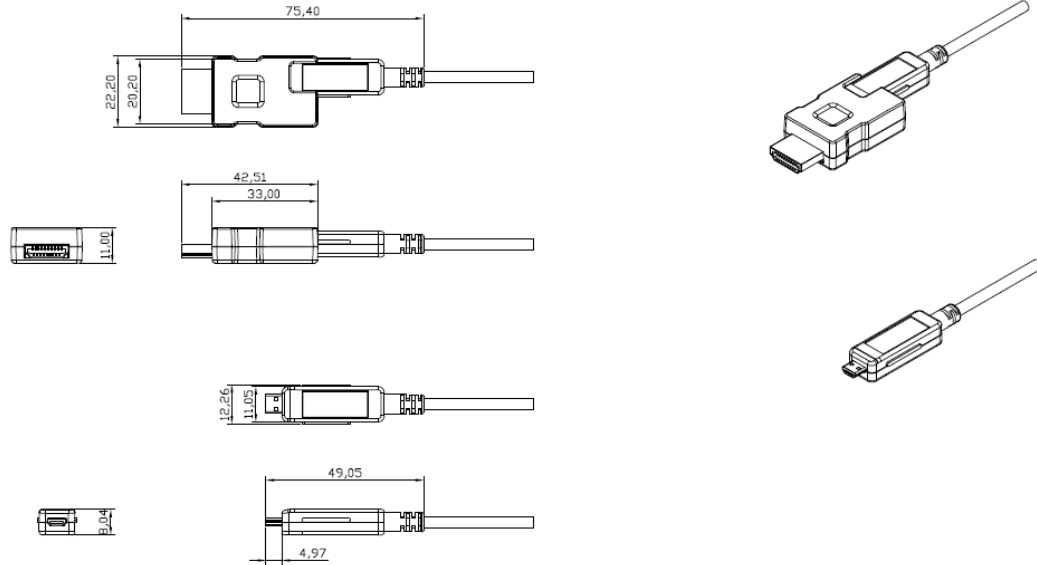
<sup>1</sup> Stresses listed may be applied without causing damage. Functionality at or above the values listed is not implied. Exposure to these values for extended periods may affect reliability.

<sup>2</sup> Non-condensing environment.

## ■ HDMI PIN Description

Pin Number	Symbol	Functional Description
1	D2+	TMDS data 2 positive
2	GND	TMDS data 2 shield
3	D2-	TMDS data 2 negative
4	D1+	TMDS data 1 positive
5	GND	TMDS data 1 shield
6	D1-	TMDS data 1 negative
7	D0+	TMDS data 0 positive
8	GND	TMDS data 0 shield
9	D0-	TMDS data 0 negative
10	CLK+	TMDS clock positive
11	GND	TMDS clock shield
12	CLK-	TMDS clock negative
13	CEC	Device control
14	N.C	-
15	SCL	DDC clock
16	SDA	DDC data
17	GND	DDD/CEC shield
18	5V	DC +5V
19	HPD	Monitor detector signal

## ■ Dimensions



Dimensions (L\*W\*H): 75.4 x 22.2 x 11 mm

## ■ Connection Diagram

