DATA SHEET

HDMI – Active Optical Cable

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■ Description

OPTICIS active optical HDMI 2.0 cable, LHM2-Nxxx 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-N series give slim, light, easy installation like a general copper HDMI cable. It holds firmly distinctive performance advantage as it requires absolutely no external power to operate. It solely utilizes TX and RX of the cable to function without any additional setting requirements.

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-NPxx : Plenum Jacket
    - -LHM2-NLxx: LSZH Jacket
    - -LHM2-NTxx:TPU Jacket

  *Note: "xx" stands for the length of the cable.

  Ex: 10m of LHM2-NP→ LHM2-NP10 ("A0" for 100m)
- Offers 500N pulling and crush load strength with bending radius of 6mm
- Supports 3D contents transmission
- Operates with absolute no external power
- 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 of 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[1]	T_{ST}	-30		70	°C
Supply Voltage [1]	V_{CC}	-0.5		6	V
Operating Humidity[2]	RH	5		85	%
Electrostatic Discharge	ESD	-8		+8	KV

■ Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Bitrate/Channel	B	0.25		6	Gbps
Operation Temperature Range	To	0		50	°C
Supply Voltage	V_{CC}	4.8	5	5.3	V
Operating Current*	I_{CC}		53		mA
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

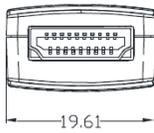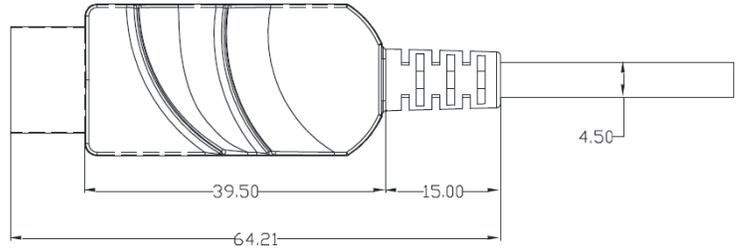| Parameter	Description
Cable Type	Hybrid Cable MMF(OM2) + 6C Electrical Wires
Cable Jacket	Options: LSZH/Plenum/TPU
Cable Dimensions	3.4 mm (±0.2)
Pull Strength	10 kg
Minimum Bend Radius	6 mm

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[1] 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.

[2] 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): 64.2 x 19.6 x 11.2mm

■ Connection Diagram

Up to 100m at 4K

LHM2-NXXX
Tx

LHM2-NXXX
Rx

HDMI Source

HDMI Display