

DATA SHEET

HDMI – Active Optical Cable HDFC-200D

Contents

- Description
- Features
- Applications
- Absolute Maximum Ratings
- Recommended Operating Conditions
- Physical Characteristics
- Pin Description
- Connection Diagram
- Dimensions

OPTICIS HQ
Opticis Co., Ltd.
3F, 305, Sanseong-daero
Sujeong-gu, Seongnam-si, Gyeonggi-do
Republic of Korea 13354
Tel: +82 (31) 719-8033
Fax: +82 (31) 719-8032
www.opticis.com
tosales@opticis.com

■ Description

Detachable HDMI 2.0 active optical cable, HDFC-200D, enables to transmit 4K (4096x2160) at 60Hz signal up to 100m (384feet) over plenum graded & LSZH hybrid cable. It avoids any scaling or data compression for lessening a burden of data transmission.

HDFC-200D is designed compact enough to be fitted into various installation environments with cutting edge technology performance.

HDFC-200D 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.

It can be operated by external USB power on the RX side of the cable. Optional USB power cable on TX side is available upon request.

High-Retention HDMI connector, which allows for more retention force than standard HDMI connector, prevents accidental disconnection.

HDFC-200D is compliant with HDMI standards features like CEC, EDID, and HDCP 2.2 for better installation flexibility and compatibility. It also supports HDR to deliver more realistic, and objective video signal.

■ Features

- Extends up to 4K (4096x2160) at 60Hz (RGB & YCbCr : 4:4:4)
- Transmits HDMI 2.0 data up to 100m (328feet) over hybrid cable
- Adopts plenum graded & LSZH (Low Smoke Zero Halogen) hybrid cable
- Offers perfect flexibility during installation by separating HDMI connector from cable
- Prevents accidental disconnection by using High-Retention HDMI connector
- 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

- Home AV system
- Digital Signage
- Control room

- Conference room
- 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 ¹	T _{ST}	-40		85	°C
Supply Volt ¹	V _{CC}		5	6	V
Relative Humidity ²	RH			90	%
Electrostatic Discharge	ESD	-8		+8	KV

■ Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Bitrate/Channel	B			6	Gbps
Operation Temperature Range	T _o	0		60	°C
Supply Voltage	V _{CC}	4.8	5	5.2	V
Operating Current	I _{CC}		290	320	mA
Differential Impedance	R		100		ohm

■ Physical Characteristics

Parameter	Description
Cable Type	Hybrid Cable MMF(OM2) + 6C Electrical Wires
Cable Jacket	LSZH/Plenum
Cable Dimensions(WxH)	3.9 x 2.7 mm
Pull Strength	15 kg
Minimum Bend Radius	70 mm

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 A-Type PIN Description

Pin Number	Symbol	Functional Description
1	CH2+	TMDS Data Signal Channel 2 Positive
2	GND	TMDS Data Signal Channel 2 Shield
3	CH2-	TMDS Data Signal Channel 2 Negative
4	CH1+	TMDS Data Signal Channel 1 Positive
5	GND	TMDS Data Signal Channel 1 Shield
6	CH1-	TMDS Data Signal Channel 1 Negative
7	CH0+	TMDS Data Signal Channel 0 Positive
8	GND	TMDS Data Signal Channel 0 Shield
9	CH0-	TMDS Data Signal Channel 0 Negative
10	CLK+	TMDS Clock Channel Positive
11	GND	TMDS Clock Channel Shield
12	CLK-	TMDS Clock Channel Negative
13	CEC	CEC Consumer Electronics Control
14	Utility	NC
15	SCL	SCL HDCP/DDC
16	SDA	SDA HDCP/DDC
17	GND	DDC/CEC Ground & DDC/CEC shield
18	+5V Power	+5V Power
19	HPD	HEAC-

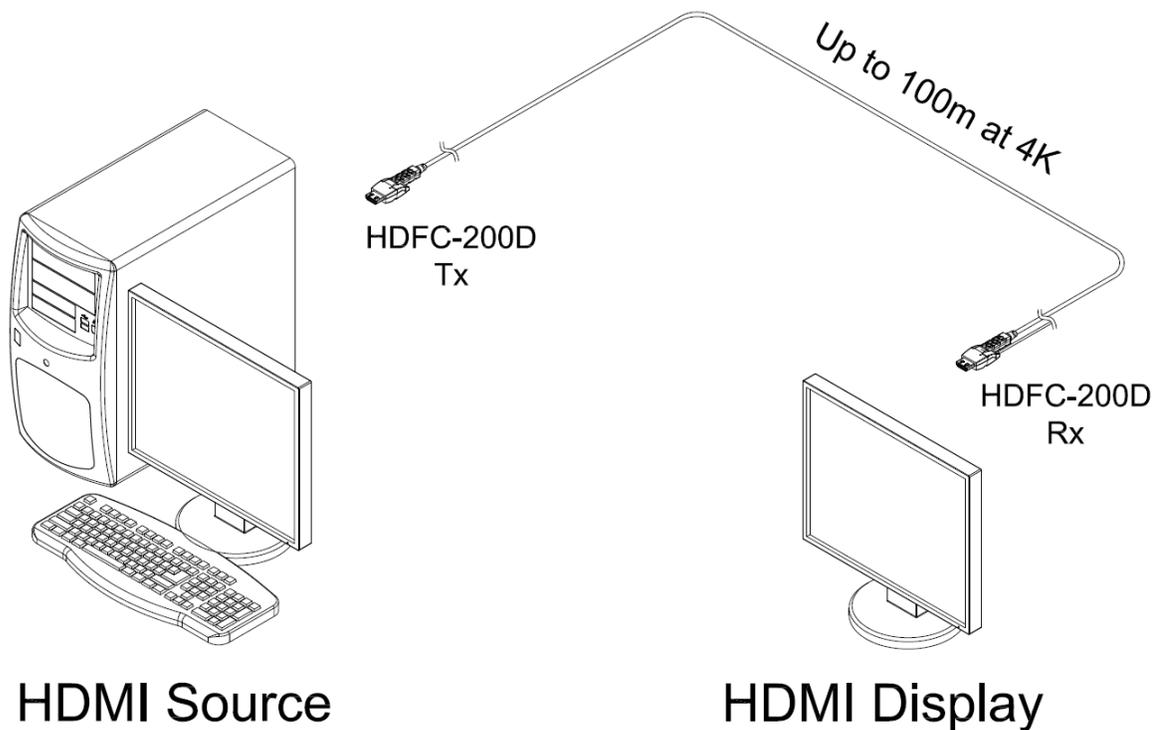
■ Micro HDMI Connector PIN Description

Pin Number	Symbol	Functional Description
1	CH2+	TMDS Data Signal Channel 2 Positive
2	GND	TMDS Data Signal Channel 2 Shield
3	CH2-	TMDS Data Signal Channel 2 Negative
4	CH1+	TMDS Data Signal Channel 1 Positive
5	GND	TMDS Data Signal Channel 1 Shield
6	CH1-	TMDS Data Signal Channel 1 Negative
7	CH0+	TMDS Data Signal Channel 0 Positive
8	GND	TMDS Data Signal Channel 0 Shield
9	CH0-	TMDS Data Signal Channel 0 Negative
10	CLK+	TMDS Clock Channel Positive

11	GND	TMDS Clock Channel Shield
12	CLK-	TMDS Clock Channel Negative
13	CEC	CEC Consumer Electronics Control
14	Utility	NC
15	SCL	SCL HDCP/DDC
16	SDA	SDA HDCP/DDC
17	Utility_2	3.3V(internal pull up)
18	+3.3V Power	+3.3V Power
19	HPD	HEAC-

(Internal design of PIN arrangement)

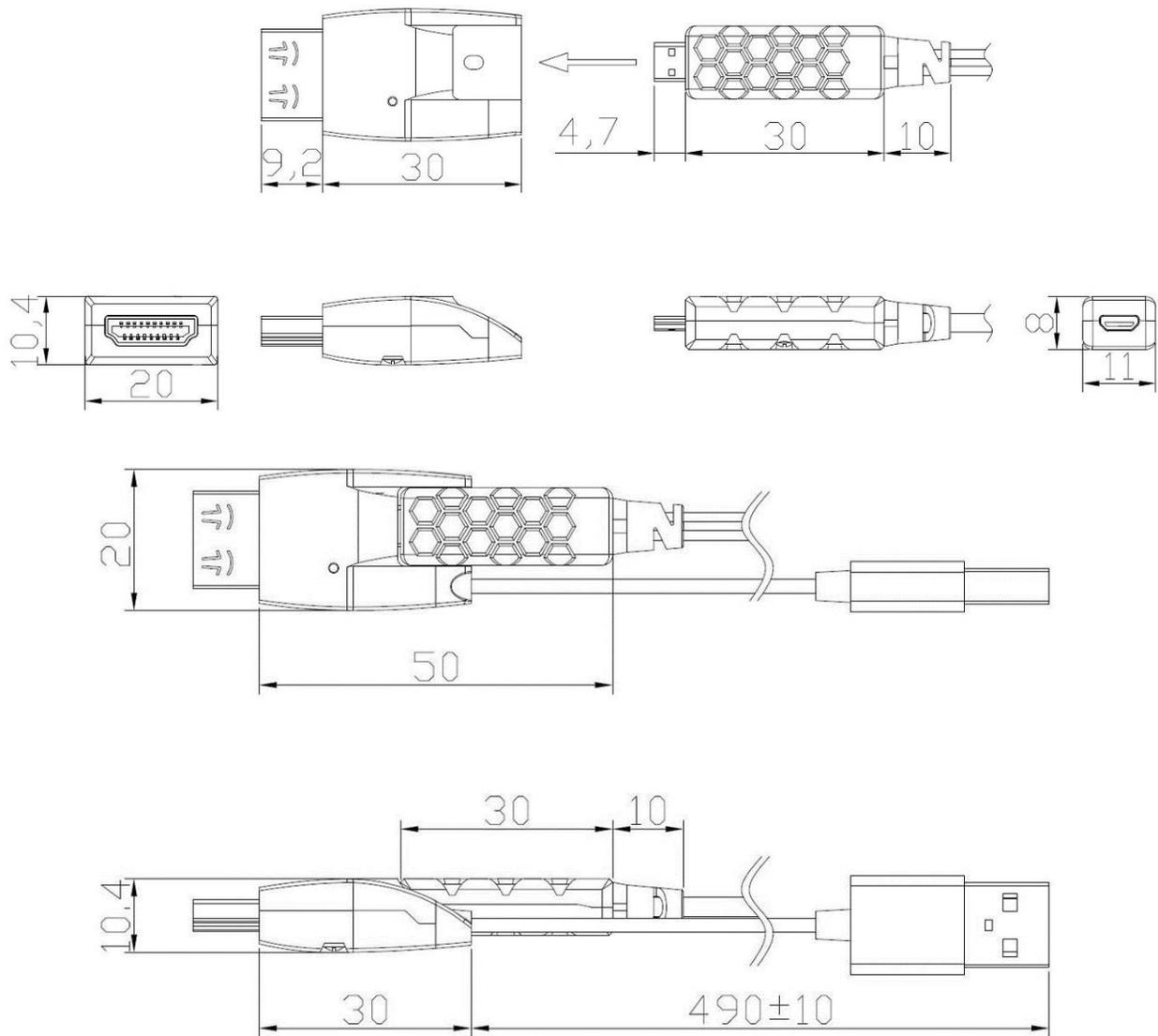
■ Connection Diagram



Example : PC to HDMI Monitor Set-up

- Source : DVD, PC, Set-top box, Console
- Display : UHD TV, Projector, 4K monitor

■ Dimensions



Dimensions (L*W*H): 50 x 20 x 10.4mm