

DATA SHEET

DisplayPort1.2 to HDMI 2.0 Converting Active Optical Cable, DHFC-200D

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■ Description

Detachable DisplayPort 1.2 to HDMI 2.0 converting active optical cable, DHFC-200D, enables to convert DisplayPort 1.2 signal to HDMI 2.0 signal, and extends 4K (4096x2160) at 60Hz up to 100m (328feet) over plenum graded (or LSZH) hybrid cable. It avoids any scaling or data compression for lessening a burden of data transmission.

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

DHFC-200D offers perfect flexibility during installation by separating DisplayPort and HDMI connector part and Active Optical Cable part. It gives slim, light, easy installation like a general copper cable, moreover DHFC-200D converts DisplayPort 1.2 signal to HDMI 2.0 signal and extends this signal much longer than general copper cable.

With High-Retention HDMI connector, HDMI connector (Rx) side allows more retention force compared to standard HDMI connector whereas DisplayPort connector secures its connection with its own locking mechanism.

■ Features

- Extends up to 4K (4096x2160) at 60Hz (RGB & YCbCr : 4:4:4)
- Converts DisplayPort 1.2 signal to HDMI 2.0 signal and transmits converted signal up to 100m (328feet) over hybrid cable
- Adopts plenum graded (or LSZH - Low Smoke Zero Halogen) hybrid cable
- Offers perfect flexibility during installation by separating DisplayPort and HDMI connector from cable
- Prevents accidental disconnection by using High-Retention HDMI connector(Rx) and DisplayPort connector(Tx)
- Supports 3D contents transmission
- Supports CEC, EDID and HDCP 2.2

■ 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}	-20		85	°C
Supply Volt ¹	V _{CC}		5	6	V
Relative Humidity ²	RH			90	%
Electrostatic Discharge	ESD	-4		+4	KV

■ Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Bitrate/Channel	B	5.4(DP)		6(HDMI)	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	30 kg
Minimum Bend Radius	32 mm*

* Allow 10mm Bending Below 10 turns

■ DisplayPort Connector PIN Description

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.

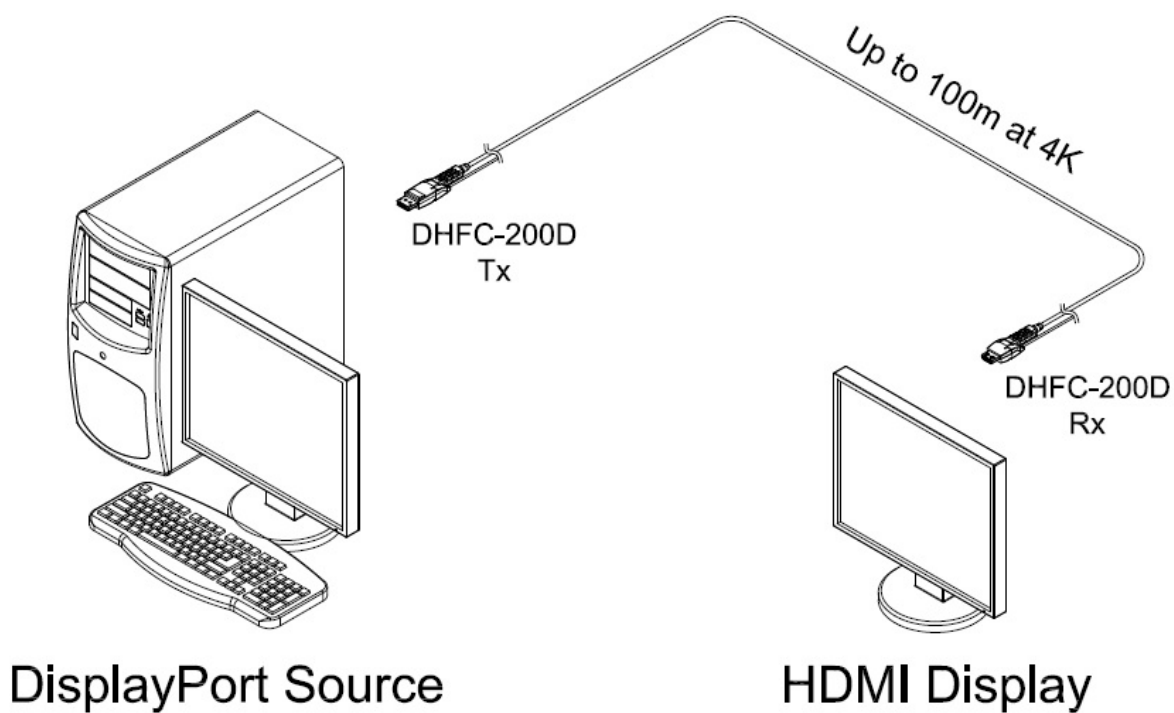
Source(TX)			Display (Rx)		
Pin Number	Symbol	Functional Description	Pin Number	Symbol	Functional Description
1	ML_Lane 0(p)	Lane 0 Positive	1	CH2+	TMDS Data Signal Channel 2 Positive
2	GND	Ground	2	GND	TMDS Data Signal Channel 2 Shield
3	ML_Lane 0(n)	Lane 0 Negative	3	CH2-	TMDS Data Signal Channel 2 Negative
4	ML_Lane 1(p)	Lane 1 Positive	4	CH1+	TMDS Data Signal Channel 1 Positive
5	GND	Ground	5	GND	TMDS Data Signal Channel 1 Shield
6	ML_Lane 1(n)	Lane 1 Negative	6	CH1-	TMDS Data Signal Channel 1 Negative
7	ML_Lane 2(p)	Lane 2 Positive	7	CH0+	TMDS Data Signal Channel 0 Positive
8	GND	Ground	8	GND	TMDS Data Signal Channel 0 Shield
9	ML_Lane 2(n)	Lane 2 Negative	9	CH0-	TMDS Data Signal Channel 0 Negative
10	ML_Lane 3(p)	Lane 3 Positive	10	CLK+	TMDS Clock Channel Positive
11	GND	Ground	11	GND	TMDS Clock Channel Shield
12	ML_Lane 3(n)	Lane 3 Negative	12	CLK-	TMDS Clock Channel Negative
13	Config 1	Connected to ground	13	CEC	CEC Consumer Electronics Control
14	Config 2	Connected to ground	14	Utility	NC
15	AUX ch (p)	Auxiliary channel	15	SCL	SCL HDCP/DDC
16	GND	Ground	16	SDA	SDA HDCP/DDC
17	AUX ch (n)	Auxiliary channel	17	GND	DDC/CEC Ground & DDC/CEC shield
18	Hot plug	Hot plug detect	18	+5V Power	+5V Power
19	Return	Return for power	19	HPD	HEAC-
20	DP_PWR	Not connected			

■ 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

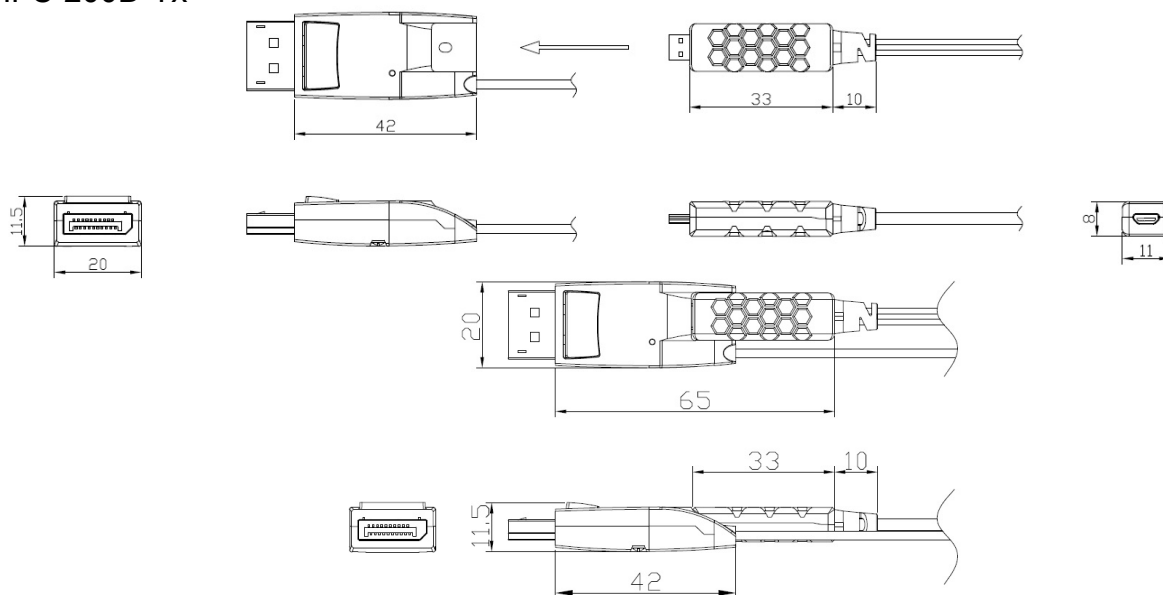


Example : PC to DisplayPort Monitor Set-up

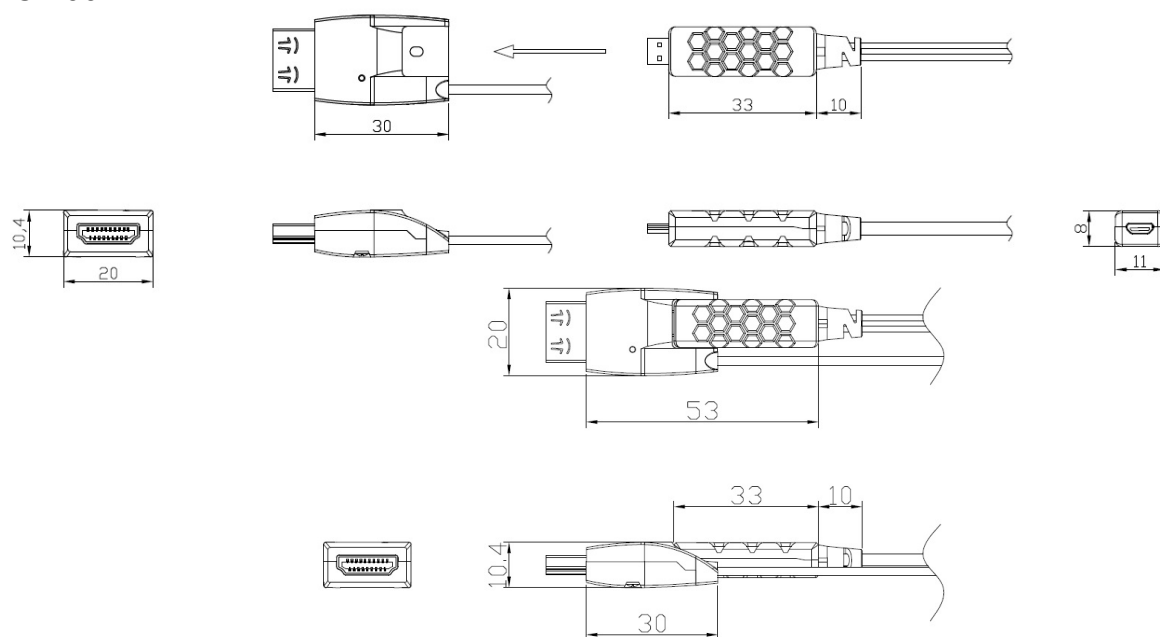
- Source : DisplayPort source PC, Set-top box, Console
- Display : HDMI Display UHD TV, Projector, 4K monitor

■ Dimensions

DHFC-200D-Tx



DHFC-200D-Rx



Dimensions (L*W*H)

Tx: 65 x 20 x 11.5mm

Rx: 50 x 20 x 10.4mm