

# DATA SHEET

## DisplayPort1.2 – Active Optical Cable DPFC-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](http://www.opticis.com)  
tosales@opticis.com

## ■ Description

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

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

DPFC-200D offers perfect flexibility during installation by separating DisplayPort connector part and Active Optical Cable part. It gives slim, light, easy installation like a general copper DisplayPort cable.

Optional USB power cable on RX side can be provided upon request for non-standard display device which provides insufficient power to operate

## ■ Features

- Extends up to 4K (4096x2160) at 60Hz (RGB & YCbCr : 4:4:4)
- Transmits DisplayPort 1.2 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 DisplayPort connector from cable
- Supports Multi-Stream Transport feature
- Supports 3D contents transmission
- Supports DisplayPort 1.2 standards feature
- Provides optional USB power on the display source (TX) and/or display (RX) side

## ■ 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 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 <sup>1</sup>	T <sub>ST</sub>	-20		85	°C
Supply Volt <sup>1</sup>	V <sub>CC</sub>		5	6	V
Relative Humidity <sup>2</sup>	RH			90	%
Electrostatic Discharge	ESD	-8		+8	KV

## ■ Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Bitrate/Channel	B		5.4	6	Gbps
Operation Temperature Range	T <sub>O</sub>	0		60	°C
Supply Voltage	V <sub>CC</sub>	4.8	5	5.2	V
Operating Current	I <sub>CC</sub>		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

<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.

### ■ DisplayPort Connector PIN Description

Source(TX)			Display (Rx)		
Pin Number	Symbol	Functional Description	Pin Number	Symbol	Functional Description
1	ML_Lane 0(p)	Lane 0 Positive	1	ML_Lane 3(p)	Lane 3 Positive
2	GND	Ground	2	GND	Ground
3	ML_Lane 0(n)	Lane 0 Negative	3	ML_Lane 3(n)	Lane 3 Negative
4	ML_Lane 1(p)	Lane 1 Positive	4	ML_Lane 2(p)	Lane 2 Positive
5	GND	Ground	5	GND	Ground
6	ML_Lane 1(n)	Lane 1 Negative	6	ML_Lane 2(n)	Lane 2 Negative
7	ML_Lane 2(p)	Lane 2 Positive	7	ML_Lane 1(p)	Lane 1 Positive
8	GND	Ground	8	GND	Ground
9	ML_Lane 2(n)	Lane 2 Negative	9	ML_Lane 1(n)	Lane 1 Negative
10	ML_Lane 3(p)	Lane 3 Positive	10	ML_Lane 0(p)	Lane 0 Positive
11	GND	Ground	11	GND	Ground
12	ML_Lane 3(n)	Lane 3 Negative	12	ML_Lane 0(n)	Lane 0 Negative
13	Config 1	Connected to ground	13	Config 1	Connected to ground
14	Config 2	Connected to ground	14	Config 2	Connected to ground
15	AUX ch (p)	Auxiliary channel	15	AUX ch (p)	Auxiliary channel
16	GND	Ground	16	GND	Ground
17	AUX ch (n)	Auxiliary channel	17	AUX ch (n)	Auxiliary channel
18	Hot plug	Hot plug detect	18	Hot plug	Hot plug detect
19	Return	Return for power	19	Return	Return for power
20	DP_PWR	Not connected	20	DP_PWR	Not connected

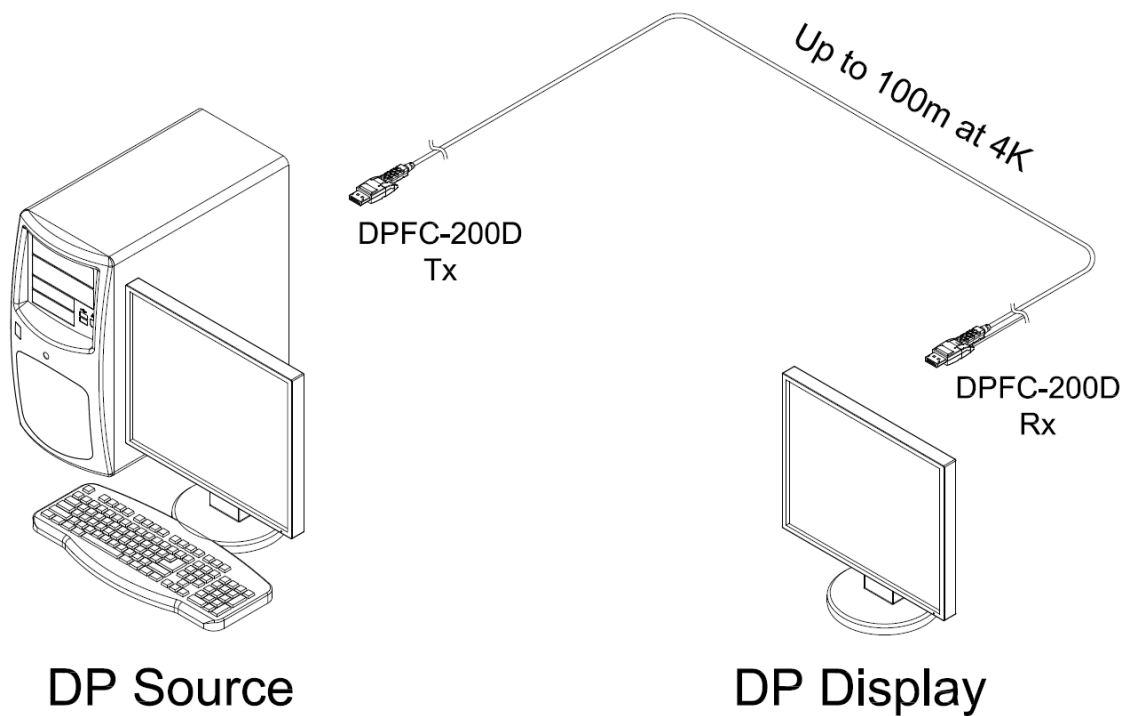
### ■ Micro HDMI Connector PIN Description

Pin Number	Symbol	Functional Description
1	CH2+	ML_Lane 3(p)
2	GND	GND
3	CH2-	ML_Lane 3(n)
4	CH1+	ML_Lane 2(p)
5	GND	GND
6	CH1-	ML_Lane 2(n)
7	CH0+	ML_Lane 1(p)
8	GND	GND
9	CH0-	ML_Lane 1(n)
10	CLK+	ML_Lane 0(p)
11	GND	GND
12	CLK-	ML_Lane 0(n)

13	CEC	Connected to ground
14	Utility	NC
15	SCL	AUX ch (p) Auxiliary channel
16	SDA	AUX ch (n) Auxiliary channel
17	Utility_2	3.3V (internal Pull up)
18	Power	+3.3V Power
19	HPD	Hot plug detect

(Internal design of PIN arrangement)

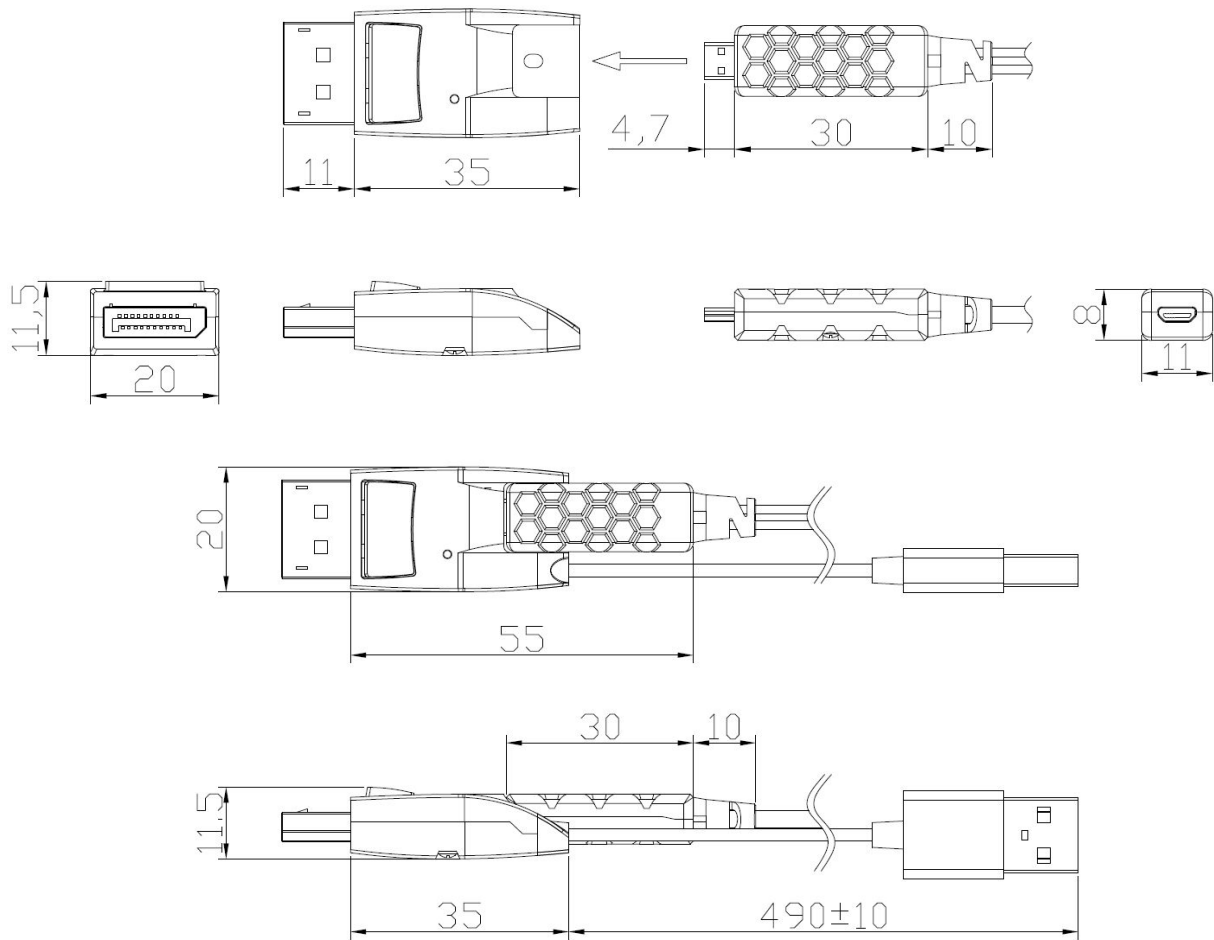
■ **Connection Diagram**



**Example : PC to DisplayPort Monitor Set-up**

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

■ **Dimensions**



Dimensions (L\*W\*H): 55 x 20 x 11.5mm