DATA SHEET

Point-to-Point DVI Hybrid Cable

M1-1P0E

Contents

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Point-to-Point DVI Hybrid Cable
M1-1P0E

Description

The Digital Visual Interface (DVI) is known for its low cost but with high quality in graphic interface between a host processor video card and a display panel. Optical technology for such transmission stretches the performance beyond the limitations of a copper wire by transmitting data through longer length, but with enhanced security, negligible RFI/EMI rate, and the removal of costly analog distribution systems.

M1-1P0E, a Point-to-Point DVI hybrid cable, has four (4) multi-mode fibers for TMDS transmission and copper wires for DDC/HDCP in a jacket. It transmits uncompressed 2K resolution at 60Hz, 1080p up to 100m (328feet), and supplies +5V DC power either from video sources or external power adapter included in the shipping group.

There are male DVI-D connectors at each end. The high-speed graphic data transmission is accomplished by using a VCSEL array inside the transmitter connector, and a Pin-PD array inside the receiver connector.

Shipping Group
* M1-1P0E Optical DVI Cable: One (1) unit
* +5V AC/DC power adapter: One (1) unit
* User's Manual

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Feature Checklist

- Compact design of end connector allows direct connection to the host video card and the display
- Adopts LSZH (Low Smoke Zero Halogen) & Halogen-Free hybrid cable
- Extends 2K resolution at 60Hz and delivers 1080p up to 100m (328feet)
- Uses +5V DC power from the video sources or +5V DV power from the adapter in the shipping group
- Auto-power switching
- Supports bit rate up to 1.65Gbps/channel
- Operating temperature: 0 ~ 50℃
- Storage temperature: -30 ~ 70℃
- Input power: +5V 1A
- Size (WDH): 39 x 53 x 15.4mm
- Certifications: CE / FCC

Applications

- Digital TFT-LCD FPDs, PDPs and projectors for medical imaging, air traffic control, factory automation, conference rooms, auditorium A/V systems, etc.
- Kiosks with digital FPDs showing full motion graphic displays from remote systems
- PDP displays for information display in public sites.
- LED signboards in streets and stadiums.
- Home Theatre applications

Options

- Custom lengths up to 100m are also available from the factory.

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 Volt [1]	V_{CC}		5	6	V
Relative Humidity[2]	RH	10		90	%
Electrostatic Discharge	ESD	-8		+8	KV

■ Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Bitrate/Channel	B			1.65	Gbps
Operation Temperature Range	To	0		+50	°C
Supply Voltage	V_{CC}	4.5	5	5.5	V
Operating Current	I_{CC}			400	mA
Differential Impedance	R		100		ohm

■ Physical Characteristics

Parameter	Description
Cable Type	Hybrid Cable MMF(OM2) + 6C Electrical Wires
Cable Jacket	LSZH / Halogen-Free
Cable Dimensions	7.1 mm
Pull Strength	20 kg
Minimun 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.

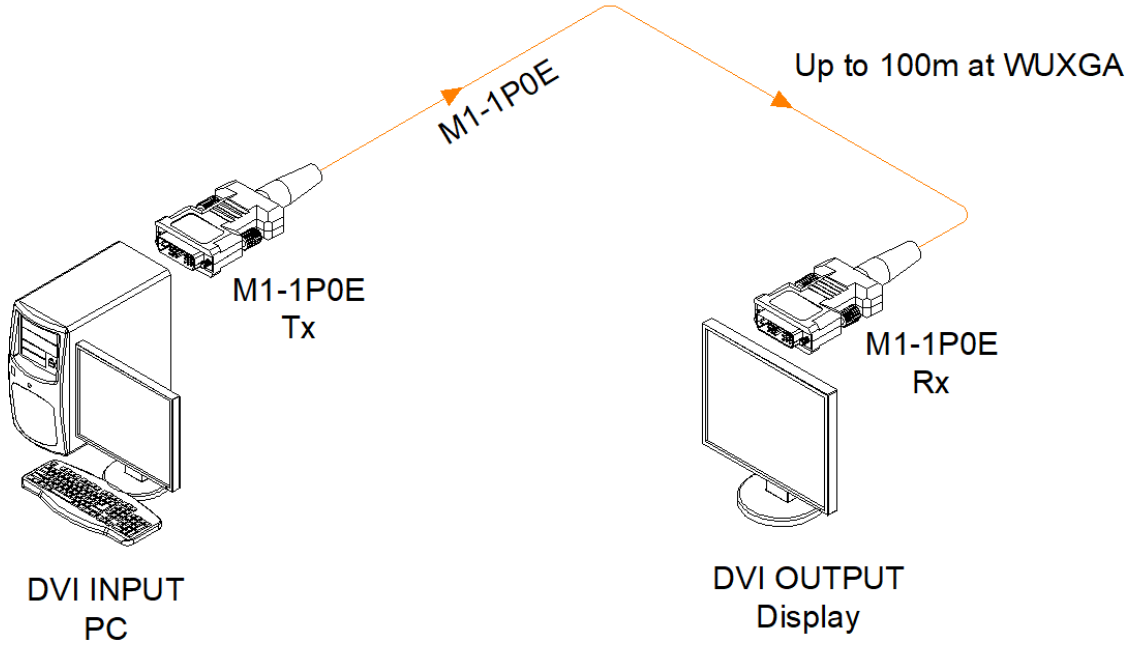
[2] Non-condensing environment.

DVI Pin Description

Pin	Symbol	Functional Description
1	CH2-	TMDS Data Signal Channel 2 Negative
2	CH2+	TMDS Data Signal Channel 2 Positive
3	GND	TMDS Data Signal Channel 2 Shield
4		
5		
6	DDC Clock	DDC Clock line for DDC2B communication
7	DDC Data	DDC Data line for DDC2B communication
8	N.C.	
9	CH1-	TMDS Data Signal Channel 1 Negative
10	CH1+	TMDS Data Signal Channel 1 Positive
11	GND	TMDS Data Signal Channel 1 Shield
12		
13		
14	5 V	5 V Input for Transmitter from Host 5 V Output for Monitor from Receiver
15	GND	Ground
16	Hot plug Detect	Signal is driven by monitor to enable the system to identify the presence of a monitor
17	CH0-	TMDS Data Signal Channel 0 Negative
18	CH0+	TMDS Data Signal Channel 0 Positive
19	GND	TMDS Data Signal Channel 0 Shield
20		
21		
22	GND	TMDS Clock Signal Shield
23	CLK+	TMDS Clock Channel Positive
24	CLK-	TMDS Clock Channel Negative

Note: Channels 3, 4 and 5 dual-link data signal pins are not used

Connection Diagram



Drawing of transmitter and receiver modules

Dimension [mm]