

Two-fiber Detachable DVI Module



Description

The Digital Visual Interface is a high-quality, uncompressed data link between a host processor video card and a display peripheral. Optical technology for this transmission stretches the performance beyond the limitations of copper wire with longer length, data security, negligible RFI/EMI and the elimination of costly analog distribution systems.

The EDID in a display can be read and restored by just plugging it to the display. This self EDID programming feature makes the installation of M1-201DA-TR more easy and flexible at any variable resolution display systems.

The four (4) optical data, Red, Green, Blue and clock are multiplexed and de-multiplexed through CWDM optical module. Graphic data can be extended up to 500meters (1,640feet) at 2K resolution over two (2) LC multi-mode fibers or 1,500meters (4,920ft) at WUXGA resolution (1900x1200) of 60Hz vertical refresh rate over two (2) LC single-mode fibers.

An external power adapter is required for the receiver module, while most video cards can provide +5V DC power to the transmitter module. The transmitter and receiver modules are clearly

Key Features

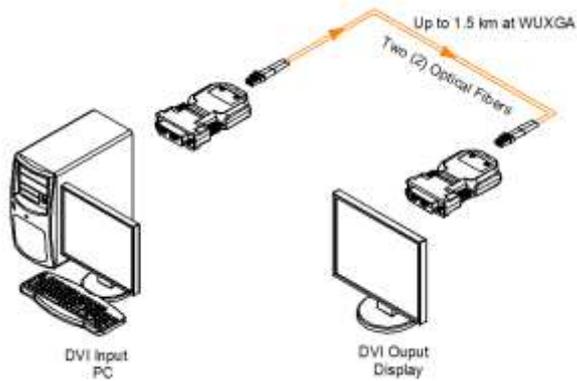
- Extends all VESA resolution up to 2K resolution or WUXGA (1,920x1,200) at 60Hz DVI data.
- Applicable to both single and multi-mode fibers.
 - (1) Up to 1,500m with two LC single-mode fibers.
 - (2) Up to 500m with two LC multi-mode fibers.
- Offers self-EDID programming feature, detecting from a display and restoring to an EEPROM in the transmitter just by plugging to the display without any physical DDC connection.
- The modules are compact enough to directly plug to graphic sources and displays by adopting DVI-plugs.
- Includes two (2) +5V DC power adapters for the transmitter and receiver.
- Data security with negligible RFI/EMI emissions and loss of video quality due to no copper conductor present.
- Certifications: CE / FCC, IEC/EN 60601-1-2:1994, Class 1 Laser Eye Safety

Applications

- Digital FPD, PDP and projector installation in conference rooms, auditoriums and for kiosk systems.
- Digital display system integration for medical, military, aerospace, factory automation, and traffic control platforms.
- LED signboards for large scale information display and stadiums.
- Home Theatre Systems.

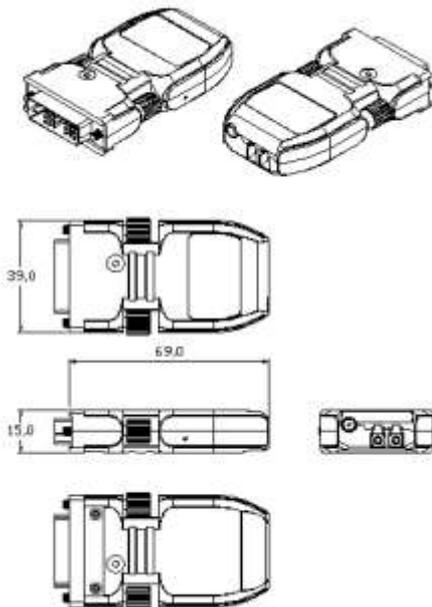
Detachable DVI Extension Module (M1-201DA-TR)

Optical Fiber Connection



Drawings

(Unit : mm)



Note: The transmitter, M1-201DA-Tx and the receiver, M1-201DA-Rx have the same mechanical dimensions.

Electrical Power Supply Characteristics

Transmitter Specifications						
	Parameters	Symbol	Min.	Typ.	Max.	Units
Power Supply	Supply Voltage	V _{CC}	4.5	5.0	5.5	V
	Supply Current	I _{TCC}	350	400	570	mA
	Power Dissipation	P _{TX}	1.75	2.0	2.85	W
	Power Supply Rejection	PSR		50		mV _{p-p}
TMDS	Data Output Load	R _{LD}		50		Ω
	Graphic Supply Voltage	GV _{CC}	+ 3.1	+ 3.3	+ 3.5	V
	Single-Ended Input Swing Voltage	GV _{ISWING}	0.4	-	0.6	V
Optical Link	Output Optical Power	P _o	-10.0		-3.0	dBm
	Wavelength	λ _{c1}	1260	1310	1360	nm
		λ _{c2}	1480	1550	1580	
	Extinction Ratio	Ext	4	5		dB
	Rising/Falling Time	T _{rise} /T _{fall}			260	ps
Jitter in p-p value	T _{jitter}			270	ps	
Receiver Specifications						
	Parameters	Symbol	Min.	Typ.	Max.	Units
Power Supply	Supply Voltage	V _{CC}	4.5	5.0	5.5	V
	Supply Current	I _{RCC}	350	420	570	mA
	Power Dissipation	P _{RX}	1.75	2.1	2.85	W
	Power Supply Rejection	PSR		50		mV _{p-p}
TMDS	Data Input Load	R _{LD}		50		Ω
	Graphic Supply Voltage	GV _{CC}	+ 3.1	+ 3.3	+ 3.5	V
	Single-Ended Output Swing Voltage	GV _{ISWING}	0.2	-	0.4	V
Optical Link	Receiving Optical Power	P _o	-20		-3.6	dBm
	Receiving Wavelength	λ _{c1}	1260	1310	1360	nm
		λ _{c2}	1480	1550	1580	
	Signal Detect Good	SDg			-17	dBm
	Signal Detect Fail	SDf	-25			dBm
	Link Power Budget	P _{bgt}	7	10		dB
Total Jitter	TR _{jitter}			309	ps	

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Ambient Operating Temp.	T _A	0	25	+ 50	°C
Storage Temperature	T _s	-30		+70	°C
Storage Humidity	H _s	10		95	RH%

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