



# M1-1000 Express DVI Graphic Extension Cable

**Stretch your Digital Visual Interface Experience!**

## 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 M1-1000 **Express** DVI/HDCP Graphic Extension Cable consists of a transmitter and a receiver, connected by a rugged sheath containing glass optical fibers, with male DVI-D connectors at each end. The Transmitter and Receiver modules are designed and manufactured by Opticis with 850nm VCSEL and PIN-PD arrays from its inhouse fabrication process.

The **Express** transmits Red, Green, Blue, and Clock TMDS graphic data provides a DDC link to support EDID parameters. The cable can be any length up to 100m (328ft) for 2K resolution at 60Hz or 500m (1,640ft) for VESA resolutions up to WUXGA (1,920x1,200) at 60Hz vertical refresh.

An external power adapter is required for the receiver module, while most video cards can provide +5VDC power to the transmitter module. The Tx and Rx modules are clearly labeled to prevent reverse installation of the cable.

## Features

- ◆ Supports all VESA resolutions DVI/HDCP up to 2K resolution or WUXGA (1,920x1,200), at 60Hz refresh rate with 1 pixel/clock mode. Maximum Single-Link DVI rate of 165 Mpixels/sec.
- ◆ Supports all HDMI resolution up to 1080p by using of HDMI-DVI gender.
- ◆ Embedded glass optical fiber-only distribution cable with 8 strands Multimode Glass of fibers for the TMDS video interface and DDC2B support with perfect electrical isolation.
- ◆ Extends up to 100 meters (328ft) for 2K resolution or 500 meters (1,640 feet) for WUXGA.
- ◆ Both modules are capable of receiving +5V externally if not available through the connector interface. If both provided, power contention circuitry will prevent voltage conflict.
- ◆ Compact end connector design easily allows thumb-screw connection to the host video card and display peripheral with easier routing through tight spaces.
- ◆ No software to install - just plug and go on PC and Apple systems.
- ◆ Identical to previous Opticis Model M1-100, with improved compact connector design.
- ◆ Data security with negligible RFI/EMI emissions and loss of video quality a no copper conductors present.
- ◆ Certifications: CE / FCC

## Applications

- ◆ Ideal for medical, military, aerospace, factory automation and traffic control system integrations.
- ◆ Digital FPD, PDP and projector installation in conference rooms, auditoriums and kiosk systems.
- ◆ LED signboards for large scale information.

MultiMode Glass Optical Fiber Cable

Up to 500 Meters long.

Electro / Optical Tx Assy

Electro / Optical Rx Assy

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## M1-1000 Express Technical Highlights

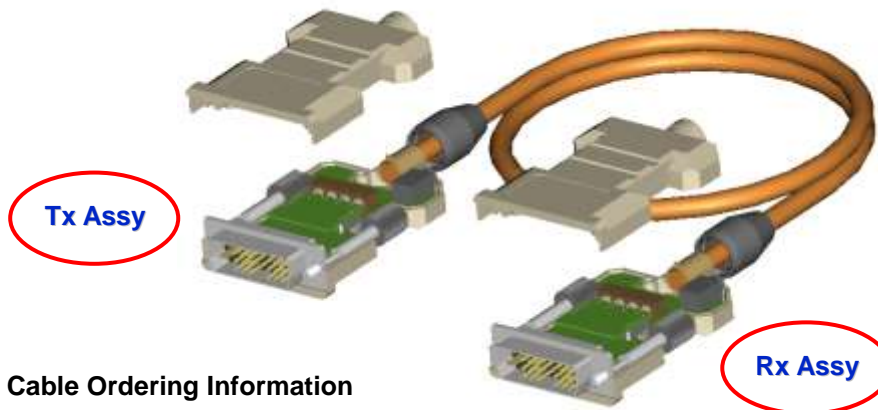
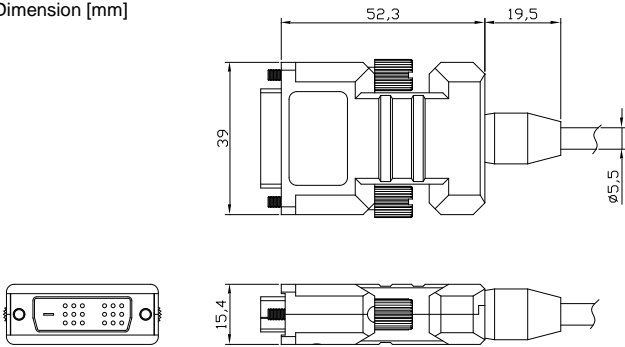
The **Express** is designed to send Clock pulses uni-directionally from the video card to the display peripheral.

The DDC protocol supports EDID parameter initialization of the video card.

**Custom Lengths:** 20m, 30m, 50m and 100m are standard stock lengths. Other lengths up to 500m can be ordered from the factory.

### Tx and Rx Connector Drawing

Dimension [mm]



## Compliance with International Standards

The **Express** meets the requirements of North American FCC and European CE standards for RFI/EMI emissions, material ratings, and laser safety. The cable assembly is RoHS compliant. Consult the product specification for further details.

## Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Ambient Operating Temperature	$T_A$	0	25	+ 50	°C
Storage Temperature	$T_s$	-30		+ 70	°C
Humidity	$H_s$	10		85	RH%

## Electrical Power Supply Characteristics

( $T_A = 0\text{ }^{\circ}\text{C}$  to  $+50\text{ }^{\circ}\text{C}$ , unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Units
Supply Voltage	$V_{CC}$	4.5	5	5.5	V
Supply Current	TX	$I_{TCC}$	-	180	200 mA
	RX	$I_{RCC}$	-	180	200 mA
Power Dissipation	TX	$P_{TX}$	0.9	1.1	W
	RX	$P_{RX}$	-	0.9	1.1 W

## Express Cable Ordering Information

Model number: M1-1000-xxx, where xxx = length in meters. Standard lengths are 20, 30, 50 and 100 meters.

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