

## Stretch your HDMI Experience



### Description

The High Definition Multimedia Interface (HDMI) is a low cost, high quality graphics interface between an HDTV source and HDTV screen. 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 M1-2000 consists of a transmitter and a receiver module, of which one side is embedded with a fiber cable, 4-channel coupled by uniquely designed optical connector and the other side is connected by short male HDMI copper cable. So, additional HDMI copper cable is not needed. The Transmitter and Receiver modules respectively have been embedded with Opticis own design 850nm VCSEL and PIN-PD arrays. M1-2000 is fully compatible with both HDMI and DVI.

The M1-2000 offers DDC/HDCP interconnection and power management over copper wire with the R,G,B,Clk TMDS graphic data over four multi mode fibers. The cable can be any length up to 100m (328feet).

### Features



**Supports HDMI 1.3 standards up to 1080p with 36bit color depth – 12 color bits per each channel.**

- ◆ Supports all VESA resolutions up to WUXGA (1920x1200), at 60Hz refresh rate with 1 pixel/clock mode.
- ◆ Uses a hybrid cable jacketed with four multi mode fibers for the HDMI 1.3 interface and with copper wires for the DDC2B/HDCP, Hot Plug Detect and power management.
- ◆ Extends up to 100 meters (328 feet).
- ◆ **Compact** end connector design easily allows direct connect to the HDTV source and display peripheral.
- ◆ No software to install; Plug and Play.
- ◆ Data security with negligible RFI/EMI emissions.

### Applications

- ◆ Home Theatre Systems.
- ◆ 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.

# Optical HDMI 1.3 Extension cable (M1-2000)

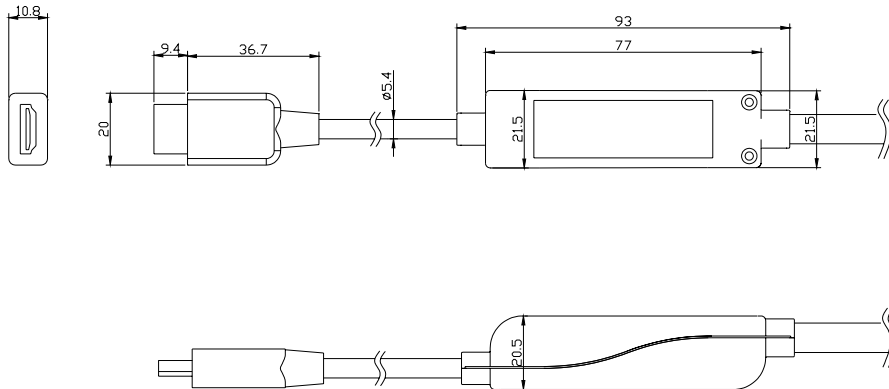
## Compliance with International Standards

M1-2000 meets the requirements of North American FCC and European CE standards for RFI/EMI emissions, material ratings, and laser safety. Consult the product specification for further details.

**M1-2000** uses an external AC/DC adapter in the transmitter side to enable the supply of +5V to the transmitter and receiver modules where the +5V A/V source power is judged to be inadequate or non-existent. If the graphic source can provide 500mA of +5V to pin 18, this AC/DC adapter is not required.

**Custom Lengths** 10m, 20m, 30m, 50m and 100m are standard stock lengths. Other lengths up to 100m can be ordered from the factory.

Drawing  
Dimension [mm]



## 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
Storage 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	$I_{TCC}$	-	120	150	mA
	RX	$I_{RCC}$	-	140	170	mA
Power Dissipation	TX	$P_{TX}$		0.60	0.83	W
	RX	$P_{RX}$	-	0.75	0.1	W

## Ordering Information

Model number: M1-2000-xxx, where xxx = length in meters. Standard lengths are 10, 20, 30, 50 and 100 meters.



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**All contents are subject to be changed without prior notice.**