

PRODUCT DATA SHEET

WMC-DH

*HDMI/DisplayPort to HDMI (MPO Output)
Wall Type Converter*

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Revision History

Version No.	Revision Date	Page	Description of Changes
0.10	September.11.2023	All	Initial Version
0.11	September.21.2023	All	Modified the chapter 4.3 image.
0.20	October.24.2023	All	Modified the chapter 4.2 and 4.3 images
0.21	Jenuary.08.2024	All	Modified contents according to hardware revisions.

PROPRIETARY NOTE

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1. General Description

1.1 Introduction

WMC-DH is a MPO/MTP-type wall plate converter for HDMI or DisplayPort. It receives a video stream and converts it into an HDMI TMDS compatible optical signal. The converted optical signal is connected to *OPHIT's OMP-HM Receiver⁽¹⁾ (OMP-HM-R)* using one MPO-type optical cable.

1.2 Features

- Supports the HDMI 2.0 standard.
- Supports the DisplayPort 1.2 standard.
- Converts HDMI or DisplayPort to HDMI TMDS compatible optical signal. (Does not support input video scaling.)
- Transmits converted optical signal using one MPO-type optical cable.
- Equipped with two 3Ø LEDs to indicate the status of input and output.
 - Green LED ON : Source signal detected
 - Green LED Blink : No input signal
 - Yellow LED ON : OMP-HM receiver detected
 - Yellow LED OFF : No OMP-HM receiver
- Equipped with one slide switch to select the input video format.
 - Once all cables are connected and powered on, the user can select the input port using the slide switch.
 - The currently selected input port is indicated by the Green LED next to the cable.
- Equipped with one push switch to reset the system.
- Supports firmware update via mini-B USB port.
- Designed to mount in one-gang sized slot.

(1) Please refer to OMP-HM documents for more information.

2. Specification

2.1 General Specification

I/O Spec.		
Optical Converter		1x4 Array 850nm VCSEL, 1 x VCSEL, 1 x PD
Fiber Cable ⁽²⁾		MPO/MTP, 8- (or 12) core, OM3, 50/125µm Multi-mode fiber
Input Data Rate	HDMI	Up to 18Gbps (HDMI 2.0)
	DisplayPort	Up to 21.6Gbps (DisplayPort 1.2)
Output Data Rate		Up to 18Gbps (HDMI 2.0)
Video Resolution		Up to 4K@60Hz
General		
Input Connector		1 x HDMI via Type-A Female Connector
		1 x DisplayPort via 20P Female Connector

Output Connector	1 x MPO-type Optical Female Connector
USB Connector	1 x Mini USB-B Female Connector
Status LEDs	2 x 3Ø DIP LED (Green, Yellow)
	2 x SMD Domed LED (Green)
Tact Switch	1 x Push Switch
Slide Switch	1 x Slide Switch
Module Dimension	70 x 115 x 87mm
Module Weight	145g
Enclosure Color	White
Power Connector ⁽³⁾	1 x 3.5mm-Pitch 3-Position Terminal (JIEKT/JK350R-03P)

(2) Only 6-core is used. Fiber cable is not included.

(3) Male type connector is included on the device. An external power supply is needed.

2.2 Power Specification

Parameter	Symbol	Min	Typ	Max	Units	Condition
Supply Voltage (DC)	Vcc	+5	+9	+12	V	External Adaptor
Supply Current (HDMI Input Mode)	Icc	-	0.380	0.384	A	DC +5V
		-	0.212	0.216		DC +9V
		-	0.164	0.166		DC +12V
Supply Current (DP Input Mode)	Icc	-	0.540	0.542	A	DC +5V
		-	0.312	0.314		DC +9V
		-	0.240	0.242		DC +12V
Power Dissipation (HDMI Input Mode)	Po	-	1.90	1.92	W	DC +5V
		-	1.908	1.944		DC +9V
		-	1.968	1.992		DC +12V
Power Dissipation (DP Input Mode)	Po	-	2.70	2.71	W	DC +5V
		-	2.808	2.826		DC +9V
		-	2.88	2.904		DC +12V

2.3 Optical Specification

Optical Parameter	Symbol	Min	Typ	Max	Units	Conditions
Transmit Wavelength	λ_0	840	850	860	nm	
Optical Output Power	Pout		3.9	5.0	dBm	
Rise/Fall time (Main lanes)	r_f		40		ps	Differential, 20%-80%
Rise/Fall time (Side band)	r_f		5		ns	Differential, 20%-80%
Spectral width, RMS	$\Delta\lambda$			0.65	nm	Main lanes

Transmitter Laser module is Class 3R product

* Note. Do not look directly at the laser module of transmitter or the end of the other side of optical cable connected to transmitter without eyewear.



3. Absolute Maximum Ratings

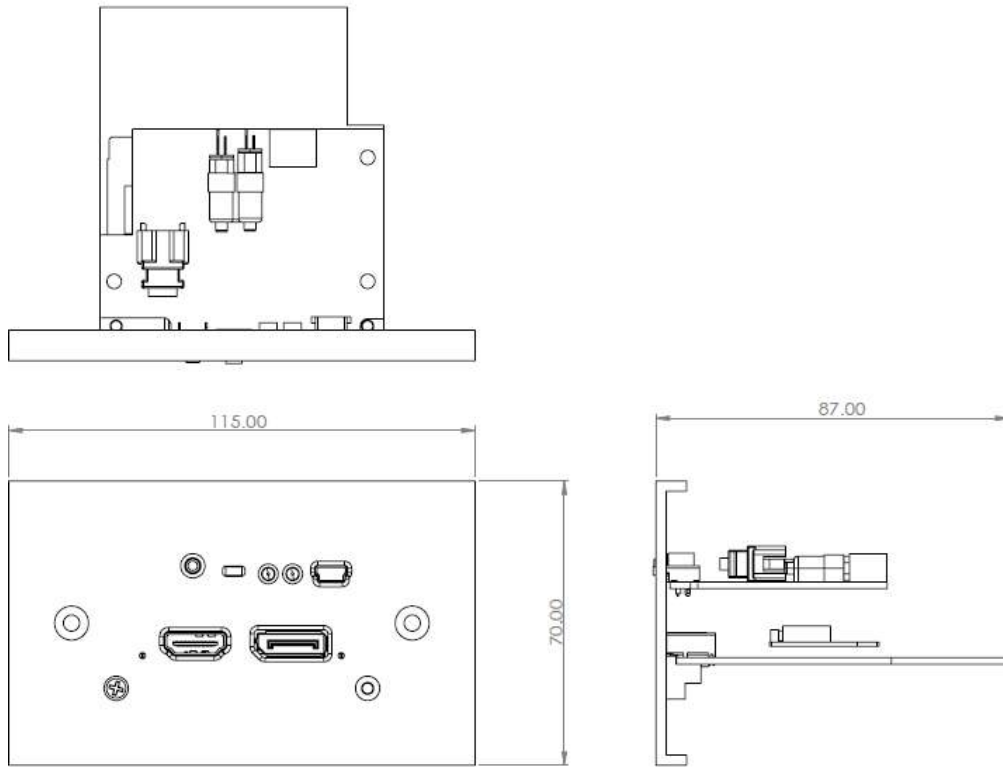
Parameter	Rating
Storage Temperature	-20°C ~ +60°C, Non-Condensing
Operating Temperature	0°C ~ +40°C, Non-Condensing
Relative Humidity	10 ~ 80 %, Non-Condensing

NOTICE

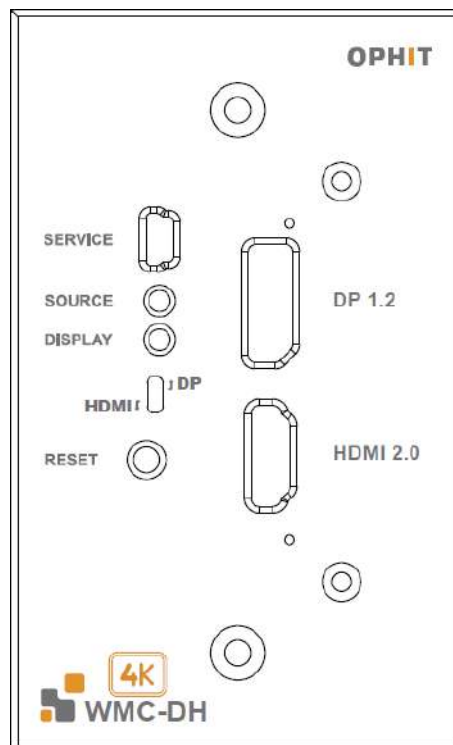
Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

4. Mechanical Specification

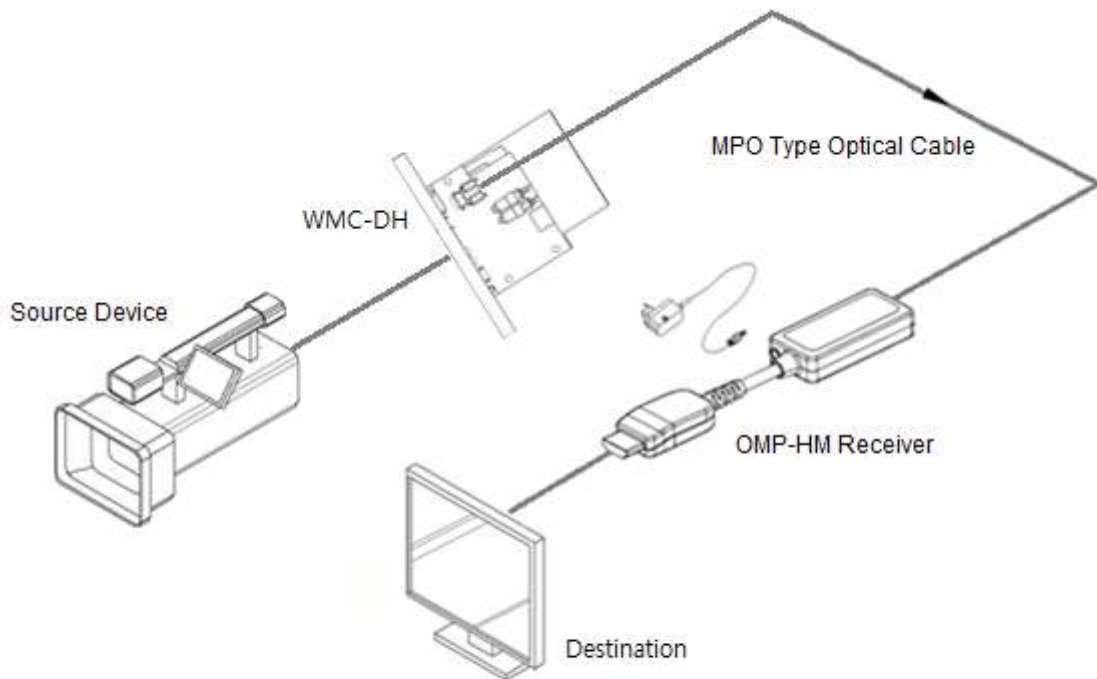
4.1 Case Dimension (mm)



4.2 Design Drawing



4.3 Connection



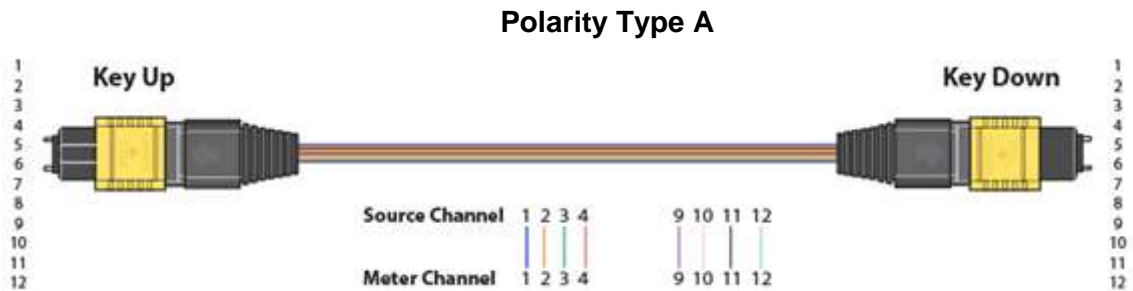
***** NOTE: The installer must supply power to the WMC-DH (Wall Plate)**

4.4 MPO/MTP Cable

Recommend to use 8-core (or 12-core) MPO/MTP (Polarity type A), OM3, 50/125 μm Multi-mode fiber cable for optimized operation. (See 4.4.1 and 4.4.2 below)

**Note. Please CHECK the pin connection before installation.*

4.4.1 8-core pin assignment



4.4.2 12-core pin assignment

