

# PRODUCT DATA SHEET

## WMC-SD

*12G-SDI to HDMI(MPO Output) Wall Type Converter*

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## Revision History

Version No.	Revision Date	Page	Description of Changes
0.10	May.10.2023	All	Initial Version
0.11	June.28.2023	All	Modified the chapter 3 contents.
0.20	August.30.2023	All	Modified the led operating conditions, module weight, power specification, absolute maximum ratings and mechanical specification.
0.21	September.21.2023	All	Modified the chapter 4.3 image.
0.30	December.08.2023	All	Modified contents according to hardware revisions

### PROPRIETARY NOTE

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## TABLE OF CONTENTS

<b>1. General Description .....</b>	<b>4</b>
1.1 Introduction	
1.2 Features	
<b>2. Specification .....</b>	<b>4</b>
2.1 General Specification	
2.2 Power Specification	
2.3 Optical Specification	
<b>3. Absolute Maximum Ratings .....</b>	<b>6</b>
<b>4. Mechanical Specification .....</b>	<b>6</b>
4.1 Case Dimension	
4.2 Design Drawing	
4.3 Connection	
4.4 MPO/MTP Cable	

## 1. General Description

### 1.1 Introduction

**WMC-SD** is a MPO/MTP-type wall plate converter for 12G-SDI. It receives an SDI video stream and converts it into an HDMI TMDS compatible optical signal.

The converted optical signal is connected to *OPHIT's OMP-HM Receiver*<sup>(1)</sup> (*OMP-HM-R*) using one MPO-type optical cable.

### 1.2 Features

- Supports the SDI interface standards from HD-SDI to 12G-SDI.(only Level-A)
- Supports the HDMI 2.0 standard.
- Converts SDI 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 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 <sup>(2)</sup>	MPO/MTP, 8- (or 12) core, OM3, 50/125µm Multi-mode fiber
Input Data Rate	Up to 11.88Gbps (ST-2082-1, 12G-SDI)
Output Data Rate	Up to 18Gbps (HDMI 2.0)
Video Resolution	Up to 4K@60Hz
General	
Input Connector	1 x SDI via BNC 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)
Tact Switch	1 x Push Switch
Module Dimension	70 x 115 x 87mm
Module Weight	155g
Enclosure Color	White

Power Connector <sup>(3)</sup>	1 x 3.5mm-Pitch 3-Position Terminal (JIEKT/JK350R-03P)
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(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 (Working Mode)	Icc	-	0.568	0.574	A	DC +5V
		-	0.326	0.330		DC +9V
		-	0.248	0.254		DC +12V
Power Dissipation (Working Mode)	Po	-	2.84	2.87	W	DC +5V
		-	2.934	2.97		DC +9V
		-	2.976	3.048		DC +12V

### 2.3 Optical Specification

Optical Parameter	Symbol	Min	Typ	Max	Units	Conditions
Transmit Wavelength	$\lambda_0$	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

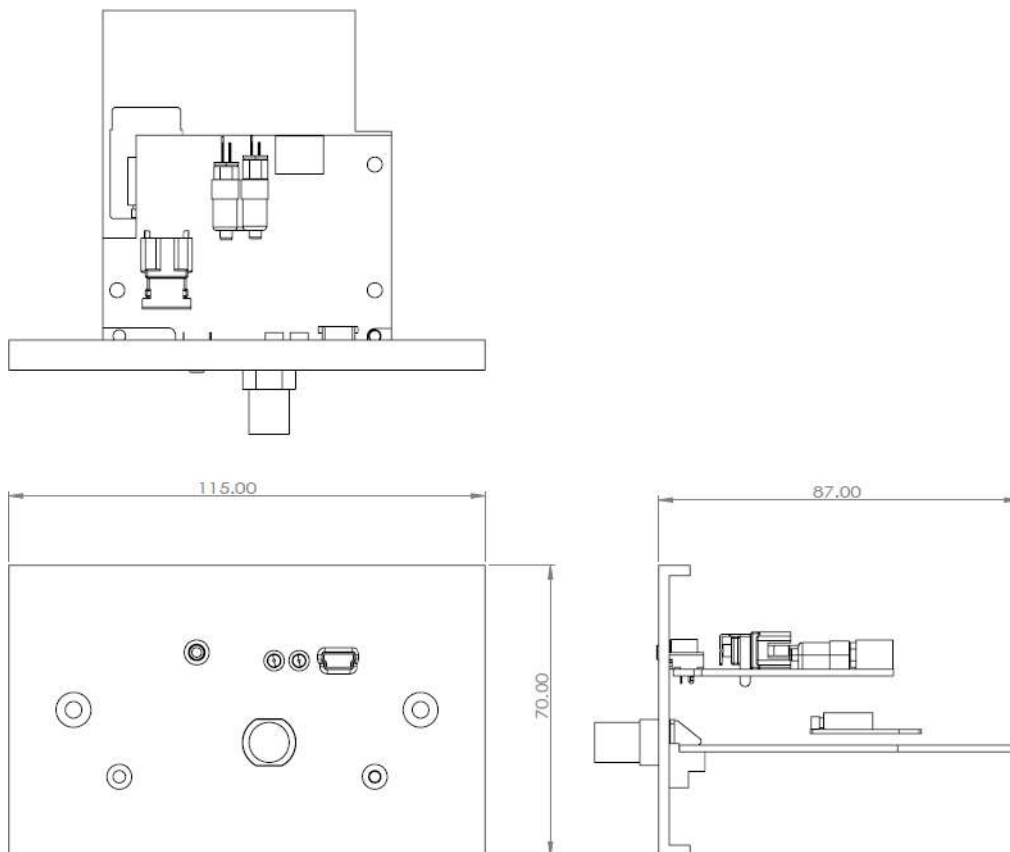
Parameter	Rating
Storage Temperature	-20°C ~ +60°C, Non-Condensing
Operating Temperature	0°C ~ +40°C, Non-Condensing
Relative Humidity	10 ~ 80 %, Non-Condensing

#### NOTICE

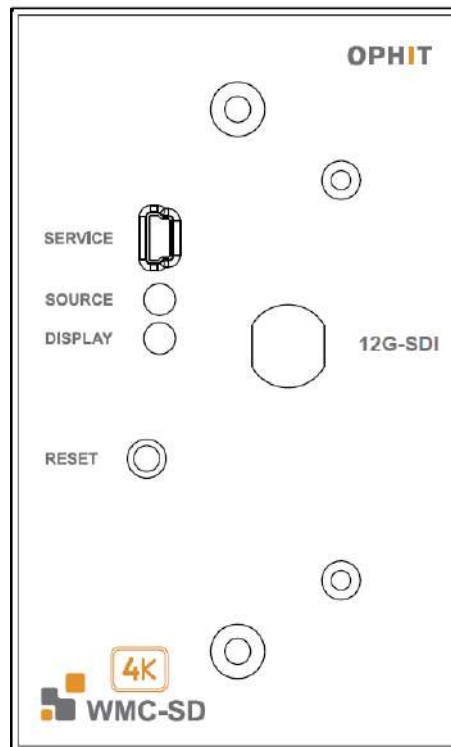
Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

### 4. Mechanical Specification

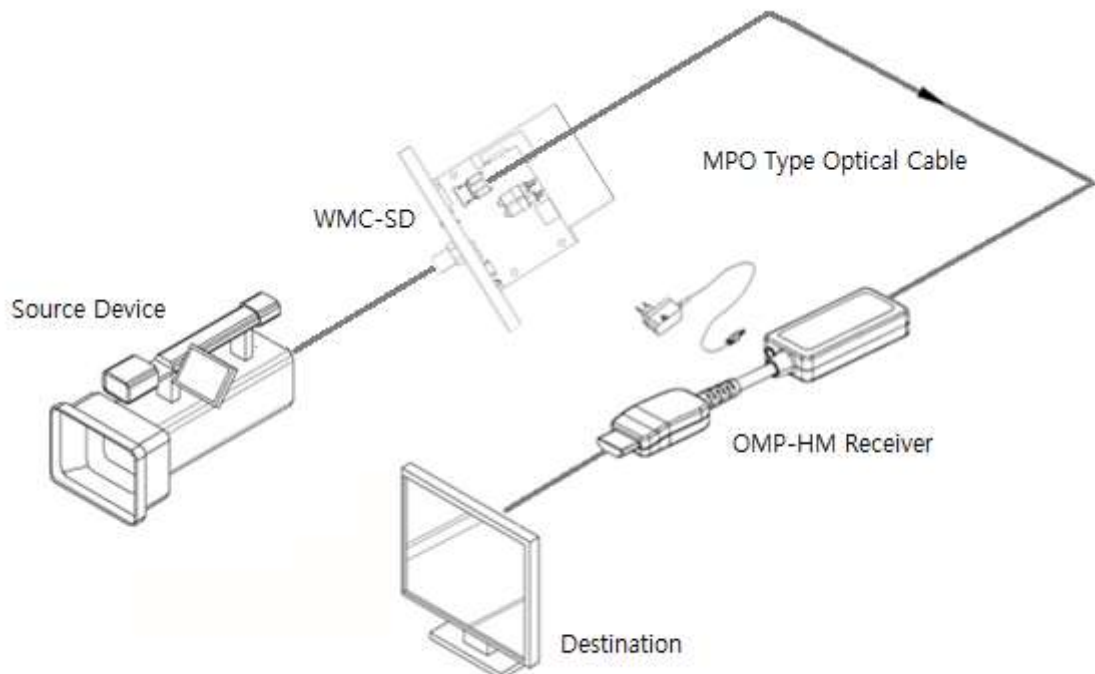
#### 4.1 Case Dimension (mm)



### 4.2 Design Drawing



### 4.3 Connection



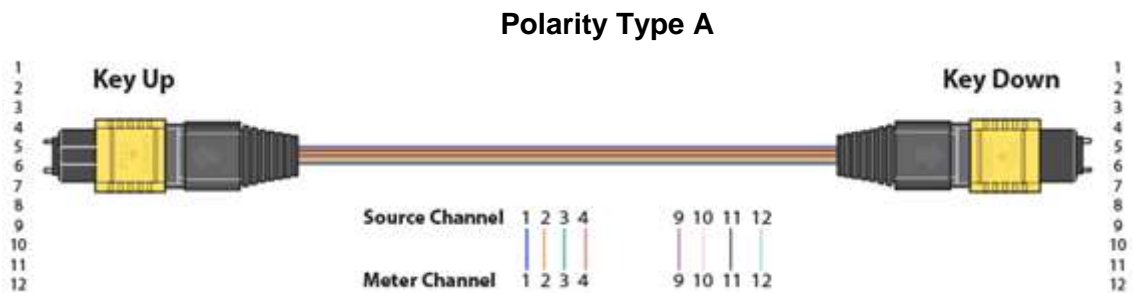
**\*\*\* NOTE: The installer must supply power to the WMC-SD (Wall Plate)**

#### 4.4 MPO/MTP Cable

Recommend to use 8-core (or 12-core) MPO/MTP (Polarity type A), OM3, 50/125  $\mu\text{m}$  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

