

# PureLink

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## **EZ-S Owner's Manual** 3G-SDI Over Fiber Extension System



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## Chapter 1. Product Overview

### 1.1 Safety Precautions

- All safety instructions should be read and understood before the unit is operated.
- The owner's manual and safety instructions should be retained for future reference.
- Unplug this unit from the AV devices before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth only.
- Keep away from wet, magnetic, and flammable surfaces or substances.
- Do not place any heavy objects or equipment on top of the unit.

**If you experience any malfunctioning of product or have any question as to operation of the product, please contact our customer service center.**

**PureLink™**

Tel: 201.488.3232

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## 1.2 Product Description

The TOTALWIRE™ EZ-S offers 3G-SDI extender increases transmission length of 3G-SDI signaling using 1-Channel optical cable. Electrical-to-optical and optical-to-electrical conversion technology enables transmission length extending without any bulky cable and repeater. Transmission length is up to 600m for 3G-SDI.

## 1.3 Product Features

- Reliable 850nm VCSEL and GaAs PIN PD technology.
- Transmission length: up to 600m using 50 m OM3 multimode fiber at 3G-SDI Signal
- Supports video pathological pattern transmission.
- Supported data rate: 3G-SDI(2.970Gbps), HD-SDI(SMPTE-292M) and SD-SDI(SMPTE-259M) transmission is also available by option.
- BNC connector for electrical in-out.
- ST connector for optical in-out.
- Power supply : DC 5V only (USB)
- DC 12V&AC24V
- DC 12V only

### Common Application

- Broadcast video applications
- Digital Video Records (DVR)
- Surveillance / CCTV cameras
- Digital video displays

## Chapter 2. Product Specifications

### 2.1 Characteristics

#### ABSOLUTE MAXIMUM RATINGS

parameters	Symbol	Min	Max	Unit	
Storage temperature	$T_{sto}$	-30	+80	°C	
Supply voltage	@ DC 5V type	$V_{CC\_DC}$	-0.5	6	V
	@ DC 12V	$V_{CC\_DC}$	-43	43	V
	&AC24V type	$V_{CC\_AC}$	0	30	V
Operating temperature range	$T_{op}$	-20*	+70	°C	

#### RECOMMENDED OPERATING CONDITIONS

parameters	Symbol	Min	Typ	Max	Unit	
Supply voltage	@ DC 5V type	$V_{CC\_DC}$	4.5	5	5.5	V
	@ DC 12V	$V_{CC\_DC}$	10	12	40	V
	&AC24V type	$V_{CC\_AC}$	20	24	28	V

#### TRANSMITTER ELECTRICAL AND OPTICAL CHARACTERISTICS

parameters	Symbol	Min	Typ	Max	Unit
Input signal	SMPTE 424M/292M/259M				
Supply current of USM-3GFC @ DC12V input	$I_{CC\_T}$	62	69	76	mA
Single-ended voltage swing	$V_{IN}$	700	800	1,200	mV <sub>P-P</sub>
Single-ended input impedance	$R_{IN}$		75		Ohm
Average optical output power	$P_o$	-8	-5	-4	dBm
Optical output extinction ratio	ER		4		dB
Optical rise/fall time	$t_{riseT}/t_{fallT}$		200		ps
Optical output wavelength	$\lambda_{OUT}$	830	850	860	nm

#### RECEIVER ELECTRICAL AND OPTICAL CHARACTERISTICS

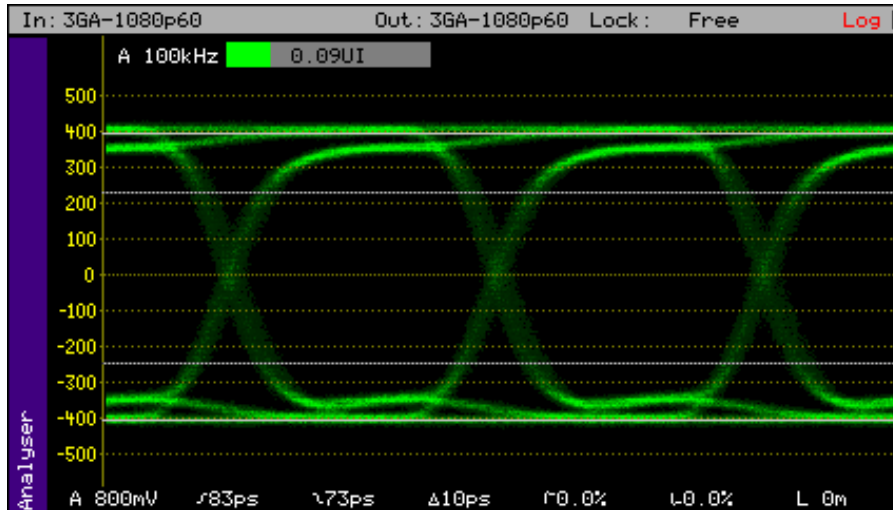
parameters	Symbol	Min	Typ	Max	Unit
Output signal	SMPTE 424M/292M/259M				
Supply current of USM-3GFC @ DC12V input	$I_{CC\_R}$	62	69	76	mA
Single-ended voltage swing	$V_{OUT}$	740	800	860	mV <sub>P-P</sub>
Data output rise/fall time	$t_{riseR}/t_{fallR}$		200		ps
Total jitter	$TR_{jitter}$		0.2	0.3	UI
Single-ended output impedance	$R_{OUT}$		75		Ohm
Receiving optical power	$P_{in}$	-12		0	dBm

**RECOMMENDED SPECIFICATIONS OF FIBER-OPTIC CABLES**

parameters	Conditions	Specifications
Fiber type	Glass Multi-mode Fiber	50/125 m OM3
Effective modal bandwidth	nm	2000MHz-km
Fiber cable attenuation	nm	<2.5dB/km
No. of cable	ST/PC connector	Single Link

**TYPICAL ELECTRICAL EYE DIAGRAM OF THE RECEIVER OUTPUT**

3G-SDI electrical output

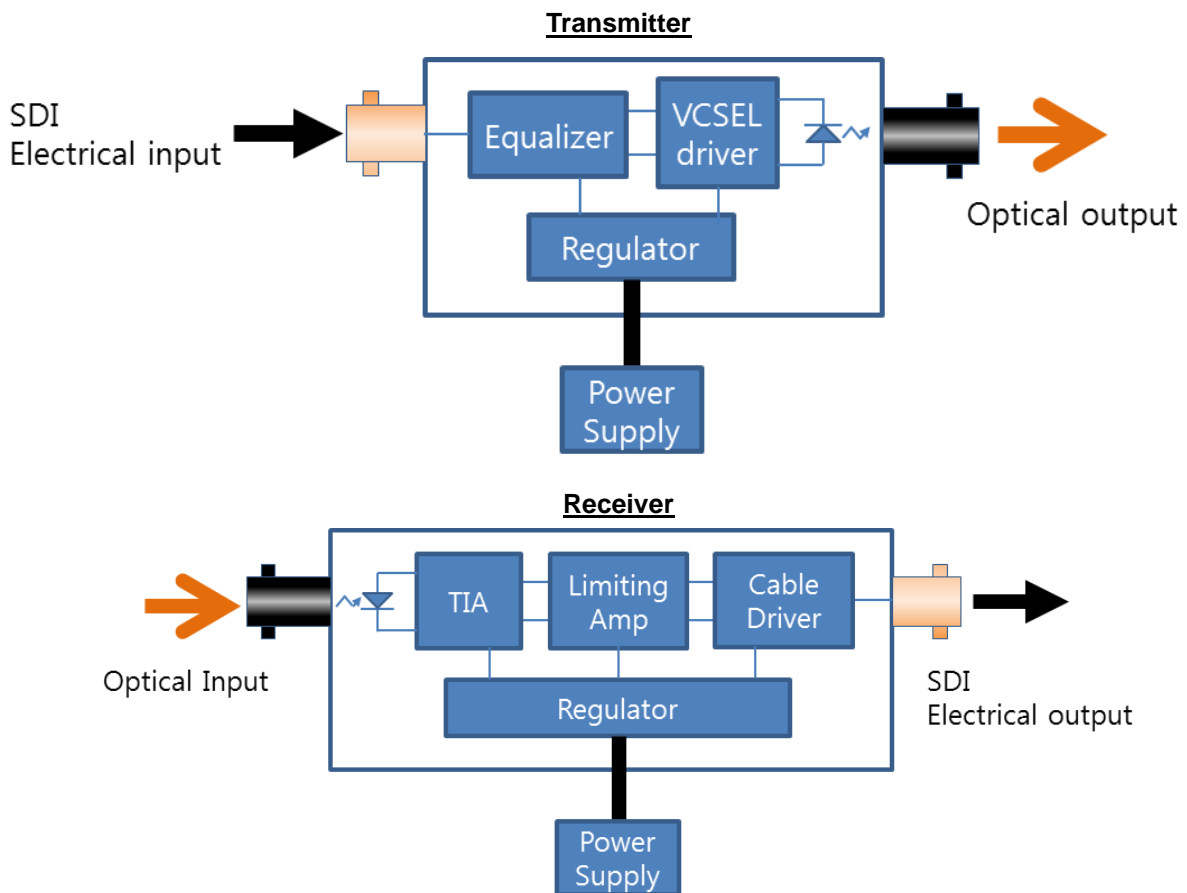


Input data pattern: pathological pattern

## 2.2 EZ-S Specification

Item	Description
Model	EZ-S
Input type	HD-SDI 1 port
Output type	HD-SDI 1 port
Video Format	SD/HD/3G-SDI
Voltage	DC5V only DC12V only DC12V & AC24V
Operating temperature	-20° ~ 70°C

## 2.3 Functional Block Diagram

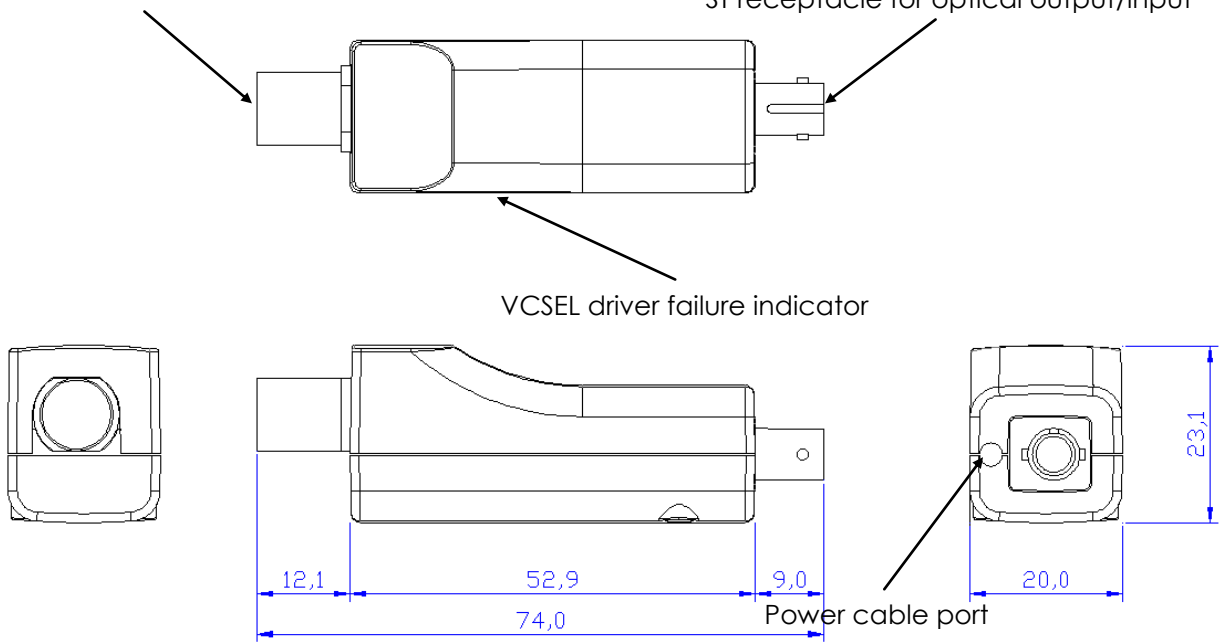


## 2.4 Outline Drawing

### Main Module

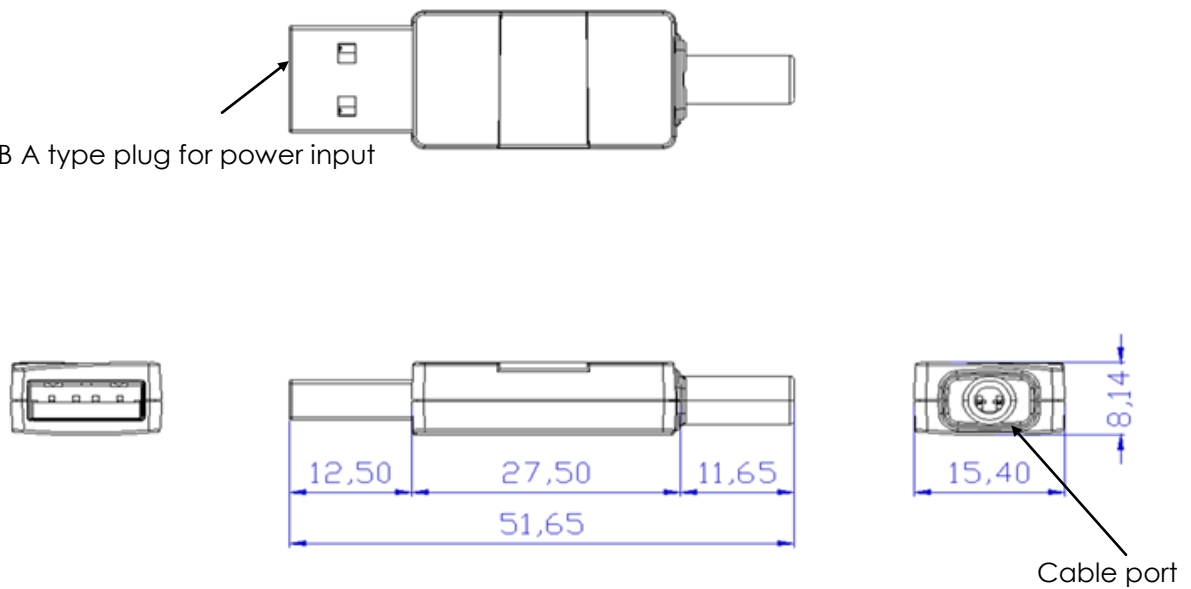
BNC receptacle for electrical input/output

ST receptacle for optical output/input



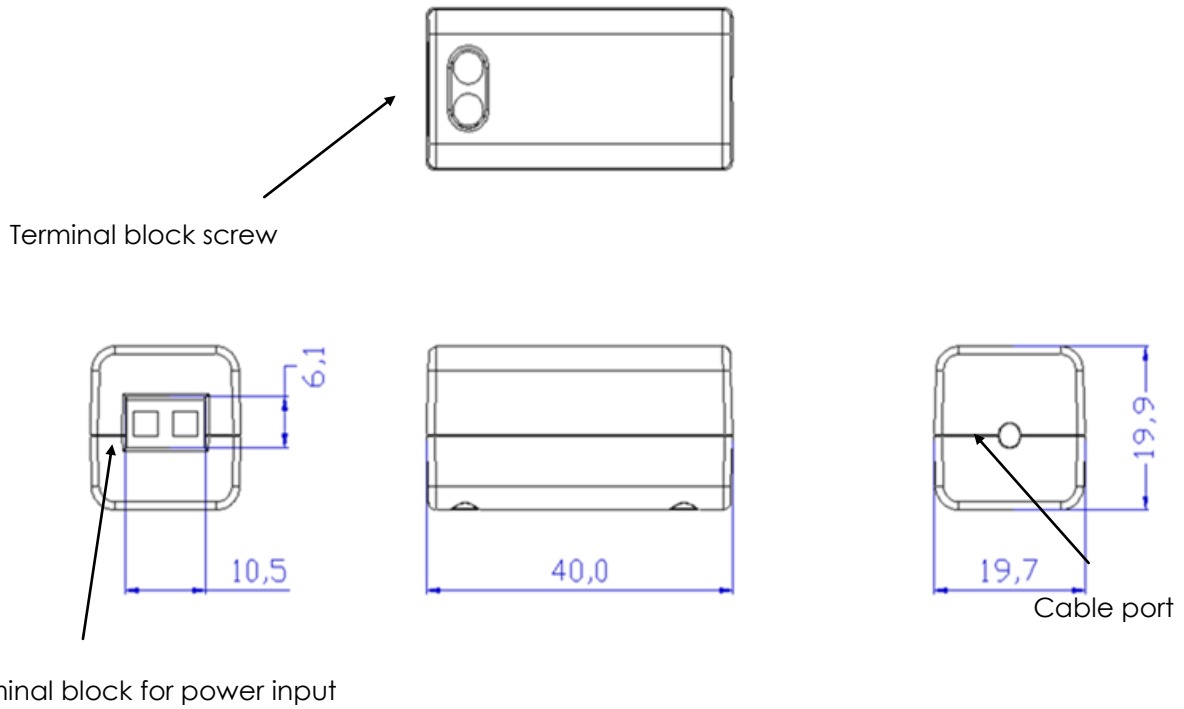
### 5V DC Power

USB A type plug for power input



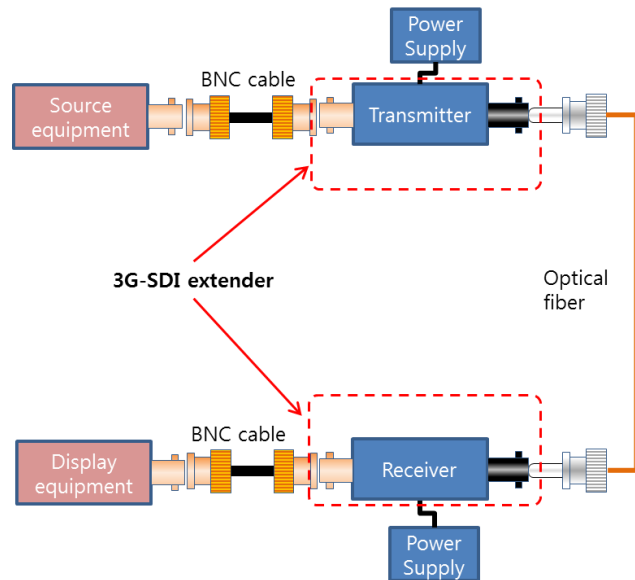


**DC 12V & AC 24V Power or DC 12V only Power**



**2.5 Block Diagram**

Connection example



## 2.6 Troubleshooting

### ***The display shows only black screen.***

- Ensure that the HDMI ports are firmly plugged in to the source and display.
- Ensure that the Video source (Tx) is connected to the video source and Display (Rx) is connected to the display.
- Check if the source and display are powered on and properly booted.
- Re-boot up the system while connecting the optical HDMI extension module.

### ***Screen is distorted or displays noises.***

- Check if the graphic resolution is properly set for the sources. For PCs, go to the display properties of Windows and tap the settings. For other AV video source, refer to the owner's manual to adjust video resolution.
- Reboot the system. Disconnect the optical HDMI cables if necessary.

## 2.7 Maintenance

No special maintenance is required for the EZ-S 3G-SDI Over Fiber Extension System. Ensure that the EZ-S unit is stored or used in a benign environment free from liquid or dirt contamination. There are no user serviceable parts. Refer all service and repair issues to PureLink.

## Chapter 3. Additional Information

### 3.1 Manufacturer's Warranty (2-Year)

PureLink warrants this EZ-S 3G-SDI Over Fiber Extension System to be free from defects in workmanship and materials, under normal use and service, for a period of two (2) year from the date of purchase from PureLink or its authorized resellers.

If the product does not operate as warranted during the applicable warranty period, PureLink shall, at its option and expense, execute one of the following as necessary:

1. Repair the defective product or part
2. Deliver to customer and equivalent product or part to replace the defective item
3. Refund to customer the purchase price paid for the defective product

All products that are replaced become the property of PureLink. Replacement products may be new or reconditioned. Repaired or replacement products or parts come with a 90-day warranty or the remainder of the warranty period. PureLink shall not be responsible for any software, firmware, information, or memory data loss of contained in, stored on, or integrated with any products returned to PureLink for repair under warranty.

### 3.2 Customer Service

Any customer service inquiries can be submitted electronically through the Q&A form on our website ([www.purelinkav.com](http://www.purelinkav.com)).

For immediate assistance please contact us at (201) 488-3232 to reach our customer care or tech support team.