

1-channel 3G SDI Video + 1-channel Reverse RS485, 1080P

➤ Features

- Comply with DVB-ASI, SMPTE424M, SMPTE292M, and SMPTE259M (C) standards;
- Use full digital processing technology, clear image, no color phase difference;
- With APC circuit, constant output optical power, large dynamic range;
- The input has a cable balance to compensate for the loss of cable transmission;
- Input / output cable transmission distance of up to 80m (BELDEN8281 cable);
- CWDM technology to achieve multi-channel signal transmission, large capacity, easy to upgrade;
- With the output clock recovery reduction signal jitter circuit, it can handle the distortion signal very well;
- Industrial grade design, modular design makes the equipment reliable and flexible;
- Single mode/multi-mode compatibility, no relay distance of up to 20km;
- Wall-mounted, 1U rack type, plug-in card design, support 2U 16 slot chassis, double backup power supply;
- Support for pathological signal (optional);
- Plug and play, no setup required;
- Support power supply DC5V;
- Wide range of operational temperature (-20°C ~75°C);
- Warranty: 3 years;



➤ Introduction

The Serial Digital Interface (SDI) is a digital video interface standard developed by the SMPTE organization. For example, the ITU-R, the BT.656, SMPTE. 259M defines a digital video interface for broadcast level; a famous HD serial digital interface standard (HD-SDI) that provides a data rate of 1.485 Gbit/s. A double-link HD-SDI standard is defined in the SMPTE 372M, the interface consists of a pair of SMPTE 292M links, capable of providing a 2.970 Gbit/s data transfer rate. The interface widely used in digital cinema or HDTV 1080P, it can have better fidelity and resolution than conventional HDTV. In the recent years, the interface 3G-SDI consisting of a single 2.970 Gbit/s serial link is defined in SMPTE 424M, which will replace the double-link HD-SDI.

These standards are used to transmit uncompressed, unencrypted digital video signals in broadcast television devices, which may also be added as necessary embedded audio and time code. Coaxial cable transmission, the distance is generally less than 300m. The fiber specification as defined by the SMPTE 297M can be long-distance transmission is limited to the maximum fiber length or repeater. Usually, SDI and HD-SDI are applied to professional vision only. In frequency devices, various license agreements limit unencrypted digital interfaces, banning them from using consumer devices such as Blu-Ray and individuals use in video CR.

UPCOM 3G-SDI0101 HD-SDI/3G-SDI video digital optical converter adopts international advanced all-digital gigabit optical fiber transmission technology, the HD-SDI/3G-SDI video signal can be transmitted through 1 fiber with non-Distortion, high-quality, long-distance transmission. This series of video to fiber converter has Stable performance, clear picture quality, and high Stability with LED Status Indication on the body of device. The working status of devices can be visually observed. At the same time, the switch value, voltage, working status and other reverse useful signal information can be controlled by RS485 or RS232. This makes our devices more flexible.

➤ Application

- HD monitor transmission and power supply
- Security protection system, TV medical treatment
- Network telephone transmission, Intelligent house and home system
- Intelligent transportation supervisory system (ITS)
- High-speed Way supervisory/Tele-Communication System
- Long-distance Multi-media Schooling, Campus monitoring
- Long-distance broadcast television transmission system
- High-building Security Protection, Military Tele-Com project
- Smart City

➤ Specification

Fiber Optical	
Wavelength	1550-1310nm
Rate	3G bps
Tx power	> -6db
Rx sensitivity	> -14db
Optical connector	LC
Video	
Signal type	DVB -ASI, SD-SDI, HD-SDI, 3G-SDI
Work standards	DVB-ASI, SMPTE259M-C, SMPTE292M, SMPTE424M
Bit rates	270 Mbps, 1. 485 Gbps, 2. 97Gbps
Video input / output	
Signal type	1 single-link DVB-ASI, SD-SDI, HD-SDI, 3G-SDI digital video with local loop out
Input impedance	75 Ohm
Enter the automatic cable equalization	>80m (1. 485 Gbps@BELDEN8281 cable)
Clock recovery	When 270 Mbps, 1. 485 Gbps, and 2. 97Gbps are automatic, the others are bypass
Input level	800mVp-p±10%
Enter the echo loss	> 10dB @ 2. 97 Gbps
Output DC offset	<±0. 5V
Output echo loss	> 10dB @ 2. 97 Gbps
The biggest shake	<0. 1UI(1485Mbps)
Signal overshoot	<5% (1485Mbps)
Data	
Transmission direction	1-channel reverse transmission

Work pattern	Half-duplex mode
Level type	RS485 (2-wire system)
Bit error rate	<10 ⁻⁹
Rate	0-400Kbps
Physical interface	Phoenix terminal
Power supply	
Shell	Aluminium alloy
Installation	Wall-mounted / card type
Product size	104*108*28mm
Packing size	275*219*54mm
Weight	0.75KG
Input voltage	100VAC~242VAC, 50-60Hz
Power supply	DC 5V
Power dissipation	<1.5W
Overload protection	provide
Over current protection	provide
Environment	
Working Temperature	-20 °C ~75°C
Storage Temperature	-40°C ~85°C
Relative Humidity	0%~95% (no condensation)
MTBF	100,000 hours
Warranty	3 Years

➤ Appearance



Transmitter panel

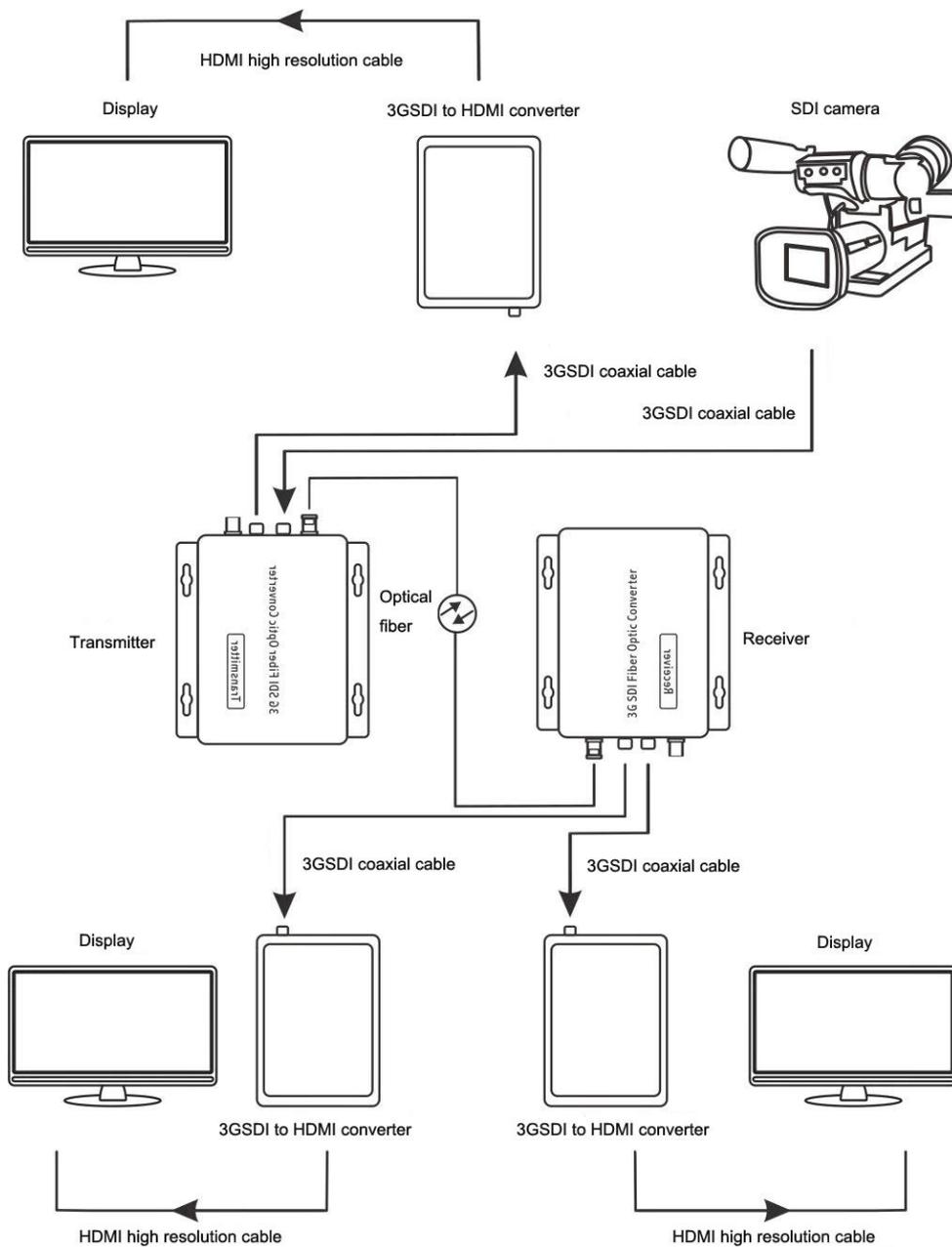
Indicator status	
PWR	On: the device is powered on
	Off: the device is power off
FIBER	Light on: fiber signal
	Light off: no fiber signal
SDI	Light on: video signal
	Light of: no video signal
DATA	Blinking: data signal
	Off: no data signal
Panel printed description	
SFP	3G SFP fiber module
SDI IN	Video input
SDI LOOP	Video loop out
RS485+ OUT	Data output
RS485- OUT	Data output
DC 5V	5V power supply

Receiver panel



Indicator status	
PWR	On: the device is powered on
	Off: the device is power off
FIBER	Light on: fiber signal
	Light off: no fiber signal
SDI	Light on: video signal
	Light of: no video signal
DATA	Blinking: data signal
	Off: no data signal
Panel printed description	
SFP	3G SFP fiber module
SDI OUT	Video output
SDI LOOP	Video loop out
RS485+ OUT	Data output
RS485- OUT	Data output
DC 5V	5V power supply

➤ Connection



➤ Ordering Information

Model NO.	Description
3G-SDI0101	1 channel forward 3G-SDI video +1-channel Reverse RS485, 1080P, DC5V
3G-SDI0201	2 channel forward 3G-SDI video +1-channel Reverse RS485, 1080P, DC5V
3G-SDI0401	4 channel forward 3G-SDI video +1-channel Reverse RS485, 1080P, DC5V
3G-SDI0801	8 channel forward 3G-SDI video +1-channel Reverse RS485, 1080P, DC5V
3G-SDI1601	16 channel forward 3G-SDI video +1-channel Reverse RS485, 1080P, DC5V

➤ Packing List

- 3G SDI Video Over Fiber Converter *1
- User manual * 1
- Certificate of quality * 1
- Warranty card * 1

Attention

Lightning protection, static electricity and grounding:

It is recommended that when install the device, consideration should be given to the impact of grounding by lightning, and take prevention measures. Strong static electricity will damage the optical device and data chip in the equipment. It is recommended that when plug/unplug the data port of the optical converter, please disconnect the power supply of the optical converter first.

Fiber and optical components:

Be careful when plugging the optical fiber as optical components of the optical converter is very fragile, and it should avoid causing damage to the optical components. It should be noted that the light source produced by the optical components of the optical converter will be harmful to eyes, so do not have direct eye contact with the optical components of optical converter. If you need to detect the optical power of the optical converter, please use the optical power meter.

Equipment and installation procedures:

1. Optical fiber installation: please carefully insert the optical fiber into the optical fiber interface of the optical terminal after confirming that the optical fiber link meets the installation requirements.
2. Equipment installation: The equipment can be distinguished between transmitter and receiver, and it is stated clearly on the label and printed on the chassis of the equipment.