

RB-3GSDI-01 series

SD/HD/3G-SDI Video Converter

User's manual (please read before installation)

1. Description

The RB-3GSDI-01 video digital optical converter uses an all-digital fiber technology that allows transmission of SD, HD or 3G-SDI video signals over one fiber optic strand only at high-quality and for long reaches. RB-3GSDI-01 series offers transport of a single SDI video interface over fiber optic. Besides the SDI interface, converters provide a return RS-232/RS-485 interface path for control signals. The single port series converters can also be installed in a 16 slot 19", 2RU chassis with redundant AC power supplies.

2. Technical Specifications

SDI input/output	
Video interface	BNC
Video impedance	75Ω
Video I/O voltage	Typical:1Vpp, Min 0.5Vpp, Max 1.5Vpp
Video Bit Rate	Max 2.97Gb/s
Video SDI standard	270 Mbps (SD-SDI), 1.485 Gbps (HD-SDI), SMPTE425M 3Gb/s Mapping(3G-SDI), SMPTE424M 3Gb/s serial interface (3G-SDI)
Data	

Input Connector	Industrial standard screw terminal
Output Connector	Industrial standard screw terminal
Interface Type	RS485/RS422/RS232/Manchester
Baud Rate	0-400Kbps
BER	< 10 ⁻⁹
Operation Mode	Full duplex / half duplex
Operating parameters	
Input power	AC 220V(adapter), DC5V converter
Power consumption	8W
Work Temp	-20°C to 55°C
Storage Temp	-40°C to 85°C
Humidity	0 ~ 95% (non-condensing)

3. LED status

LED	Description
FIBER	ON when fiber link is established
SDI	ON when SDI video signal is available
PWR	ON when power is present
DATA	ON when data is running through port

4. Installation

Package Contents: Converter, Power Adapter, and this Manual

Please identify Transmitter and Receiver units in the RB-3GSDI package. "-T" ending unit is Transmitter and must be installed at the source of SDI signal, "-R" unit will be installed at receiving end of the SDI video signal path. Please connect optical fiber first and the SDI copper connections before powering up the units. Check LED

lights to confirm proper connectivity has been established. SDI signal should be available at remote end. Only use the power supply provided with the converter unit. Power adapter provides stable and filtered power for the fiber converters; if adapter is lost please contact vendor for a replacement part. A 3rd party AC adapter can only be used if output voltage, polarity and power jack connector are identical to the original AC adapter.

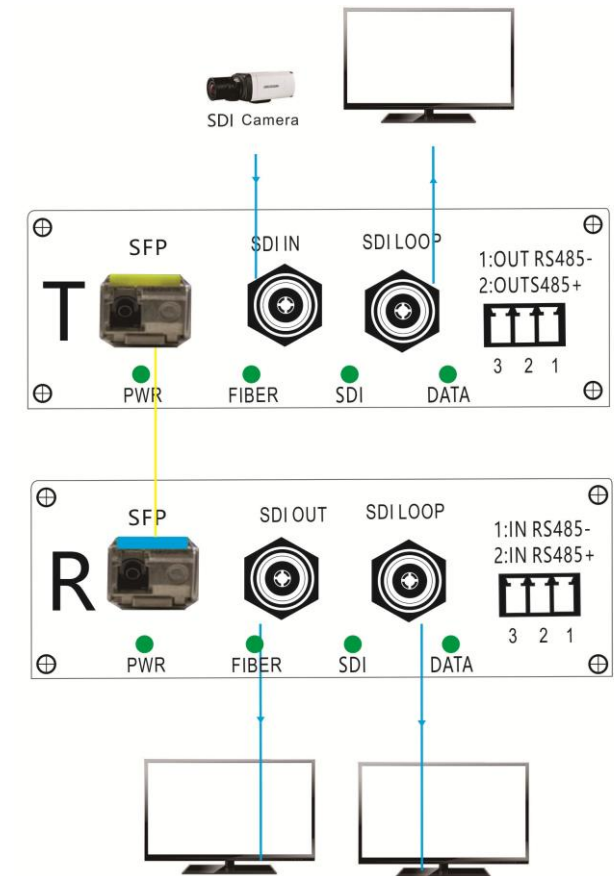


Diagram of RB-3GSDI-01 series installation

5. Safety

Please avoid exposure to water and do not install unit in high humidity areas. Make sure all connectors (optical and copper) are properly secured.

Please verify that power supplied is matching the input required for operation:

- for AC adapter input: 100~260V, 50~60Hz
- for DC input: 5V/3A

Stop using devices if they have been exposed to water or mechanical shocks affecting the physical form of the units.

For outdoor installation please consider installing surge protectors/lightning protection devices for the SDI copper side interfaces.

6. Troubleshooting

The RB-3GSDI-01 series converters are simple plug and play devices. There are very few adjustments to be made for proper operation. Check below list for potential adjustments:

- no light on POWER LED: please check power sources, make sure AC power is available and properly connected. Replace AC adapter with a similar one
- no light on SDI LED: please check copper SDI

connectivity: each SDI LED reflects local copper connection; make sure each SDI LED is ON, the end without SDI LED "ON" should be reset with a power cycle. If connectivity is proper and LED is not turning on, please

use a different RB-3GSDI unit

- noise seen as "snow" effect on video quality: too much fiber attenuation or weak/improper copper SDI connectivity. Multiple potential causes:

- normal fiber attenuation due to too long fiber circuit or improper high attenuation fiber splicing: please measure total fiber attenuation with an OPM (optical power meter) and OLS (optical laser source) to determine the level of optical attenuation on your fiber circuit. If local splicing is bad, replace or redo the fiber splices
- fiber attenuation caused by fiber overbending: please observe fiber path and reduce bends in the fiber run
- fiber attenuation caused by dirty optical connectors: clean connectors with a fiber cleaning pen (female) or fiber cleaning cassette (male)
- improper copper SDI connectivity: please check quality of copper wiring
- improper copper coaxial cable used: make sure impedance of the video coaxial cable for SDI interface is 75 Ohms
- AC power interference: please avoid running AC lines over or under the fiber extenders. Make sure the AC power lines have proper grounding. AC "noise" can affect quality of video signal

7. Models available

The RB-3GSDI-01 series single port SD/HD/3GSDI over fiber has following models available (fiber type and reach)

Part Number	Description
RB-3GSDI-01S-T	Transmitter unit for SM fiber up to 20Km
RB-3GSDI-01S-R	Receiver unit for SM fiber up to 20Km
RB-3GSDI-01M-T	Transmitter unit for MM fiber up to 2Km
RB-3GSDI-01M-R	Receiver unit for MM fiber up to 2Km

All RB-3GSDI-01 series have LC/UPC optical connector. Recommended 19" chassis installation is the RB-CH16-AA unit.