

4K HDMI Multi-function Fiber Optical Converter

➤ Features

- HDMI video support maximum resolution 4096*2160@30Hz and downward compatibility;
- Support international standard HDMI1.4 HDCP1.4;
- EDID transparent transmission mode;
- Support RGB&YCBCR4:4:4 YUV4:4:4 /4:2:2/4:2:0;
- Support DDC/CEC/HPD signal;
- Support 4K HDMI video with loop-out;
- Support KVM function (keyboard and mouse);
- Support 1 channel reverse IR infrared transmission (optional);
- Support 1 channel bidirectional independent 3.5 stereo audio, forward support audio embedding/unembedding function;
- Support 1 channel bidirectional full-duplex RS232 (half-duplex RS485 optional);
- Support 1 channel reverse contact closure function (optional);
- Support Single-fiber or dual-fiber (optional) ;
- Support multi-mode transmission distance 1KM, single-mode transmission 10KM;
- Support hot swap signal, plug and play, no setting required;
- Support power supply DC12V;
- Wide range of operational temperature (-20°C ~75°C);
- Warranty: 3 years;



➤ Introduction

UPCOM 4K HDMI multi-function fiber optical converter HD0111-10G-MK is composed of the transmitter and the receiver. The video, audio and data output from the computer host (HD video signal source, HD DVD/DVR and other devices) are extended to the remote user through one core optical fiber, and the image and sound of the computer host are played in real time at the remote end.

HD0111-10G-MK support 4K HDMI video with loop-out, KVM function (keyboard and mouse), 1 channel reverse IR infrared transmission (optional), 1 channel bidirectional independent 3.5 stereo audio, 1 channel bidirectional full-duplex RS232 (half-duplex RS485 optional), 1 channel reverse contact closure function (optional) via one single-fiber or dual-fiber reach up to 10km.

➤ Application

- HD monitor transmission and power supply
- LED splicing screen, projection fusion program, video conference system
- LCD splicing large screen, LED splicing screen, projection fusion scheme, video conferencing system
- Municipal command center, substation control room, steel plant control room
- Cement plant control room, mine control room, coal mine, cement plant, thermal power station
- Fine chemical control room and digital machine room management
- High-building Security Protection, Military Tele-Com project

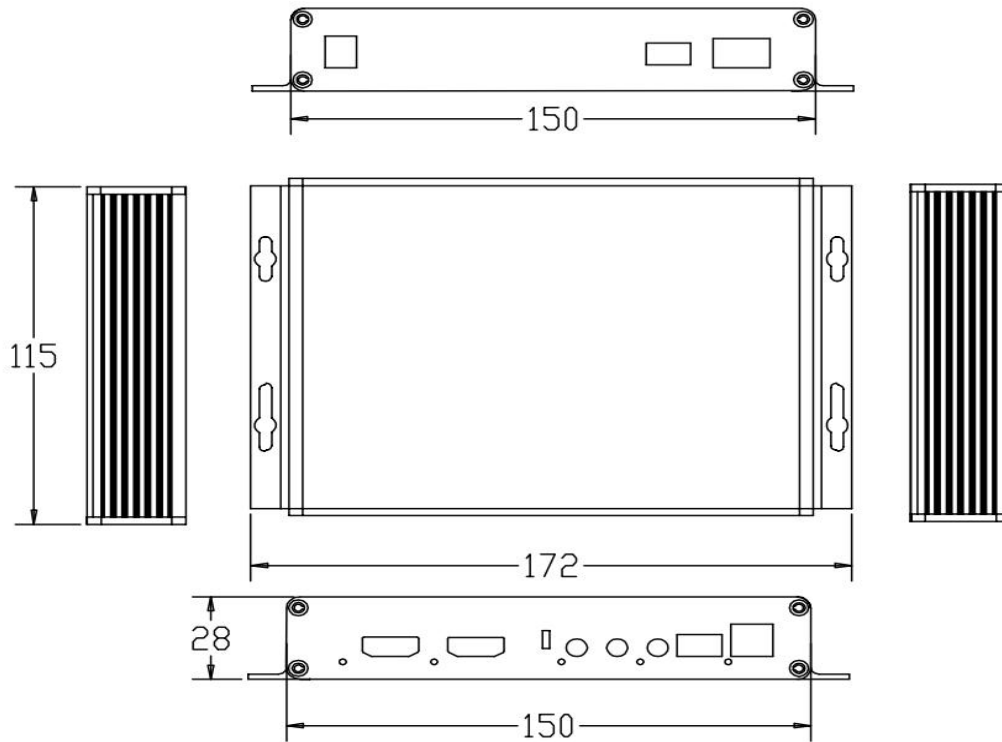
➤ Specification

| Fiber Optical | | | | | |
|------------------------------|---------------------------------------|------|------|------|-----------------|
| Wavelength | 1310-1550nm | | | | |
| Rate | 10Gbps | | | | |
| Tx power | > -5db | | | | |
| Rx sensitivity | > -14db | | | | |
| Fiber connector | LC | | | | |
| Video | | | | | |
| Video bandwidth | 10GHz Gbps | | | | |
| Resolution | 4096*2160@30Hz downward compatibility | | | | |
| Maximum pixel clock | 297MHZ | | | | |
| Effective cable length | 10M | | | | |
| Physical interface | HDMI female | | | | |
| KVM(USB) index | | | | | |
| Version | 1.1 | | | | |
| Tx physical interface | USB female type B | | | | |
| Rx physical interface | USB female type A | | | | |
| Audio index | | | | | |
| Sampling frequency | 48K | | | | |
| Sampling depth | 24bit | | | | |
| Dynamic bandwidth | 96db | | | | |
| Total harmonic distortion | -88db | | | | |
| Signal to noise ratio (SNR) | 96db | | | | |
| Audio input/output impedance | 600Ω | | | | |
| Signal level | VPP 3.5V | | | | |
| Physical interface | 3.5mm stereo audio socket | | | | |
| Signal type | stereo audio | | | | |
| IR index | | | | | |
| Parameter | Min | Type | Max | Unit | Condition |
| Optical current | 200 | - | 1030 | u A | IF=4mA,VCE=3.5V |
| Peak wavelength | - | 940 | - | nm | 1F=20mA |
| Spectrum voltage | - | 80 | - | nm | 1F=20mA |
| View angle | - | ±30 | - | Deg | 1F=20mA |
| Forward voltage | - | 1.2 | 1.6 | V | 1F=20mA |
| Reverse current | - | - | 10 | u A | VR=5V |

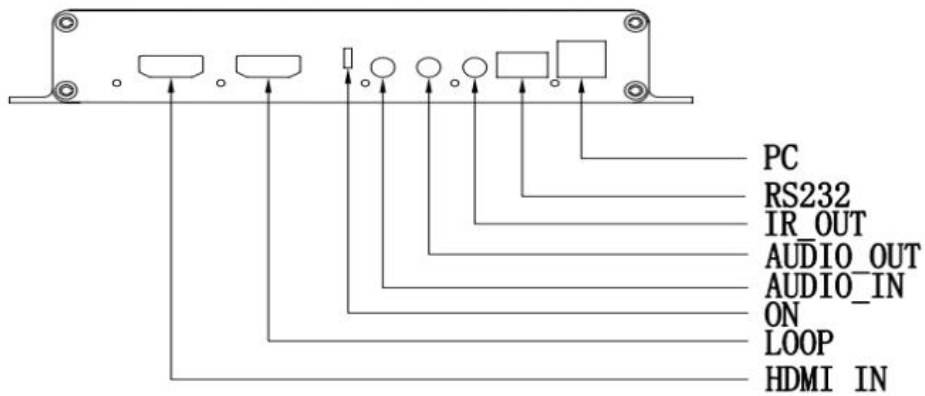
| RS232 data index (3-wire system,full duplex) standard | |
|--|--|
| Baud rate | 256000Hz downward compatibility |
| Data bits | 8 digits |
| Physical interface | 3-pin phoenix terminal |
| RS485 data index (2-wire system,half duplex) | |
| Error rate | <10 ⁻⁹ |
| Bit rate | 0-400Kbps |
| Physical interface | 3-pin phoenix terminal |
| Contact closure index | |
| Input electrical parameters | Dry node, not charged (short or disconnected) |
| Output electrical parameters | Dry node, not charged (short or disconnected) |
| Output relay maximum switching voltage | 250VAC/220VDC |
| Output relay maximum switching current | 2A |
| Mechanical durability of output relay | 100,000,000times |
| Maximum output power of relay | 60W |
| Physical interface | 2-pin phoenix terminal (transmitter) Switch button (receiver) |
| Other | |
| Operating temperature | -20°C ~ +75°C |
| Storage temperature | -40°C ~ +85°C |
| Power supply | 12V1A |
| Power dissipation | <1.5W |
| Case | Aluminium alloy |
| Product net weight | 0.2kg/pcs |
| Product weight | 0.75kg/pair |
| Packing size | 275*220*55mm |
| Relative Humidity | 0%~95% (no condensation) |
| MTBF | 100,000 hours |
| Warranty | 3 Years |

➤ Dimension

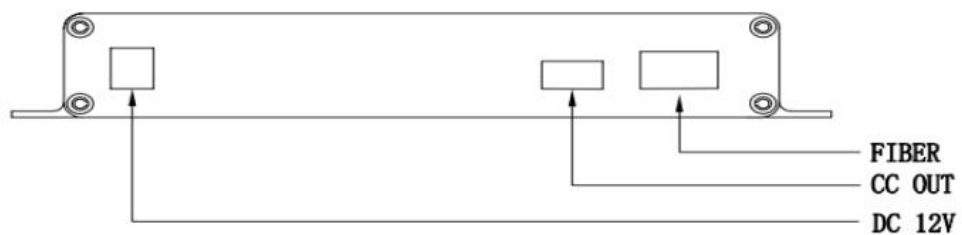
Transmitter Dimensions Drawing (mm)



Transmitter panel & Indicator description

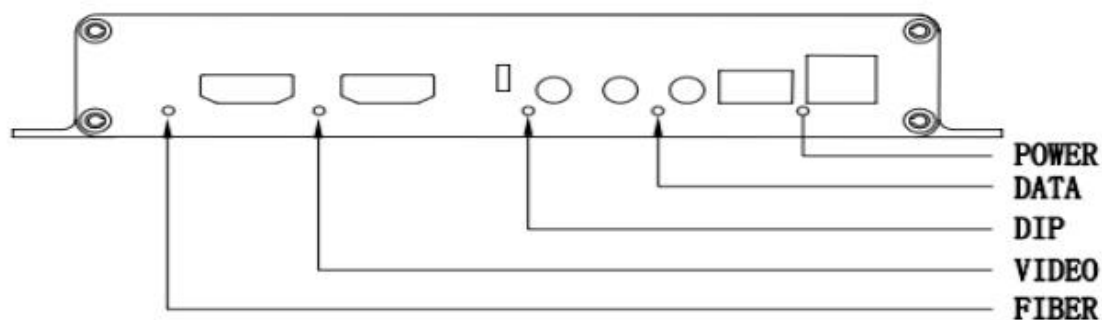


Transmitter Front Panel



Transmitter Back Panel

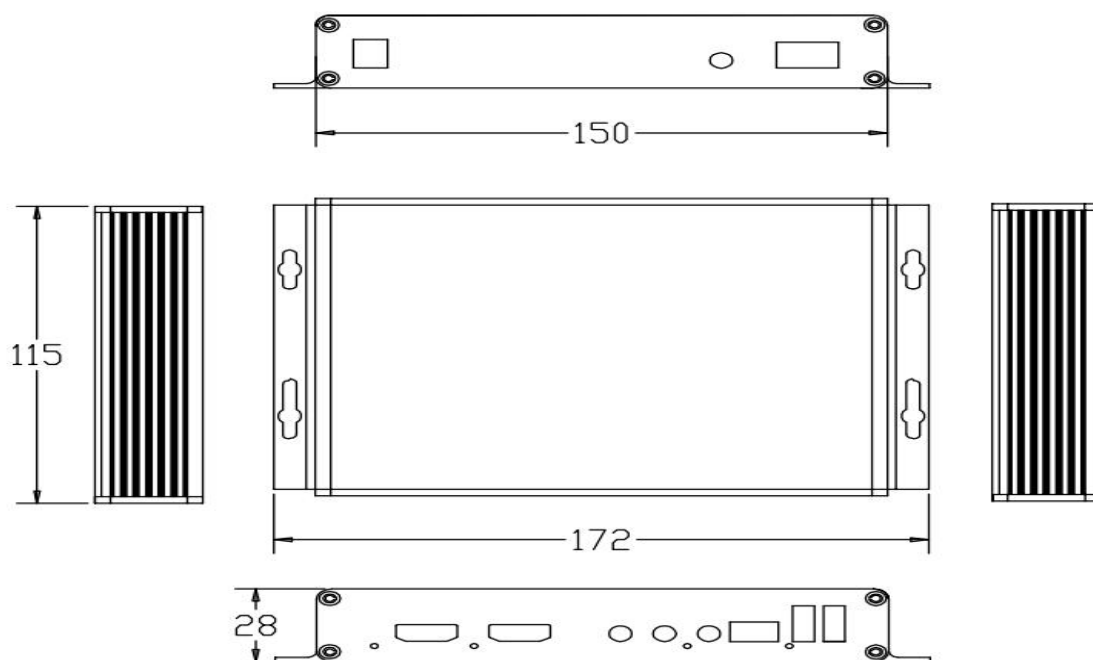
| Panel Screen | Description | |
|--------------|--|-------------|
| HDMI IN | HDMI signal input | |
| LOOP | HDMI signal loop out | |
| ON | Pointer up: Independent audio off, enable unembedded audio mode | |
| | Pointer down: Independent audio transmission, enable embedded audio mode | |
| AUDIO IN | 3.5mm audio input | |
| IR OUT | Infrared receiver | |
| RS232 | 1: GND | Ground wire |
| | 2: RS232 IN | Transmit |
| | 3: RS232 OUT | Receive |
| PC | Computer USB | |
| FIBER | SFP Fiber Interface | |
| CC OUT | Contact closure signal reception | |
| DC12V | 12V power supply interface | |



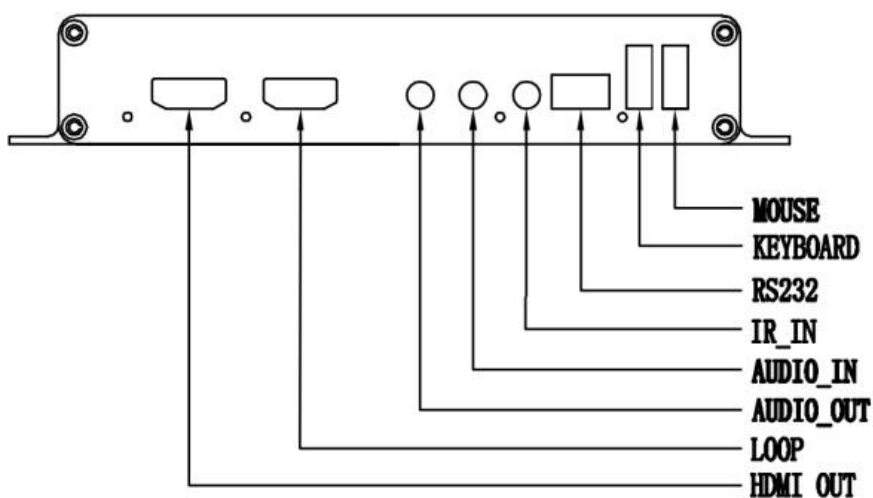
Transmitter Indicator

| Indicator | Description |
|-----------|--|
| FIBER | Light on: fiber signal |
| | Light off: no fiber signal |
| VIDEO | Light on: video signal |
| | Light off: no video signal |
| DIP | Dial up off: Audio embedding mode is off |
| | Dial down on: Audio embedding mode is on |
| DATA | Blinking: data signal |
| | Off : no data signal |
| POWER | On: the device is powered on |
| | Off: the device is powered off |

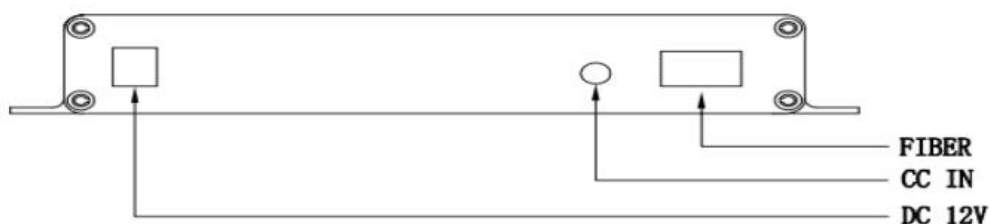
Receiver Dimensions Drawing (mm)



Receiver panel & Indicator description

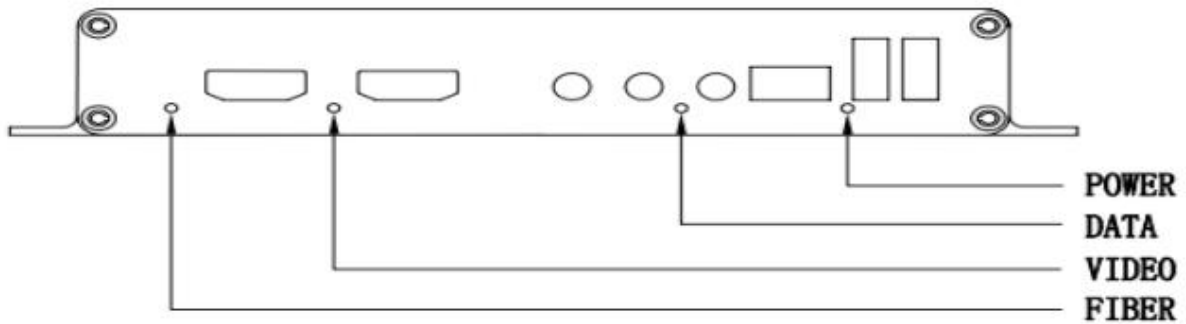


Receiver Front Panel



Receiver Back Panel

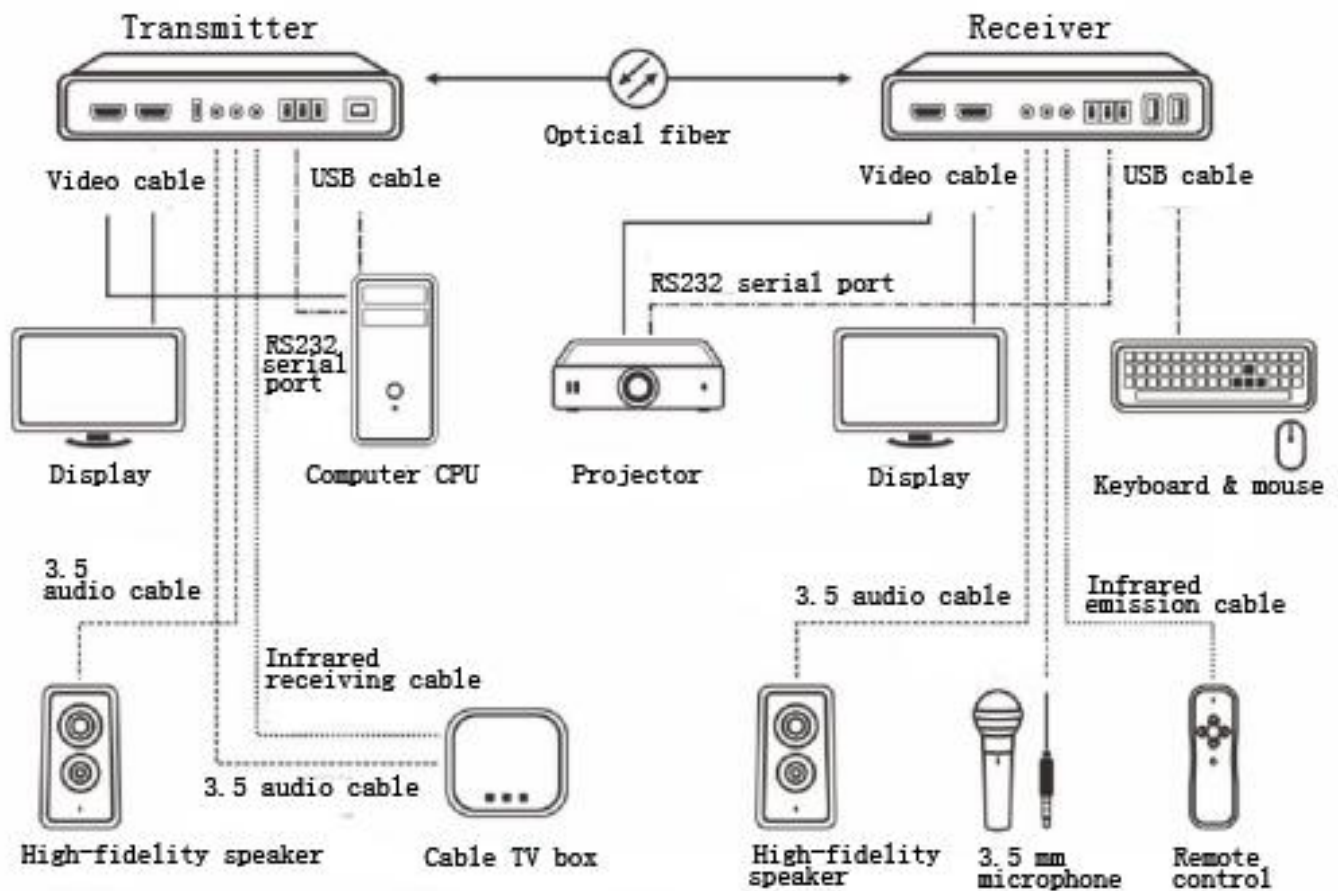
| Panel Screen | Description | |
|--------------|-------------------------------------|-------------|
| HDMI OUT | HDMI signal output | |
| LOOP | HDMI signal loop out | |
| IR OUT | Infrared receiver | |
| AUDIO IN | 3.5mm audio input | |
| AUDIO OUT | 3.5mm audio output | |
| RS232 | 1 GND | Ground wire |
| | 2 RS232 IN | Transmit |
| | 3 RS232 OUT | Receive |
| KEYBOARD | Keyboard input | |
| MOUSE | Mouse input | |
| FIBER | SFP Fiber Interface | |
| CC IN | Contact closure signal transmission | |
| DC12V | 12V power supply interface | |



Receiver Indicator

| Indicator | Description |
|-----------|------------------------------|
| FIBER | Light on: fiber signal |
| | Light off: no fiber signal |
| VIDEO | Light on: video signal |
| | Light off : no video signal |
| DATA | Blinking: data signal |
| | Off : no data signal |
| POWER | On: the device is power on |
| | Off: the device is power off |

➤ Application



➤ Ordering Information

| Model NO. | Description |
|----------------|---|
| HD0111-10G | 1 Channel 4K HDMI video with local loop out + 1 channel bidirectional 3.5 audio + 1 channel bidirectional RS232 data + 1 channel reverse IR |
| HD0112-10G | 1 Channel 4K HDMI video with local loop out + 1 channel bidirectional 3.5 audio + 1 channel bidirectional RS485 data + 1 channel reverse IR |
| HD0111-10G-MK | 1 Channel 4K HDMI video with local loop out + 1 channel bidirectional 3.5 audio + 1 channel bidirectional RS232 data + 1 channel reverse IR + KVM |
| HD0111C-10G-MK | 1 Channel 4K HDMI video with local loop out + 1 channel bidirectional 3.5 audio + 1 channel bidirectional RS232 data + 1 channel reverse IR + KVM + 1 channel reverse contact closure |
| HD0112-10G-MK | 1 Channel 4K HDMI video with local loop out + 1 channel bidirectional 3.5 audio + 1 channel bidirectional RS485 data + 1 channel reverse IR + KVM |
| HD0112C-10G-MK | 1 Channel 4K HDMI video with local loop out + 1 channel bidirectional 3.5 audio + 1 channel bidirectional RS485 data + 1 channel reverse IR + KVM + 1 channel reverse contact closure |
| MN-HD0100-10G | Mini 4K HDMI Video Optical Converter |

➤ Packing List

- HDMI Video Over Fiber Converter *1
- Power adapter:DC12V
- 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.Equipment housing is not waterproof,equipment installation box should be fully considered waterproof.

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:

- 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.
- Power amplifier audio signal cannot be directly sent to the transmitter,which will cause burn-in.
- Equipment installation:The equipment is used in pairs, which include a transmitter and a receiver,this information is clearly stated on the label and printed on the chassis of the equipment.