

# ORX 1-00

## CATV Optical Receiver

### Operation instructions



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## Safety instructions

- ORX 1-00 is indoor design without waterprooffunction.  
If it works outdoor that should be put into a waterproof and moisture-proof cabinet.
- Installation MUST be operated by trained or professional person.



**Direct eye exposure to laser beam may cause physical damage**

# 1. Description

ORX 1-00 CATV optical receiver, compacted in size, designed for FTTH (Fiber To The Home) networks. ORX 1-00 works under 1100~1650nm. ORX 1-00 is the new type micro optical receiver with LED optical power indicator.

## 1.1. Delivery

Description	Quantity
Optical Receiver Unit	1
External Power Supply Adapter	1
User's Manual	1

## 1.2. Features

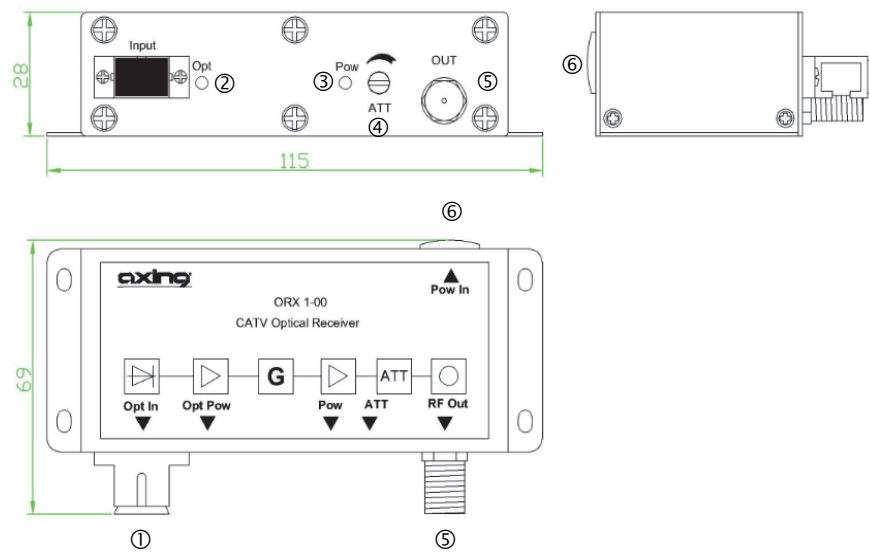
- Compacted in size with nice appearance
- AGC (Auto Gain Control) function
- Low power consumption <3W
- 0~10dB adjustable attenuator
- Low noise and high sensitive PIN Diode
- External power supply adapter
- Cost effective with high performance

## 1.3. Applications

- CATV, HFC networks
- FTTH, FTTB networks
- PON RF Overlay

## 1.4. Block Diagram





Outlines Drawing (dimensions are in mm)

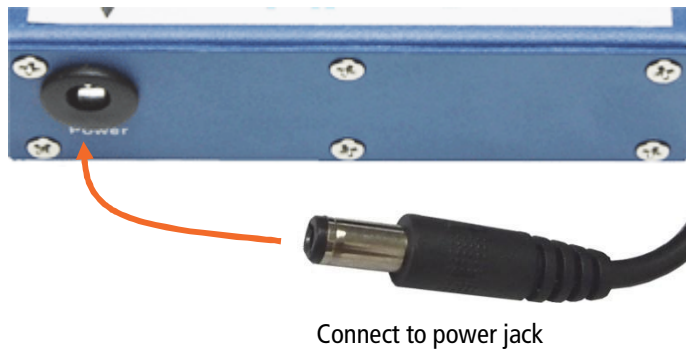
No	Description
1	Optical Input Port: optical input connector insert here
2	Optical Power Indicator: Green (Normal); Red (Strong); No Light (Weak/No power)
3	Power ON/OFF Indicator:
4	0~10dB Adjustable Attenuator: Counter-clockwise increases value
5	RF Output Port: RF signal output to TV
6	Power Jacket: 9VDC or 12VDC

## 2. Installation

### Caution

- 1. ORX 1-00 is indoor design without waterproof function.  
If it works outdoor that should be put into a waterproof and moisture-proof cabinet
- 2. Power supply is required as 100-240VAC with lightning protection
- 3. Installation MUST be operated by trained or professional person.

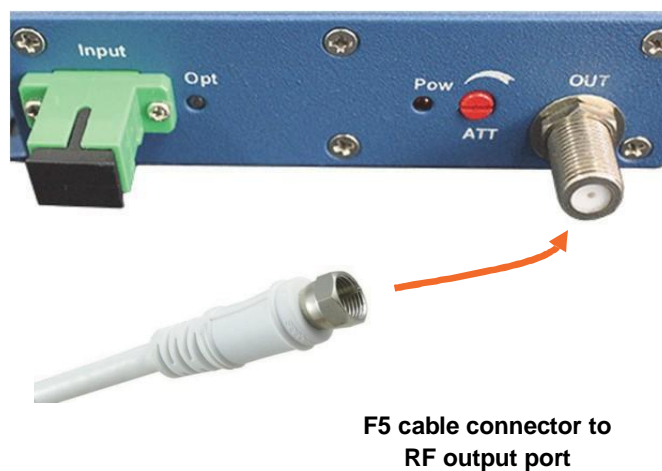
➔ Insert the AC power cord into the power jack, and connect to power socket



When get through the power supply, the power supply indicator turns ON in RED



➔ Connect coaxial cable to RF Output Port

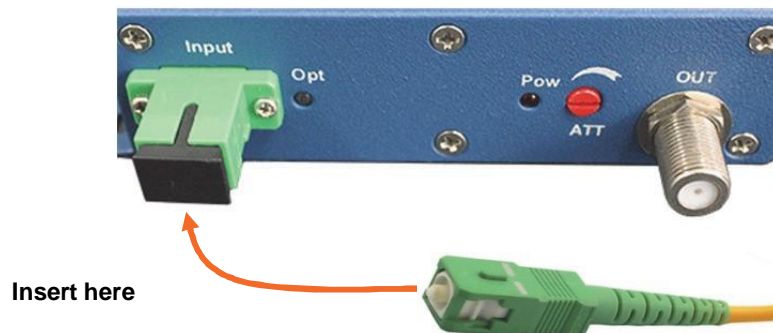


- Clean the fiber cable connector and ends with cleaning tools. Do not scratch the fiber connector or ends. Wipe the surface with alcohol with a dust-free cloth. Next, wipe it with a dry dust free cloth, and then quickly wave the fiber end back and forth in the air. Do not blow air onto the fiber to dry it.

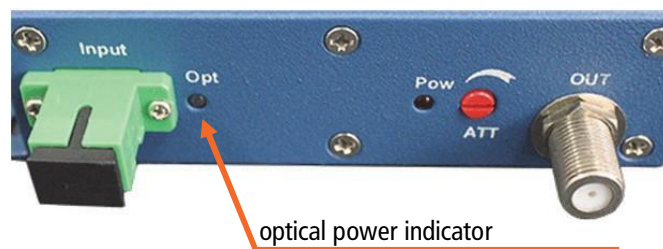


**Direct eye exposure to laser beam may cause physical damage**

- Well connect fiber optical connector to optical receiver's optical input port



- Verify input optical power indicator in 3 status



Status	Description
Green Color	input power is under working range
Red Color	input power is strong
Light OFF	Input power is weak or no input power

- Check RF output level by FSM, adjust Attenuator(E) to get the required output level



Operation	Description
Increase Value	Rotate counter-clockwise 0~10dB
Decrease Value	Rotate clockwise 0~10dB

- Mounted on the wall or enclosure.

### 3. Troubleshooting

Status	Possible Method to solve
Power supply LED indicator is OFF	Check the power cord plug is well connected Check the power jack on receiver is firmed well
Input optical signal is poor	Check input power according to 3-stage input power indicator or measure the input power Check optical connector: SC/UPC or SC/APC is corrected Clean the optical connector' surface
Output level is low	Verify the input optical signal is normal Check the Adjustable Attenuator is correct, rotate it to get the required output level Check optical transmitter work normally



## 4. Specification


### 4.1.1. Optical Characteristics

Parameter	Unit	Value
Wavelength	nm	1100-1650
Input Level Range (PIN)	dBm	-12~ -1
AGC Range	dBm	-10~ -3
Optical Return Loss	dB	≥45
Connector Type	--	FC/APC or SC/APC

### 4.1.2. RF Characteristics

Parameter	Unit	Value
Frequency Range	MHz	47~1002
Gain Flatness	dB	±0.75
Output Level	dBμV	80±1
CTB1	dB	≥63
CSO1	dB	≥63
C/N1	dB	≥51

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