

ADT804 Four Ways Outdoor Optical Receiver

User Manual



1.0 Products Description

ADT804 Four Ways Outdoor Optical Receiver integrates forward optical signal receiving, distribute and reverse transmitter, which is an economical, high performance and high gain device.

It is mainly used in the end of optical fiber network, where needs multi-ways high RF output level distribute to subscribe directly, and request bi-directional function. In this way it could reduce the amplifier and make the network more reliable.

The rack adopts the newest waterproof aluminum rack with the most popular aluminum passivation technology. About inside circuit, after the obverse optical signals transform, the forward RF adopts low noise GaAs amplify, even though the optical power is very low, it still can guarantee the whole machine's carrier index.

In order to get the higher non-linearity index, we use the power double module in the end. LED indicator light on the panel displays the forward optical receiving power.

2.0 Link Parameter

Forward Receiving	Reverse Transmitting
CNR(dB) > 50	CNR(dB) > 50
CSO(dBc) ≤ -62	
CTB(dBc) ≤ -65	

3.0 Optical Parameter

Forward Receiving		Reverse Transmitting	
Optical Wavelength(nm)	1100 ~ 1600	Optical Wavelength(nm)	1310±10
Input Optical Power Range(dBm)	-9 ~ +2	Transmitting Optical Power(mW)	1 – 4mw(specify)
Optical Connector type	SC/APC or FC/APC	Optical Connector Type	SC/APC or FC/APC
Optical Return Loss(dB)	≥45	Optical Return Loss(dB)	≥45

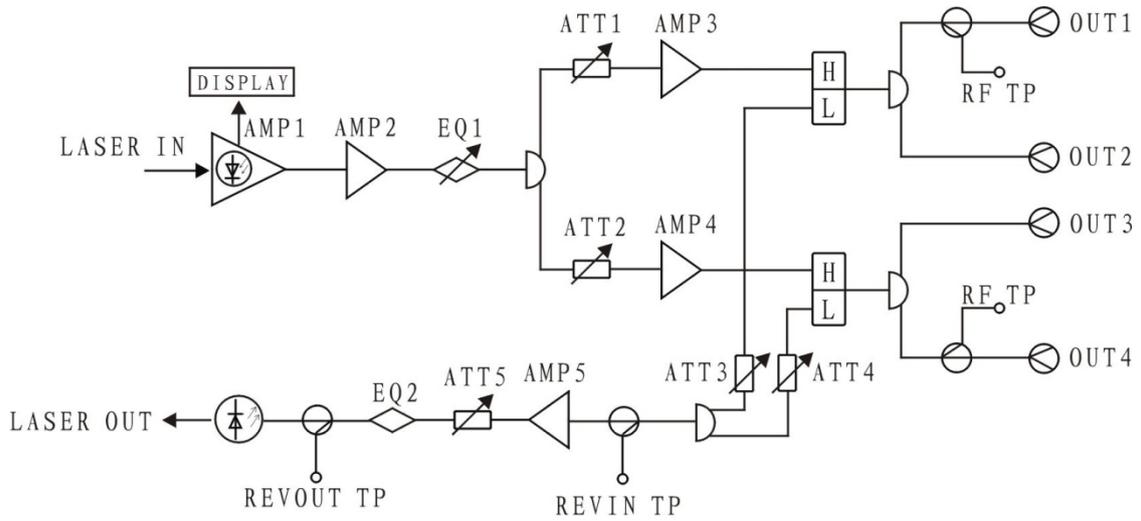
4.0 Other Parameter

Power Voltage	AC180V ~ 250V/AC60V
Power Consumption	<50W
Working Temperature	-10 ~ 50°C
Storage Temperature	-20°C ~ 65°C
Dimension	260W X 230D X 160H(mm)
Weight	2.5kg

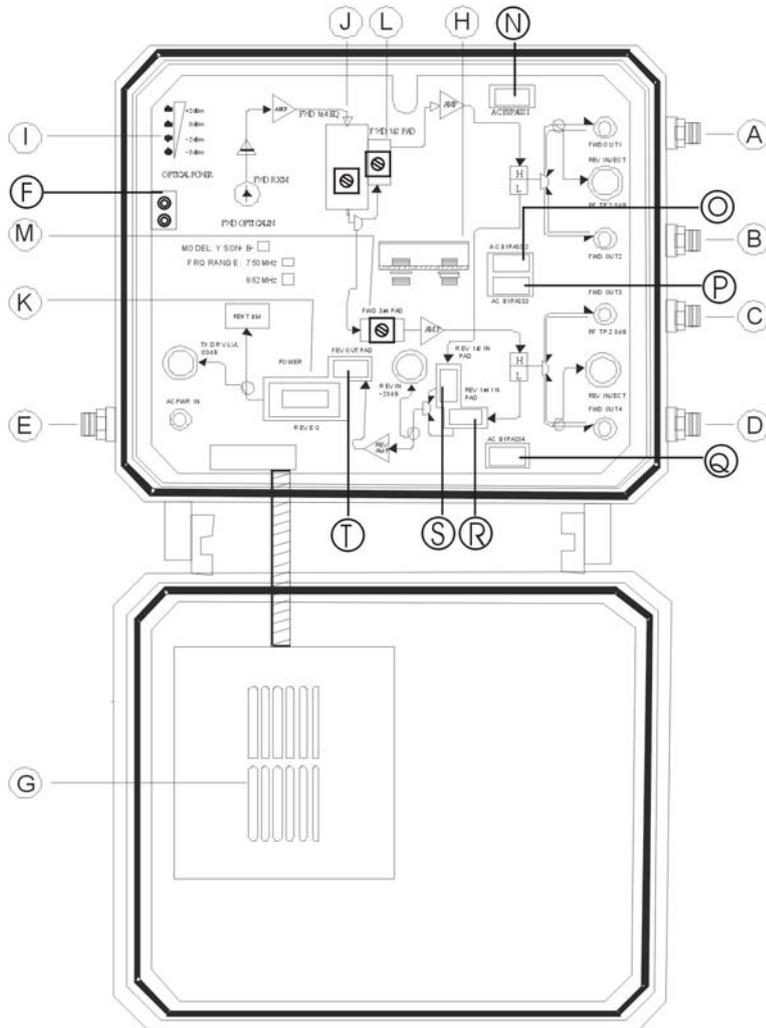
5.0 RF Parameter

Item	Forward	Reverse
Frequency Range (MHz)	55/87 ~ 750 55/87 ~ 860	5 ~ 40/65
Band-in Flatness (dB)	±0.75	±1
RF Impedance(Ω)	75	75
RF Return Loss(dB)	≥16	≥16
Interstage Attenuation (dB)	Insertor Optional	Insertor Optional
Mid-stage Slope(dB)	Insertor Optional	Insertor Optional
Port output	104dBμV/port Output	>85dBμV Input

6.0 Functional Block Diagram



7.0 Structure Diagram



- A~D are four RF interface as the forward output and reverse input port.
- E. AC60VAC access port, power supply interface.
- F. Optical input signal test port, 1mw/1V。
- G. Switching power supply, AC input and become the steady voltage for device operation.
- H. Optical connector
- I. Forward path optical signal receive indicator, show the power strength of the optical power.
- J. Forward RF channel adjustable equalizer.
- K. Reverse RF channel insert type equalizer.
- L. Forward A, B port RF level attenuator, adjust it can change RF level.
- M. Forward C, D port RF level attenuator, adjust it can change the output level.
- N~Q. Feeding film threading for four ports A, B, C, D.
- R. Reverse C, D port input RF level attenuator.
- S. Reverse A, B port input RF level attenuator.
- T. Output attenuator after reverse signal combine amplification.

8.0 User Manual

8.1 Forward optical receive use

(1)Open the machine cover, put the end of the pigtail cable string into the machine one by one, and the structure of the tail pieces of fixed rope, tighten to prevent rainwater infiltration.

(2)Find the receive pigtail cable by the power meter, check the index,if normal then fix the pigtail to the “H” , connect with the forward optical receive module.

(3) AC power into the device after test by the voltmeter, then indicator will light, device start to work.

If adopt 60VAC power supply, you should confirm whether A, B, C, D four ports have to sent 60VAC, if needed please plug in the corresponding power transmission film threading (AC BYPASS1 ~ AC BYPASS4). If not 60VAC, you should plug out, avoid to burning the other devices after power out.

(4)Check whether optical power indicator I is normal, at the same time test F point voltage by

the multimeter volts d.c., reference value 1mW/V.

(5) Device has optical receive power as the premise, test A, B, C, D four RF output port by the field intensity indicator. If want to change the output level, please adjust L and M attenuators, till get the index you need.

8.2 Reverse optical transmitter use

(1) Please make sure the channel device is complete in order to ensure the reverse channel work properly.

(2) Device start to operate, get the reverse signal, test the RF test point level between the reverse bandwidth (TX DRV LVL -20dB). Level should be in 75~78dBuV. A, B port reverse level can be adjusted by attenuator REV 1&2 IN PAD, C, D port reverse level can be adjusted by attenuator REV 3&4 IN PAD, total reverse level can be adjusted by attenuator REV OUT PAD.

(3) After finish (1) and (2) to make sure the RF booster is normal, then test the optical output power of reverse path by power meter. If the power is normal then put the fiber connector on H and connect.

8.3 Use environment and attention

1. This optical node casing adopt wild type, after install and test please screw down to realize waterproof.
2. Make sure the power supply for this optical node should be on the process of steady voltage and lightning protection.

8.4 Maintain

1. If there is no output level, please check power supply, connector connection, test the output power by power meter and maybe the element inside burning etc.
2. If no problem from 1, maybe something wrong with circuit. At this time, please ask our company for help, we will try to guide you repair it.
3. Products warranty one year, repair for free, freight cost divide.