Bypass Instructions

1、 Product Introduction

The bypass is an optical path control device that can be used to protect optical devices from faults (power outages, hardware failures, abnormal lighting, software deadlocks, etc.) by bypassing this node and ensuring that the network is not affected. It can automatically identify the power supply status, optical signal output status, and software operation status of network nodes, and has functions such as power failure bypass, no optical bypass, and no heartbeat signal bypass. Mainly used for protecting flow control equipment, repeater optical equipment, etc.

2、 Functional Features

（1）、It has the characteristics of low insertion loss and fast switching speed.

（2）、Using an LCD display screen, the light path status is displayed very intuitively, making it convenient for users to operate.

（3）、Device Command Address Setting: The "Device Command Address" can be set to enable users to control multiple devices with one serial port when serial port resources are limited.

（4）、caution function

- Sound alarm: When an alarm occurs on the device, there is a buzzer alarm sound prompt on the device, and a mute function is provided.
- Light alarm: When an alarm occurs on the device, the device prompts through the LCD display screen;

（5）、Power monitoring function

Real time monitoring of R1 and R2 optical power for each link to determine if there are any faults in the transmission equipment and external links.

（6）、Optical path switching function

- Auto mode ": The LCD screen displays" Auto mode ", which automatically switches between the main and side conditions of the device.
- Manual mode ": The LCD screen displays" Manual mode ", which can switch between the main and side states of the device at will.

（7）、Manual mode return to automatic mode function: When the device is in "manual mode" and there is no button operation, the device will automatically return to "automatic mode" after the user's pre-set "manual return automatic delay" (1-999 minutes, default is 30 minutes). When the time is set to "000" minutes, it means that the automatic return function is disabled.

（8）、Return cutting method setting function

- Automatic Return Switching ": In automatic mode, when the" main path "condition is met, if the current state is" bypass ", it will automatically switch to the" main path "state after an automatic return switching delay (0-999 seconds).
- 'Non automatic switching': Whether in 'automatic mode' or 'manual mode', it will not automatically switch from the 'bypass' state to the' main 'state, and must be manually switched to the' main 'state.

（9）、Passive heartbeat enable setting function

- After receiving the "heartbeat feeding dog signal", if the current state is "bypass", it will automatically switch to the "main path" state; If the "heartbeat feeding dog signal" is not received within the heartbeat signal control delay time (0~99999 milliseconds), the device will immediately switch to the "bypass" state

（10）、Power on delay function: After setting the power on delay time (0-999 seconds), the device will only switch to automatic mode after the delay time has passed. This function is mainly applied when only the "power off bypass" function is needed, in order to match the startup time of the protected device. Prevent the bypass device from switching to the "main path" state before the protected device has started up properly, which may cause network interruption.

（11）、R1 and R2 switch power value settings

The initial switching threshold power value of the device is -30dBm. When there is no light output, the real-time power value is displayed as -50dBm, and users can make corresponding settings according to the actual situation of the equipment and line (to ensure the normal transmission of the entire system business).

The system performs real-time detection on the R1 and R2 optical signals emitted by the protected equipment. When it detects that the luminous power is lower than the switching power, the optical bypass protection equipment will immediately switch to the bypass state.

（12）、The optical bypass switch supports up to 8 links, each link's working mode, working status, heartbeat, etc. are independent of each other; It is possible to protect different servers by sending heartbeats to them;

（13）、Optical switch protection function: In automatic mode, if the number of switches within two minutes is greater than (1-500) times, the default is 10 times, and the device will switch to "manual mode".

（14）、The power supply supports dual power backup input, supporting dual AC, dual DC, or single AC continuous power supply;

（15）、Monitoring function: The device is equipped with RJ45 Ethernet port and RS-232 serial communication interface. RJ45 Ethernet interface communication adopts TCP connection method;

（16）、It has the function of saving switching logs: it can record the time, reason, and result of device link status switching.

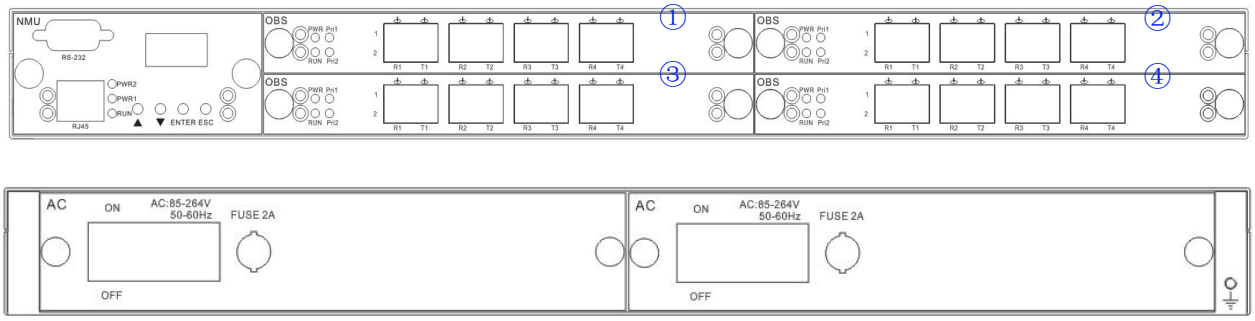
3、 Performance indicators

parameter	unit	index	
Test wavelength	nm	1310 / 1550	
Insertion loss	dB	main road	R1→T3：≤1.5
			R2→T4：≤1.5
			R3→T1：≤6.5
			R4→T2：≤6.5
		Bypass	R3→T4：≤3.9
			R4→T3：≤3.9
			R3→T1：≤6.5
			R4→T2：≤6.5

Return Loss	dB	≥ 45
Cross talk	dB	≥ 55
Wavelength Dependent Loss	dB	≤ 0.5
Polarization Dependent Loss	dB	≤ 0.2
Switch time	ms	≤ 50
Fiber type		SM（9/125um）
connector		LC/PC
Monitor Port		RJ45、RS-232
Working power supply	V	双 AC: 85 ～ 264（50/60Hz）
power consumption	W	≤ 20
operation temperature	℃	-5 ～ 55
storage temperature	℃	-20 ～ 75
Chassis type		1U 19 "rack（483×303×44mm）

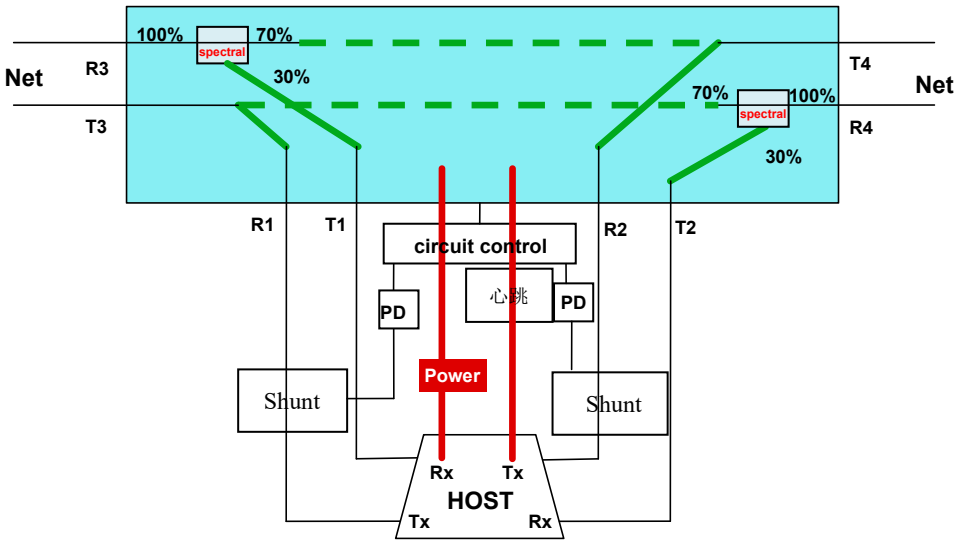
4、Instructionsforuse

4.1. Panel Description



4.2. Device Connection Instructions

（1）、Optical path connection instructions



Main road status：R1→T3，R2→T4，R3→T1，R4→T2。

Bypass status：R3→T4，R4→T3，R3→T1，R4→T2。