10/100M Ethernet

Media Converter

User Manual

Ver: V2.1.2

Model: □10/100M standalone □ Chassis

Distance: MM: Multimode SM: Single-mode

□ 0~2km MM □ 0~5km MM

□ 0~20km SM □ 0~40km SM

□ 0~60km SM □ 0~80km SM

□ 0~100km SM □ 0~120km SM

Optical Port:

□ SC □ FC □ ST □ LC

Fiber:

□ Dual Fiber □ Single Fiber

Converter type:

□Inside Power □Outside Power □Module

Wavelength:

□ 850nm □ 1310nm □ 1550nm

Management:

□Yes □ No

Contents

Chapter 1 Introduction

1.1 Descriptions

WI-BRIDGE media converter is designed to convert 100BASE-FX fiber to 100Base-TX copper media or vice versa. It is primarily designed for large, higher speed/ bandwidth demanding work groups that require expansion of the Ethernet network. It can extend the conventional 10M Ethernet or 10/100 fast Ethernet to 2km-120km via the fast Ethernet fiber optical line.

It is high-performance, cost effective and flexible solutions for a wide range of applications in the field of broadband WAN established by data network operators. It can be inserted into rack-mount chassis or inserted into standalone shell.

The user manual introduces Media Converter characteristic, function, use and maintenance. Please read the user manual carefully before installation.

1.2 Characteristics

- Supports SNMP management (only for management device)
- Selectable optical link-loss alarm
- Selectable four transmitting modes
- Comply with IEEE 802.3μ 100BASE-FX/TX, IEEE802.3 10BASE-T, Standard
- Comply with IEEE 802.1Q VLAN TAG, Spanning Tree standard
- Supports 10/100M, full/half duplex auto-negotiation
- Supports auto MDI/MDIX crossover
- Supports transmission distance up to 120km
- Same card on rack mounted and desktop
- Supports over-sized packets up to 1600Bytes
- Supports hot-swappable

1.3 Technical Parameters

Power supply	110VAC or 220VAC
	+24VDC or -48VDC
Operation Temp.	0□~+65□(Business Class)
	-30□~+85□(Industry Class)
Storage Temp	-20□~+90□
Relative Humidity	5%~90%(non-condensation)
Outline size	94mm×70mm×25mm(Power outside)
	140mm×110mm×30mm(Power inside)
	157mm×128mm×31mm(Socket Card)

Optical Parameters	Multimode	
	Fiber	62.5/125, 50/125,100/140μm
	Output optical power	-20~-14dBm
	Receiving sensitivity	<-31dB
	Distance	0~2km or 0~5km
	Connector	SC, ST, FC,LC

	Wavelength	850nm/1310nm		
	Singlemode			
	Fiber	9/125,8.3/125,8.7/125or 10/125μm		
	Distance	0~20km	0~40km	0~60km
	Output optical power	-12~-8dBm	-8~-3dBm	-3~ 0dBm
	Receiving sensitivity	< -37dBm	< -37dBm	< -38dBm
	Connector	SC, ST, FC		
	Wavelength	1310nm		
	Distance	0~80km	0~120km	
	Output optical power	-3~ 1dBm	-3~ 2dBm	
	Receiving sensitivity	< -38dBm	< -38dBm	
	Connector	SC, ST, FC,LC		
	Wavelength	1550nm(DFB)		
	when less than 15km, use attenuator			

Chapter 2 Operation

2.1 Stand-alone Converter

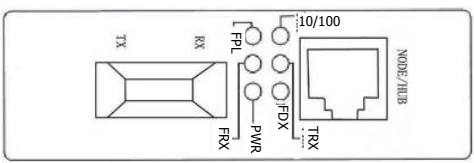


Fig 1. Front panel of stand-alone

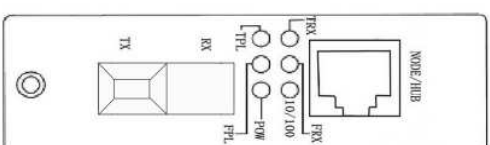


Fig 2. Front panel of stand-alone(Single Fiber)

2.1.1 Indicators

Six indicators in the front panel of the converter:

Name	Definition	Specification
PWR	Indicator of power supply	ON when the power supply is turned on and in normal working status
FRX	optical interface status indicator	Bright when optic fiber cable is connected well, but no data transmission
		Blinking when receiving data
TRX	Ethernet interface status indicator	Bright when twisted pair is connected well, but no data transmission
		Blinking, when receiving data
10/100	rate indicator	ON, 100M
		OFF, 10M
FPL	Optical interface signal detect indicator	ON, when detects the optical signal
		OFF, when no optical signal detects
FDX	Ethernet interface mode indicator	ON, Full duplex
		OFF, Half duplex

2.1.2 Optical Port

- RX: Optical signal output
- TX: Optical signal input.

2.1.3 Ethernet port (RJ45)

Supports auto MDI/MDIX crossover, the pin definition of RJ-45:

Pin1	TX+	Output +
Pin2	TX-	Output -
Pin3	RX+	Input +
Pin4	NC	Not connect
Pin5	NC	Not connect
Pin6	RX-	Input -
Pin7	NC	Not connect
Pin8	NC	Not connect

NOTE:

Keeping SW1 default settings is suggested.

Stand-alone Converter （ Internal power or External power ）

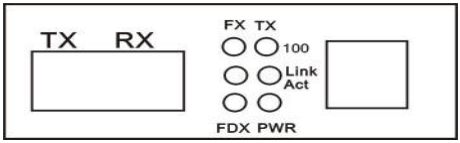


Fig3. Front panel of stand-alone(Dual Fiber)

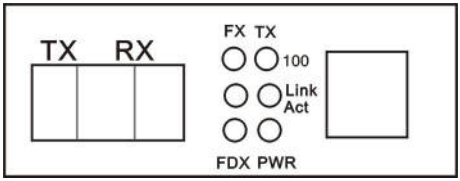


Fig 4. Front panel of stand-alone(Single Fiber)

Name	Definition	Specification
10/100 M	rate indicator	ON, 100M
		OFF, 10M
FX	Optical interface signal detect indicator	ON, when detects the optical signal
		OFF, when no optical signal detects
TPLNK/ ACT	Ethernet interface status indicator	Bright when twisted pair is connected well, but no data transmission
		Blinking, when receiving data
FXLNK/ ACT	optical interface status indicator	Bright when twisted pair is connected well, but no data transmission
		Blinking when receiving data
PWR	Indicator of power supply	ON when the power supply is turned on and in normal working status

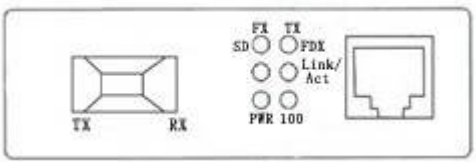


Fig5. Front panel of stand-alone(LC Dual Fiber)

LED	Colour	Function
FX100	Green	Lit when 100Base-FX operation.
FX Link /ACT	Green	Lit when fiber cable connection with remote device is good.Blinks when any FX traffic is present.
Power	Green	Lit when +5V Power is available.
FDX/ Col	Green	Lit when Full Duplex Mode is enabled.Blinking when collision is present.
TX 100	Green	Lit when 100Base-TX operation.
TX Link /ACT	Green	Lit when TP cable connection with remote device is good.Blinks when any TX traffic is present.

Chapter 3 Installation

3.1 Installation

1) After you received the devices, firstly you should check whether the packing is well, otherwise, please contact with our company or the local agent in time so as to solve the problem.
2) Turn on the power supply of the converter.
3) Connect local RX to remote TX via optical fiber, when local FPL indicator should be bright. And connect local TX to remote RX, when both local and remote FRX, FPL indicators should be bright. If they are single-fiber converters, connect the optical fiber, and it is OK.
4) Turn on the power supply of the connected Ethernet devices.
5) Installation is completed.

NOTE:

Single-fiber bi-directional Media Converter has two types:

Type A: Transmitting wavelength 1310nm, receiving wavelength 1550nm.

Type B: Transmitting wavelength 1550nm, receiving wavelength 1310nm.

Type A and Type B must be used in pair (i.e. if one end is Type A, then the other end must be Type B)

3.2 Troubleshooting

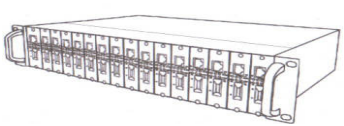
Failure	Reasons	Check	Troubleshooting
POW OFF	Power supply	※Check whether there is power input. ※Check whether the power switch is turned on	※Examine the external power supply or turn on the power switch
FPL	Optical	※Check whether the	※Examine the

OFF	port fault	fiber link is broken ※Check whether the optical consumption is over-size ※Check whether the connection is correct	fiber link ※Correct the connection
TRX OFF	TP port fault	※Check whether the UTP is broken ※Check whether the connection type is matched ※Check whether the rate is matched	※Examine the UTP ※Correct the rate

Chapter 4 Chassis （16slots、14slots）

4.1. Introduction:

4.1.1product structure



4.1.2 Descriptions

Media converter rack mount chassis is designed to a standard 19’ 2U rack with centralized management, centralized power media converter systems. Rack is equipped with main power; can be inserted 16 slots media converter cards and one management card (management option) each module can be used independently,. It can be

inserted 100Mbps and Gigabit media converter cards and single multi-mode converter cards, and supports hot swap. The chassis using communication isolation system to make the system power and transceiver modules completely separate, to ensure all system reliability.

19' 2U 14-slot chassis can be inserted 100Mbps, Gigabit media converter with external power structure and single multi-mode converter, and supports hot swap.

4.2Features and Specifications

4.2.1 Key Features

- 2U19-inch standard rack, can be directly installed in the chassis, to facilitate unified management and maintenance;
- Fiber media converter module support hot-swappable ;
- MDI/MDIX crossover at electrical port

- 16 module slots, network 16 can be inserted and non-network transceiver module, network module slot in the chassis rear panel;
- Network management network management module and optical transceiver modules support Ethernet ports are auto MDI-MDIX, which automatically identify parallel or crossover cable;
- Intelligent power with full real-time monitoring (display, alarm, automatic recovery), modular power supply design, easy maintenance, good shielding to prevent electromagnetic signals generated by the power supply module groups the normal operation of interference;
- Network management interface to monitor the network fiber-optic transceiver modules, power modules, fan operation;
- Dual power backup to ensure the normal operation of the system chassis, power supply optional AC220V or DC-48V. 1

4.2.2 Parameters

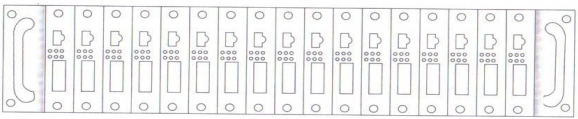
- Optical transceiver module maximum power: DC5V/1A
- Insert up to 16 rack module and a network transceiver module (MAX: DC5V/1A)
- Fan working power: 12V/300mA
- * Working temperature: 0oC～60oC
  * Storage temperature: -40oC～70oC
  * Humidity: 5%～90%（no-condensing）
- Dimension：16 slots 483mm*285mm*90mm
  14 slots：483mm*230mm*89mm

4.2.3 Monitoring Network

- Management Module Information
- Rack power supply, fan work Rack temperature settings and view
- The fiber optic transceiver module Device Information The fiber optic transceiver port of physical information The fiber optic transceiver module settings and work status

4.3 Installation

4.3.1 Front panel



4.3.2 Power socket：

AC socket：input AC220V

DC socket：DC-48V

4.3.3 Power Light Indicators

Status	Definition
MB ON	Power normal
MB OFF	Power abnormal
M	Reserve

Chart 1：Power Light Indicators for MN、MB

4.4 use of the environment and the installation steps

4.4.1 Environment

The use of fiber optic transceivers rack should keep the ambient temperature 0 ° C-50 ° C, humidity 5% -90%.

The optical transceiver to place a stable desktop or rack cabinet, and if possible, avoid the following environments:

Where direct sunlight or high temperatures

Changes in temperature environment

Dusty or humid environment

Strong electric or magnetic fields

Corrosive gas, flammable gas or chemical fumes filled the office

4.4.2 Installation Steps

First check the backup power module is plugged in tight;

Connected AC220V or DC-48V power supply line;

Open the rear panel power switch, power supply can work properly