WoMaster

Quick Installation Guide

Industrial Gigabit Ethernet Fiber Media Converter

DS201

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· Overview

The industrial-grade fiber optic media converter DS201 can operate in either low latency converter or switching store & forward mode, it detects and changes to switch mode if the copper and fiber speed or duplex are different. As an Ethernet Media Converter, the Bi-directional Link-Loss-Forward (Link-Fault-Pass-Through) is equipped and supports Auto-Recovery if fault recovery.

The SFP socket supports 100Mbps or 1000Mbps fiber transceiver, the 10/100/1000 RJ-45 also provided forced 10/100 Half for legacy device, those features could be configured by DIP-Switch.

The 16Kbytes jumbo frame forwarding capability guarantees high-speed Gigabit communications. Wide operation temperature -40~75 C and heavy industrial EMC design brings DS201 suitable for any industrial application.

| Model Name	Description
DS201	Industrial Gigabit Ethernet Fiber Media Converter, 1 RJ-45, 1 SFP Socket, Redundant Power, DC 10~60V, AC18~30V, -40~75 □C

· Package Checklist

- ✓ 1 x Product Unit
- ✓ 1 x 4-pin Removable Terminal Connector
- ✓ 1 x Attached Din Clip
- ✓ 1 x Quick Installation Guide

· Installation

DIN Rail mount

To mount the switch on the DIN Rail track, insert the upper end of the DIN-Rail clip into the back of the DIN-Rail track from its upper side and lightly push the bottom of the DIN-Rail clip into the track. The DIN Rail should comply with DIN EN50022 standard. Using wrong DIN rail may cause unsafe installation.

DIN Rail Clip
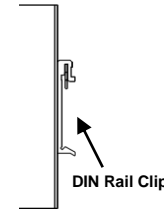
Grounding Screw

For avoiding system damage by noise or electric shock, establish a direct connection by insert the grounding wire into the GND contact on the terminal block connector, then tighten the wire-clamp screws. It is located at the bottom of the device.

Grounding Screw
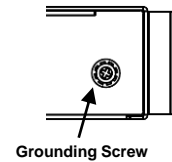
Wiring the Power Input

1) Insert the positive and negative wires into the P1 (+,-) or P2 (+,-) contact on the terminal connector. (it also supports polarity reverse function)
2) Tighten the wire-clamp screws.
3) Connect the power wires to suitable DC Switching type power supply. The input DC voltage should be in the range of 10VDC to 60VDC (Typical DC24V). It also support low voltage AC input (18-30V) (+ /L, -/N)
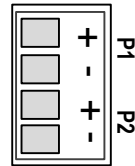
DIP-Switch Setting

In addition, the DS201 converter provides a DIP-Switch to configure the convert setting. The RJ-45 supports 10/100/1000Mbps in Auto mode, and 10/100Half in forced mode. The SFP fiber supports 100Mbps or 1000Mbps SFP transceiver. Those features configured by DIP-Switch. In the following table shows the configuration. Ensure perform Power Reset to enable new configuration after DIP-Switch changed.
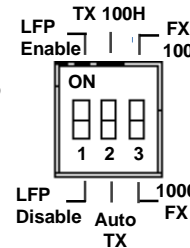
| DIP No.	Status	Description
DIP 1	On	Link Fault Pass Through/ Link Loss Forward Enable
DIP 1	Off	Disable (Default)
DIP 2	On	TX (RJ-45) Forced 100Mbps Half Duplex mode
DIP 2	Off	TX (RJ-45) Auto Negotiation (Default)
DIP 3	On	100FX:100Mbps SFP Transceiver
DIP 3	Off	1000FX: 1000Mbps SFP Transceiver (Default)

Note: Perform Power Reset to Active new features, once DIP switch mode changed

Fiber Port (SFP Socket)

DS201 is equipped with SFP socket which supports hot-swappable function. User can install SFP transceiver with exactly transceiver speed setting.

Warning: Be careful when connecting the fiber port, the wrong connection will cause the fiber port not working properly.

SFP Transceiver (LC Type Connector)

TX — └ RX
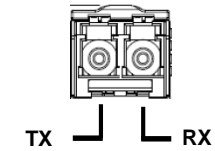
· Appearance

System LED
- 1x Power
- 1x LFP
- 2x Fiber Status

SFP (100M/1000M)

RJ-45 (100M/1000M)

DIP Switch
- LFP (Off, On)
- RJ-45(Auto/Off, 100H/On)
- SFP Speed (1000M/Off, 100M/On)

Steel Metal, IP31

DIN Rail Clip

Chassis Grounding Screw

Power Input
- 4-Pin Removable Terminal Connector
- Dual Power Input
- DC 10~60V, or AC 18~30V

· Auto Forwarding Mode Change

DS201 deliver smart auto forwarding mode change function. If the RJ-45 link speed and duplex mode is not same as fiber port, then it will auto change to Store and Forwarding mode with higher forwarding latency.

With the same speed and duplex mode, the DS201 will active in pure-converter mode with extreme low latency - 8.2×10^{-9} Sec.

To obtain best network performance, please ensure both of RJ-45 and Fiber are linked in same speed and duplex mode.

· Link Loss Forwarding / Link Fault Pass Through

Link Loss Forwarding (LLF) or Link Fault Pass-Through (LFPT) function is supported in DS201 when LFP LED blinking, please check the cable connection. The event may cause by RJ-45 link-down of local or far-end site, fault fiber connection. It is recommended to enable the LLF function of both local and far-end site to obtain a quick alarm.

(The LLF/ Link Fault Pass Through function supports bi-directional forwarding and with auto recovery.)

· LED Indicators

LED	Status	Description
Power	Green on	Power On
	Off	Not Receiving Power
LFP	Green On	Link Loss Forward / Link Fault Pass Through function is Enabled
	Green Blinking	Link Loss Event Occurred
	Off	LLF is disable
100FX LNK/ACT (SFP)	Green On	SFP Fiber Speed setting on 100Mbps and Link Up
	Green Blinking	SFP Transceiver is on forwarding.
	Off	No Link
1000FX LK/ACT (SFP)	Yellow On	SFP Fiber Speed setting on 1000Mbps and Link Up
	Yellow Blinking	SFP Transceiver is on forwarding.
	Off	No Link
RJ-45	Yellow On	Link Speed 1000Mbps
	Green On & Yellow Off	Link Speed 10/100Mbps
	Green Blinking	RJ-45 is on forwarding
	Off	No Link

· Safety Precautions

➢ **Statement regarding restricted access:** ⚠ The equipment is intended to be used in a restricted access location. Access should only be given to skilled person or instructed person who has been instructed in the operation of the equipment.

➢ **Only operate the device at the specified ambient temperature and humidity.**

➢ **Power Specification:** Follow the power installing instruction of the user manual, it indicates the available input voltage range, V+/V- pin assignment, power consumption and other notice.

> ❗ Connecting power with reverse polarity or using the wrong type of power supply may damage the equipment. Make sure that the power supply is connected correctly and of the recommended type.

➢ **Switch ON Notice:** Only switch on the supply voltage while the housing is closed, the input voltage is correct and the terminal blocks are wired correctly.

➢ **Wiring:** The connection cables used are permitted for the specified electronic voltage, current, wire diameter and temperature range. The quality of the RJ45 connector is also very important. In harsh environment, inferior quality RJ45 plug may also cause damage, short or even machine/PD damage.

➢ **Grounding:** The well grounding is important for EMC protection and make sure everything is done correctly before power on the system. **To avoid system damage, the equipment should be connected to ground.**

➢ **NOT allow to open the housing:** Only technicians authorized by the manufacturer are permitted to open the housing.

➢ Please always read the latest version User Manual to know the product specification, installation steps and notice.

· Support

At WoMaster, you can use the online service forms to **request the support**. The submitted forms are stored in server for WoMaster team member to assign tasks and monitor the status of your service. Please feel free to write to **help@womaster.eu** if you encounter any problems.

· Warranty

5-year Global warranties are available for WoMaster products assuring our customers that the products shall remain free from defects in workmanship or materials and conform in all material respects to WoMaster specifications, or Purchaser's supplied and accepted specifications. The warranty is limited to the repair and/or replacement, at WoMaster's sole discretion, of the defective product during its warranty period. The customer must obtain a **Return Merchandise Authorization (RMA)** approval code prior to returning the defective Product to WoMaster for service. The customer agrees to prepay shipping charges, to use the original shipping container or equivalent, and to insure the Product or assume the risk of loss or damage in transit. Repaired or replaced products are warranted for ninety (90) days from the date of repair or replacement, or for the remainder of the original product's warranty period, whichever is longer.

· Disclaimer

WoMaster reserves the right to make changes to this QIG or to the product hardware at any time without notice. It is the user's responsibility to determine whether there have been any such updates or amendments herein.

Defects, malfunctions, or failures of the warranted Product(s) caused by damage resulting from unforeseeable incidents (such as lightings, floods, fire, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances and surge, host computer malfunction and virus, incorrect power input, or incorrect cabling, incorrect grounding and damages caused by misuse, abuse and unauthorized alteration or repair are not warranted.

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