

FIBERROAD

Managed Media Converters

FR-6101 • FR-6102 • FR-6103 • FR-6104

FR-6101-XX • FR-6102-XX • FR-6103-XX • FR-6104-XX

- Managed 10/100Base-TX to 100Base-SFP or 100Base-FX Ethernet Media Converter
- Managed 2-port 10/100Base-TX to 100Base-SFP or 100Base-FX Ethernet Media Converter
- Managed 10/100/1000Base-TX to 1000Base-SFP or 1000Base-FX Ethernet Media Converter
- Managed 2-port 10/100/1000Base-TX to 1000Base-SFP or 1000Base-FX Ethernet Media Converter

Product Data Sheet

FR-6101 • FR-6102 • FR-6103 • FR-6104

FR-6101-XX • FR-6102-XX • FR-6103-XX • FR-6104-XX

Main Features



- Support Fast Ethernet or Gigabit Ethernet
- Auto-Cross over for MDI/MDIX in TP port
- Auto-Negotiation or manual mode in TP port
- Supports flow control Enable or Disable
- Supports Jumbo Frame 16K Packet
- Ingress/Egress bandwidth control
- Supports in-band IEEE802.3ah management
- Firmware upgrade via Web (Centralized Management Only)
- Dying gasp (Remote power failure detection on standalone)
- Supports Link Fault Pass-Through (LFPT) Function
- Support Auto Laser Shutdown (ALS) Function (Centralized Management Only)
- Support SNMP, Web Management

Overview

The Managed Media Converter is an IEEE 802.3ah compliant copper to fiber Ethernet solution designed to make conversion between Fast Ethernet and Gigabit Ethernet with SFP/1x9 Optical modules. With SNMP and Web-based management in the standalone type or play as remote unit communicate with FR-6016 Platform to realize centralized management. The administrator can monitor, configure and control the activity of each unit and remotely connected OAM compliant converter. Converter settings include bandwidth control, duplex, and speed configuration, VLAN tagging, limited Q-in-Q support and SFP DDMI. When used as stand-alone converters, the FR-6103/R can be managed by a friendly Web Smart user interface via any web browser.

Ethernet Interface				
Model	FR-6101/R FR-6101/R-XX	FR-6102/R FR-6102/R-XX	FR-6103/R FR-6103/R-XX	FR-6104/R FR-6104/R-XX
Ports	1x10/100Base-T RJ45, 1x100Base-X SFP/SC	2x10/100Base-T RJ45, 1X100Base-X SFP/SC	1x10/100/1000Base-T RJ45, 1x1000Base-X SFP/SC	2x10/100/1000Base-T RJ45, 1x1000Base-X SFP/SC
Port Mode (Tx)	Auto Negotiation Speed Full/Half Duplex Mode Auto MDI/MDI-X Connection			
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.3ab for 1000BaseT(X) IEEE 802.3z for 1000BaseSX/LX/LHX/ZX IEEE 802.3x for flow control			
Maximum Packet Length	2046 Bytes	2046 Bytes	2046 Bytes	2046 Bytes
Forward Filter Rate	14,880pps(10Mbps) 148,800pps(100Mbps) 1,488,000pps(1000Mbps)			
Transmission Mode	Store and Forward (full/half duplex mode) Cut-Through			
Transmission Distance				
Optical Fiber Port	Depends on optical module(0-160km)			
RJ45 Port Transmission Distance	100m (using standard CAT5/CAT5e cable)			
Physical Characteristics				
Housing	Metal Case			
IP Rating	IP30			
Dimensions	156mm x 128mm x 32mm (L x W x H) (Standalone) 120mm x 90mm x 22mm (L x W x H) (Card)			
Installation	Desktop			
Weight	350g(Standalone) 150g(Card)			
Environmental				
Operating Temperature	0°C~50°C (-40 to 167 °F)			
Operating Humidity	5%~90% (non-condensing)			
Storage Temperature	-25°C~70°C (-40 to 185 °F)			
Heat Dissipation	34 BTU/h			
Cooling	Passive Cooling, Fanless Design			
Noise Level	0 dBA			
Power Supply				
Power Input	100-240 VAC,1A or DC48V (Standalone)			
Power Input	5V 1.5A (Card)			

LED	State	Description
DUP	ON	Full Duplex
	OFF	Half Duplex
1000M	ON	1000M Running
	OFF	100M or 10M Running
100M	ON	100M Running
	OFF	1000M or 10M Running
TPLINK	ON	TX Link Connected
	Flash	TX Signal Transmission
FXLINK	ON	FX Link Connected
	Flash	FX Signal Transmission
LFP	ON	LFP enable
	OFF	LFP enable
PWR	ON	Normal
	OFF	Abnormal

DIP Switch (Based on Model)	State	Description
#3	ON	Cut Through Mode
	OFF	Store and Forward
#4	ON	LFP Enable
	OFF	LFP Disable

Package Contents	
Device	1x Managed Media Converter
Installation Kit	1x Region Power Cord
Documentation	1x Quick Installation Guide 1x Warranty Card 1x Product Notice

Ordering Information

Available Model	Description	Input Voltage	Operating Temp.
FR-6101	Managed 10/100Base-TX to 100Base-SFP Ethernet Media Converter, Card Module	5V	0 to +50°C
FR-6101-AA	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Multimode / 2-fiber / SC / 1310nm / 2km	5V	
FR-6101-BB	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Singlemode / 2-fiber / SC / 1310nm / 20km	5V	
FR-6101-CD	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	5V	
FR-6101-DC	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	5V	
FR-6101-EF	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	5V	
FR-6101-FE	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	5V	
FR-6101R	Managed 10/100Base-TX to 100Base-SFP Ethernet Media Converter, Standalone	AC220V/ DC48V	
FR-6101R-AA	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Multimode / 2-fiber / SC / 1310nm / 2km	AC220V/ DC48V	
FR-6101R-BB	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Singlemode / 2-fiber / SC / 1310nm / 20km	AC220V/ DC48V	
FR-6101R-CD	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	AC220V/ DC48V	
FR-6101R-DC	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	AC220V/ DC48V	
FR-6101R-EF	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	AC220V/ DC48V	
FR-6101R-FE	Managed 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	AC220V/ DC48V	

Ordering Information

Available Model	Description	Input Voltage	Operating Temp.
FR-6102	Managed 2-port 10/100Base-TX to 100Base-SFP Ethernet Media Converter, Card Module	5V	0 to +50°C
FR-6102-AA	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Multimode / 2-fiber / SC / 1310nm / 2km	5V	
FR-6102-BB	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Singlemode / 2-fiber / SC / 1310nm / 20km	5V	
FR-6102-CD	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	5V	
FR-6102-DC	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	5V	
FR-6102-EF	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	5V	
FR-6102-FE	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	5V	
FR-6102R	Managed 2-port 10/100Base-TX to 100Base-SFP Ethernet Media Converter, Standalone	AC220V/ DC48V	
FR-6102R-AA	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Multimode / 2-fiber / SC / 1310nm / 2km	AC220V/ DC48V	
FR-6102R-BB	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Singlemode / 2-fiber / SC / 1310nm / 20km	AC220V/ DC48V	
FR-6102R-CD	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	AC220V/ DC48V	
FR-6102R-DC	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	AC220V/ DC48V	
FR-6102R-EF	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	AC220V/ DC48V	
FR-6102R-FE	Managed 2-port 10/100Base-TX to 100Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	AC220V/ DC48V	

Ordering Information

Available Model	Description	Input Voltage	Operating Temp.
FR-6103	Managed 10/100/1000Base-TX to 1000Base-SFP Ethernet Media Converter, Card Module	5V	0 to +50°C
FR-6103-AA	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Multimode / 2-fiber / SC / 1310nm / 2km	5V	
FR-6103-BB	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Singlemode / 2-fiber / SC / 1310nm / 20km	5V	
FR-6103-CD	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	5V	
FR-6103-DC	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	5V	
FR-6103-EF	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	5V	
FR-6103-FE	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	5V	
FR-6103R	Managed 10/100/1000Base-TX to 1000Base-SFP Ethernet Media Converter, Standalone	AC220V/ DC48V	
FR-6103R-AA	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Multimode / 2-fiber / SC / 1310nm / 2km	AC220V/ DC48V	
FR-6103R-BB	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Singlemode / 2-fiber / SC / 1310nm / 20km	AC220V/ DC48V	
FR-6103R-CD	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	AC220V/ DC48V	
FR-6103R-DC	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	AC220V/ DC48V	
FR-6103R-EF	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	AC220V/ DC48V	
FR-6103R-FE	Managed 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	AC220V/ DC48V	

Ordering Information

Available Model	Description	Input Voltage	Operating Temp.
FR-6104	Managed 2-port 10/100/1000Base-TX to 1000Base-SFP Ethernet Media Converter, Card Module	5V	0 to +50°C
FR-6104-AA	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Multimode / 2-fiber / SC / 1310nm / 2km	5V	
FR-6104-BB	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Singlemode / 2-fiber / SC / 1310nm / 20km	5V	
FR-6104-CD	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	5V	
FR-6104-DC	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	5V	
FR-6104-EF	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	5V	
FR-6104-FE	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Card Module, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	5V	
FR-6104R	Managed 2-port 10/100/1000Base-TX to 1000Base-SFP Ethernet Media Converter, Standalone	AC220V/ DC48V	
FR-6104R-AA	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Multimode / 2-fiber / SC / 1310nm / 2km	AC220V/ DC48V	
FR-6104R-BB	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Singlemode / 2-fiber / SC / 1310nm / 20km	AC220V/ DC48V	
FR-6104R-CD	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 2km	AC220V/ DC48V	
FR-6104R-DC	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Multimode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 2km	AC220V/ DC48V	
FR-6104R-EF	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1310 / RX: 1550nm / 20km	AC220V/ DC48V	
FR-6104R-FE	Managed 2-port 10/100/1000Base-TX to 1000Base-FX Ethernet Media Converter, Standalone, Singlemode / 1-fiber / SC / TX: 1550 / RX: 1310nm / 20km	AC220V/ DC48V	

Precautions

To prevent equipment damage or personal injury caused by improper operation, please observe the following precautions:

- ❖ Turn off the power before installation. Wear an anti-static wrist strap and ensure proper skin contact to prevent electrostatic discharge (ESD) damage.
- ❖ Ensure the power supply voltage matches the voltage specified on the switch.
- ❖ Before powering on the switch, verify that the power circuit is not overloaded to avoid abnormal operation or equipment damage.
- ❖ Do not open the chassis while the switch is operating. To avoid the risk of electric shock, do not disassemble the device.
- ❖ Disconnect the power before cleaning. Do not use a wet cloth or liquid cleaners.
- ❖ When installing in a rack, mount equipment from bottom to top to prevent overloading.
- ❖ Do not place heavy objects on the switch.

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