Gigabit Ethernet Media Converters
1000BASE-T TO 1000BASE-SX/LX

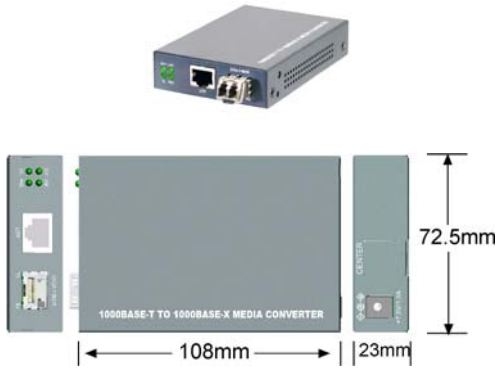
KGC-300 Series

Installation Guide

DOC.180201-KGC300

General

The 1000BASE-T to 1000BASE-SX/LX media converter series provides 1000Mbps Gigabit Ethernet copper-to-fiber media conversion, allowing for 1000Base-T-1000Base-X over multimode or optional single-mode fiber optical media.



Features

- Gigabit copper to fiber conversion: 1000Base-T-to-1000Base-SX/LX over multimode or single-mode fiber
- SFP design : For flexibility, an SFP (Mini-GBIC) connector is provided for the fiber port to accommodate any type of SFP fiber transceiver when needed.
- Support full wire speed copper to fiber conversion
- Auto MDI/MDI-X detection function on the copper port
- Auto-negotiation support
- Plug and play : no configuration settings is required
- Link Fault Pass Through : this function allows link fault status passes through between copper link and fiber link transparently.
- Remote fault indication support on fiber port
- Transparent conversion to any type of packet frame
- No packet length limitation
- Diversified mounting support : desktop mounting, wall mounting, optional Din-Rail support
- Center chassis installation : support installation in an center chassis rack with benefits of central software management and redundant power backup.
- Support wide range of fiber options : multimode fiber, single mode fiber (short reach up to long reach), Bi-directional single fiber, and CWDM optical
- Low power consumption

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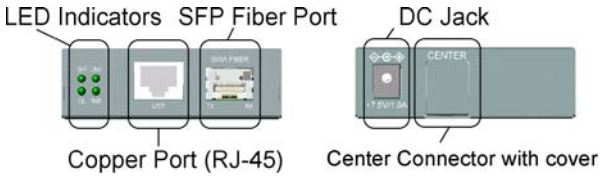
Specifications



Twisted-Pair Interface (Copper Port)

Connector	Shielded RJ-45
Signal Compliance	IEEE 802.3ab 1000BASE-T std.
Pin Assignments	Auto MDI/MDI-X detection
Data Speed	1000Mbps
Configuration	Auto-negotiation support
Cable Types	Category 5 or higher UTP
Link Distance	Up to 100 meters

Fiber Optic Interface (Fiber Port)

Signal Compliance	IEEE 802.3z 1000BASE-SX/LX std.
Connector	SFP for pluggable fiber transceiver
Data Speed	1000Mbps, full duplex
Cable Types	MMF - 50/125, 62.5/125 µm
	SMF - 9/125 µm
Link Distance	MMF up to 500m
	SMF -model dependent
Eye Safety compliance	IEC825 Class 1

Center Interface

Interface	For center chassis mounting
Connector	FutureBus

DC Power Input

Interface	DC Jack (-D6.3mm/+D2.0mm)
Operating Voltages	DC input +4.75V ~ +12.6V
Power consumption	max 2W @+7.5VDC input

Mechanical

Dimension (base)	W 108mm x D 72.5mm x H 23mm
Housing	Enclosed metal with no fan
Weight	205g

LED Indicators

PWR	ON	Power on
	OFF	Power off
SFP	ON	SFP transceiver is installed.
	OFF	No SFP transceiver is installed.
LINK	ON	Copper-fiber link up
	OFF	Copper-fiber link down
	BLINK	Copper-fiber link with data traffic
OL	ON	Fiber port optical signal detected
	OFF	Fiber port no optical signal

Environmental

Operating Temperature	-5 ~ 55°C
Storage Temperature	-40 ~ 85°C
Relative Humidity	5% ~ 90%

Approval

FCC Part 15 Class B
CE / CISPR 22 Class B
IEC60950 Safety

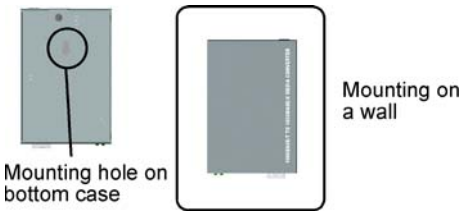
Refer to **Model Optical Specification sheet** for model details. The documentation describes the detailed fiber configuration, rated operating temperature, and optical specification of each model.

Desktop Mounting

The device can be mounted on a desktop or shelf. Make sure that there is proper heat dissipation from and adequate ventilation around the device. Do not place heavy objects on the device.

Wall Mounting

The device provides a mounting hole on the bottom case as shown in the figure. Use the hole for a wall mounting.



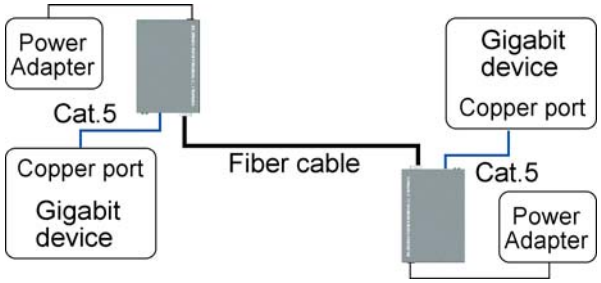
Applying Power

Before you begin the installation, check the AC voltage of your area. The AC power adapter which is used to supply the DC power for the device should have the AC voltage matching the commercial power voltage in your area. Use one of the following rated AC-DC power adapters for your installation.

AC120V/60Hz DC7.5V/1A
AC100V/50-60Hz DC7.5V/1A
AC240V/50Hz DC7.5V/1A
AC230V/50Hz DC7.5V/1A
AC100V/50-60Hz DC5V/1A

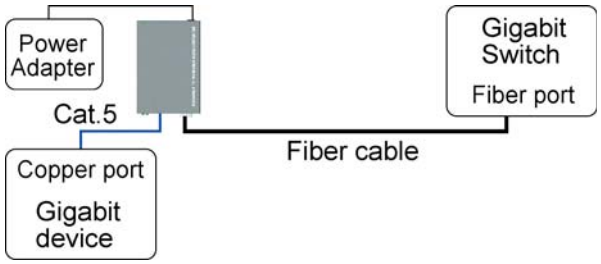
Typical Application

Use two media converters connected with an appropriate fiber cable to extend the connection distance between two Gigabit copper devices as shown below:



Connecting to a Fiber Gigabit Ethernet Port

The converter can also connect to a remote fiber Gigabit Ethernet port over a fiber cable. It extends the connection distance between a copper port and a fiber port as shown below:

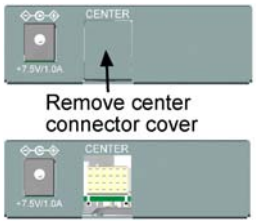


DIN-Rail Mounting

For a Din-Rail chassis, the media converter can support mounting on a Din-Rail. An optional Din-Rail bracket, KC-3DR can be purchased separately. Consult your dealer for details. The following figures show an example after bracket installation:

Center Chassis Installation

The media converter can also be installed in KC-1300 center chassis. The center chassis provides the power supply to the converter also with optional power redundancy. Up to 16 units can be installed in one chassis. Unscrew and remove the cover of the center connector before inserting the converter into the chassis. Refer to the operation manual of center chassis KC-1300 for more information.



FCC NOTICE

This device complies with Part 15 Class B the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including the interference that may cause undesired operation.

CE NOTICE

Marking by the symbol CE indicates compliance of this equipment to the EMC directive of the European Community. Such marking is indicative that this equipment meets or exceeds the following technical standards:

EMC Class B

EN61000-6-3	IEC61000-6-1
EN55022	CISPR22
EN61000-3-2	IEC61000-3-2
EN61000-3-3	IEC61000-3-3
EN61000-6-1	IEC61000-6-1
EN55024	CISPR24
EN61000-4-2	IEC 61000-4-2
EN61000-4-3	IEC 61000-4-3
EN61000-4-4	IEC 61000-4-4
EN61000-4-5	IEC 61000-4-5
EN61000-4-6	IEC 61000-4-6
EN61000-4-8	IEC 61000-4-8
EN61000-4-11	IEC 61000-4-11

Trademarks

Ethernet is a registered trademark of Xerox Corp.

KTI NETWORKS

Gigabit Ethernet
1000BASE-T TO 1000BASE-SX/LX
MEDIA CONVERTERS

KGC-300 Series

Model Optical Specifications

DOC.060227-KGC300

Model Definition

Model	FiberCon.	Fiber Distance (Typ.)
300	Free SFP	no SFP transceiver
300-SX	LC	Duplex MMF 500m
300-ESX	LC	Duplex MMF 500m
300-LX	LC	Duplex MMF 550m, SMF 10km
300-ELX	LC	Duplex MMF 550m, SMF 10km
300-LX20	LC	Duplex SMF 20km
300-LX30	LC	Duplex SMF 30km
300-LX50	LC	Duplex SMF 50km
300-LX70	LC	Duplex SMF 70km
Bi-directional WDM over single SMF		
300-W3510	LC	Simplex SMF 10km
300-W5310	LC	Simplex SMF 10km
300-W3520	LC	Simplex SMF 20km
300-W5320	LC	Simplex SMF 20km
300-W3410	LC	Simplex SMF 10km
300-W4310	LC	Simplex SMF 10km
300-W3410S	SC	Simplex SMF 10km
300-W4310S	SC	Simplex SMF 10km

All models listed below except Model 300 are shipped with a pre-installed SFP fiber transceiver.

Rated Operating Temperature

Model	Operating Temperature
300-SX	-5 ~ +55°C
300-LX	-5 ~ +55°C
300-LX20	-5 ~ +55°C
300-LX30	-5 ~ +55°C
300-LX50	-5 ~ +55°C
300-LX70	-5 ~ +55°C
300-W3510	-5 ~ +55°C
300-W5310	-5 ~ +55°C
300-W3520	-5 ~ +55°C
300-W5320	-5 ~ +55°C
300-W3410	-5 ~ +55°C
300-W4310	-5 ~ +55°C
300-W3410S	-5 ~ +55°C
300-W4310S	-5 ~ +55°C
Extended operating temperature range	
300-ESX	-10 ~ +70°C
300-ELX	-10 ~ +70°C

Optical Specifications

Model	Wavelength	Tx Power*1	Rx Sen.*2	Max.Rx*3
300-SX	850nm	-9.5~ -4	-18	0
300-ESX	850nm	-9.5~ -4	-18	0
300-LX	1310nm	-9.5~ -3	-20	-3
300-ELX	1310nm	-9.5~ -3	-20	-3
300-LX20	1310nm	-7~ 0	-24	-3
300-LX30	1310nm	-4~ +1	-23	-3
300-LX50	1550nm	-4~ +1	-23	-3
300-LX70	1550nm	0~ +5	-24	-3
Bi-Direction WDM over single SMF				
300-W3510	T1310/R1550	-9~ -3	-21	-1
300-W5310	T1550/R1310	-9~ -3	-21	-1
300-W3520	T1310/R1550	-8~ -3	-23	-1
300-W5320	T1550/R1310	-8~ -3	-23	-1
300-W3410	T1310/R1550	-9~ -3	-21	-1
300-W4310	T1550/R1310	-9~ -3	-21	-1
300-W3410S	T1310/R1550	-9~ -3	-21	-1
300-W4310S	T1550/R1310	-9~ -3	-21	-1

*1 Tx Power : Transmitter power (min. ~ max., unit: dBm)
*2 Rx Sen. : Receiver sensitivity (unit :dBm)
*3 Max.Rx. : Maximal Received power (unit : dBm)

[redacted]