KTI NETWORKS

Installation Guide
100BASE-TX/100BASE-FX
Fast Ethernet Media Converter

KC-100FM2/T
KC-100FM2/C
KC-100FM2/S
KC-100FM2/S-3
KC-100FM2/S-5

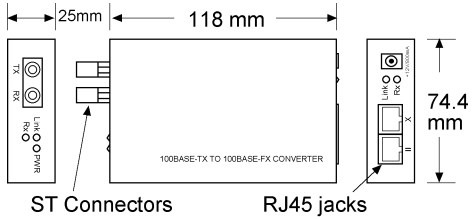
DOC. 991115-KC100FM2-K Rev.2.1
P/N: 750-0114-001

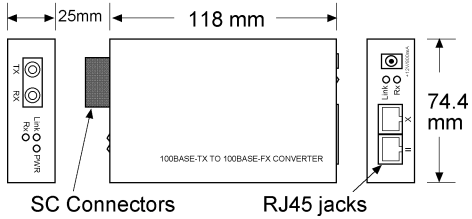
General Description

The KC-100FM2 Fast Ethernet media converter is designed to convert a 100BASE-TX signal to a 100BASE-FX signal. When used in point-to-point full duplex connection, the converter extends the distance of Fast Ethernet networks up to 2km using multimode fiber cable and up to 15K meters using single mode fiber cable.

This guide covers the following three converter models:

KC-100FM2/T	UTP to multimode fiber with ST connectors
KC-100FM2/C	UTP to multimode fiber with SC connectors
KC-100FM2/S	UTP to 15Km SC single mode fiber
KC-100FM2/S-3	UTP to 30Km SC single mode fiber
KC-100FM2/S-5	UTP to 50Km SC single mode fiber





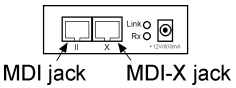
Specifications

- Complies with IEEE 802.3u 100BASE-TX and 100BASE -FX std.
- Supports both full-duplex and half-duplex operations
- Delay time : 130nsec
- Environment: Temperature 0 - 40°C
  Humidity 10-90% non condensing
- Dimension: 118mm x 74.4mm x 25mm
- Power: +12V / 800mA minimum
- DC plug type: 

Connectors & Cables

100BASE-TX RJ-45 Connectors

Two RJ-45 connectors are provided on the converter for 100BASE-TX connection. One is standard MDI jack labeled "II" and the other is MDI-X jack labeled "X" which provides internal crossover function.



RJ-45 Pin	MDI-X Jack	MDI Jack
1	Rx+	Tx+
2	RX-	Tx-
3	Tx+	Rx+
6	Tx-	Rx-

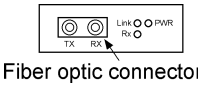
Only one jack can be selected for the 100BASE-TX interface. This design allows you to simplify connections to any remote device using standard straight-through UTP without the need for a crossover cable. Just make sure "X-to-II" connection rule is followed.

100BASE-TX UTP Cable

Cable: Category 5 UTP
Maximum cable distance: 100 meters (328 feet)

Fiber Optic Connector

Two fiber optic connectors are provided for fiber optic cable connection. One is labeled "Tx" for transmitting operation. The other is labeled "Rx" for receiving operation.

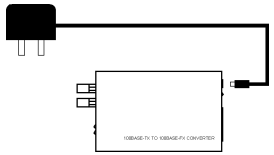


Model	KC-100FM2/T	KC-100FM2/C	KC-100FM2/S
Wavelength	1300nm	1300nm	1300nm
Fiber mode	Multimode	Multimode	Single mode
Connectors	ST type	SC type	SC type
Fiber cable*1	62.5/125µm	62.5/125µm	9/125µm
Cable length*2	2000 meters	2000 meters	*3

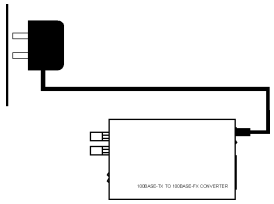
Fiber cable *1 : recommended fiber cable
Cable length*2 : distance for point-to-point full duplex connection
*3: KC-100FM2/S 15K meters
KC-100FM2/S-3 30K meters
KC-100FM2/S-5 50K meters

Installation

1. Install the media converter with the DC power adapter provided. (+12VDC, 800mA)

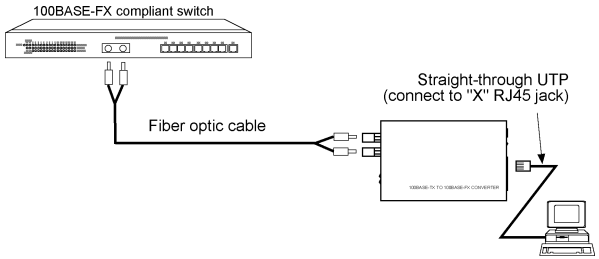


2. Connect the power adapter cable to the media converter before connecting the adapter to the AC outlet.

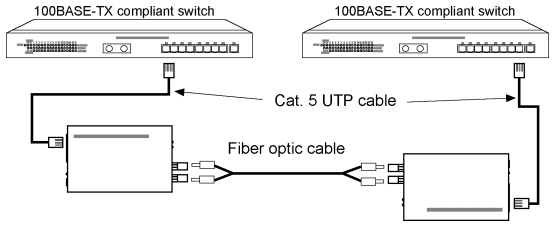


Making Network Connections

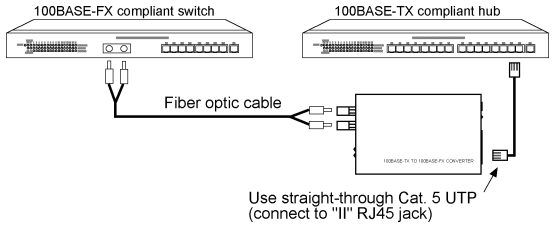
The following example illustrates a connection from a NIC inside a PC station to a 100BASE-FX port of a switch unit through the converter. The jack type of a NIC is MDI type.



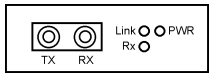
The following example illustrates a connection from a 100BASE-TX port of one switch to a 100BASE-TX port of another switch unit through two converters.



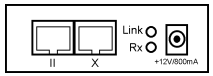
The following example illustrates a connection from a 100BASE-TX port of one hub to a 100BASE-FX port of a switch unit through a converter. A hub port is MDI-X type normally.



Interpreting LED Indicators



LED	Status	State	Interpretation
PWR	Power status	On	Converter is on.
		Off	Converter is off.
Link	Fiber link	On	The fiber link is ok.
		Off	No link or the link is faulty.
Rx	Receiving status	Blink	Receiving is in operation.
		Off	No fiber receiving.



Link	UTP link	On	The UTP link is ok.
		Off	No link or the link is faulty.
Rx	Receiving status	Blink	Receiving is in operation.
		Off	No fiber receiving.

TRADEMARKS

Ethernet is a registered trademark of Xerox Corp.

WARNING:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTICE:

(1) The changes or modifications not expressively approved by the party responsible for compliance could void the user's authority to operate the equipment.
(2) Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

CISPR A COMPLIANCE:

This device complies with EMC directive of the European Community and meets or exceeds the following technical standard.
EN 55022 - Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment. This device complies with CISPR Class A.
WARNING: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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:
EN 55022: Limits and Methods of Measurement of Radio Interference characteristics of Information Technology Equipment.
EN 50082/1:Generic Immunity Standard -Part 1: Domestic Commercial and Light Industry.
EN 60555-2: Disturbances in supply systems caused by household appliances and similar electrical equipment - Part 2: Harmonics.