

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

KC-200TF Ver.B series



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TRADEMARKS

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FC Declaration Of Conformity


This device complies with Class B Part 15 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.

CISPR 22 COMPLIANCE:

This device complies with EMC directive of the European Community and meets or exceeds the following technical standard.

EN 55022, CISPR 22 Class B

CE NOTICE

Marking by the symbol  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:

EN55022, CISPR 22
EN61000-3-2, IEC61000-3-2
EN61000-3-3, IEC61000-3-3
EN55024
EN61000-4-2, IEC61000-4-2
EN61000-4-3, IEC61000-4-3
EN61000-4-4, IEC61000-4-4
EN61000-4-5, IEC61000-4-5
EN61000-4-6, IEC61000-4-6
EN61000-4-8, IEC61000-4-8
EN61000-4-11, IEC61000-4-11

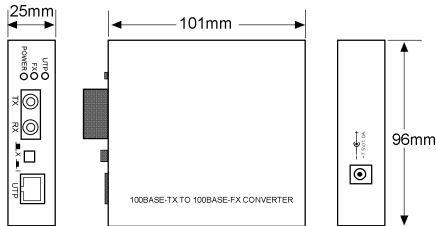
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General Description

KC-200TF Fast Ethernet media converter series are designed to convert a 100BASE-TX signal to a 100BASE-FX signal. It is used to extend the connection distance between two Fast Ethernet Twisted-pair devices via fiber cable transparently with no performance degradation. The converter series provide different types of fiber connectors for diversified applications.

The outline of the converter is:



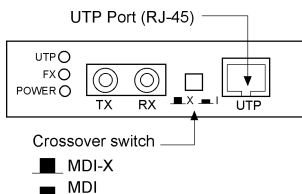
Specifications

- Comply with IEEE 802.3u 100BASE-TX 100BASE -FX std.
- UTP Port (100BASE-TX Port)
 - supports auto-negotiation function
 - supports 100Mbps connection
 - supports full-duplex and half-duplex operation
 - shielded RJ-45 connector with MDI/MDI-X setting
- Fiber Port (100BASE-FX Port)
 - supports 100Mbps connection
 - supports full-duplex operation
 - diversified fiber connector types for selection
 - supports multimode and single mode fiber cables
 - supports ST, SC, MT-RJ, VF-45 connector types
- Full wire speed conversion
- Plug-and-play installation
- LED indicators for power status, UTP link/activity status and Fiber link/activity status
- Dimensions: 101mm x 96mm x 25mm
- DC input rating: +7.5V / 1.0A
- DC plug type: 
- Operating voltages: +6.5 ~ +12.6V
- Power consumption: 0.5A @+7.5V
- Operating temperature: 0 - 40°C
- Relative humidity: 10-90% non condensing
- Storage temperature: -20 - 75°C
- Certifications: FCC Class B, CISPR 22 Class B, CE
(Model SL4 and SL6 compliant with EMI Class A)

Connectors & Cables

100BASE-TX RJ-45 Connectors (UTP Port)

One RJ-45 connector is provided on the converter for 100BASE-TX connection. For easy connection to any device using standard straight-through UTP cable, a push button is available to set the crossover function for the RJ-45.



RJ-45 Pin	MDI-X Mode	MDI mode
1	Rx+	Tx+
2	Rx-	Tx-
3	Tx+	Rx+
6	Tx-	Rx-

The UTP port is equipped with auto-negotiation capability which supports connection to an auto-negotiation device in full-duplex operation. This feature preserves the connection performance of the connected device.

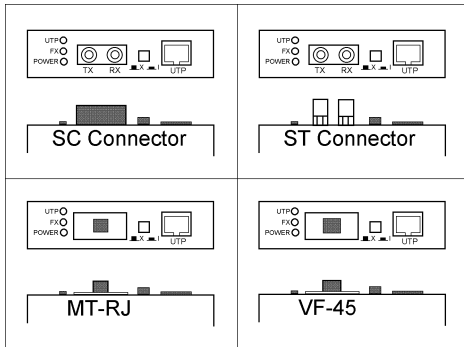
100BASE-TX UTP Cable

Cable: Category 5 UTP

Maximum cable distance: 100 meters (328 feet)

Fiber Optic Connector (Fiber Port)

The series provides different types of fiber connectors for different applications. The connectors include ST, SC, MT-RJ and VF-45 and are shown as follows:



Fiber Cables

The wavelength used is 1310nm. The series also support MM (multimode) fiber cables and SM (single mode) fiber cables. The recommended MM cable is 62.5/125mm and SM cable is 9/125mm.

Optical Specifications

The following table lists the fiber connectors and the related optical specifications supported by each converter model:

<u>Model</u>	<u>Connector</u>	<u>Optical power</u>	<u>Sensitivity</u>
KC-200TF/T	MM ST	-20 ~ -14dBm	-31dBm
KC-200TF/C	MM SC	-20 ~ -14dBm	-31dBm
KC-200TF/JM	MM MT-RJ	-20 ~ -14dBm	-31dBm
KC-200TF/VM	MM VF-45	-20 ~ -14dBm	-33dBm
KC-200TF/SA2	SM SC	-15 ~ -8dBm	-31dBm
KC-200TF/SA4	SM SC	-5 ~ 0dBm	-34dBm
KC-200TF/SL2	SM SC	-15 ~ -8dBm	-34dBm
KC-200TF/SL4	SM SC	-9dBm min.	-35dBm
KC-200TF/SL5	SM SC	-5 ~ 0dBm	-35dBm
KC-200TF/SL6	SM SC	-3 ~ 3dBm	-37dBm

The following table lists the maximal fiber distance supported each model:

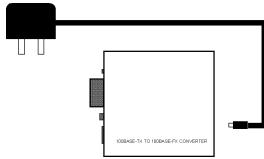
<u>Model</u>	<u>Connector</u>	<u>Distance*</u>
KC-200TF/T	MM ST	2Km
KC-200TF/C	MM SC	2Km
KC-200TF/JM	MM MT-RJ	2Km
KC-200TF/VM	MM VF-45	2Km
KC-200TF/SA2	SM SC	20Km
KC-200TF/SA4	SM SC	40Km
KC-200TF/SL2	SM SC	20Km
KC-200TF/SL4	SM SC	40Km
KC-200TF/SL5	SM SC	50Km
KC-200TF/SL6	SM SC	60Km

* Distance : the maximum fiber length in point-to-point full duplex operation

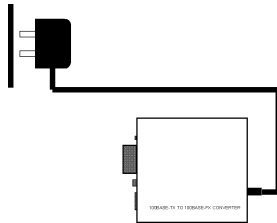
Installation

Installing Power Adapter

1. Install the media converter with the AC power adapter provided. (+7.5VDC, 1A min.)

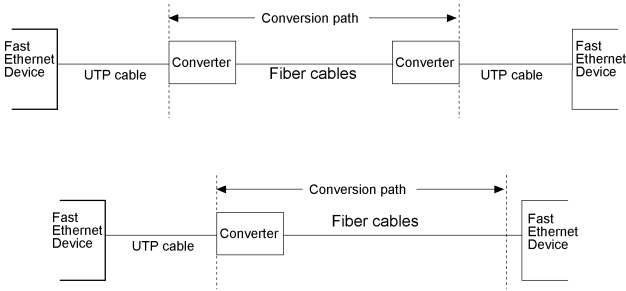


2. Connect the power adapter cable to the media converter before connecting the adapter to the AC outlet.



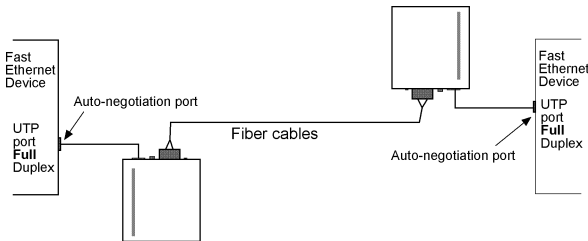
Making Network Connections

The converters serve as a conversion path between two Fast Ethernet devices. To both devices, the conversion is transparent. The connection could be one of the following configurations:

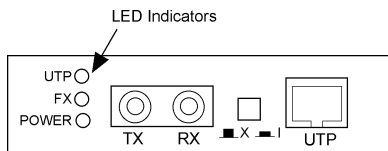


Important rule: When a connection is established, make sure the devices located at both ends of the path are configured and operated using the same duplex mode and the maximum distance must comply with IEEE 802.3u specifications.

The following figure illustrates a connection example between two auto-negotiation devices. Both devices operate in full-duplex mode after a negotiation process with the converters.



Interpreting LED Indicators



The LED labeled "UTP" is used to indicate the status of the UTP port and the LED labeled "FX" is for Fiber port.

<u>LED</u>	<u>Status</u>	<u>State</u>	<u>Interpretation</u>
POWER	Power	On	Converter is on.
		Off	Converter is off.
UTP	UTP port link	On	The UTP link is ok.
		Off	No link or the link is faulty.
		Blink	Traffic activities on UTP port
FX	Fiber port link	On	The fiber link is ok.
		Off	No link or the link is faulty.
		Blink	Traffic activities on Fiber port