

10/100Base-Tx to 100Base-Fx Media Converter**1 GENERAL DESCRIPTION**

The media converter transforms the transmission media of Ethernet signal from CAT5 to optical fiber. it can extend the transmission distance to several kilometer or hundred kilometer.

Using media converter is a economical solution to achieve long distance transmission base on current status.

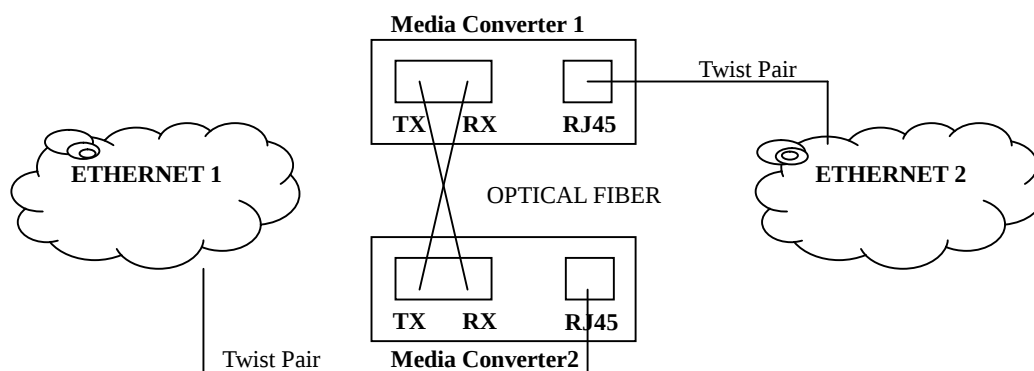


FIGURE 1.1 Media converter application

2 FEATURES

1. Built in a 2-port switch:
 - Pass all packets without address and CRC check (optional);
 - Supports modified cut-through frame forwarding for low latency;
 - Supports pure converter mode data forwarding for extreme low latency;
 - Supports flow control for full and half duplex operation;
 - Bandwidth control;
 - Forward 1600 bytes packet for management;
 - Optional forward fragments.
2. Supports 100Base-FX standard;
3. Built in 128Kb RAM for data buffer;
4. Supports auto MDI-MDIX function;
5. Supports link fault pass through function (LFP);
6. Supports for end fault function (optional);
7. LED display for link/activity, full/half, 10/100M
8. Support EEPROM configuration (optional);
9. the longest transmission distance reach 120 kilometers;

3 STANDARD

IEEE802.3 ETHERNET STANDARD

IEEE802.3u FAST ETHERNET STANDARD

4 PRODUCTS CLASSIFICATION & LEDS

1. ACCORDING TO OUTLINE:
 - 200V/110V AC input power standalone media converter;
 - +5V DC input power standalone media converter;
 - Optional USB PORT or +5V DC input power standalone media converter;
 - Media converter Card;
 - Rack System Chassis(2U);
2. ACCORDING TO QUANTITY of FIBER:
 - Single fiber bidirectional media converter,
 - Dual fiber media converter;
3. ACCORDING TO TYPE OF FIBER:
 - Multimode media converter, Single mode media converter;
4. +5V DC input power standalone media converter can be applied for 14 slots rack mounted chassis, media converter Card applied for 16 slots rack mounted chassis

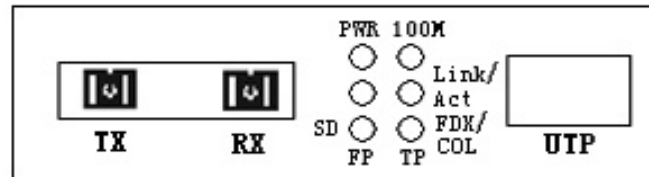


Table 1: Front panel for dual fiber media converter

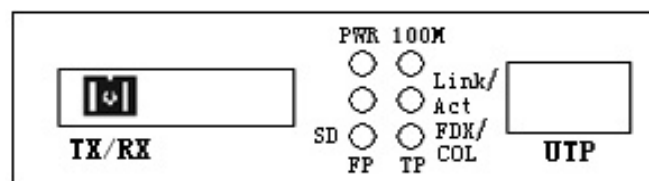


Table 2: Front panel for single fiber media converter

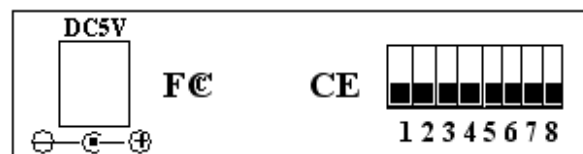


Table 3: Back panel for single/dual fiber media converter

5 SWITCH SETING

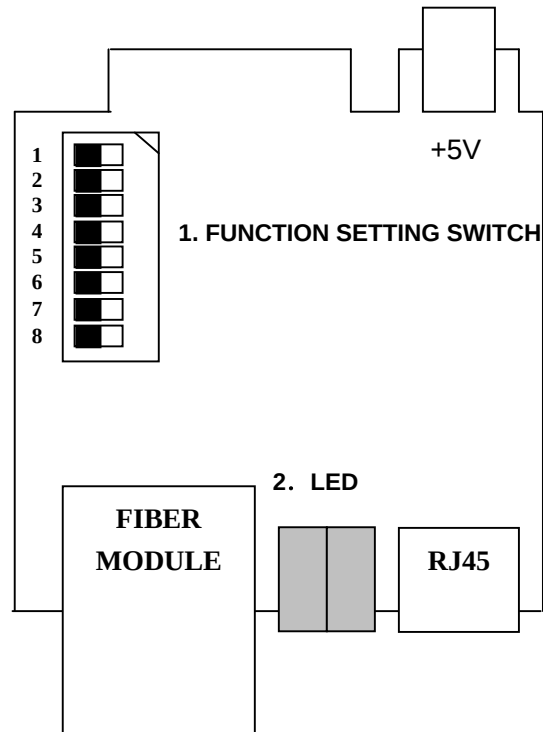


FIGURE 5.1 media converter card outline

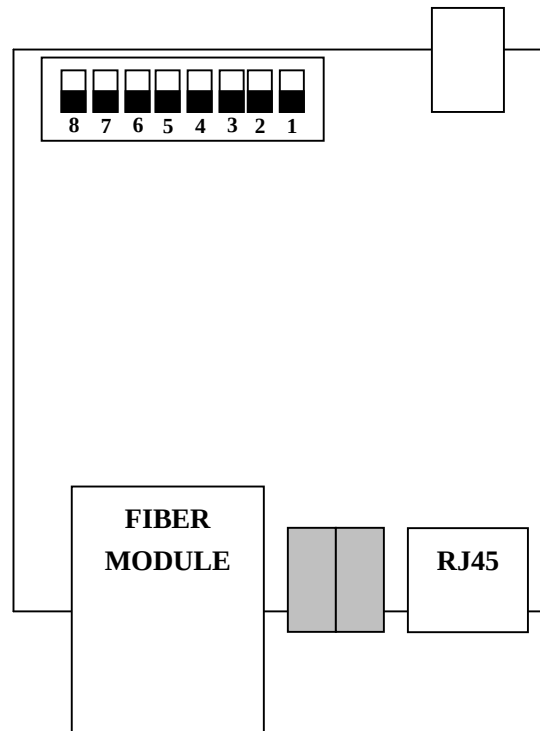


FIGURE 5.2 Stand alone media converter outline

1. Function setting switch



FIGURE 5.3 Switch

TABLE 5.1 SWITCH SETTING DISCRIPTION FOR MEDIA CONVERTER CARD

NO.	FUNCTION	DISCRIPTION
1	LFP	UP: Link fault pass through(LFP) DOWN: LFP function disabled (default)
2	Direct_Wire	Direct_Wire Fast_FWD
3	Fast_FWD	DOWN DOWN Store and forward switch mode (default) DOWN UP Modified cut-through switch mode UP DOWN Converter mode UP UP Converter mode with auto-change-forward function
5	FX_Full	DOWN: fiber port full duplex (default), UP: half duplex
6	X_EN	DOWN: IEEE802.3X enabled (default), UP: disabled
4	TP_Force	TP_Force Speed_Mode Duplex_Mode
7	Speed_Mode	DOWN DOWN DOWN 100M/10M, FDX/HDX with auto negotiation
8	Duplex_Mode	DOWN DOWN UP 100M/10M, HDX with auto negotiation DOWN UP DOWN 10M, FDX/HDX with auto negotiation DOWN UP UP 10M, HDX with auto negotiation UP DOWN DOWN 100M, FDX with auto negotiation UP DOWN UP 100M, HDX with auto negotiation UP UP DOWN 10M, FDX with auto negotiation UP UP UP 10M, HDX with auto negotiation

TABLE 5.2 SWITCH SETTING DISCRIPTION FOR STAND ALONE MEDIA CONVERTER

NO.	FUNCTION	DISCRIPTION
1	LFP	UP: Link fault pass through(LFP) DOWN: LFP function disabled (default)
2	Direct_Wire	Direct_Wire Fast_FWD

3	Fast_FWD	DOWN DOWN	DOWN	Store and forward switch mode (default)
		DOWN UP		Modified cut-through switch mode
		UP DOWN		Converter mode
		UP UP		Converter mode with auto-change-forward function
8	FX_Full	DOWN: fiber port full duplex (default), UP: half duplex		
5	X_EN	DOWN: IEEE802.3X enabled (default), UP: disabled		
4	TP_Force	TP_Force	Speed_Mode	Duplex_Mode
6	Speed_Mode	DOWN	DOWN	DOWN 100M/10M, FDX/HDX with auto negotiation
7	Duplex_Mode	DOWN	DOWN	UP 100M/10M, HDX with auto negotiation
		DOWN	UP	DOWN 10M, FDX/HDX with auto negotiation
		DOWN	UP	UP 10M, HDX with auto negotiation
		UP	DOWN	DOWN 100M, FDX with auto negotiation
		UP	DOWN	UP 100M, HDX with auto negotiation
		UP	UP	DOWN 10M, FDX with auto negotiation
		UP	UP	UP 10M, HDX with auto negotiation

6 LED FUNCTION DISCRIPTION

TABLE 6.1 LED FUNCTION DISCRIPTION

LED		STATUS
PWR	ON	POWER ON
	OFF	POWER OFF
FX-SD	ON	RECEIVER OPTICAL SIGNAL
	OFF	NO OPTICAL SIGNAL INPUT
FX-LINK/ACT	ON	LINKED ON FIBER PORT
	FLASH	ACTIVITY
	OFF	NOT LINKED
TX-SPD	ON	100M BASE-TX
	OFF	10M BASE-TX
TX-LINK/ACT	ON	LINKED ON UTP PORT
	FLASH	ACTIVITY
	OFF	NOT LINKED
TX-FDX/COL	ON	FULL DUPLEX
	OFF	HALF DUPLEX

7 PARAMETER

TABLE 8.1 PARAMETER

	10/100M multimode media converter	10/100M singlemode media converter
Cable	MM Fiber / Twist Pair	SM Fiber / Twist Pair
Transmission Type	10/100M FDX/HDX	10/100M FDX/HDX
MTBF	>3 years	>3 years
BER	<1E-8	<1E-8
Data Buffer	128Kb	128Kb
Power temperature variation	0. 2mw/°C	0. 2mw/°C
Input Power Range (dBm)	0~-30	0~-40
Operate Temperature	0°C~70°C	0°C~70°C
Storage Temperature	-45°C~80°C	-45°C~80°C
I _{max}	800mA	800mA
Power	2. 5w	2. 5w
EMC	FCC Part15	FCC Part15
Size	95×70×26mm (external power)	95×70×26mm (external power)
	140×110×30mm (internal power)	140×110×30mm (internal power)

8 ORDERING INFOMATION

TABLE 9.1 ORDERING INFOMATION

PN	λ _{tx} nm	λ _{rx} nm	P _{tx} dBm	SEN dBm	Overload dBm	Distance Km	Loss dB/Km	Connector
TS-1100	1310	1310	-22~-12	≤-30	≥-3	2	2	MM Duplex SC
TS-1100S20	1310	1310	-15~-8	≤-38	≥0	20	0.35	SM Duplex SC
TS-1100S40	1310	1310	-8~-3	≤-38	≥0	40	0.35	SM Duplex SC
TS-1100S60	1310	1310	-3~0	≤-38	≥0	60	0.35	SM Duplex SC
TS-1100S80	1550	1550	-5~0	≤-38	≥0	80	0.25	SM Duplex SC
TS-1100S100	1550	1550	≥-1	≤-38	≥0	100	0.25	SM Duplex SC
TS-1100S120	1550	1550	≥1	≤-40	≥0	120	0.25	SM Duplex SC
TS-1200S20A	1310	1550	-15~-8	≤-36	≥0	20	0.35	SM BIDI SC
TS-1200S20B	1550	1310	-8~-3	≤-36	≥0	20	0.25	SM BIDI SC
TS-1200S40A	1310	1550	-3~0	≤-36	≥0	40	0.35	SM BIDI SC
TS-1200S40B	1550	1310	-5~0	≤-36	≥0	40	0.25	SM BIDI SC
TS-1200S60A	1310	1550	-3~0	≤-36	≥0	60	0.35	SM BIDI SC
TS-1200S60B	1550	1310	-3~0	≤-36	≥0	60	0.25	SM BIDI SC

9 IMPORTANT NOTICE

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10 CONTACT

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