



Model

# MC 100SA-20

10/100 Mbit/s Media Converter

## 1. GENERAL DESCRIPTION

The media converter transforms the transmission media of Ethernet signal from CAT5 100m to optical fiber 850/1310/1550nm. It can extend the transmission distance to several kilometers or hundred kilometers.

All Cudy Media converters apply the new 0.25 $\mu$ m technology to improve the performance and to avoid the packet lost with long the transmission. It also reduce the delay time to less than 9.6 $\mu$ s.

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

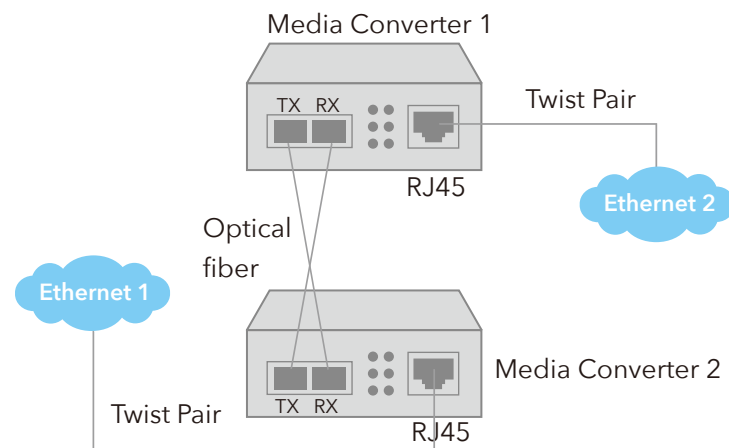


Figure 1.1 Media converter application

Datasheet:10/100 Mbit/s Media Converter

## 2. FEATURES

1. Built in a 2-port switch: 1x10/100Base-Tx and 1x100Base-Fx
  - Pass all packets without address and CRC check (optional)
  - Supports modified cut-through frame forwarding for low latency
  - Supports store and forwarding mode
  - Supports flow control for full and half duplex operation
  - Bandwidth control
  - Forward 1600 bytes packet for management
  - Optional forward fragments
  - Auto restore time less than 150ns and delay time less than 9.6 $\mu$ s
2. Supports 100Base-FX standard
3. Built in 1024KB RAM for data buffer
4. Supports auto MDI-MDIX and auto negotiation speed 10/100M
5. Supports link fault pass through function (LFP optional)
6. Supports for end fault function (optional)
7. LED display for power, link/activity, full/half, 10/100M
8. Support EEPROM configuration (optional)
9. Support VLAN pass through packet
10. The longest transmission distance reaches 120 kilometers

## 3. STANDARD

IEEE802.3 ETHERNET STANDARD

IEEE802.3u FAST ETHERNET STANDARD

IEEE802.3x FLOW CONTROL STANDARD

IEEE802.3ab FRAME SIZE STANDARD

## 4. PRODUCTS CLASSIFICATION & LEDs

### 1. ACCORDING TO OUTLINE:

- 90V~240V AC - 50/60Hz or -48VDC input power standalone media converter;
- +5V DC input power standalone media converter with external switching adaptor;
- 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.

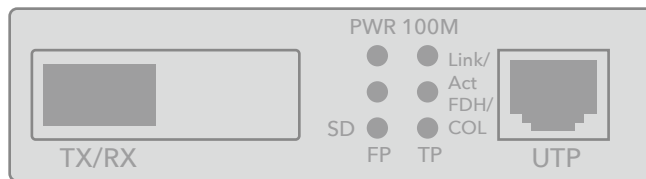


Figure 4.1 : Front panel for single fiber media converter

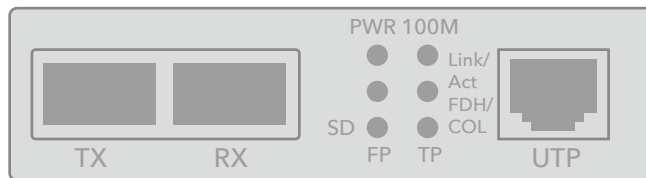


Figure 4.2 : Front panel for dual fiber media converter



Figure 4.3 : Back panel for single/dual fiber media converter

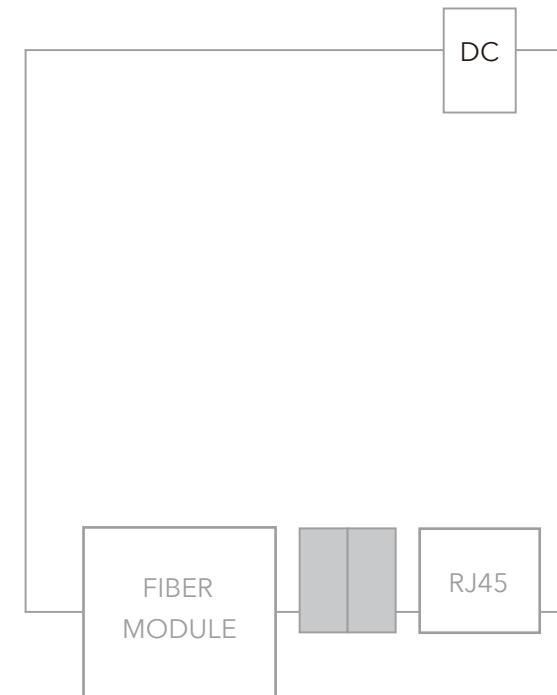


Figure 4.4: Stand alone media converter outline

## 5. LED FUNCTION DISCRIPTION

Table 5.1 LED Function Description

LED	STATUS	DESCRIPTION
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

## 6. PARAMETER

Table 6.1 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-9	<1E-9
Data Buffer	1024KB	1024KB
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
Humidity	Upto 95%none-condensing	Upto 95%none-condensing
Power	2.5w	2.5w
EMC	FCC Part15, CE	FCC Part15,CE
Size	95 × 70 × 26mm (external power )	95 × 70 × 26mm (external power )
	140 × 110 × 30mm(internal power )	140 × 110 × 30mm (internal power )

## 7. ORDERING INFORMATION

Table 7.1 Model vs Specification

PN	$\lambda$ TX nm	$\lambda$ RX nm	PTX dBm	SEN dBm	Overload dBm	Distance Km	Loss dB/km	Connector
MC100MA-2	1310	1310	-22~-12	$\leq -30$	$\geq -3$	2	2	MM Dual SC
MC100SA-20	1310	1310	-15~-8	$\leq -38$	$\geq 0$	20	0.35	SM Dual SC
MC100SA-40	1310	1310	-8~-3	$\leq -38$	$\geq 0$	40	0.35	
MC100SA-60	1310	1310	-3~0	$\leq -38$	$\geq 0$	60	0.35	
MC100SA-80	1550	1550	-5~0	$\leq -38$	$\geq 0$	80	0.25	
MC100SA-100	1550	1550	$\geq -1$	$\leq -38$	$\geq 0$	100	0.25	
MC100SB-20A	1310	1550	-12~-8	$\leq -36$	$\geq 0$	20	0.35	
MC100SB-20B	1550	1310	-8~-3	$\leq -36$	$\geq 0$	20	0.25	
MC100SB-40A	1310	1550	-3~0	$\leq -36$	$\geq 0$	40	0.35	
MC100SB-40B	1550	1310	-5~0	$\leq -36$	$\geq 0$	40	0.25	
MC100SB-60A	1310	1550	-3~0	$\leq -36$	$\geq 0$	60	0.35	
MC100SB-60B	1550	1310	-3~0	$\leq -36$	$\geq 0$	60	0.25	