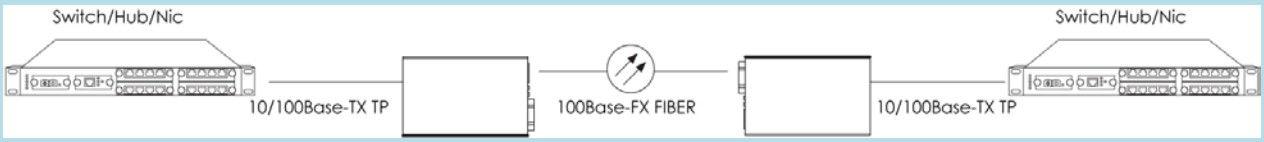
CS-110

10/100Base-TX to 100Base-FX

Fiber Media Converters

TYPICAL APPLICATION



PRODUCT DESCRIPTION

- **CS-110** series is a 10/100Base-TX to 100Base-FX media converter with LFP (Link Fault Pass-through) feature for easily integrating the TP-Fiber linking. LFP also offer the network linking failure tracing for troubleshooting and maintenance.
- **Eight LEDs** indicate the detailed operating status of the converter for easier fault identification.
- **DIP switch** can be enabled or disabled to meet the required configurations for various networking applications.
- **CS-110** can be *stand-alone* unit (powered by external adaptor), and *slide-in card* type to fit in **CRM-2800** (18+1 slots) series 2U-chassis for central wiring cabinet.

KEY FEATURES

- Auto MDI-MDIX for the TP port
- Supports 802.3x Flow Control for Full-Duplex mode and Back Pressure for Half-Duplex mode
- Support auto-negotiation for the TP port
- Supports both store-and-forward switching mode and low-latency cut-through mode
- Supports maximum packet size of 1600 bytes
- 128k bits packet buffer memory
- 8 diagnostic LEDs (TP 100Mbps, TP Link, TP Full Duplex, Fiber Link, Fiber Full Duplex, Fiber Signal Detect, Far-End Fault and Power)
- DIP Switch to set network configurations
- Link-Fault Pass Through function for easy maintenance
- Far-End Fault function for fiber fault identification
- Stand-alone unit and slide-in card package
- Optical connectors can be SC, ST or LC connector with duplex fibers or single fiber (Bi-Directional) transmission
- RoHS Compliance

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SPECIFICATIONS

IEEE Compliance	802.3 Ethernet, 802.3u Fast Ethernet, 802.3x Flow Control
Forwarding Rate	14,880 pps at 10 Mbps, 148,800 pps at 100 Mbps
Packet Buffer Memory	128k bits
TP Interface	10Base-T/100Base-TX supported RJ-45 port
TP connectivity	Up to 100 m with Cat. 5 cable
Fiber Interface	100Base-FX supported port
Fiber Connectivity	Up to 2 km with 50/125 or 62.5/125 µm multimode fiber Up to 80 km with 9/125 µm single-mode fiber (depending on model)
LED Indicators	TP 100Mbps, TP Link, TP Full Duplex, Fiber Link, Fiber Full Duplex, Fiber Signal Detect, Far-End Fault, Power
Control Interface	8 DIP switches
Power Supply (Stand-alone Unit)	Input: 100 ~ 240 VAC 50 ~ 60Hz, Output: 5 VDC, 1 A
Dimensions	Stand-alone unit: 102 mm X 63.6 mm X 21.4 mm Slide-in card: 87 mm X 22.2 mm X 113.5 mm
Weight	Stand-alone unit (package weight): 210 g Slide-in card (package weight): 195 g
Operating Temperature	Main unit: 0 ~ 70°C Power adaptor: 0 ~ 40°C
Operating Humidity	10% ~ 90% RH (non-condensing)
Electromagnetic Compliance	FCC Class A, CE Class A

FUNCTIONAL DESCRIPTION

Flow Control	CS-110 Supports 802.3x Flow Control for Full-Duplex mode and Back Pressure for Half-Duplex mode.
Operation Modes	CS-110 supports four operation modes. This can be set by DIP switch. Those modes are described as follows. (1) Store-and-forward mode: CS-110 will receive the complete frame and check if there is CRC error before sending the frame out. The frame is forwarded if there is no error and is dropped otherwise. The latency depends on the packet length. (2) Modified cut-through mode: CS-110 begins to forward the received frame without checking CRC error when it receives the first 64 bytes of it. The latency is about 512 bits time width. The maximum packet length can be up to1600 bytes in this mode. (3) Converter mode: The transmission flow does not wait for an entire frame to be ready. CS-110 forwards the received data immediately after the data being received without entering the internal buffer. CS-110 operates with the minimum latency in this mode. (4) Converter with auto-change-forward function: CS-110 will change to store-and-forward mode if it detects the speed is different in the TP port and fiber port.
TP Force Mode	The TP port can be set to auto-negotiation mode or force mode. In the force mode, the duplex and speed are limited.
Link Fault Pass Through	When link fault pass through function is enabled, link status on TX port will inform the FX port of the same device and vice versa. It is designed for easy diagnosis of cable fault.
Fiber Signal Detect Indication	A diagnostic LED shows the presence of optical signal at the receiver. It helps quickly clarify fiber faults.
Far-End Fault Indication	A diagnostic LED shows the faulty alarm coming from the remote media converter. It helps quickly clarify fiber and light source faults. This function is only available when CS-110 is used in pairs.

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CS-110 Ordering Information

Ordering Information (All models)

Model Number	Description			
CS-110-MS1R	Duplex multimode	SC fiber interface,	2 km,	slide-in card
CS-110-MS1S	Duplex multimode	SC fiber interface,	2 km,	stand alone
CS-110-MS4R	Duplex multimode	ST fiber interface,	2 km,	slide-in card
CS-110-MS4S	Duplex multimode	ST fiber interface,	2 km,	stand alone
CS-110-SB2R	Simplex single-mode	SC fiber interface,	15 km, Tx: 1310 nm,	slide-in card
CS-110-SB2S	Simplex single-mode	SC fiber interface,	15 km, Tx: 1310 nm,	stand alone
CS-110-SB3R	Simplex single-mode	SC fiber interface,	15 km, Tx: 1550 nm,	slide-in card
CS-110-SB3S	Simplex single-mode	SC fiber interface,	15 km, Tx: 1550 nm,	stand alone
CS-110-SD2R	Simplex single-mode	SC fiber interface,	25 km, Tx: 1310 nm,	slide-in card
CS-110-SD2S	Simplex single-mode	SC fiber interface,	25 km, Tx: 1310 nm,	stand alone
CS-110-SD3R	Simplex single-mode	SC fiber interface,	25 km, Tx: 1550 nm,	slide-in card
CS-110-SD3S	Simplex single-mode	SC fiber interface,	25 km, Tx: 1550 nm,	stand alone
CS-110-SL1R	Duplex single-mode	SC fiber interface,	60 km, slide-in card	
CS-110-SL1S	Duplex single-mode	SC fiber interface,	60 km, stand alone	
CS-110-SL4R	Duplex single-mode	ST fiber interface,	60 km, slide-in card	
CS-110-SL4S	Duplex single-mode	ST fiber interface,	60 km, stand alone	
CS-110-SM2R	Simplex single-mode	SC fiber interface,	40 km, Tx: 1310 nm,	slide-in card
CS-110-SM2S	Simplex single-mode	SC fiber interface,	40 km, Tx: 1310 nm,	stand alone
CS-110-SM3R	Simplex single-mode	SC fiber interface,	40 km, Tx: 1550 nm,	slide-in card
CS-110-SM3S	Simplex single-mode	SC fiber interface,	40 km, Tx: 1550 nm,	stand alone
CS-110-SS1R	Duplex single-mode	SC fiber interface,	30 km,	slide-in card
CS-110-SS1S	Duplex single-mode	SC fiber interface,	30 km,	stand alone
CS-110-SS4R	Duplex single-mode	ST fiber interface,	30 km,	slide-in card
CS-110-SS4S	Duplex single-mode	ST fiber interface,	30 km,	stand alone
CS-110-SU1R	Duplex single-mode	SC fiber interface,	80 km,	slide-in card
CS-110-SU1S	Duplex single-mode	SC fiber interface,	80 km,	stand alone
CS-110-SU4R	Duplex single-mode	ST fiber interface,	80 km,	slide-in card
CS-110-SU4S	Duplex single-mode	ST fiber interface,	80 km,	stand alone

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