

## CS-110-F

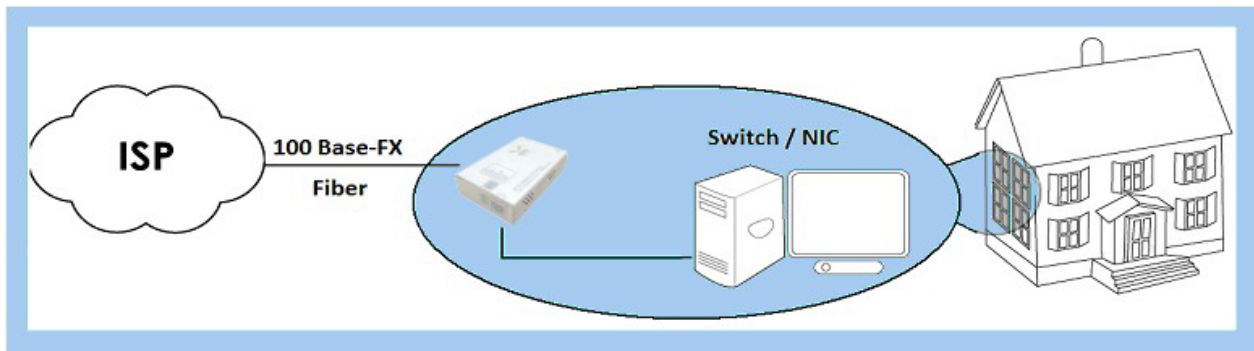
10/100Base-TX to 100Base-FX

FTTH Fiber Media Converters

*Pigtailed fiber interface*



### TYPICAL APPLICATION



#### PRODUCT DESCRIPTION

- **CS-110-F** is a 10/100Base-TX (twisted pair) to 100Base-FX (optical fiber) media converter especially for FTTH applications as a CPE (customer premise equipment) device.
- **CS-110-F** offers the high-performance and user-friendly designs for extending the 10/100Mbps cabling distance.
- **DIP switch** can be enabled or disabled to meet the required configurations for various networking applications.
- **CS-110-F** encloses the fiber ends in the housing to ensure the laser safety and protect the fiber connectors from outside infringement. The built-in fiber management tray allows professional technicians to install, splice and manage the fiber easily before closing the housing.

#### 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)
- Link-Fault Pass Through function for easy maintenance
- Far-End Fault function for fiber fault identification
- Pigtailed fiber interface
- Equipped with fiber management tray and protective sleeves for splicing joints
- Three fiber outlets for different installation options



**CS-110-F 10/100Base-TX to 100Base-FX(BX)**  
**Pigtailed fiber interface FTTH Fiber Media Converter**

Access Technologies ... FTTX, IP Digital Surveillance Networking

**SPECIFICATIONS**

<b>IEEE Compliance</b>	802.3 Ethernet, 802.3u Fast Ethernet, 802.3x Flow Control
<b>Forwarding Rate</b>	14,880 pps at 10 Mbps, 148,800 pps at 100 Mbps
<b>Packet Buffer Memory</b>	128k bits
<b>TP Interface</b>	10Base-T/100Base-TX supported RJ-45 port
<b>TP connectivity</b>	Up to 100 m with Cat. 5 cable
<b>Fiber Interface</b>	100Base-FX supported port, SC connector with bare fiber pigtail
<b>Fiber Connectivity</b>	Up to 2 km with 50/125 or 62.5/125 $\mu$ m multimode fiber Up to 80 km with 9/125 $\mu$ m single-mode fiber (depending on model)
<b>LED Indicators</b>	TP 100Mbps, TP Link, TP Full Duplex, Fiber Link, Fiber Full Duplex, Fiber Signal Detect, Far-End Fault, Power
<b>Control Interface</b>	8 DIP switches
<b>Power Supply (Stand-alone Unit)</b>	Input: 100 ~ 240 VAC 50 ~ 60Hz, Output: 5 VDC, 1 A
<b>Dimensions, Weight</b>	Stand-alone unit: 102 mm X 63.6 mm X 21.4 mm; 230g (package weight)
<b>Operating Temperature</b>	Main unit: 0 ~ 70°C; Power adaptor: 0 ~ 40°C
<b>Operating Humidity</b>	10% ~ 90% RH (non-condensing)
<b>Electromagnetic Compliance</b>	FCC Class A, CE Class A

**FUNCTIONAL DESCRIPTION**

<b>Flow Control</b>	CS-110-F Supports 802.3x Flow Control for Full-Duplex mode and Back Pressure for Half-Duplex mode.
<b>Operation Modes</b>	CS-110-F supports four operation modes. This can be set by DIP switch. Those modes are described as follows. (1) Store-and-forward mode: CS-110-F 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-F 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 to 1600 bytes in this mode. (3) Converter mode: The transmission flow does not wait for an entire frame to be ready. CS-110-F forwards the received data immediately after the data being received without entering the internal buffer. CS-110-F operates with the minimum latency in this mode. (4) Converter with auto-change-forward function: CS-110-F will change to store-and-forward mode if it detects the speed is different in the TP port and fiber port.
<b>TP Force Mode</b>	The TP port can be set to auto-negotiation mode or force mode. In the force mode, the duplex and speed are limited.
<b>Link Fault Pass Through</b>	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.
<b>Fiber Signal Detect Indication</b>	A diagnostic LED shows the presence of optical signal at the receiver. It helps quickly clarify fiber faults.
<b>Far-End Fault Indication</b>	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-F is used in pairs.



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**CS-110-F Ordering Information**

<b>■ Operating in Multi Mode &amp; Dual Strand</b>			
Ordering Code: CS-110-F- C1C2C3			
<b>C1</b>	<b>C2</b>	<b>C3</b>	
		<b>Fiber Type</b>	
		1: Dual strand	
	<b>Distance</b>		
	S: 2 km		
<b>Mode</b>	M: Multi Mode		

<b>■ Operating in Single Mode &amp; Dual Strand</b>			
Ordering Code: CS-110-F-C1C2C3			
<b>C1</b>	<b>C2</b>	<b>C3</b>	
		<b>Fiber Type</b>	
		1: Dual strand	
	<b>Distance</b>		
	S: 30 km	L: 60km	U: 80km
<b>Mode</b>	S: Single Mode		

<b>■ Operating in Single Mode, Single Strand and BiDi Transmission</b>			
Ordering Code: CS-110-F-C1C2C3			
<b>C1</b>	<b>C2</b>	<b>C3</b>	
		<b>Wavelength</b>	
		2: TX=1310 nm	3: TX=1550 nm
	<b>Distance</b>		
	B:15km	D:25km	M:40km
<b>Mode</b>	S: Single Mode		

**Ordering Information (All models)**

Model Number	Description		
CS-110-F-MS1	Two strands	multimode fiber,	2 km
CS-110-F-SB2	One strand	single-mode fiber,	15 km (Tx: 1310 nm)
CS-110-F-SB3	One strand	single-mode fiber,	15 km (Tx: 1550 nm)
CS-110-F-SD2	One strand	single-mode fiber,	25 km (Tx: 1310 nm)
CS-110-F-SD3	One strand	single-mode fiber,	25 km (Tx: 1550 nm)
CS-110-F-SL1	Two strands	single-mode fiber,	60 km
CS-110-F-SM2	One strand	single-mode fiber,	40 km (Tx: 1310 nm)
CS-110-F-SM3	One strand	single-mode fiber,	40 km (Tx: 1550 nm)
CS-110-F-SS1	Two strands	single-mode fiber,	30 km
CS-110-F-SU1	Two strands	single-mode fiber,	80 km

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