

**NEW**

## FRM220-FXO-4 FRM220-FXS-4

**4x FXO over Fiber**  
**4x FXS over Fiber**

FRM220-FXO/FXS-4 are 4 channel POTS (Plain Old Telephone System) over fiber converter/extender. The four POTS connection uses standard RJ-11C modular connectors for each copper pair connection. A pair of FRM220-FXO/FXS-4 is required to implement an end to end system. FXO type unit connects to a telephone line (PSTN) or PBX station line and has ability to detect ringing voltages and to act as a telephone. FXS type unit is the reciprocal unit and has ability to act as PSTN and connects to a telephone device. Two FXS cards may be connected back-to-back to provide a private "hot line". When the FRM220-FXO/FXS-4 cards are placed in the FRM220 rack with SNMP management, in-band management allows configuring and viewing the card and remote converter's status, type, version, fiber link status, on hook status and alarms. When placed in a single slot chassis and used standalone without management, the card may be configured by DIP switch.

### Features

- Extend telephone voice transmission **up to 120km** over fiber
- Network management via terminal, web or SNMP in FRM220 chassis
- Supports telephone voice transmission
- Supports caller ID Pass-Through
- Supports FXS to FXS hot line

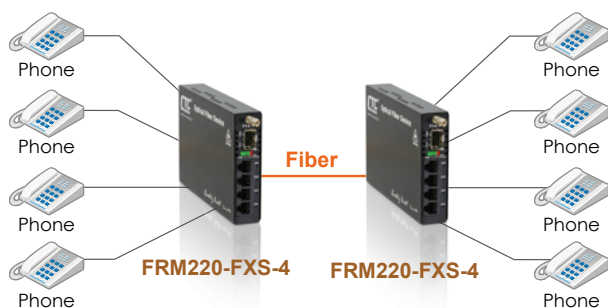
### Specifications

<b>Optical Interface</b>	Connector	SFP-LC
	Fiber	MM 62.2/125μm, 50/125μm, SM 9/125μm Rate: 155Mbps
	Distance	MM 2km, SM 15/30/50km, WDM 20/40km
	Wavelength	MM 1310nm, SM 1310, 1550nm WDM 1310Tx/1550Rx (type A) 1550Tx/1310Rx (type B)
<b>Indications</b>	LED (Power, FX Link, Phone Act, Test)	
<b>Power Input</b>	12VDC	
<b>Power Consumption</b>	< 6W (FRM220-FXO-4) < 12W (FRM220-FXS-4)	
<b>Dimensions</b>	155 x 88 x 23mm (D x W x H)	
<b>Weight</b>	120g	
<b>Temperature</b>	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)	
<b>Humidity</b>	10 ~ 90% non-condensing	
<b>Certification</b>	CE, FCC, RoHS compliant	
<b>MTBF</b>	65,000 hrs	

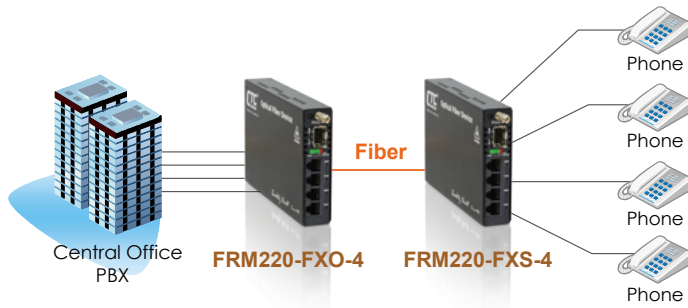
<b>Electrical Interface</b>	Connector	RJ-11
	FXO module	Impedance : 600 ohms Coding : 16 bits liner Loop Current : 10~100mA Ring Frequency : Acceptable 20 ~50Hz Insertion Loss: 0.0 ± 1.0dB at 1000Hz Impedance : 600 ohms
	FXS module	Coding : 16 bits liner Dial: DTMF and Dial Pulse Battery Source: 48VDC ± 4V Ringing Waveform : Sine wave Ringing Frequency : 20/25/30/35/40/45/50 Hz selectable Ring Cadence: FXS to FXS: On / 1 sec, Off / 2 sec FXO to FXS: Reproduces the cadence detected by FXO Insertion Loss 0.0 ± 1.0dB at 1000Hz REN: 4.0B(Ring Equivalence Number)

### Application

**Figure 1 : Automatic Ring down hotline**



**Figure 2 : Voice transmission from 2km to 120km over fiber**



### Ordering Information

Model Name	Description
FRM220-FXO-4	4-port FXO fiber converter SFP-LC
FRM220-FXS-4	4-port FXS fiber converter SFP-LC
Connector Type	Connectivity Distance
SC, ST, FC	002: 2km 015: 15km 030: 30km 050: 50km 20A: WDM 20km A type 20B: WDM 20km B type 40A: WDM 40km A type 40B: WDM 40km B type

Connector Type Connectivity Distance  
**FRM220 – FXO-4 –**      
 Example: FRM220 – FXO-4 – SC002

**Note:** This card may be set by DIP switch and placed in CH01 standalone chassis.  
 When connected as a remote to a managed central chassis, this card supports in-band management.