FRM220-FXO-4
FRM220-FXS-4

4x FXO over fiber & 4x FXS over fiber

FRM220-FXO-4/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-4/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-4/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 FXS to FXS hot line
- Supports caller ID Pass-Through

Specifications

Optical Interface	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)
Indications	LED (Power, FX Link, Phone Act, Test)	
Power Input	12VDC	
Power Consumption	< 6W (FRM220-FXO-4)	
	< 12W (FRM220-FXS-4)	
Dimensions	Card: 155 x 20.8 x 88mm (D x W x H)	
Weight	120g	
Temperature	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)	
Humidity	10 ~ 90% non-condensing	
Certification	CE, FCC	
MTBF	65,000 hrs	

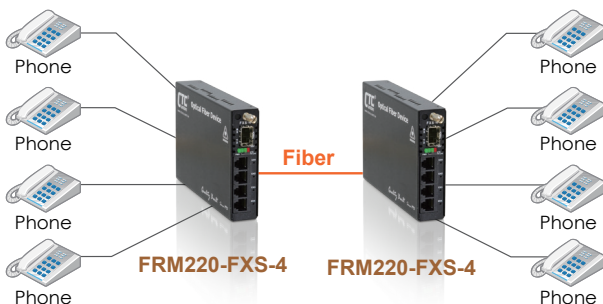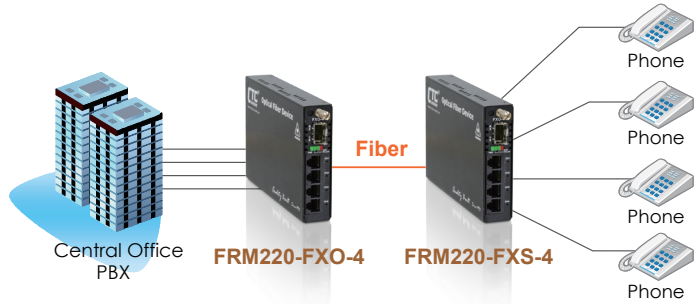| Electrical Interface	Connector	RJ-11
	FXO modle	Impedance : 600 ohms
		Coding : 16 bits liner
		Loop Current : 10~100mA
		Ring Frequency : Acceptable 20 ~50Hz
		Insertion Loss: 0.0 ± 1.0dB at 1000Hz
		Impedance : 600 ohms
		Level Gain : TX 0dB, RX -3dB
	FXS modle	Coding : 16 bits liner
		Dial: DTMF and Dial Pulse
		Provides 48VDC ± 4V to FXO
		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)
		Level Gain : TX 0dB, RX -3dB

Application

Figure 1 : Automatic Ring down hotline

Phone Phone Phone Phone

Fiber

FRM220-FXS-4 **FRM220-FXS-4**

Phone Phone Phone Phone

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

Central Office PBX

Fiber

FRM220-FXO-4 **FRM220-FXS-4**

Phone Phone Phone Phone

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

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.