CTC union

FRM220-FXO/FXS
FRM220-FXO/FXS-SFP

Single port FXO/FXS Fiber Converter

The FRM220-FXO/FXS is a POTS (Plain Old Telephone System) over fiber converter/extender. The POTS connection uses a standard RJ-11C modular connector for one copper pair connection. A pair of FRM220-FXO/FXS is required to implement an end to end system. FXO mode connects to a telephone line (PSTN) or PBX station line and has ability to detect ringing voltages and to act as a telephone. FXS mode is the reciprocal unit and has ability to act as PSTN and connects to a telephone device. When the FRM220-FXO/FXS card is placed in the FRM220 rack with NMC 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. Both card and remote can be configured to enable or disable the port, reset the port and set the FXO or FXS mode. When configured in an FXS to FXS fashion, a private "hot line" or direct line is created. 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 (NMC)
- Supports caller ID Pass-Through
- Selectable FXO or FXS mode

- Supports FXS to FXS hot line
- Supports D/D function for SFP fiber transceiver
- Will not support FAX or Modems

Specifications

Optical Interface		
	Connector	SFP-LC / 1x9 (SC, ST, FC)
	Fiber	MM 62.2/125µm, 50/125µm, SM 9/125µm Rate: 51.84Mbps
	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	
Dimensions	159.5 × 20.8 × 88mm (D×W×H)	
Weight	120g	
Temperature	0 ~ 50℃ (Operating), -10 ~ 70℃ (Storage)	
Humidity	10 ~ 90% non-condensing	
Certification	CE, FCC	
MTBF	65,000 hrs	

Electrical Interface		
	Connector	RJ-11
	FXO mode	Impedance : 600 ohms
		Coding : 16 bits liner
		Loop Current : 10~100mA
		Ring Frequency : Acceptable 20 ~55Hz
		Insertion Loss: 0.0 ± 1.0dB at 1000Hz
		Level Gain : TX 0dB, RX -3dB
	FXS mode	Coding : 16 bits liner
		Dial: DTMF and Dial Pulse
		Battery Source: 48VDC ± 4V
		Ringing Waveform : Sine wave
		Impedance : 600 ohms
		Ringing Frequency : 20/25/30/35/40/45/50/55 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 — FRM220-FXS + CH01 Chassis — Fiber — FRM220-FXS — Phone

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

Central Office PBX — FRM220-FXO + CH01 Chassis — Fiber — FRM220-FXS + CH01 Chassis — Phone

Figure 3 : Selectable FXO or FXS mode

NMS — Phone FXS — FRM220-FXS — Phone
Central Office PBX — FXO — FRM220-FXO/FXS inserts in FRM220-CH20 Chassis — Fiber — FRM220-FXS + CH01 Chassis — Phone
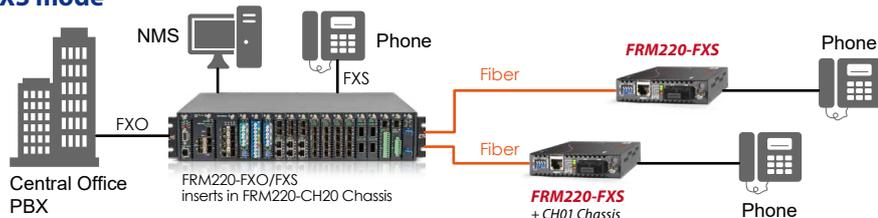
Ordering Information

Model Name	Description
FRM220-FXO/FXS	FXO / FXS fiber converter card
FRM220-FXO/FXS-SFP	FXO / FXS fiber converter card (SFP-LC)

Connector Type	Connectivity Distance
SC, ST, FC (Not Applicable for SFP type)	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

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Connector Type   Connectivity Distance

Example: FRM220 – FXO/FXS– SC002

Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.