FRM220-FTEC

E1/T1 Cross Rate Converter

The FRM220-FTEC is a T1 (US Standard) /E1 (European Standard) converter and timeslot cross connect which enables conversion between one T1 signal and one E1 signal. T1 and E1 signals with framing employ u-Law and A-Law compander encoding principles respectively and encode those analog (voice) signals into 64kbits digital data. The T1 interface supports D4(SF) or ESF frame formats with B8ZS or AMI line code. The E1 interface supports CCS (PCM31) or CAS (PCM30) framing without CRC-4 and framing with CRC-4. The line coding is HDB3.

Tests and diagnostics can easily be performed from the local console interface or via Web based management of the FRM220. Diagnostics include T1 local/remote and E1 local/remote loop back. When placed in a single slot chassis and used standalone without management, the card may be configured by DIP switches.

Features

- Converts between T1 and E1 data and signaling
- Enable equipment to operate at T1 and E1 rates
- Supports G.802 Annex B (T1 over E1)
- Configures A-law/μ-law and signaling conversion
- Transparent conversion at 64kbps timeslot level
- Controlled slip for buffer over or under flow
- 24 time slots of T1 Nx64 can be inserted into E1 Nx64, 30/CAS or 31/CCS timeslots

Specifications

E1 Interface		
Framing	CAS/PCM30 or CCS/PCM31 selectable	
Bit rate	2.048Mbps	
Line Code	HDB3	
Line Impedance	75 ohm (BNC) / 120 ohm (RJ-45)	
	Voice channel sample rule A-Law	
CRC check	CRC-4 enable/disable	
Pulse amplitude	Nominal 2.37V ±10% for 75ohm	
	Nominal 3.00V ±10% for 120ohm	
Zero amplitude	± 0.1V	
Connector	RJ-45	

T1 Interface		
Framing	D4, ESF selectable	
Bit rate	1.544Mbps	
Line Code	B8ZS / AMI	
Equalization	0 ~ 655 feet settable	
	Voice channel sample rule μ-Law	
CRC check	CRC-6 when ESF	
Line Impedance	100 ohms	
Transmit Pulse level	3.0V ±10%,	
Receive signal level	0 ~ -10dB	
Connector	RJ-45	

LEDs	PWR, Sys, Test, T1/E1
Standard	ITU-T G.703, G.704, G.706, G.823, G.824, ANSI T1.403
Power	12VDC
Power Consumption	< 6W
Dimensions	Card: 155 x 20.8 x 88mm (D x W x H)
Weight	130g
Temperature	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)
Humidity	10 ~ 90% non-condensing
Certification	CE, FCC
MTBF	57,000 hrs

Application

Ordering Information

Model Name	Description
FRM220-FTEC	E1/T1 Cross rate converter card

Note: This card must use CH01M, with serial console, to configure standalone settings. For standalone SNMP management, place this card in CH02/NMC chassis.