

# FRM220A-Eoe1

## Ethernet Bridge over E1



The FRM220A-Eoe1 is a slide-in card E1 Ethernet Bridge for cost-effective connection of 10/100Base-T(X) or 100Base-FX LANs over E1 transports. The FRM220A-Eoe1 transmits up to a 2.048Mbps Ethernet bridge channel (HDLC encapsulated) over E1 links. The FRM220A-Eoe1 supports an E1 attenuation of up to 43 dB on twisted pair or coax cable. This provides an approximate operating range up to 2km (using 22AWG). The FRM220A-Eoe1 fully meets E1 specifications including ITU-T G.704 and G.823. The FRM220A-Eoe1 features diagnostic capabilities for performing remote loopback. The operator at either end of the line may test both the FRM220A-Eoe1 and the line in the digital loopback mode. The Ethernet copper interface supports auto-negotiation and auto MDI/MDIX, allowing plug-and-play Ethernet connection without any additional configuration.

### Features

- Connects one Fast Ethernet over E1 links (64k~2048Kbps)
- Built-in HDLC bridge operates at WAN rate
- Auto-Negotiation
- Unbalanced E1/BNC or balanced E1/RJ45
- Fully compatible with FRM220A and FRM220 chassis
- SNMP management with FRM220A and FRM220 chassis
- LED Alarm indication
- Standalone RS232 console management via CH01M

### Specifications

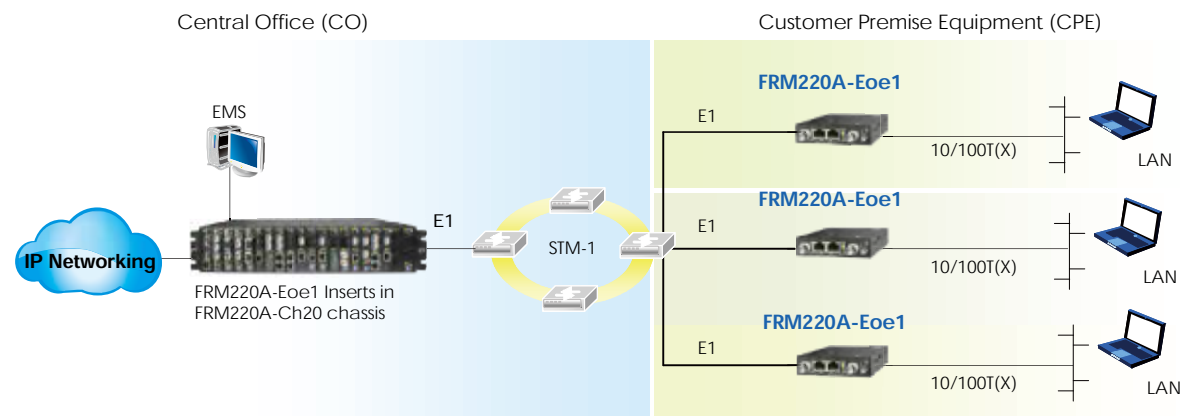
E1 Interface	Framing	framed / unframed
	Standard	ITU-T G.703/G.704/G.706 & G.732, G.823
	Bit rate	2.048Mbps± 50ppm
	Line code	HDB3
	Clock setting	Internal OSC or recovery clock
	Receive level	-43dB
	Line impedance	75 ohm (BNC) / 120 ohm (RJ45)
	Jitter Performance	Complies with ITU-T G.823
	Pulse Mask	Complies with ITU-T G.703
	Pulse amplitude	Nominal 2.37V ± 10%
	Delay Variance	220ms
	Connector	RJ45, BNC
	Diagnostics	Digital remote loopback
	Ethernet Interface	Standards
	Data rate	10/100Base-TX, Half/Full duplex
	Connector	RJ45 10/100Base-TX

Indications	Power, ALM, E1 signal loss, E1 Alarm (AIS, LOF, RAI, LOMF), LAN link /ACT, 10/100M, SD (100Base-FX)
Power Input	AC adapter : 100~240VAC to 12VDC AC 100 ~ 240V, DC -18 ~ 75V
Power Consumption	< 12W
Dimensions	DC12 : 160 x 88 x 24mm (D x W x H) AC/DC48/AD : 201 x 135 x 35mm (D x W x H)
Weight	130g
Temperature	0 ~ 60°C (Operating), -10 ~ 70°C (Storage)
Humidity	10 ~ 90% RH (non-condensing)
Certifications	CE, FCC, RoHS
MTBF	65,000 hrs

### Application

#### Managed E1 Bridge

Delivering point-to-point Fast Ethernet service across E1 circuits



### Ordering Information

Model Name	Description
FRM220A-Eoe1	10/100Base-T(X) to E1 HDLC bridge

Note: The card is suitable for use in CH01M standalone chassis.