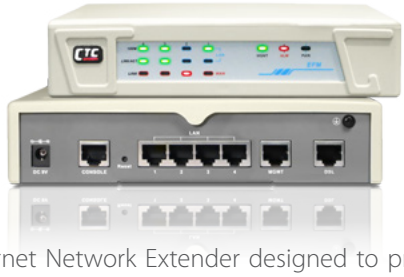


EFM-10/20/40

G.SHDSL bis EFM Modem with 4 Ports Ethernet

EFM is an Ethernet Network Extender designed to provide bonded high-speed Ethernet First Mile services over SHDSL on existing copper infrastructure. It is a bridge mode modem that delivers Ethernet services with symmetrical bandwidth at rates up to 22.8 Mbps (4 Pairs, Standard mode with TC-PAM 32) and 61 Mbps (4Pairs, Enhanced mode with TC-PAM 128). Implemented on IEEE 802.3ah EFM standards for advanced performance and management features. EFM ensures high reliability, low expense and maximum throughput. The introduction of EFM copper bonding technology allows delivery of higher bandwidth to longer distances over multiple copper pairs, enabling a good alternative in place where fiber is not economical to deploy. This Ethernet-pure solution provides a seamless integration into today and tomorrows networks. Designed with standard-based EFM technology (2BASE-TL), deployment of Ethernet services with EFM is quick and simple on the existing copper plant.

Feature

- Extending Ethernet Services to sites with existing copper infrastructure
- Supports TC-PAM 32 for 5.7 Mbps over single pair copper
- EFM Bonding up to 61 Mbps (4 pairs, TC-PAM 128)
- Flexible and Rapid Service Deployment
- Flexible configuration as CPE or CO
- Supports EFM OAM complying IEEE 802.3ah
- Low Delay, Jitter and packet loss for delay sensitive applications
- Comprehensive and easy OAM & P functions in provisioning and management
- QoS feature for guaranteed Ethernet service
- Future-proof Ethernet traffic management and QoS features

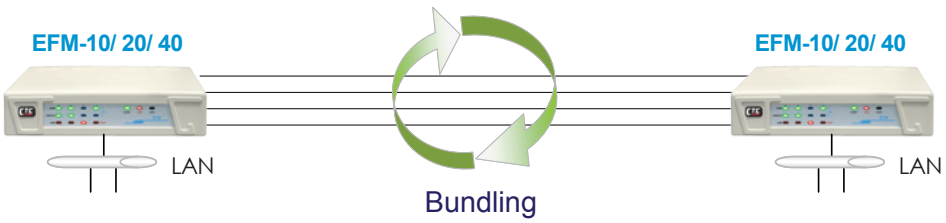
Specifications

Standards	LAN	4-Port switching hub
		10/100Base-T auto-negotiation & sensing
		Auto MDI/MDI-X
	WAN	ITU-T G.991.2.(2004)
		EFM bonding (IEEE 802.3ah OAM)
		2BASE-TL
		Data Rate: • Nx 64 Kpbs (N=3~89) using TC-PAM 16/32 • Max. 5.696Mbps (1-Pair) • Max. 11.392Mbps (2-Pair) • Max. 22.784Mbps (4-Pair) • N x 64 Kbps (N=3~239) using TC-PAM 64/128 • Max. 15.296 Mbps (1-Pair) • Max. 30.592 Mbps (2-Pair) • Max. 61.184 Mbps (4-Pair) • Supports of Annex A, Annex B, Annex AF & Annex BG
LAN Protocols	802.1d Transparent Bridging	
	Up to 2K MAC Address learning bridge	
Hardware Interface	DSL : RJ-45 x 1, LAN : RJ45 x 4, Console Port x 1	
	MGMT : RJ45 x1, DC Power Jack x 1	
	Reset Button : Load Factory Default	
Indicator	LAN : Link/Act, 10/100 per port	
	System : Power, Alarm, MGMT	
	WAN : Link per loop	

Management Interface	Easy to use web-based GUI for quick setup, configuration and management
	Menu-driven interface for local console and telnet access
	Password protected management and access control list for administration
	SNMP v1/v2 (RFC1157/1901/1905) agent and MIB II (RFC1213/1493)
	EFM OAM (IEEE 802.3ah)
	Software upgrade via web-browser / TFTP
VLAN Support	IEEE 802.1Q VLAN Tagging
	Up to 8k 802.1q VLANS (ID Range 1~4094)
	Port Based VLAN, VLAN Stacking (Q-in-Q)
QoS Support	Rate limiting by rule-based/port-based
	Traffic classification based on port/802.1p/ DSCP
	WRR (Weighted Round Robin) / SPQ (Strict Priority Queuing) scheduling algorithm,IPv6 (RFC 5430) pass through
Environment	Operating Temperature : 0 ~ 50°C
	Storage Temperature : -40 ~ 85°C
	Relative Humidity : 98%, non-condensing
Regulatory	ISO 9001 Quality Management, CE Approval
Physical / Electrical	Dimension : 195 x 48 x 168mm (D x W x H)
	AC Power Adapter (100 ~ 240VAC)
	Weight : 1.3kg
Memory	2MB Flash Memory, 8MB SDRAM

Application

Bandwidth Aggregation up to 22.8Mbps Over 4 pair of Copper wires



Ordering Information

Model Name	Description
EFM-10	2W, 2Base-TL, 4x10/100Base-TX G.SHDSL.bis EFM modem
EFM-20	4W, 2Base-TL, 4x10/100Base-TX G.SHDSL.bis EFM modem
EFM-40	8W, 2Base-TL, 4x10/100Base-TX G.SHDSL.bis EFM modem

EFM – □□

Example: EFM – 10