

Datasheet

LambdaDriver® – 2 x Analog E&M Voice and 2 x Dry Contact over Fiber/Lambda -TDM Module (EM2009-2EAM)



Overview

The LambdaDriver EM2009-2EAM is a TDM over Ethernet module that uses advanced TDM technology to transport 2 separate Analog E&M voice trunk circuits and two Dry Contact ports over a 1GE (Gigabit Ethernet) fiber/lambda interface for transmission to a remote location.

Analog trunks connect systems such as PBX to a Central Office (CO) or to a network using the E&M signaling method. E&M signaling refers to one side being the trunk circuit side and the other side being the signaling unit side. Usually, a PBX is the trunk circuit side and the CO / Network is the signaling unit side.

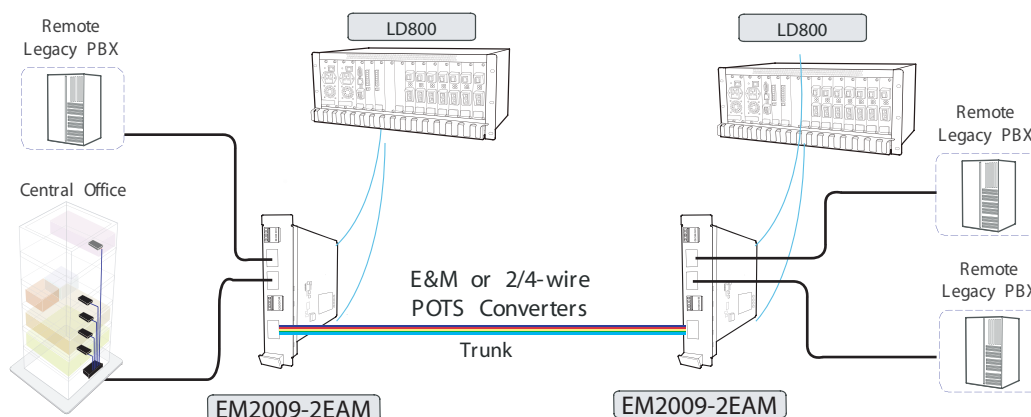
The EM2009-2EAM incorporates 2 RJ-45 independent Voice ports featuring 2/4 wire voice interface and E&M signaling. The E&M signaling method supports all interface types I, II, III, IV and V. The module can be configured to operate in trunk mode or signaling device mode. Signaling types selectable via dip-switches for local operation and can be configured remotely.

Features

- 2 x Analog E&M Voice interface
- 2 x Dry Contact interfaces
- Supports E&M signaling types I, II, III, IV and V
- Signaling types selectable via dip-switches for local operation or remotely configured
- Support Singling and trunk mode
- Supports 2/4 wire voice path
- Voice echo cancellation
- SFP based fiber trunk support: MM, SM, BX, CWDM and
- SFP Digital Diagnostics monitoring of the trunk port
- Remotely activated Local or Remote LoopBack per port
- BERT option
- Hot swappable
- 1 slot wide – can be used in all LD chassis

Applications

- Analog trunk circuits connect automated systems, such as a private branch exchange (PBX) and the network such as a central office (CO) in a point-to-point standalone (direct) interconnection
- E&M and Dry Contact Control over Fiber for Electricity Networks
- Signaling of E&M and Dry Contact over DWDM networks, integrated -multiple chassis span - interconnection using one DWDM channel.





Dry Contact Interface:

*Inputs - Sense A and Sense B - Dry contact Normally open switch
Outputs - Center, Normally Open and Normally Closed relay contacts*

Closing of Sense inputs (connect Sense A to Sense B) is transmitted to the remote side and used as trigger to change the state of its dry contact relay

Additionally, two controlled dry-contact interface ports are available on-front-panel, each port providing N/O (Normally Open), N/C (Normally Closed) and Common connect option. The switch over from one state to another is activated upon sensing the local or remote state of two HW inputs – SEN A and SEN B.

TDM Loopback, Ethernet Loopback including MAC DA/SA swapping, integrated BERT generation and test (G.821), and Ethernet Sniffer provide advanced troubleshooting capability.

Performance management is possible by the available Ethernet port Statistics, CRC errors monitoring, and more.

The trunk port is a 1Gbps (GE) SFP based interface that can accommodate various types of hot swappable pluggable SFPs e.g. Multimode , Singlemode, BX (Single Fiber), CWDM or DWDM.

Ethernet header editing function permits user controlled definition of the traffic over the GE trunk port. Layer 2 (MAC) addresses, VLAN, etc., and Layer3 (IPv4) parameters such as IP address, UDP port etc are user configurable.

Due to its advanced internal architecture, the module provides extensive monitoring and control features.

Environmental

Operating Temperature	-5 °C to +45 °C
Storage Temperature	-10 °C to +70 °C
Relative Humidity	85% max, non-condensing
Dimensions (W x H x D)	26.93 x 130.7 x 227mm (1.08 x 5.145 x 8.956 in)
Weight	0.53 kg (1.2 lb)

Technical Specifications

Data Rate	1GE over TDM trunk connection
Optical parameters	Per the SFP
Connectors:	Per the SFP
LEDs	
P/L n:	Link, and Activity trunk port indication
Power Consumption	
Card without SFP	3.3W
SFP	1.2W
Relay contacts	
Max. switching power (resistive load)	30W, 62.5 VA
Max. switching voltage	110 VDC, 125 VAC
Max. switching current	1A

Order Info	Product	Description
	EM2009-2EAM	2 x Analog E&M Voice and 2 x Dry Contact -TDM Module (EM2009-2EAM)

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