

DATACOM Ethernet Switches

DM2100 Family – Ethernet Demarcation Devices



The DM2100 line of switches offers several models with LAN 10/100/1000Base-T and WAN 100/1000Base-X interfaces for applications as small size terminal switch, Ethernet Demarcation Device or E1 TDM circuit emulation over Ethernet networks.

DATACOM

DATACOM Ethernet Switches consist of different product families that compose a complete Ethernet portfolio for applications from access to core of the networking infrastructure.

The product families are DM4000, DM4100, DM4050, DM4170 as Core and Aggregation Ethernet Switches, DM2100 and DM2300 as Ethernet Demarcation switches and DM1200E as an Enterprise LAN switch.

DM2100 Family

The DM2100-EDD (Ethernet Demarcation Device) family is made up of several different versions of 1U height, wire speed Layer 2 switches with optional E1 TDM connectivity in a tabletop compact enclosure with internal full-range AC/DC power supply.

The DM2100-EDD switches provide QoS functionalities allowing for specific traffic priority setting and band control provided to the customers at the demarcation point. They also provide connection management in accordance with IEEE 802.3ah (Ethernet First Mile), 802.1ag (Connectivity Fault Management) and Y.1731 standards, providing the network operator with fault detection, separation and verification and with end-to-end performance.

The support for SFP-type WAN ports allows the equipment to be located in the customer's premises, away from the aggregation switch, through the utilization of optical models with different reaches. All the models have four SFP ports to allow the implementation of scenarios with redundancy for customers with high SLAs or the construction of networks in ring topology.

The DM2100-EDD family also supports optional E1 TDM circuit emulation over Ethernet networks.

General features of the DM2100 Ethernet Switches

WIRESPEED

- L2 packet switching implemented at the hardware level, being able to forward Ethernet jumbo frames of 9kB with a switch fabric capacity of 24Gbps.

MANAGEMENT

- Comprehensive centralized SNMP management is available via DmView, DATACOM's full FCAPS management software. DmView allows for multiple user and segmented network management capability.
- Switch access control with definition of which IP addresses may access the equipment and through which protocols (SNMP, HTTP, Telnet, SSH).
- Easy to use and comprehensive Command Line Interface (CLI), internal Web Server, XML interface and SNMP/RMON agent.
- Access Control Lists (ACLs) implemented in hardware, performing multiple comparisons and actions that allow the packet modification, forwarding, discard and prioritization without overloading the equipment CPU.

QoS FEATURES

- Four queues per port and priority algorithms that can be set up with fixed priority, weight, minimum rate, maximum rate or a combination of these methods.
- Classification based on IEEE 802.1p standard, IP precedence or DSCP fields, TCP and UDP ports, are resources that allow the implementation of several QoS models to efficiently provide real time traffic transport, bandwidth guarantee and the transference of data in high rates.
- Bandwidth control with 64 kbps granularity for CIR and PIR parameters applied to inbound traffic of the ports or to a certain flow of packets by using filters with the action "meter" implemented in hardware.

SECURITY

- Encryption is applied within the communication protocols. Managers access control rules allow the implementation of efficient mechanisms to prevent violation of security and integrity during network operation.
- Local and remote Syslog, user authentication, authorization and accounting accounting (AAA) via RADIUS and TACACS+ server, alarm notification via email, single clock synchronized with SNTP server and Denial of Service (DoS) attack prevention are some of the available features for detection and/or protection of the network.
- Limitation on the number of MAC addresses per port, protection mechanisms on L2 protocols against network attack and bandwidth limitation for broadcast and multicast traffic and destination lookup failure (DLF) are also available options for implementing a more secure network.

VLANs

- Up to 4,096 VLANs, based on the IEEE 802.1Q, capable of providing double tagging functionality (Q-in-Q) allowing the creation of TLS services.
- Port-based VLAN definition with possibility of port overlapping.

PROTECTION MECHANISMS

- Spanning Tree protocols, including RSTP and MSTP.
- EAPS and ERPS (ITU G.8032) protocols for L2 networks, allowing a recovery time lower than 50 milliseconds for Ethernet rings.
- Implements 1:1 protection with Backup Link and 1+1 with Link Aggregation.

DM2100 Family Models

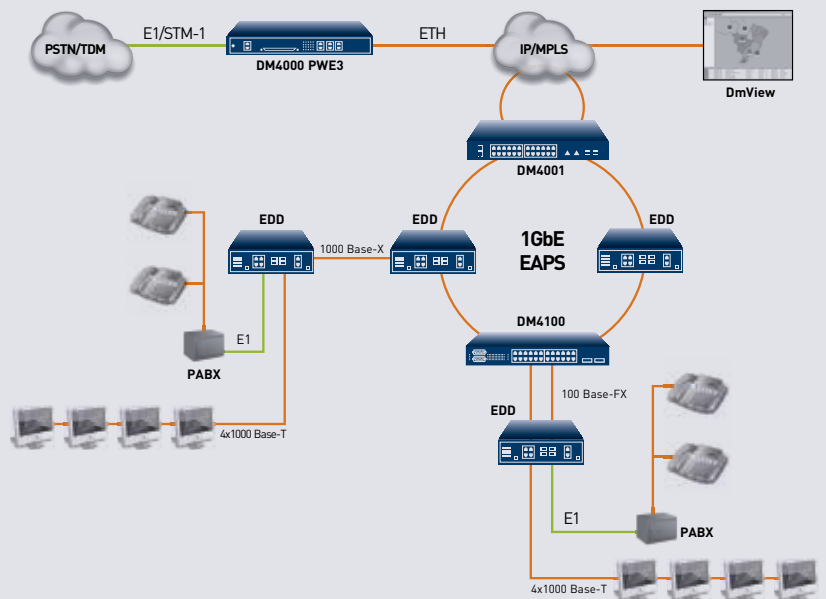
Hardware	DM2104	DM2104+2E1	DM2104+8E1	DM2106 4GX	DM2106 4GX+2E1	DM2106 4GX+8E1
QoS	4 queues (L2 – L3)					
Electric Ports 10/100/1000 Base-TX	4			6		
Optical Ports 1000 Base-X	2					
Optical Ports 100 Base-FX or 1000 Base-X	2					
MAC address table	8k					
PWE3	No	2E1 (RJ45)	8E1 (RJ45)	No	2E1 (RJ45)	8E1 (RJ45)
Power Supply (AC/DC)	Integrated AC/DC (100-240V and 48-60V) with automatic selection					
Environmental	0 to 55°C operation temperature / 10% to 90% relative humidity					
Dimensions	Height 44mm, Width 195mm, Depth 200mm					

SOLUTION FOR THE LAST MILE

The utilization of equipment supporting advanced functionalities in the customer’s environment may be an excellent opportunity to provide new services and increase traffic control. Intelligent devices are capable of providing advanced functionalities such as Ethernet First Mile (EFM), OAM (Operations, Administration and Maintenance) and Connectivity Fault Management (CFM), allowing for end-to-end traffic management, error monitoring and statistics, among others.

This way it is possible to provide FTTH services while maintaining advanced traffic control to the customer, ensuring band optimization and fault tolerance.

DATAKOM provides this solution by means of the DM2100-EDD family, along with equipment from other product lines.



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