DATACOM



DM4250

10 GIGABIT ETHERNET AGGREGATION SWITCH

DATASHEET

DM4250

10 GIGABIT FTHERNET AGGREGATION SWITCH

ETHERNET SWITCH BASED ON DMOS NETWORK OPERATING SYSTEM WITH 10GE AND 40GE INTERFACES FOR HIGH CAPACITY AND VALUE ADDED METRO ETHERNET APPLICATIONS.

DM4250 provides high switching capacity to meet the growing demands of traffic aggregation and access to high capacity services on Metro Ethernet and local area networks, always delivering high performance and reliability.

Based on the modular network operating system DmOS, DM4250 ensures robustness and high availability of services on a platform with support for a number of L2 and IP functionalities. Features like VLAN operations such as QinQ and VLAN Translate, LAG/LACP, ring operation through the EAPS or ERPS protocols, RSTP support, static and dynamic IP routing protocols using OSPF and BGP, access policy creation (ACL) filters, QoS functionality, among others. All L2 and IP packet forwarding, as well as filtering and QoS policy applications is done in HW, ensuring wirespeed operation for any packet size.

DM4250 offers configuration via command line (CLI) accessible by SSHv2, Telnet and RS-232 or USB console port. RADIUS and TACACS functionalities enable the creation of user authentication and access authorization policies. Local and remote Syslog features, NTP, DHCP, and SNMP clients are also available to enable equipment remote management and troubleshooting.

DM4250 is a compact 1U height switch ready for installation on standard 19 inches racks. It features power redundancy through two hot-swap slots for universal AC or DC power supplies, enabling the operation of high availability services.

- 24 optical 10Gigabit Etherne ports (SFP+)
- Two 40Gigabit Ethernet uplink interfaces (QSFP+)
- Compact 1U height design
- VLAN, QinQ, VLAN Translate, ERPS and EAPS support for Metro Ethernet applications
- L2 tunneling protocols for LAN-to-LAN services
- Static and dynamic routing through OSPF or BGP
- I wo hot-swap slots for redundant AC or DC power supplies

10GE ACCESS WITH DM4370

DM4250 together with the

DM4370 access switch, form a

perfect combination to provide

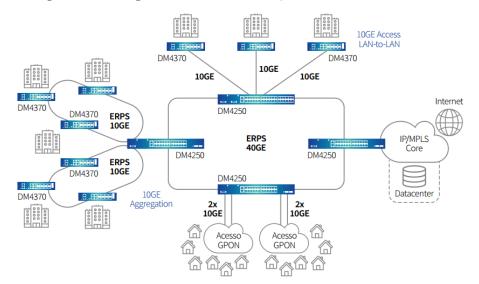
high capacity and value added

Metro Ethernet and IP services.

APPLICATIONS

METRO ETHERNET AGGREGATION

The DM4250 switch, through its 10GE and 40GE optical interfaces and the complete support for L2 switching and IP routing functionalities, can address high capacity metro ethernet applications, offering a reliable and highly available solution for corporate IP access and broadband services. The product supports different network topologies like ring or linear, allowing the network design that best fits the service requirements.



FEATURE LIST

MANAGEMENT

- Commit and rollback Operations support
- In-band and out-of-band management
- Statistics per Ethernet port
- CPU and memory usage monitoring with status available through SNMP
- Firmware rollback
- Firmware upgrade via TFTP
- SNMPv1, SNMPv2, SNMPv2c, SNMPv3
- Command line interface (CLI) via SSHv2, Telnet and RS-232 or USB console
- Digital diagnostics of optical modules according to SFF8472
- System status and alarms LEDs
- Inventory information
- Storage for up to 2 firmware and up to 8 configurations in Flash memory
- SNTP support
- Remote Syslog

SWITCHING

- Switching capacity of up to 640 Gbit/s
- Packet forwarding of up to 475 Mpps
- EAPS and ERPS
- Static and dynamics Link Aggregation (LACP), of up to 8 groups with up to 8 ports per group
- Configuration of up to 4k VLANs with up to 4k VLAN IDs
- Q-in-Q and Selective Q-in-Q
- Spanning Tree (STP), Rapid Spanning Tree (RSTP)
- Aging L2 Global configuration
- Auto negotiation interface configuration, with Auto MDI/MDIX support
- Support for Jumbo Frames of up to 9200 bytes
- MAC table with 32k addresses

FILTERS AND SECURITY

- ACL Remark and deny actions
- ACL Match for L2 and L3
- Up to 1024 ACL rules
- Local and remote Syslog
- Protection mechanisms against Broadcast, Multicast or DLF attacks
- CPU protection against Denial of Service (DoS) attacks
- Protection mechanisms against IP spoofing
- Authentication of users through RADIUS or TACACS+

QOS

- P-bit remarking(PCP)
- Packet classification based on DSCP, Src/Dst IP, Src/Dst MAC, VLAN, porta
- DSCP mapping for COS
- Scheduling of queues by WFQ and Strict Priority
- Packet buffer of 4Mbytes
- Up to 8 priority queues per port

ROUTING

- BGP, with MD5 authentication option
- BGP IP Prefix Lists and Route Map
- Up to 32 BGP neighbors
- Up to 16k IPv4 routes
- OSPFv2, with MD5 authentication option
- Up to 32 areas and 32 OSPFv2 adjacencies
- IPv4 and IPv6 static routing
- Routing between VLANs
- Up to 64 VLANs with configured IP
- Routes distribution between routing protocols
- Up to 2K IPv4 hosts or 1k IPv6 hosts

SFRVICES

- Ping IPv4
- SSH Client
- Telnet Client

MULTICAST

- IGMPv2, IGMPv3
- IGMP snooping with proxy report
- Up to 1k multicast groups support

STANDARDS

IETF		RFC5277	NETCONF Event Notifications	
draft-grant-tacacs-02 The TACACS+ Protocol			Partial Lock Remote Procedure Call (RPC) for NETCONF	
RFC783	The TFTP Protocol (Revision 2)	RFC6020	YANG - A Data Modeling Language for the Network Configuration Protocol (NET-CONF)	
RFC792	Internet Control Message Protocol (ICMP) (Ping IPv4)	DE00004	-	
RFC854	TELNET Protocol Specification	RFC6021	Common YANG Data Types	
RFC894	A Standard for the Transmission of IP Datagrams	RFC6022	YANG Module for NETCONF Monitoring	
RFC1157	over Ethernet Networks A Simple Network Management Protocol (SNMPv1)	RFC6241	Network Configuration Protocol (NETCONF) (Obsoletes RFC 4741)	
		RFC6242	Using the NETCONF Configuration Protocol over	
Mana	Management Information Base for Network Management of TCP/IP-based internets: MIB-II (Obsoletes RFC 1158)		Secure Shell (SSH)	
		RFC6243	With-defaults capability for NETCONF	
RFC1215	A Convention for Defining Traps for use with the SNMP - TRAPS MIB Introduction to version 2 of the Internet-standard Network Management Framework (SNMPv2)	RFC6470	NETCONF Base Notifications	
		RFC6536	NETCONF Access Control Model	
RFC1441		RFC6991	Common YANG Data Types (Obsoletes RFC 6021)	
RFC1700	ASSIGNED NUMBERS			
RFC1901 to RFC		IFFF		
RFC2030		IEEE		
KFC2030	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI	802.1ad Double Tagging (Q-in-Q)		
RFC2236	Internet Group Management Protocol, Version 2 - IGMPv2	802.1AX/802.3ad Link Aggregation		
		802.1D	MAC bridges	
RFC2328	OSPF Version 2 (obsoletes RFC2178, RC1583,	802.1D	Spanning Tree Protocol (STP)	
	RFC1247 e RFC1131)	802.1p	Traffic Class Expediting	
RFC2348	TFTP Blocksize Option (obsoletes RFC1783)	802.1Q	Virtual Bridged LAN (VLAN)	
RFC2385	Protection of BGP Sessions via the TCP MD5 Signature Option	802.1w	Rapid Spanning Tree Protocol (RSTP)	
RFC2474	Definition of the Differentiated Services Field (DS Field) in the IPv4 Headers (DSCP Remarking for IPv4)	802.3ae	10 Gigabit Ethernet over fiber; 10GBASE-SR, 10GBASE-LR, 10GBASE-ER, 10GBASE-SW, 10GBASE- LW, 10GBASE-EW	
RFC2865	Remote Authentication Dial In User Service (RADIUS) (obsoletes RFC 2138)	802.3z	1000BASE-X Gbit/s Ethernet over Fiber-Optic at 1 Gbit/s (125 MB/s)	
RFC2866	RADIUS Accounting (obsoletes RFC2139)			
RFC3021	Using 31-Bit Prefixes on IPv4 Point-to-Point Links			
RFC3376	Internet Group Management Protocol, Version 3 - IGMPv3	ANATEL	ANATEL	
		Resolução 242		
RFC3410 to RFC	SNMPv3 agent		Regulamento para Certificação e Homologação de Produtos para Telecomunicações Rules for Certification and Homologation of	
RFC3619	EAPS			
RFC4271	A Border Gateway Protocol 4 (BGP-4) (obsoletes RFC1771)		Telecommunication Products	
RFC4632	Classless Inter-domainRouting (CIDR): The Internet Address Assignment and Aggregation Plan	Resolução 323	Norma para Certificação de Produtos para	
RFC4742	Using the NETCONF Configuration Protocol over Secure Shell (SSH)		Telecomunicações. Standard for Certification of Telecommunication Products	

Resolução 442

Regulamento para a Certificação de Equipamentos de Telecomunicações quanto aos Aspectos de

Compatibilidade Eletromagnética.

Rules for the Certification of Telecommunication Equipment in Aspects of Electromagnetic Compatibility

.

ETSI

EN 300 019-1-1, Class 1.2 Environmental Conditions for

storage

EN 300 019-1-2, Class 2.3 Environmental Conditions for

Transport

EN 300 386 V1.6.1 (2012-09) Electromagnetic compatibility and

Radio spectrum Matters (ERM)

EN 55022 Information technology

equipment. Radio disturbance

characteristics - Class A

IEC

60825-1 Laser Safety Class

61000-4-11 Voltage dips, short interruptions and voltage

variations immunity tests

61000-4-6 Immunity to conducted disturbances, induced by

radio-frequency fields

EN 61000-4-2 Electrostatic Discharge Immunity Test

EN 61000-4-4 Electrical fast transient/burst immunity test

EN 61000-4-5 Surge immunity test

TECHNICAL SPECIFICATIONS

		DM4250 24XS+2QX
	Power supply	2 hot swappable slots for PSUs compatible with
		PSU 125 AC and PSU 125 DC
	PSU 125 AC – Power input	100Vac to 240Vac
	PSU 125 DC – Power input	-38,4Vdc to -72Vdc
	Maximum power consumption	120 W
	Typical power consumption	95 W
	Operational temperature (*)	0°C to 55°C
	Operational relative humidity	10% to 90%, non-condensed
	Operational altitude	0 to 3000m
HARDWARE	Storage temperature	-20°C to 70°C
CHARACTERISTICS	Storage relative humidity	10% to 90%, non-condensed
	Dimension (H x D x W)	43mm x 209mm x 444mm (482mm with brackets)
	Weight	3,15kg
	10G Base-X (SFP+)	24
	40G Base-X (QSFP+)	2
	GE Outband Management (RJ45)	1
	Console (RJ45)	1
	USB Host (type A)	1
	USB Device (type B)	1
	Alarms (**)	1 output and 2 inputs
MEMORY	Flash Memory	1GB
MEMORY	RAM Memory	2GB

^(*) For environments with temperatures above 45°C, it may be necessary to use extended temperature range optical modules, depending on the quantity and power of the modules.

 $^{(^{\}star\star}) \texttt{Product} \, / \, \texttt{Feature} \, \texttt{in} \, \texttt{roadmap}. \, \texttt{Contact} \, \texttt{DATACOM} \, \texttt{for} \, \texttt{availability} \, \texttt{information}.$

ACCESSORIES

Accessory	Description	
QSFP+ 40GE PN: Inquire	Optical 10 Gigabit Ethernet QSFP+ modules. 100m, 10km and 40km models.	
QSFP+ to QSFP+ Direct Attach Copper Cable PN: Inquire	Copper cable for interconnection of 40 Gigabit Ethernet ports, 1m or 3m length options.	
SFP+ 10GbE PN: Inquire	Optical 10 Gigabit Ethernet SFP+ modules. Several models with varying power and reach specifications are available.	
PSU 125 AC PN: 800.5187.xx	AC full range (100V-240Vac) power supply.	
PSU 125 DC PN: 800.5188.xx	DC full range (-38,4Vdc to -72Vdc) power supply.	

ORDERING INFORMATION

Model	Description	
DM4250 24XS+2QX 800.5197.xx	Manageable L2/L3 wirespeed Ethernet Switch, 24x 10 Gigabit Ethernet optical ports (SFP+) and 2x 40 Gigabit Ethernet optical ports (QSFP+), Metal 1U cabinet for 19" racks. Up to two AC or DC power supplies (not included).	

DATACOM

Rua América, 1000 | 92990-000 | Eldorado do Sul | RS | Brasil +55 51 3933 3000 sales@datacom.com.br