

DATAKOM



DM4780

400GE CORE & AGGREGATION SWITCHES

DATASHEET

DM4780

100/200/400GE CORE AND AGGREGATION SWITCH

IP/MPLS SWITCH BASED ON THE DMOS NETWORK OPERATING SYSTEM, WITH 100/200/400GE INTERFACES FOR HIGH-CAPACITY, VALUE-ADDED CORE AND METRO ETHERNET AGGREGATION APPLICATIONS.

The DM4780 Switch provides high switching capacity to meet the growing demands of IP traffic aggregation in Metro Ethernet access and aggregation networks, high-capacity enterprise networks, and server and network aggregation in Datacenters, always providing high performance and reliability. The DM4780 16CX+8DX model has 8 100GE ports, 8 200GE ports and 8 400GE ports in order to adapt to the different applications and demands of communication networks.

Based on the DmOS network operating system, the DM4780 switch ensures robustness and high availability of services on a platform that supports a series of L2, L3 and MPLS functionalities, among which we highlight the support for VLAN operations such as QinQ and VLAN Translate, LAG/LACP, ring operation through the EAPS or ERPS protocol, support for RSTP, static and dynamic IP routing protocols through OSPF and BGP, filters for access control policies (ACLs), QoS functionalities, among others. MPLS transport and aggregation features are also supported via LDP/LSR for creating point-to-point services (VPWS) and point-to-multipoint services (VPLS), as well as IP services over L3VPNs. All L2, L3 and MPLS packet forwarding, filter application and QoS policies are done in HW, ensuring wirespeed operation.

The product offers configuration through a command line (CLI) accessible by SSHv2, *Telnet* and RS-232 or USB console port. RADIUS and TACACS capabilities allow the creation of user access authentication and authorization policies. Local and remote *syslog*, NTP clients, and SNMP functionality are also available to enable remote management and troubleshooting of equipment.



DM4780 switches are 1RU devices ready for installation in standard 19-inch racks, feature LEDs, system status indicators, and alarms. They have power redundancy through two hot-swap slots for AC or DC power supplies, ensuring that the requirements of high-availability applications and services are met.

- Model DM4780 16CX+8DX contains 8 100GE ports on QSFP28 connectors, 4 200GE ports on QSFP56 connectors, 4 200GE ports on QSFP-DD connectors, and 4 400GE ports on QSFP-DD connectors.
- Support for 100GE/200GE/400GE Coherent transponder optical modules for DWDM applications
- Compact 1RU switches
- VLAN, QinQ, VLAN Translate, ERPS, and EAPS support for Metro Ethernet applications
- MPLS LDP, LSR, VPWS, VPLS, and L3VPN support for data aggregation and transport applications over high-capacity networks
- Static and dynamic routing through OSPF and BGP
- Two hot-swap slots for redundant AC or DC power supplies
- Support for IEEE 1588v2 and Sync-E sync protocols.

DmOS

TECHNICAL SPECIFICATIONS

DM4780 16CX+8DX		
HARDWARE FEATURES	AC/DC power	2 PSU slots (hot swap)
	PSU Compatibility	PSU 1300 AC-F PSU 1300 DC-F
	AC PSU – Power Input	100Vac to 240Vac
	DC PSU – Power Input	-48Vdc to -60Vdc
	Typical/Maximum Consumption	700W / 950W**
	Operating Temperature	0°C to 40°C
	Relative Humidity Operation	10% to 90%, non-condensing
	Altitude	0 to 3000m
	Storage Temperature	-20°C to 70°C
	Storage Relative Humidity	5% to 95%, non-condensing
	Dimensions in mm (H x D x W)	44 x 452 x 447
INTERFACES*	10G Base-X (SFP+)	1
	100G (QSFP28)	8
	100G/200G (QSFP56)	4
	100G/200G (QSFP-DD)	4
	100G/200G/400G (QSFP-DD)	8
	GE Outband Management (RJ45)	1
	Console (RJ45)	1
	USB (Storage)	1
PERFORMANCE	Throughput	11,24 Tbps
	Packets Per Second	2.604 Mpps

(*) The SFP+, QSFP28, QSFP56, and QSFP-DD interfaces are not blocked for use by third-party optical or electrical modules, but this does not guarantee compatibility with non-homologated modules.

(*) QSFP28 transceivers are compatible with QSFP-56 and QSFP-DD ports.

(*) QSFP56 transceivers are compatible with QSFP-DD ports.

(**) Much of the consumption of the DM4780 depends on the power consumed by the transceivers.

Note: To consult the product features, check the DmOS datasheet.

NORMS AND STANDARDS

ANATEL

Act 1120 (19 February 2018)	Electromagnetic Compatibility Technical Requirements for Conformity Assessment of Telecommunications Products
Act 14468 (December 5, 2017)	Technical Requirements for Product Conformity Assessment Data Network Equipment

SEARCH

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

IEEE

IEEE 802.3z
IEEE 802.3ae
IEEE 802.3by
IEEE 802.3ba
IEEE 802.3bm
IEEE 802.3bs
IEEE 802.3cm
IEEE 1588v2

ORDERING INFORMATION

Model	Description
DM4780 16CX+8DX <i>800.5309.xx</i>	Managed switch with L2, L3 and MPLS functionalities, with 8 400GE ports in QSFP-DD, 4 200GE interfaces in QSFP56 connectors, 4 200GE interfaces in QSFP-DD connectors and 8 100GE interfaces in QSFP28. 1U metal enclosure for 19" rack with 2 slots for FANs and 2 PSU slots. Outband management interfaces, RS232 console and USB. FAN modules come with the product. AC or DC power supply with redundancy option and SFP/SFP+/QSFP+/QSFP28/ QSFP56/ QSFP-DD modules must be purchased separately. MPLS feature requires license purchase.
PSU 1300 AC-F <i>743.6001.xx</i>	AC power supply with auto-adjusting full-range input from 90 to 264 VAC, 50/60Hz. Provides up to 1000W of output power under 90 to 140 VAC input power and up to 1300W with 180 to 264 VAC power. It has forced ventilation with air flow coming out of the source through the front handle side. It allows load-sharing operation, as a redundant source and accepts hot-swap.
PSU 1300 DC-F <i>743.6008.xx</i>	DC power supply with -48/-60 VDC input. Provides up to 1000W of output power under -36 to -40 VDC input power and up to 1300W with -40 to -72 VDC power. It has forced ventilation with air flow coming out of the source through the front handle side. It allows load-sharing operation, as a redundant source and accepts hot-swap.
FAN 1U-F-3x28 <i>800.5315.xx</i>	Slotable and hot-swappable ventilation module with airflow coming out of the module. Compatible with DM4780 16CX+8DX.
License DM4780 16CX+8DX - SW MPLS <i>012.4221.00</i>	Software license for use of MPLS functionalities on the DM4780 16CX+8DX.

OPTICAL MODULES & CABLES

Accessory	Description
Mo QSFP+ ETH - 40GBASE4 (40KM) 377.1400.00	QSFP+ 40GBase-ER4 single-mode optical module with LC connector, uses two fibers and has a maximum range of 40km. Performs monitoring via Digital Diagnostics.
MO QSFP+ ETH - 40GBase-LR4 (10km) 377.1401.00	QSFP+ 40GBase-LR4 single-mode optical module with LC connector, uses two fibers and has a maximum range of 10km. Performs monitoring via Digital Diagnostics.
MO QSFP+ ETH - 40GBase-SR4 (0.1km) 377.1402.00	QSFP+ 40GBase-SR4 multimode optical module with MPO connector and maximum range of 100m. Performs monitoring via Digital Diagnostics.
Mo QSFP28 ETH - 100Gbase-A4 (40km) 377.1405.00	QSFP28 100GBase-ER4 single-mode optical module with LC connector, uses two fibers and has a maximum range of 40km. Performs monitoring via Digital Diagnostics.
MO QSFP28 ETH - 100GBase-LR4 (20km) 377.1415.00	QSFP28 100GBase-LR4 single-mode optical module with LC connector, uses two fibers and has a maximum range of 20km. Performs monitoring via Digital Diagnostics.
MO QSFP28 ETH - 100GBase-LR4 (10km) 377.1404.00	QSFP28 100GBase-LR4 single-mode optical module with LC connector, uses two fibers and has a maximum range of 10km. Performs monitoring via Digital Diagnostics.
MO QSFP28 ETH - 100G 4WDM-10 (10km) 377.1414.00	QSFP28 100G 4WDM-10 single-mode optical module with LC connector, uses two fibers and has a maximum range of 10km. Performs monitoring via Digital Diagnostics.
DM-QSFP28-SR4-100m 377.1403.00	QSFP28 100GBase-SR4 multimode optical module with MPO connector and maximum range of 100m. Performs monitoring via Digital Diagnostics.
MO QSFP-DD ETH - 100GE OpenZR+ 377.1503.00	QSFP-DD Transponder DWDM 100G Tunable Channel Two Fiber Coherent Optical Module with Digital Diagnostics
MO QSFP56 ETH - 200G SR4 (100m) 377.1437.00	QSFP56 200GBase-SR4 multimode optical module with MPO connector and maximum range of 100m. Performs monitoring via Digital Diagnostics.
MO QSFP56 ETH - 200G FR4 (2km) 377.1438.00	QSFP56 200GBase-FR4 multimode optical module with LC connector and maximum range of 2km. Performs monitoring via Digital Diagnostics.
MO QSFP-DD ETH - 200GE LR4 (10km) 377.1439.00	QSFP-DD 200GBase-LR4 single-mode optical module with LC connector and maximum range of 10km. Performs monitoring via Digital Diagnostics. Supports operation on 200GAUI-4 and 200GAUI-8
MO QSFP-DD ETH - 400GE SR8 (100m) 377.1502.00	QSFP-DD 400GBase-SR8 multimode optical module with MPO connector and maximum range of 100m. Performs monitoring via Digital Diagnostics.
MO QSFP-DD ETH - 400GE DR4 (500m) 377.1511.00	QSFP-DD 400GBase-DR4 single-mode optical module with MPO connector and maximum range of 500m. Performs monitoring via Digital Diagnostics.
MO QSFP-DD ETH - 400GE LR4 / 4x 100GE LR1 (10km) 377.1509.00	QSFP-DD 400GBase-LR4 / 4 x 100GBase-LR1 single-mode optical module with MPO connector and maximum range of 10km. Performs monitoring via Digital Diagnostics.
MO QSFP-DD ETH - 400GE LR4 (10km) 377.1510.00	QSFP-DD 400GBase-LR4 single-mode optical module with LC connector and maximum range of 10km. Performs monitoring via Digital Diagnostics.
MO QSFP-DD ETH - 400GE OpenZR+ HPMR 377.1515.00	QSFP-DD Transponder DWDM Multirate Optical Module (100G/200G/300G/400G), Tunable Channel, Two Fibers, Coherent, with Digital Diagnostics. High Power.
Cable QSFP+ to QSFP+ Direct Attach Copper 1m 710.0384.00	Copper cable for interconnection of 40 Gigabit Ethernet ports, 1m long.
Cable QSFP+ to QSFP+ Direct Attach Copper 3m 710.0391.00	Copper cable for interconnection of 40 Gigabit Ethernet ports, 3m long.
Cable QSFP28 to QSFP28 Direct Attach Copper 1m 710.0395.00	Copper cable for interconnection of 100 Gigabit Ethernet ports, 1m long.
Cable QSFP28 to QSFP28	Copper cable for interconnection of 100 Gigabit Ethernet ports, 3m long.

Direct Attach Copper 3m <i>710.0396.00</i>	
Cable QSFP-DD to QSFP-DD Direct Attach Copper 1m <i>377.6210.00</i>	Copper cable for interconnection of 100 Gigabit Ethernet ports, 1m long.
Cable QSFP28 to QSFP28 Direct Attach Copper 2.5m <i>377.6211.00</i>	Copper cable for interconnection of 100 Gigabit Ethernet ports, 3m long.
SFP+ 10GbE <i>PN: consult</i>	SFP+ type optical module for 10 Gigabit Ethernet applications. Versions with varying power and range specifications are offered. Contact Datacom for information on available models

DATACOM

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