

DATACOM



DM4618

OLT – OPTICAL LINE TERMINATOR

PRODUCT DATASHEET

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DM4618

OLT – Optical Line Terminator

MODULAR AND HIGH CAPACITY SOLUTION FOR FTTX GPON ACCESS NETWORKS

GPON (Gigabit Passive Optical Network) is a technology for optical access, offering high speed and cost effective solution for broadband applications and Triple Play services (voice, video and data). This technology allows the sharing of fiber optics among clients, reducing cost and maximizing bandwidth use.

The DM4618 OLT is a modular and cost effective solution to provide FTTx services. DM4618 has 32 fixed GPON and a expansion slot that allows you to equip it with 32 more GPON interfaces⁽¹⁾. Supports 1:128 Split ratio on GPON interfaces, providing a capacity of up to 8192 subscribers. For uplink it has two 100GbE ports (QSFP28) and four 25/10GbE ports (SFP28/SFP+).

It is fully compatible with the ITU-T G.984 and ITU-T.988 standards. Each GPON link supports downstream rates of 2,488 Gbit/s and upstream rates of 1,244 Gbit/s and offers dynamic band allocation (DBA).

The equipment has a command line interface (CLI) accessible through SSHv2, Telnet and RS-232 Console. SNMP v1, v2c and v3 agents are available. In addition, it provides an XML interface based on the NETCONF standard.

Commit and rollback operations (commands and Firmware), the use of user authentication via RADIUS and TACACS, local and remote Syslog are available to facilitate the configuration, management and troubleshooting of the equipment.

- Compact desing
- Up to 32x GPON
- Expansion to more 32x GPON⁽¹⁾
- 4x 25/10GbE (SFP28)
- 2x 40/100GbE (QSFP28)
- GPON classes B+, C+ and C++
- DHCP option 82
- PPPoE Intermediate Agent
- Redundant and hot-swappable AC or DC power supplies
- Hot-swappable fan modules

DIGITAL CITIES

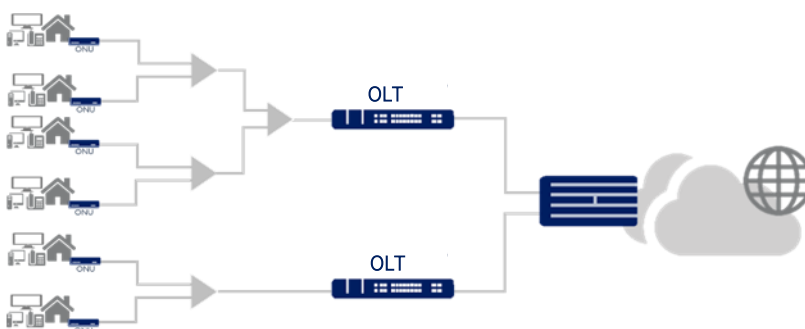
- Modernization of public administration
- Integration of all city institutions
- Presence in remote public administration districts
- Internet access for microbusinesses, creating opportunities
- Interconnection with emergency services, such as Fire Department and Civil Defense
- Educational laboratories with Internet access
- Remote surveillance
- Local or institutional News services through TV over the metropolitan network

APPLICATIONS

TRIPLE PLAY BROADBAND ACCESS

GPON technology, by means of optical access, provides users higher rates than copper and cable-based technologies, allowing voice (VoIP) and video (IPTV) convergence in a single access.

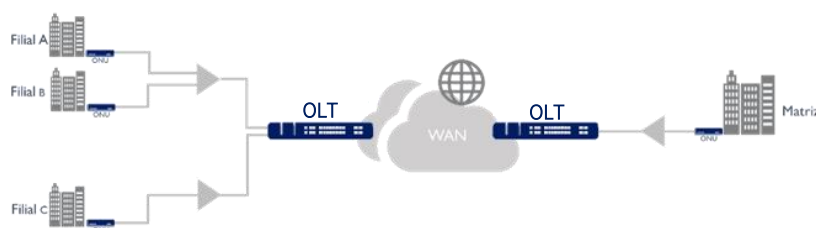
In addition, the feature of point-multipoint network and of passive elements between the central and users reduce the CAPEX and OPEX to offer these services.



CORPORATE SERVICES

The DM4618 provides various features, enabling the provision of data, voice and video services for small, medium and large companies.

The TLS (Transparent LAN Service) function, together with the hairpin, provides LAN-to-LAN services without the need of additional equipment, as for example, routers.



FTTD - FIBER TO THE DESK

The traditional design of LAN networks consists of a structure with copper cables connecting each user's equipment to an access switch, typically installed in a communications room. These access switches are connected to aggregation switches through point-to-point cables or fiber optics. The GPON, through FTTD, simplifies this network by replacing the switches typically by a central OLT central and ONUs on the user's site, reducing the network infrastructure by using passive elements, fiber optics and point-multipoint topology.

The DM4618 provides features that allow the implementation of LAN GPON networks for companies of various sizes and needs.

DIGITAL CITIES

Cities are the center of modern society and are becoming more complex every day. Technology can make life better and easier. In this context, universal public services are needed. However, the government shouldn't pay attention only to a digital inclusion network, but must also implement a high-performance network that fosters the city's development.

The implementation of the DM4618, associated with GPON equipment and DATACOM Ethernet switches, is a valuable and cost-effective solution for smart cities. Through the numerous features available, it is possible to connect public departments, provide fast, reliable and completely secure internet access to the population and companies.

STANDARDS

BROADBAND FORUM

TR-156	Using GPON Access in the context of TR-101
TR-167	GPON-fed TR-101 Ethernet Access Node
TR-255	GPON Interoperability Test Plan

IEEE

802.1D	MAC bridges
802.1Q	Virtual Bridged LAN (VLAN)
802.1AX	Link aggregation
802.3ad	
802.3z	1000BASE-X Gbit/s Ethernet over Fiber-Optic at 1 Gbit/s (125 MB/s)
802.3ab	1000BASE-T Gbit/s Ethernet over twisted pair at 1 Gbit/s (125 MB/s)
802.3ae	10 Gigabit Ethernet over fiber
802.3by	25 Gigabit Ethernet over fiber
802.3ba	100G/40G Ethernet for optical fiber

ITU-T

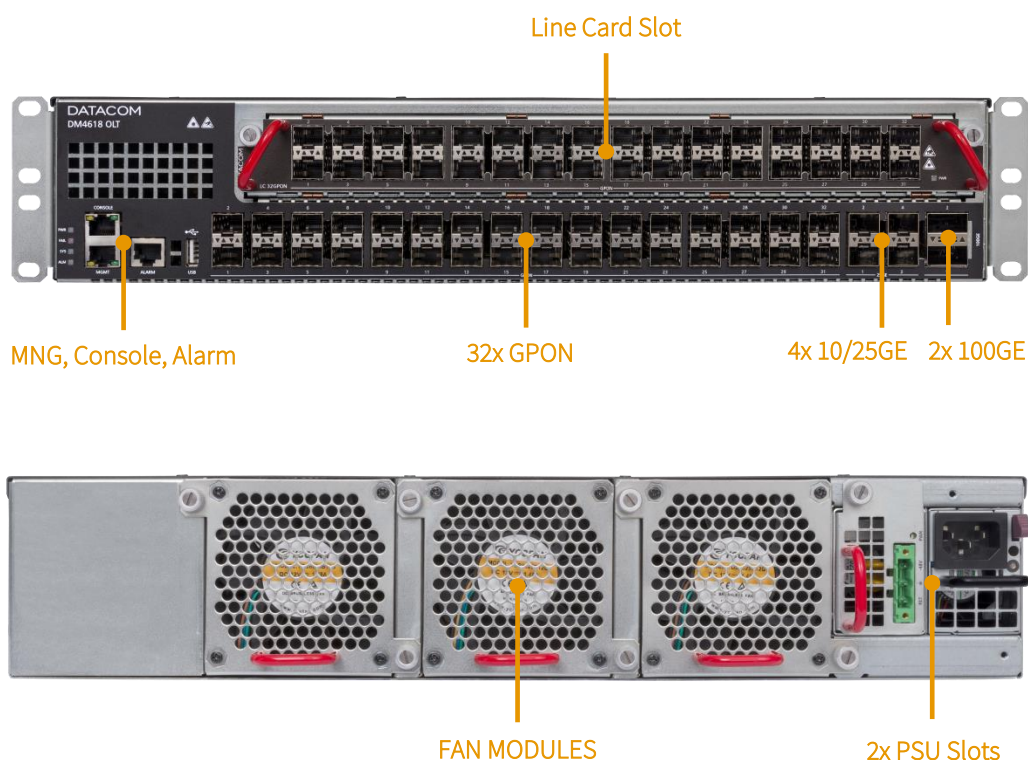
G.984.1	Gigabit-capable Passive Optical Networks (GPON): General characteristics
G.984.2	Gigabit-capable Passive Optical Networks (GPON): Physical Media Dependent (PMD) layer specification
G.984.3	Gigabit-capable Passive Optical Networks (G-PON): Transmission convergence layer specification
G.984.4	Gigabit-capable Passive Optical Networks (G-PON): ONT management and control interface specification

G.984.7	Gigabit-capable passive optical networks (GPON): Long reach
G.988	ONU management and control interface (OMCI) specification

IETF

RFC783	The TFTP Protocol (Revision 2)
RFC792	Internet Control Message Protocol (ICMP) (Ping IPv4)
RFC854	TELNET Protocol Specification
RFC1157	A Simple Network Management Protocol (SNMPv1)
RFC1213	Management Information Base for Network Management of TCP/IP-based internets: MIB-II (Obsoletes RFC 1158)
RFC1215	A Convention for Defining Traps for use with the SNMP - TRAPS MIB
RFC1441	Introduction to version 2 of the Internet-standard Network Management Framework (SNMPv2)
RFC1901 a RFC1908	SNMPv2c
RFC2030	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI
RFC2348	TFTP Blocksize Option (obsoletes RFC1783)
RFC2516	A Method for Transmitting PPP Over Ethernet (PPPoE)
RFC2865	Remote Authentication Dial In User Service (RADIUS) (obsoletes RFC 2138)
RFC3410 a RFC3418	SNMPv3 agent

TECHNICAL SPECIFICATIONS







Category	Item	Specification
Interfaces	Expansion Slot (Line Card)	1 slot
	Fixed GPON Interfaces	32
	GPON Line Card (Expansion) ⁽¹⁾	32
	Total GPON ⁽¹⁾	Up to 64
	1/10/25GE SFP28	4
	40/100GE QSFP28	2
	GE Outband Management (RJ45)	1
	Console (RJ45)	1
	USB Console	1
	Alarms	1 output e 2 inputs ⁽¹⁾
	LEDs	Power, ALM, Fail, Sys
Environmental Information	Operating Temperature	0°C to 65°C
	Operating Relative Humidity	0% to 95%, uncondensed
	Altitude	0 to 3000m
	Storage Temperature	-10°C to 70°C
	Storage Relative Humidity	0% to 95%, uncondensed

Dimensions and Weight	Height	87,15 mm (2U)
	Width (with L adaptors)	482 mm
	Width (without L adaptors)	447 mm
	Depth	391 mm
	Net weight (without accessories)	8,55Kg
Power Supplies	Power Supplies	2 slots for hot-swappable AC or DC PSU
	AC Power Supply: PSU 600 AC	Rated Operating Voltage: 100 to 240VAC 50/60HZ
	DC Power Supply: PSU 600 DC	Rated Operating Voltage: -48 to -60VDC (+20%)
	Typical Power Consumption	220W
Scalability	Jumbo frames (Ethernet)	10.000 bytes
	Jumbo frames (GPON)	2.000 bytes
	ONUs GPON per PON link	128
	T-CONTs per PON link	768
	GEM Ports per PON link	2048
	Service-ports	32.768
Software	DmOS	8.0 or higher

More information about features and scalability can be found in the DmOS datasheet.

DM4618 PART-NUMBERS

Product	Description	
DM4618 OLT 800.5274.xx (FAN included)	OLT with 32 GPON ports, 2x 40/100Gbit/s (QSFP28) ports, 4x 25/10 Gbit/s (SFP28/SFP+), 1 Expansion slot for Line Card. Hot-swappable FANs included. Two slots for redundant and hot-swappable Power Supply AC or DC. Power supply and SFPs must be purchased separately.	
DM4618 LC 32GPON ⁽¹⁾ 800.5275.xx	DM4618 expansion line card with 32 GPON interfaces.	
PSU 600 AC-F 820.0018.xx	Power supply with 100Vac to 240Vac input. It allows hot swapping and operates in redundancy with backup source.	
PSU 600 DC-F 800.5257.xx	Power supply with -48Vdc input. It allows hot swapping and operates in redundancy with backup source.	
FAN 2U-F-50 (Spare part) 800.5282.xx	Hot-Swappable FAN module for the DM4618. This item is used as spare part.	

ACCESSORIES

Product	Description
SFP GPON B+ PN: Inquire	SFP single-fiber optical module, Singlemode, 1490 nm, compatible with Digital Diagnostics, DFB, output power of 1.5 dBm and sensitivity of -28 dbm.
SFP GPON C+ PN: Inquire	SFP single-fiber optical module, Singlemode, 1490 nm, compatible with Digital Diagnostics, DFB, output power of 3dBm and sensitivity of -30 dbm.
SFP GPON C++ PN: Inquire	SFP single-fiber optical module, Singlemode, 1490 nm, compatible with Digital Diagnostics, DFB, output power of 6dBm and sensitivity of -32 dbm.
SFP 1GBE Optical PN: Inquire	SFP optical module for Gigabit Ethernet applications.
SFP 1GBE Electrical PN: Inquire	SFP electrical module for Gigabit Ethernet applications.
SFP+ 10GBE PN: Inquire	SFP+ optical module for 10 Gigabit Ethernet applications.
SFP28 25GBE PN: Inquire	SFP28 optical module for 25 Gigabit Ethernet applications.
QSFP+ 40GBE PN: Inquire	QSFP+ optical module for 40 Gigabit Ethernet applications.
QSFP28 100GBE PN: Inquire	QSFP28 optical module for 100 Gigabit Ethernet applications.

(1) Product or feature in Roadmap. Contact Datacom for availability information.

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