

DATACOM



DM985

GPON ONU – OPTICAL NETWORK UNIT

PRODUCT DATASHEET

DM985

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HIGH CAPACITY SOLUTION FOR FTTH GPON ACCESS NETWORKS

GPON (Gigabit Passive Optical Network) is a technology for optical access, offering high speed and cost-effective solution for broadband and Triple Play services (voice, video and data). This technology allows fiber optic sharing among customers, reducing cost and maximizing bandwidth usage.

GPON ONU (Optical Network Unit) DM985 family offers access solution for high-speed fiber optic. It delivers data, voice and video over IP services for residential users. Ethernet data is transported transparently over GPON link and delivered to an optical line termination unit (OLT) as the DM4610 OLT (4-GPON and 8-GPON) and the DM4615 (16-GPON).

DM985-424 model has an advanced Wi-Fi interface to support applications that demands high data traffic. Four high-gain external antennas (two for 2.4 GHz and two for 5 GHz) provide superior coverage, which together with MIMO 2x2 and 5.8 GHz beamforming creates a fast and stable Wi-Fi connection.

It is fully compatible with ITU-T G.984 and ITU-T G.988.

- GPON class B+ Transceiver
- Low power consumption
- Designed for high availability
- Modern and stylish design
- Gigabit Ethernet interface
- Bridge / router
- Wi-Fi Dual Band
- MIMO 2x2
- High gain external antennas
- Beamforming in 5 GHz

FEATURE LIST

GPON

- Compliant with ITU-T G.984.
- SC/APC connector
- Supports burst mode of 1.244 Gbit/s Upstream
- Supports reception of 2.488 Gbit/s Downstream
- Laser type B+, according to ITU-T G.984.2 Amd1
 - Transmitter Power: +0.5dBm to +5dBm
 - Receiver Sensitivity: -27dBm
 - Reception overload: -8dBm
 - Wavelengths:
 - Upstream: 1310nm
 - Downstream: 1490nm
- Laser according to FCC 47 CFR Part 15, Class B, FDA 21 CFR 1040.10 and 1040.11, Class I
- Dying Gasp
- Activation by automatic Discovery of serial number and password as per ITU-T G.984.3
- VLAN 802.1p Upstream
- Flexible mapping between GEM Ports and TCONTs
- AES-128 decryption
- DBA support

MANAGEMENT

- IPv4 WEB management
- Allows remote firmware upgrade through OLT and Web interface.
- Web interface with two access security levels
- Factory reset
- Provisioning via OMCI protocol according to G.984.4 and G.988

ROUTER

- Multiple WAN connections
- Point-to-point Protocol over Ethernet (PPPoE client)
- Dynamic Host Configuration Protocol (DHCP client)

- Static IP assignment
- DHCP server for LAN interfaces
- NAT/NAPT
- IPv4 and IPv6 support ⁽¹⁾
- DNS Relay
- SNTP

GIGABIT ETHERNET INTERFACE – LAN

- 10/100/1000 Base-T using RJ-45 connectors
 - DM985-100: 1 port
 - DM985-424: 4 ports
- Auto negotiation or manual configuration
- MDI/MDIX
- Bridging (802.1D)
- Virtual switch based on 802.1q

FXS ⁽²⁾ (VOICE)

- 2 x RJ-11 Connectors
- DTMF dialing
- Multiple Voice CODECs
- Echo cancellation according to ITU-T G.168
- Packet Loss Concealment
- SIP (RFC3261)
- SDP (RFC2327)
- RTP (RFC3550/3551)

WIRELESS (WI-FI)

- 802.11 a/b/g/n/ac
- Dual band: 2,4 GHz and 5,8 GHz
- 2,4 GHz: MIMO 2x2 using two 5 dBi external antennas
- 5,8 GHz: Beamforming MIMO 2x2 using two 5 dBi external antennas

(1) IPv6 is not supported on DM985-100

(2) FXS ports will be enabled in future firmware versions.

STANDARDS AND PROTOCOL

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 (GPON): Transmission convergence layer specification
G.984.4	Gigabit-capable passive optical networks (GPON): ONT management and control interface specification
G.988	Gigabit-capable passive optical networks (GPON): ONU management and control interface (OMCI) specification

BROADBAND FORUM

TR-156	Using GPON Access in the context of TR-101
TR-247	GPON ONU Conformance Abstract Test Plan
TR-255	GPON Interoperability Test Plan

IEEE

802.1D	MAC bridges
802.1Q	Virtual Bridged LAN (VLAN)
802.1P	VLAN Priority
802.3i	10BASE-T 10Mbit/s (1.25 MB/s) over twisted pair
802.3u	100BASE-TX Fast Ethernet at 100 Mbit/s (12.5 MB/s) w/auto negotiation
802.3ab	1000BASE-T Gbit/s Ethernet over twisted pair at 1 Gbit/s (125 MB/s)
802.3x	Flow Control

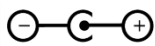
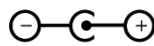
ELECTROMAGNETIC COMPATIBILITY

ANATEL – Act 1120 - Technical Requirements for Electromagnetic Compatibility for the Evaluation of Telecommunication Product Conformity

SAFETY

ANATEL – Act 950 - Requirements for the Evaluation of the Conformity of Telecommunications Equipment with respect to the Aspects of Electrical Safety





TECHNICAL SPECIFICATIONS

		DM985-100	DM985-424
DIMENSIONS	Height	29 mm	45 mm
	Width	130 mm	149 mm
	Depth	105 mm	210 mm
OPERATING CONDITIONS	Temperature Range	0°C to 50°C	0°C to 50°C
	Relative Humidity	5% to 95%, non-condensing	5% to 95%, non-condensing
POWER SUPPLY	Input	100 Vac to 240 Vac Full Range, 50 to 60Hz	100 Vac to 240 Vac Full Range, 50 to 60Hz
	Output	12 Vdc, 500mA	12 Vdc, 1500mA
	Average power consumption	< 4 W	< 15 W
	Polarity		
INTERFACES	10/100/1000 Base-T	1	4
	FXS	-	2
	WLAN	-	802.11 b/g/n/ac
	USB	-	1 (USB 2.0)
FEATURES	Router	Yes	Yes
SCALABILITY	MAC table (bridge)	No limit *	- *
	MAC table (router)	253 addresses	8k addresses
	Maximum number of WANs	2	2
	Jumbo frames (Ethernet)	1500 bytes	1500 bytes
	Jumbo frames (GPON)	1500 bytes	1500 bytes
	GEM Ports per T-CONT	8	8
	Maximum number of GEM Ports	8	8
	Maximum number of T-CONTs	8	8
	Maximum throughput (bridge)	980 Mbps up/down	-
	Maximum throughput (router)	970 Mbps up/down**	970 Mbps up/down**

* In DM985-100 bridge mode, MAC learning is off. Bridge mode is not supported on DM985-424

** Valid for L4 (UDP / TCP) traffic / connections.

ORDERING INFORMATION

Model	Description	
DM985 - 100 <i>825.8005.xx</i>	GPON ONU with one LAN 10/100/1000Base-T (RJ45). Bridge and router operation. WAN-PPPoE or WAN-IP. Plastic cabinet. External AC power supply included.	
DM985 - 100 (without Power Supply) <i>825.8007.xx</i>	GPON ONU with one LAN 10/100/1000Base-T (RJ45). Bridge and router operation. WAN-PPPoE or WAN-IP. Plastic cabinet. Requires external AC power supply (not included).	
DM985 - 424 <i>825.8006.xx</i>	GPON ONU with four LAN 10/100/1000Base-T (RJ45), two FXS (RJ11) and one USB port. Router operation. WAN-PPPoE or WAN-IP. Plastic cabinet with four external antennas. External AC power supply included.	
DM985 - 424 (without Power Supply) <i>825.8008.xx</i>	GPON ONU with four LAN 10/100/1000Base-T (RJ45), two FXS (RJ11) and one USB port. Router operation. WAN-PPPoE or WAN-IP. Plastic cabinet with four external antennas. Requires external AC power supply (not included).	

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