DATACOM

DM986 - 414

ONU GPON

DATASHEET

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ONU - Optical Network Unit

GPON (Gigabit Passive Optical Network) is a solution for optical access, offering high speed and great cost benefit for broadband applications and Triple Play services (voice, video and data). This technology allows the sharing of optical fiber among customers, reducing the cost and maximizing the use of band and installed fibers.

The DM986-414 is a complete EPON and GPON ONU compliant with ITU-T G.984, ITU-T G.988 and IEEE 802.3ah standards for high speed fiber optic access applications, allowing data, voice and video over IP services to be offered for home users. Ethernet data is transported transparently over the GPON link and delivered to a line termination unit (OLT, Optical Line Termination), such as the DM4610 OLT (4-GPON and 8-GPON), the DM4615 OLT (16-GPON) and the DM4618 OLT (64-GPON).

The ONU has an advanced Wi-Fi interface to support applications that require high data traffic. Four high-gain external antennas (two for 2,4GHz and two for 5,8GHz) installed on two rods offer superior coverage, which together with MIMO 2x2 and Beamforming at 5,8GHz, create a fast and stable Wi-Fi connection.

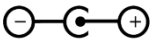
Supports mesh functionality through the Easymesh standard, expanding network coverage. In this solution, the DM986-414 ONU operates in controller mode, managing links between mesh routers that connect and distribute the signal forming a single network, providing a quality signal in places with low signal quality.

The DM986-414 ONU supports Preset settings, which allows the customization of factory settings, so that when the customer performs a reset on the equipment, it returns to the default defined in the preset and not to the manufacturer's default settings.

DM986-414 also has the remote management feature through the TR-069 protocol. With this feature, the ISP can manage, through the cloud, all the routers installed at its subscribers.Management by TR-069 allows the ISP to perform diagnostics and tests remotely, reducing operational costs.

- ONU GPON Gigabit Ethernet with Wi-Fi Dual Band
- EPON Support
- GPON classe B+ Transceiver
- Four LAN Gigabit Ethernet interfaces
- FXS Voice Interface
- Wi-Fi IEEE 802.11 b/g/n 2.4GHz and IEEE 802.11ac 5.8GHz
- MIMO 2x2 and Beamforming
- High gain external antennas

Technical Specifications

Item	Description
Dimensions (H x W x D)	27 x 184 x 136 mm (without antennas)
Operational Conditions	Temperature: 0°C to 50°C – Humidity: 10% to 90%, non-condensing
Storage Conditions	Temperature: -40°C to 70°C – Humidity: 5% to 95%, non-condensing
Power Supply	External adapter. Input: 100 ~ 240 Vac, 50/60Hz – Output: 12V, 1A
Average Power Consumption	< 12 W
Polaridade	
xPON	1x EPON / GPON port, SC/APC connector
	According to ITU-T G.984, ITU-T G.988 and IEEE 802.3ah.
	1.244 Gbit/s em upstream e 2.488 Gbit/s em downstream
	Laser type B+, according to ITU-T G.984.2 Amd1 Trasmission Power: +0.5dBm to +5dBm, Reception Sensibility: -28dBm Wavelengths: upstream 1310nm and downstream 1490nm Laser according to FCC 47 CFR Part 15, Class B, FDA 21 CFR 1040.10 and 1040.11, Class I
	AES-128 decryption
	DBA support
	Unlocked for third-party OLTs
Wi-Fi	Wi-Fi interface according to IEEE 802.11 a/b/g/n/ac
	2,4GHz MIMO 2x2 radio with two external antennas with 5dBi gain 5,8GHz MIMO 2x2 radio with two external antennas with 5dBi gain and Beamforming
	4 High gain (5dBi) external antennas, installed in two stems
	Operation channels 2.4GHz: 1 ao 11 and Auto mode Operation channels 5.8GHz: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 149, 153, 157, 161 and Auto
	Wi-Fi Transmission Power: **for 2.4 GHz** 19dBm , +-80mW (802.11b) 17dBm , +-50mW (802.11g) 17dBm , +-50mW (802.11n) --- **for 5.8GHz** 18,0dBm - 64mW (802.11a) 17dBm - 50mW (802.11n) 16dBm - 40mW (802.11ac)
	Wi-Fi Receiver Sensitivity **for 2.4Ghz** WiFi 2.4GHz: 11g 54M: -72dBm 11n HT20 MCS7: -70dBm 11n HT40 MCS7: -66dBm --- **for 5.8Ghz** 11a 54Mbps:-72dBm 11ac HT20 MCS7: -67dBm 11ac HT40 MCS7: -64dBm 11ac HT80 MCS9: -56dBm
	Band Steering support

	Connected Devices: Up to 64 devices connected simultaneously, 32 devices in 2,4Ghz and 32 devices in 5,8Ghz
	WEP, WPA2 (AES), WPA Mixed – [WPA (TKIP)/WPA2 (AES)] 64/128 bit Enterprise (802.1x) / RADIUS WPS - Wi-Fi Protected Setup
	WMM - Wi-Fi Multimedia
	Tx/Rx Band Control
	MAC based access permission
	Multiples SSID (up to 4 SSID in AP mode)
	Site Survey
Mesh	**EasyMesh** standard support: Controller mode
	Connection between Agents and Controller uses 5Ghz Backhaul or UTP Cable
	Supports up to 2 synchronized agents
	Mesh Agents Routers supported: DM955 and DM955M
LAN Ethernet Interface	4x LAN 10/100/1000 Base-T interface, RJ-45 connector
	Pinout identification via MDI/MDIX
	Virtual switch based on 802.1q
	DHCP IPv4/IPv6* Server, IPv4/IPv6* static
	Traffic blocking between LAN and Wi-Fi
	MTU: 1600 bytes
Voice Interface	1x interface POTS/FXS RJ11
	DTMF
	Multiples codecs (G711 *u*lau/*a*law, G729, G720, G722)
	SIP (RFC3261)
	Call Transfer, Call Waiting, DND (Dont´t Disturb), Alarm, Call History and Register status
Roteamento	Multiples WAN connections: - IPv4: PPPoE, IPoE (IP static and DHCP) - IPv6: PPPoE, IPoE (IPv6 static, SLAAC, DHCPv6, Auto)* - Bridged PPPoE and Transparent Bridge
	Multiple connectios LAN and Wi-Fi: DHCP IPv4/IPv6* Server, IPv4/IPv6* static
	IPv4/IPv6* Addressing
	NAPT IPv4/IPv6*Static routes
	DNS Proxy, Static DNS, Dynamic DNS
Security	DMZ
	Filtro por MAC e por IP/Port
	Port Forwarding, URL Blocking, IP Whitelist
	UPnP, Loop Detection
Management	Web interface management
	Remote management via TR-069
	Remote firmware upgrade via OLT or Web interface
	Provisioning by OMCI protocol according to G.984 and G.988
	Access ACL by WAN / LAN interfaces
	SNTP, Samba, Syslog Server
	Ping IPv4 / IPv6*, Traceroute IPv4 / IPv6*

(*)IPv6 functionalities have some restrictions detailed in the product's Release Notes, with updates to the corrections provided in the Roadmap.

Ordering Information

Model	Description	Photo
DM986 – 414 *825.8017.xx*	ONU GPON with integrated router, 4 portas LAN 10/100/1000Base-T (RJ45), 1 FXS interface and Wi-Fi dual-band IEEE 802.11b/g/n/ac with mesh support. Plastic cabinet with 4 High gain external antennas, installed in two stems. External AC power supply	

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