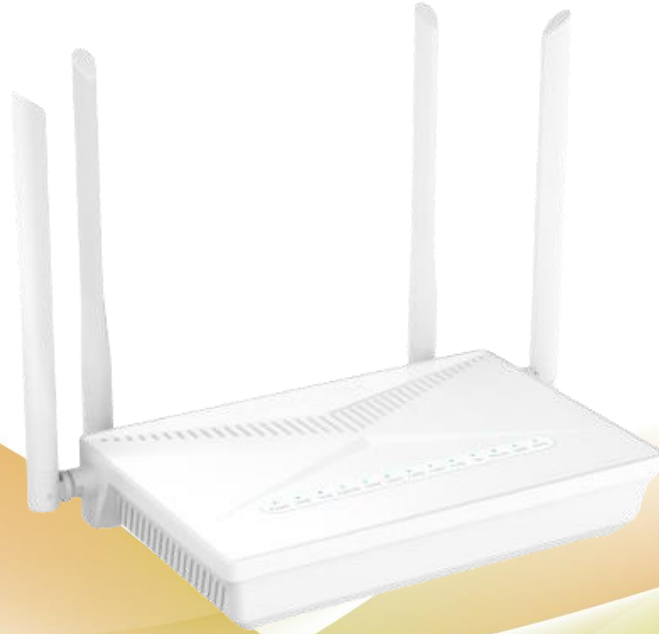


DATACOM



DM986 – 414Q

ONU GPON

DATASHEET

DM986 – 414Q

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 DM986-414Q 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 5GHz), which together with MIMO 2x2 and Beamforming at 5GHz, create a fast and stable Wi-Fi connection.


Supports mesh functionality through the Easymesh standard, expanding network coverage. In this solution, the DM986-414Q 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 DM986-414Q 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.

DM986-414Q 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 5Hz
- MIMO 2x2 and Beamforming
- High gain external antennas
- Integrated Optical Termination Point (OTP)

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
Polarity	
OTP	Integrated Optical Termination Point for better installation
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
	5GHz MIMO 2x2 radio with two external antennas with 5dBi gain and Beamforming
	4 High gain (5dBi) external antennas
	Operation channels 2.4GHz: 1 to 11 and Auto mode
	Operation channels 5GHz: 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 5GHz	
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 5Ghz	
11a 54Mbps:-72dBm	
11ac HT20 MCS7: -67dBm	
11ac HT40 MCS7: -64dBm	
11ac HT80 MCS9: -56dBm	
Band Steering support	

	<p>Connected Devices: Up to 64 devices connected simultaneously, 32 devices in 2,4Ghz and 32 devices in 5Ghz</p> <p>WEP, WPA2 (AES), WPA Mixed – [WPA (TKIP)/WPA2 (AES)] 64/128 bit Enterprise (802.1x Authentication) / RADIUS WPS - Wi-Fi Protected Setup</p> <p>WMM - Wi-Fi Multimedia</p> <p>Tx/Rx Band Control</p> <p>MAC based access permission</p> <p>Multiples SSID (up to 4 SSID in AP mode)</p> <p>Site Survey</p>
Mesh	<p>EasyMesh standard support: Controller mode</p> <p>Connection between Agents and Controller uses 5Ghz Backhaul or UTP Cable</p> <p>Supports up to 2 synchronized agents</p> <p>Mesh Agents Routers supported: DM955 and DM955M</p>
LAN Ethernet Interface	<p>4x LAN 10/100/1000 Base-T interface, RJ-45 connector</p> <p>Pinout identification via MDI/MDIX</p> <p>Virtual switch based on 802.1q</p> <p>DHCP IPv4/IPv6 Server, IPv4/IPv6 static</p> <p>Traffic blocking between LAN and Wi-Fi</p> <p>MTU: 1600 bytes</p>
Voice Interface	<p>1x interface POTS/FXS RJ11</p> <p>DTMF</p> <p>Multiples codecs (G711 <i>ulaw/alaw</i>, G729, G720, G722)</p> <p>SIP (RFC3261)</p> <p>Call Transfer, Call Waiting, DND (Don't Disturb), Alarm, Call History and Register status</p>
Routing	<p>Multiples WAN connections:</p> <ul style="list-style-type: none"> - IPv4: PPPoE, IPoE (IP static and DHCP) - IPv6: PPPoE, IPoE (IPv6 static, SLAAC, DHCPv6, Auto) - Bridged PPPoE and Transparent Bridge <p>Multiple connectios LAN and Wi-Fi: DHCP IPv4/IPv6 Server, IPv4/IPv6 static</p> <p>IPv4/IPv6 Addressing</p> <p>NAPT, IPv4/IPv6 Static routes</p> <p>DNS Proxy, Static DNS, Dynamic DNS</p> <p>DMZ, MAC and IP/Port filtering, Port Forwarding, URL Blocking, IP Whitelist</p> <p>UPnP, Loop Detection</p>
Management	<p>Web interface management</p> <p>Remote management via TR-069</p> <p>Remote firmware upgrade via OLT or Web interface</p> <p>Provisioning by OMCI protocol according to G.984 and G.988</p> <p>Access ACL by WAN / LAN interfaces</p> <p>SNTP, Samba, Syslog Server</p> <p>Ping IPv4 / IPv6, Traceroute IPv4 / IPv6</p>

ORDERING INFORMATION

Model	Description	Photo
DM986 – 414Q <i>825.8023.xx</i>	ONU GPON with integrated router, 4 LAN 10/100/1000Base-T (RJ45) interfaces, 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 and Integrated Optical Termination Point. External AC power supply	

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