DATACOM

DM986 – 416 AX30
ONU GPON AX3000

DATASHEET

DM986 – 416 AX30

ONU - Optical Network Unit

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

The DM986-416 AX30 is a complete ONU GPON model compliant with ITU-T G.984 and ITU-T G.988 standards for high-speed fiber optic access applications, enabling data, voice and video over IP services to be delivered to residential users. Ethernet data is transparently transported over the GPON link and delivered to an Optical Line Termination (OLT) unit, such as the DM4610 OLT (4-GPON and 8-GPON), DM4615 OLT (16-GPON) and the DM4618 OLT (64-GPON).

The ONU DM986-416 AX30 features the latest generation of 802.11ax Wi-Fi technology, which is backwards compatible with previous versions of 802.11 a/b/g/ac Wi-Fi, providing an extremely fast, reliable network with greater capacity. On the Wi-Fi6 AX3000, the 2.4GHz band enables a rate of up to 574Mbps, while the 5GHz band using a 160Mhz wide channel offers throughput of up to 2402Mbps.

It uses 1024-QAM modulation, which allows each symbol to carry 10 bits instead of 8 bits. Therefore, it is possible to have a 25% increase in bandwidth compared to 802.11ac that uses 256-QAM modulation.

It has four external high-gain antennas (two for 2.4GHz and two for 5GHz), offering superior coverage, which together with 2x2 MU-MIMO and Beamforming at 5GHz, creates a fast and stable Wi-Fi connection.In addition to having advanced wireless technology, the DM986 has four Gigabit Ethernet LAN ports, allowing the user to directly connect their wired devices and obtain maximum network performance and an FXS voice port.

ONU DM986-416 also has the remote management feature through the TR-069 protocol. With this feature, the ISP can manage all the routers installed on its subscribers through the cloud. Management by the TR-069 enables the ISP to perform diagnostics and tests remotely, reducing operational costs.

- ONU GPON Gigabit Ethernet with Dual Band Wi-Fi6 Interface
- GPON Class B+ Transceiver
- Four Gigabit Ethernet LAN Interfaces
- 1 FXS Voice Interface
- Wi-Fi6 IEEE 802.11 b/g/n/ac/ax
- 2x2 MIMO and Beamforming
- External antennas with high gain
- Preset Settings
- Integrated Optical Termination Point (OTP)
- TR-069 Management
- Easy Mesh
- Quad Core 1Ghz CPU

TECHNICAL SPECIFICATION

Item	DESCRIPTION
Dimensions (H x W x D)	27 x 184 x 134.5 mm (without antennas)
Environment	Temperature: 0oC to 40oC – Humidity: 10% to 95%, non-condensing
Storage	Temperature: -40oC to 70oC – Humidity: 5% to 95%, non-condensing
Power Supply	External source. Input: 100~240Vac, 50/60Hz – Output: 12V, 1.5A
Typical Consumption	< 18 W
Polarity	⊖—●—⊕
GPON	1x GPON on SC/APC connector
	Complies with ITU-T G.984 and ITU-T G.988.
	1,244 Gbit/s upstream and 2,488 Gbit/s downstream
	Laser type B+, according to ITU-T G.984.2 Amd1 Transmit Power: +0.5dBm to +5dBm, Receive Sensitivity: -28dBm Wavelengths: upstream at 1310nm and downstream at 1490nm Laser according to FCC 47 CFR Part 15, Class B, FDA 21 CFR 1040.10 and 1040.11, Class I
	Integrated OTP for better installation
Wi-Fi	Dual band Wi-Fi interface compliant with IEEE 802.11 a/b/g/n/ac/ax (Wi-fi6) standards
	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 support
	Baud Rate 2.4GHz – up to 574 Mbps (802.11ax) 5GHz – up to 2402 Mbps (802.11ax)
	OFDMA
	2.4 GHz operating channels: 1 to 13 and Auto mode 5GHz operating channels: 36, 40, 44, 48, 52, 56, 60,64, 149, 153, 157, 161 and auto mode
	Bandwidth: 2.4GHz - 20.40 MHz with 20/40 MHz coexistence 5GHz - 20, 40, 80, 160 MHz
	Wi-Fi power For 2.4Ghz 23dBm ~ 200mW (802.1b) 22dBm ~ 160mW (802.1g) 20dBm ~ 100mW (802.1n) 17dBm ~ 50mW (802.1ax) For 5Ghz 22dBm ~ 160mW(A) 20dBm ~ 100mW(N) 18dBm ~ 64mW(ac) 17dBm ~ 50mW(ax) 80M 17dBm ~ 50mW(ax) 160M
	Wi-Fi Sensitivity For 2.4Ghz 11g 54M: -74dBm 11n HT20 MCS7: -72dBm 11n HT40 MCS7: -68dBm 11ax HESU40 MCS11: -60dBm

	For 5Ghz 11to 54Mbps: -72dBm 11ac HT20 MCS7: -64dBm 11ac HT40 MCS7: -61dBm 11ac HT80 MCS9: -59dBm 11ax HESU80 MCS11: -56dBm 11ax HESU160 MCS11: -54dBm
	Devices connected simultaneously: total of 128, 64 at 2.4Ghz and 64 at 5Ghz
	Authentication WEP, WPA/WPA2, WPA-PSK/WPA2-PSK encryption,WPS - Wi-Fi Protected Setup
	WMM - Wi-Fi Multimedia
	Tx/Rx Band Control
	MAC Address-Based Access Permission
	Multiple SSIDs
	Site Survey
	Easy Mesh
Ethernet LAN Interface	4 10/100/1000 Base-T LAN interfaces on RJ-45 connector
	Pinout identification via MDI/MDIX
	802.1q-based virtual switch (VLAN, VLAN Translate, VLAN trunk)
	DHCP IPv4/IPv6 Server, IPv4/IPv6 Static
	Traffic blocking between LAN and Wi-Fi
	1600 byte MTU
Voice Interface	1x POTS/FXS interface in RJ11 connector
	DTMF Dialing
	Multiple codec support (G.729/G.722/G.711a/G.711)
	Cancellation of ECO
	T.38
	SIP as per RFC3261
	Call Transfer, *Call Waiting*, *Don't Disturb*, Alarm, *Call History, and* Log Status
Routing	Multiple WAN Connections: - IPv4 connections: PPPoE, IPoE (static IP and DHCP) - IPv6 connections: PPPoE, IPoE (static IPv6, SLAAC, DHCPv6, Auto) - Bridged PPPoE and Transparent Bridge
	Multiple LAN and Wi-Fi connections: DHCP IPv4/IPv6 Server, IPv4/IPv6 static
	IPv4/IPv6 Addressing
	NAPT IPv4/IPv6 Static Routes
	DNS Proxy, Static DNS, Dynamic DNS
Safety	DMZ
	Filtering by MAC and IP/Port
	Port Forwarding, URL Blocking, IP Whitelist
	UPnP
Management	Web or remote interface management via TR-069
	Allows firmware upgrade remotely via OLT or web interface
	Provisioning by OMCI protocol according to ITU-T G.984 and ITU-T G.988
	Preset Settings

	Access ACL via WAN/LAN interfaces
	SNTP, Syslog Server
	IPv4/IPv6 ping, IPv4/IPv6 traceroute

ORDERING INFORMATION

Model	Description	Photo
DM986 – 416 AX30 *825.8030.xx*	ONU GPON with built-in router, 4 x 10/100/1000Base-T (RJ45) LAN ports, 1 x FXS voice port, and dual-band IEEE 802.11b/g/n/ac/AX 3000 Wi-Fi with 4 external rods. Plastic enclosure and external AC source with automatic selection.	

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