

Optical Modem G-040P-R

The Optical Modem G-040P-R is a key part of Optical LAN, Nokia's next-generation fiber-based LAN solution, designed for seamless in-building and campus connectivity. Built for enterprise environments, it delivers gigabit speeds with four Gigabit Ethernet (GigE) user interfaces, ensuring top-tier performance for data, Wi-Fi, IoT, cloud, and video applications. The modem supports a fully standards-compliant Gigabit Passive Optical Network (GPON) fiber interface, providing reliable, high-performance connectivity.

The Optical Modem G-040P-R is an inwall optical modem designed for business offices, hospitals, hospitality, real estate developers, and other organizations requiring high-capacity LAN to support next-generation services, enhance productivity, and maintain a competitive edge. Its in-wall design allows for discreet installation, improving aesthetics and theft avoidance. It delivers a gigabit-speed experience to every user and connected device. With Power over Ethernet (PoE), it minimizes power consumption and eliminates the need for local power sources. The G-040P-R is fully compatible with the MF-2 Optical Switch and the Command Center.



Features

- Four RJ-45 10/100/1000 Ethernet ports
- Wire speed data transfer for all packet sizes
- Optics support received signal strength indication (RSSI)
- IEEE802.3bt PoE on all four ports with PoE++ (max 60W per port, ceiled to 130W max at device level)
- DC Powering

Benefits

- Provide capacity and coverage with the lowest network total cost of ownership.
- Deliver connectivity to Ethernet and wireless devices
- Support PoE+ /PoE++, reducing the need for local power

Technical specifications

Physical

- Height: 78 mm
- Width: 144 mm
- Depth: 55 mm
- Weight: 0.238 kg (0.53 lb)

Operating environment

- Temperature: -5 to 45°C
- Operating humidity: 5% to 95%, non-condensing

Power

- Local powering with 56V DC, 2.68A
- Dying gasp
- Power consumption: ONT only: <5 W; total with PoE++: <130 W

Surge protection

- LAN: 2.5Kv

GPON uplink

- Wavelength: 1490 nm downstream, 1310 nm upstream
- 2.488 Gb/s line rate downstream and 1.244 Gb/s line rate upstream
- GPON Encapsulation Method (GEM) mode support for IP/Ethernet service
- G.984.3 compliant Forward Error Correction (FEC)
- GEM port and T-CONT flexible mapping
- G.984.3 compliant dynamic bandwidth reporting (DBR)
- G.984.3 compliant Advanced Encryption Standard (AES) in downstream
- G.988 Appendix 1 and Appendix 2 ONT Management and Control Interface (OMCI)

Ethernet interface

- Eight 10/100/1000 Base-T interface with RJ45 connector
- Ethernet port auto negotiation or manual configuration

- MDI/MDIX automatically sense
- Virtual switch based on IEEE 802.1q virtual LAN (VLAN)
- VLAN tagging/detagging and marking/remarking of IEEE 802.1p per Ethernet port
- Differentiated Services Code Point (ToS/DSCP) to IEEE 802.1p mapping for untagged frames of IPv4
- Class of Service (CoS) based on VLAN-ID, IEEE 802.1p bit
- IGMP v2/v3 snooping
- Built-in Layer2 switch
- 802.1x access and MAB control
- LLDP support

Power over Ethernet

- IEEE 802.3af (Type1) and IEEE 802.3at (Type2) IEEE 802.3bt (Type3) power sourcing equipment (PSE) standard
- Maximum 60W output for each Ethernet port
- Total 130W power budget
- Per port management, enable /disable, power class config and priority setting

OAM

- Support OMCI
- Alarm report, performance monitoring
- Remote software image download /activation / reboot over OMCI

LED

- Power
- PON
- LAN 1~4
- POE 1~4

Regulatory compliance

- UL
- FCC Part 15, subpart B
- CE Mark
- CB Mark



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As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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