

ONT-140R

High-Performance Outdoor GPON ONT



- ITU G.984-compliant GPON ONT
- Indoor and outdoor applications
- Enhanced QoS and multicast for video
- Four 10/100/1000 Ethernet and two POTS interfaces

ONT-140R is a versatile outdoor ONT product featuring four 10/100/1000 Gigabit Ethernet interfaces and two POTS interfaces.

ONT-140R complies with the ITU-T G.984, G.988 and TR-069 set of standards.

It is part of RAD's full GPON solution that includes both OLT (Optical Line Terminal) and ONT (Optical Network Terminal) platforms.

MARKET SEGMENTS AND APPLICATIONS

RAD offers a series of advanced GPON ONT elements designed for next-generation Optical Access networks deployed in FTTH (Fiber-to-the-Home) and FTTB (Fiber-to-the-Building) scenarios. The product line addresses the rapidly growing service provider needs for flexible, high-capacity fixed-line broadband solutions to support emerging high bandwidth video applications (e.g., IPTV, Mobile backhaul, MTU, VOD) in enterprises, residential deployments, and aggregation networks.

SERVICES

Using standard OMCI and TR-069 protocols, ONT-140R can be configured to provide IPTV, VOD, IOT, Internet, and VoIP services.

ETHERNET

ONT-140R has four Ethernet interfaces for delivery of Ethernet services such as high-speed Internet, IPTV streaming, mobile backhaul, and business Ethernet services.

POTS

ONT-140R has two POTS interfaces for voice services to public switched telephone networks (PSTN).

CERTIFICATIONS AND REGULATORY STANDARDS

ONT-140R complies with RoHS, FCC part 15 sub-part B Class A, UL 62368-1 standards.

POWER BACKUP (UPS)

ONT-140R is provided with lifeline service power source with in-home battery backup and alarm monitoring.

MECHANICAL AND ENVIRONMENTAL

ONT-140R has an environmentally hardened IP45 rated enclosure suitable for outdoor environments.

Specifications

ETHERNET INTERFACE

Number of Ports	Up to 4
Compliance	Meets 802.3 specifications
Type	10/100/1000 Mbps
Connector	RJ-45
Max MTU Size	8000 Bytes
Port Connection	Max 100m length with CAT5 cable auto MDI/MDIX

LAYER 2 CAPABILITIES

Features	Port-based Ethernet frame filtering
	Source/destination IP and MAC addresses
	IEEE 802.3as
	Multicast
	QoS based on 802.1p and 802.1q
	802.1p marking based on DSCP
	IEEE 802.1d bridging
	Ingress/egress IEEE 802.1p tagging, replacement, and stripping
	IEEE 802.1ad double tagging
	Traffic class forwarding to GEM port and TCONT
	IGMP snooping
	IGMP v2/v3

ONT-140R

High-Performance Outdoor GPON ONT

POTS INTERFACE

Number of Ports	2
Type	FXS
Connector	RJ-11
Signaling	SIP and IMS
Locale Selection	Based on country profile
Codecs	G.711 a-law, G.711 u-law, G.729 Media and signal are separated
Fax	Transparent fax, T.38 relay
DTMF	Inband, RFC2833, SIP info, V.18 support
Voice Activity Detection	SIP support
Transport	UDP and TCP
Ring Voltage	56-84 VAC
Max Cable Length	100m

GPON INTERFACE

Connector	SC/APC
Wavelength	1490 nm/1310 nm
Distance	20 km between closest and farthest ONT from OLT, as per GPON standards
Transmission	As per ITU-T G.984
Optical Module	Class B+
Optical Transmit Power	+0.5 to +5 dBm
Receiver? Sensitivity	-28 dBm
Data Rates	2488 Mbps downstream 1244 Mbps upstream
GEM Ports	32 TCONT and 128 GEM port IDs
Monitoring	HW dying gasp Ranging and activation process

MANAGEMENT

Protocols	G.988 (OMCI), TR-069
Options	Web UI
Firmware	Firmware upgrade, active and alternative firmware images

TRAFFIC MANAGEMENT

Downstream	AES-128 encryption and key exchange process FEC, RS (255, 239) Dedicated independent TX queues for PLOAM and CPU packets
Upstream	FEC, RS (255, 239) Normal queues for PLOAM and CPU packets
Layer 2/3/4 Capabilities	Port forwarding Port/VLAN bridging IPV4/IPV6 flow routing for policy rate IPOE/DHCP/PPPoE/WAN hardware forward

MONITORING AND DIAGNOSTICS

Features (upstream only)	Performance monitoring Faults and alarms Alarm report and suppression (ARC) BER monitor
LEDs	Visual status indicators

GENERAL

Environment

Operating Temperature	-40°C to 65°C (-40°F to 149°F)
Altitude	Up to 4000m
Outdoor Rating	IP45
Misc	Salt, fog resistant Wind-driven and rain protection Anti-dust enclosure

ONT-140R

High-Performance Outdoor GPON ONT

Power

Input Voltage	12 VDC +/-10%
Current	1.0A
Connector	7-pin combicon connector (terminal block) for power and alarm
Residential Battery Backup Source	UPS
Power Termination	Max cable length 15m for power and alarm (AWG16/24)
Power Saving	As per ITU-T 984.3 (01/2014) of ONU power management aspects

Physical

Dimensions	H323 mm*W251 mm*D97 mm
Outdoor Installed Height	1.5m
Weight	1.5 kg

Ordering

ONT-140R/4GEU/2FXS

ONT-140R device with four 10/100/1000 Mbps Ethernet ports, two FXS ports GPON optics (B+), SC/APC ANI, UPS monitoring, 12-VDC input (UPS is not included)

International Headquarters

24 Raoul Wallenberg St., Tel Aviv 6971923, Israel
Tel 972-3-6458181 | Fax 972-3-7604732
Email market@rad.com

North American Headquarters

900 Corporate Drive, Mahwah, NJ 07430, USA
Tel 201-529-1100 | Toll Free: 800-444-7234 | Fax: 201-529-5777
Email market@radusa.com



Your Network's Edge®

www.rad.com

556-113-10/21 (1.0) Specifications are subject to change without prior notice. © 2020–2021 RAD Data Communications Ltd. The RAD name, logo, logotype, and the product names Airmux, IPmux, MiNID, MiCLK, Optimux, and SecFlow are registered trademarks of RAD Data Communications Ltd.. All other trademarks are the property of their respective holders.