LAYER 3 GPON OLT · U5 SERIES

U5-8

8-Port GPON OLT · 1U Pizza-Box · 4× GE + 2× GE SFP + 2× 10GE SFP+ Uplinks

8×	1:128	2× 10GE	104 Gbps	45 W
GPON PORTS	MAX. SPLIT RATIO	SFP+ UPLINKS	BACKPLANE BANDWIDTH	POWER CONSUMPTION

01 OVERVIEW

The UGRID U5-8 is a compact 1U pizza-box Layer 3 GPON OLT with 8 PON ports, built for fast, flexible FTTx access in sparse, remote and cost-sensitive areas, smart industrial parks, commercial buildings and FTTM. Eight uplinks — 4× GE RJ45, 2× GE SFP and 2× 10GE SFP+ — with LACP and STP/RSTP redundancy and RIP/OSPF dynamic routing connect it directly to the aggregation layer. Its small, lightweight chassis and AC or DC power options suit equipment rooms, basements, low-voltage rooms, small racks and cabinets, or sites shared with wireless base stations.

Low-density & remote areas
Right-sized PON capacity for sparse, remote or cost-sensitive service areas.

Buildings & industrial parks
FTTH / FTTB for commercial buildings, residential towers and smart industrial parks.

FTTM & shared sites
Fiber-to-the-mobile backhaul; shares a site or rack with wireless base stations.

DEPLOYMENT SCENARIOS

FTTH · FTTB / MDU · Commercial buildings · Smart industrial parks · FTTM · Remote access

02 KEY FEATURES

Compact 1U, flexible power
1U 19-inch box, 4.05 kg; single AC, dual AC, dual DC or AC + DC power configurations.

Layer 3 routing
Static routing, RIP v1/v2, RIPng and OSPF v2/v3, ARP proxy and 4,096 hardware host routes.

Simple ONT management
ONT auto-discovery, link detection and remote software upgrade, with online ONT configuration.

Flexible uplinks
4× GE RJ45, 2× GE SFP and 2× 10GE SFP+ uplinks with static / dynamic LACP and STP / RSTP redundancy.

Carrier-class security
RADIUS, TACACS+, IP source guard, ACL, port isolation and broadcast-storm control.

Lower TCO
Saves investment in trunk fiber, duct work and facilities, reducing both CapEx and OpEx.

03 TYPICAL APPLICATION

The U5-8 serves subscribers over GPON through passive optical splitters (up to 1:128 per PON port) and uplinks over 10GE SFP+ to a UGS3 Series L3 aggregation switch.

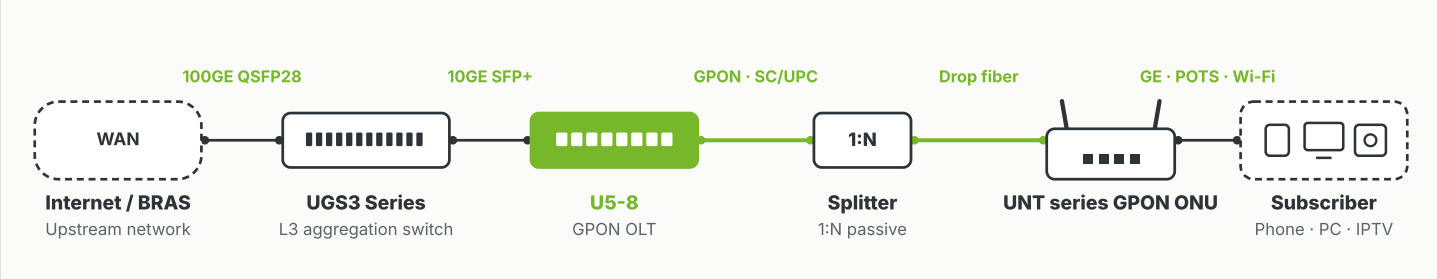

Figure 1 — UGRID end-to-end GPON FTTx architecture (U5-8 highlighted).

04 HARDWARE SPECIFICATIONS

CHASSIS & INTERFACES	
Chassis	1U, 19-inch standard box
PON ports	8× GPON (SFP slots)
Uplink ports	4× GE RJ45 2× GE SFP 2× 10GE SFP+
Management ports	1× 10/100/1000BASE-T out-of-band, 1× console, 1× USB 2.0

PON PORT SPECIFICATION	
GPON line rate	Upstream 1.244 Gbps, downstream 2.488 Gbps
Wavelength	TX 1490 nm, RX 1310 nm
Connector / fiber	SC/UPC; 9/125 µm single-mode fiber
Transmission distance	20 km
Max. split ratio	1:128
Supported PON module class	B+, C, C+, C++, C+++

Maximum split ratio and transmission distance depend on the optical link budget, splitter insertion loss, fiber attenuation, and overall ODN design.

PERFORMANCE	
Backplane bandwidth	104 Gbps
Port forwarding rate	68.448 Mpps
Management modes	EMS, Web, SNMP, Telnet, CLI

POWER	
AC input	100–240 V; rated 110 V / 220 V
DC input	−36 to −75 V; rated −48 V / −60 V
Power configurations	1× AC · 2× AC · 2× DC · 1× AC + 1× DC
Power consumption	45 W

PHYSICAL & ENVIRONMENTAL	
Dimensions (L × W × H)	442 × 319 × 43.6 mm
Weight (single power supply)	4.05 kg net; 5.65 kg gross
Operating temperature	−20 °C to +60 °C
Storage temperature	−40 °C to +70 °C
Relative humidity	5%–95%, non-condensing

05 SOFTWARE FEATURES

Management

- SNMP, Telnet, CLI, Web, SSH v2
- Fan group control
- Port status monitoring and configuration
- Online ONT configuration and management
- User management
- Alarm management

GPON

- Compliant with ITU-T G.984.x
- T-CONT DBA
- GEM port traffic management
- Up to 20 km transmission distance
- Data encryption, multicast, port VLAN, user separation
- ONT auto-discovery, link detection and remote software upgrade

Layer 2 Switching

- 32K MAC addresses
- 4,096 VLANs; port VLAN
- VLAN tag / untag, VLAN transparent transmission
- VLAN translation and QinQ
- Port-based storm control; port rate limiting
- Port isolation
- IEEE 802.1D STP and 802.1w RSTP
- Static and dynamic LACP
- QoS based on port, VID, ToS and MAC address
- Access control lists
- Ethernet flow control
- Port statistics and monitoring

Multicast

- IGMP snooping
- 2,048 IP multicast groups

DHCP

- DHCP server, DHCP relay, DHCP snooping
- DHCP Option 82

Layer 3 Routing

- ARP proxy
- 4,096 hardware host routes, 512 hardware subnet routes
- Static routing
- RIP v1/v2, RIPng
- OSPF v2/v3

IPv6

- NDP
- IPv6 ping, IPv6 Telnet, IPv6 routing
- ACL on source / destination IPv6 address, L4 port and protocol type
- MLD v1/v2 snooping

Security & Reliability

- RADIUS and TACACS+
- IP source guard
- VLAN division and user separation
- Broadcast-storm resistance; port isolation
- Flexible packet filtering by ACL and SNMP
- Power-off alarm for fast fault detection
- System breakdown-prevention design

06 ORDERING INFORMATION

SELECTED CONFIGURATION · MODEL NUMBER KEY

U5 – **8**

1U pizza-box OLT series — 8 GPON ports

PART NO.	DESCRIPTION
U5-8	Layer 3 GPON OLT, 8× GPON (SFP), 4× GE RJ45 + 2× GE SFP + 2× 10GE SFP+ uplinks, 1U

Power configuration: 1× AC, 2× AC, 2× DC or 1× AC + 1× DC — specify when ordering.
GPON SFP transceivers and uplink optical modules are ordered separately unless otherwise specified.

07 REVISION HISTORY

REVISION	DATE	DESCRIPTION
R01	2026-10-21	Initial release.

Specifications are subject to change without notice. Actual performance may vary with network configuration and environment. © 2026 UGRID Network Inc. All rights reserved.