

# OUTDOOR GPON GATEWAY

# uOPG800

1× GPON · 4× GE PoE · 75 W PSE · AC or HFC Cable Powered

Temperature-hardened outdoor GPON ONT for FTTC deployment.



## GPON

ITU-T G.984.X, CLASS B+

## 4× GE

802.3af/at POE PORTS

## 75 W

TOTAL PSE OUTPUT, 30 W PER PORT

## −40~60 °C

IP67 HARDENED OUTDOOR

## 6 kV

LIGHTNING PROTECTION

## 01 OVERVIEW

The UGRID uOPG800 is a temperature-hardened outdoor GPON ONT for FTTC deployment, built for outside networks exposed to temperature fluctuations, voltage imbalances and electrical surges, with an IP67 housing. It combines ITU-T G.984.x access (G.984.5 support, Class B+ optics) at 2.5 Gbps downstream and 1.25 Gbps upstream with four IEEE 802.3af/at PoE Gigabit Ethernet ports — 30 W on a single port and up to 75 W in total. It draws 60/90 VAC line power from the HFC coaxial cable through a 40–120 VAC wide-range input, or runs from 110–220 VAC mains with the AC power supply option. Per-port PSE monitoring and OMCI, Web, Telnet and SNMP management give operators visibility into powered devices in the field.

### FTTC outdoor access

IP67, temperature-hardened GPON termination for outside-plant networks.

### Cameras & digital signage

PoE links to security and traffic cameras and digital signage over the LAN cable.

### Wi-Fi access point backhaul

Gigabit PoE ports power and connect Wi-Fi access points in the field.

## DEPLOYMENT SCENARIOS

FTTC

Security & traffic cameras

Digital signage

Wi-Fi AP backhaul

HFC cable power

Remote PoE management

## 02 KEY FEATURES

- Temperature-hardened design**  
 IP67 dust and water resistant, operates from −40 °C to 60 °C, with 6 kV lightning protection.
- Four-port PoE powering**  
 4× IEEE 802.3af/at GE ports: 30 W on a single port, up to 75 W in total, remote PoE Mode A/B selection.
- Per-port PSE monitoring**  
 Each PSE port is monitored and managed individually, including the input and output voltage and current of every terminal.
- GPON optical access**  
 ITU-T G.984.x with G.984.5 support and Class B+ optics; 2.5 Gbps down, 1.25 Gbps up, up to 20 km.
- Cable or mains powered**  
 Draws 60/90 VAC line power from the HFC cable (40–120 VAC wide-range input), or 110–220 VAC mains.
- Operator management**  
 OMCI, Web, Telnet and SNMP for remote monitoring and configuration; OMCI / FTP upgrade with dual-image rollback.

### 03 TYPICAL APPLICATION

The uOPG800 terminates GPON at the curb through passive optical splitters from a U5 Series GPON OLT, and powers and connects cameras, access points and digital signage over its four PoE ports.

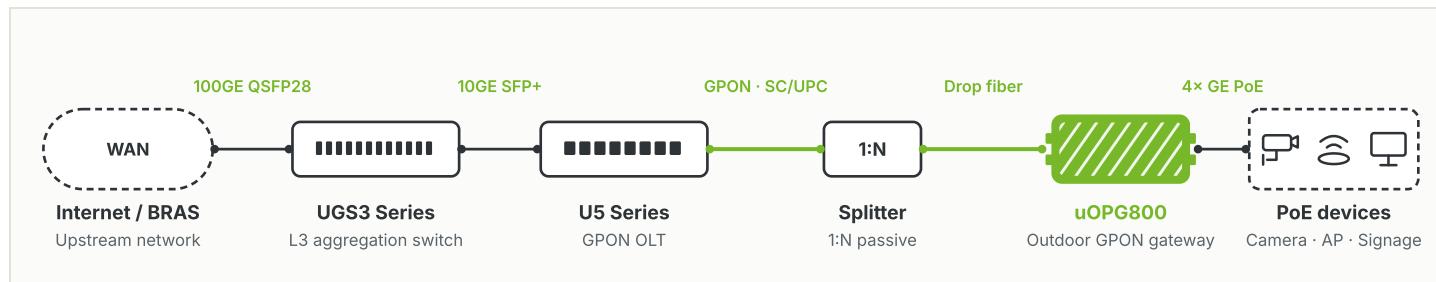


Figure 1 — UGRID end-to-end GPON FTTx architecture (uOPG800 highlighted).

### 04 HARDWARE SPECIFICATIONS

#### PON INTERFACE

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| Port                  | 1× GPON — ITU-T G.984.x (G.984.5 support), Class B+ |
| Connector             | SC/UPC; LC/UPC ordering option                      |
| Wavelength            | TX 1310 nm, RX 1490 nm                              |
| Line rate             | 2.5 Gbps downstream, 1.25 Gbps upstream             |
| TX optical power      | +0.5 to +5 dBm                                      |
| RX sensitivity        | ≤ -28 dBm                                           |
| Optical diagnostics   | Compliant with SFF-8472                             |
| Transmission distance | 20 km maximum                                       |

#### ETHERNET & POE

|                |                                                                 |
|----------------|-----------------------------------------------------------------|
| Ethernet       | 4× 10/100/1000BASE-T; auto-negotiation; MDI/MDIX auto detection |
| Cable distance | 100 m maximum                                                   |
| PoE standard   | IEEE 802.3af/at                                                 |
| PoE output     | 30 W single port; 75 W maximum across 4 ports                   |
| PoE mode       | Remote PoE Mode A/B selection                                   |

#### POWER

|                   |                                                                              |
|-------------------|------------------------------------------------------------------------------|
| Cable power (V1)  | 60/90 VAC HFC line power; 40–90 VAC cable power, 40–120 VAC wide-range input |
| AC mains (V3)     | 110–220 VAC                                                                  |
| Power dissipation | ≤ 10 W; provides 75 W PSE output                                             |
| Surge protection  | 6 kV lightning protection                                                    |

#### PHYSICAL & ENVIRONMENTAL

|                        |                                              |
|------------------------|----------------------------------------------|
| Dimensions (L × W × H) | 285 × 200 × 120 mm                           |
| Ingress protection     | IP67, dust and water resistant               |
| Operating environment  | -40 °C to +60 °C; 10%–90% RH, non-condensing |
| Storage environment    | -40 °C to +85 °C; 5%–90% RH, non-condensing  |

## 05 SOFTWARE FEATURES

|                                                                                                                                                                                                                                                   |                                                                                                                                                                                                           |                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Management</b> <ul style="list-style-type: none"> <li>Web, OMCI, Telnet and console management</li> <li>SNMP remote monitoring and configuration</li> <li>OMCI and FTP remote upgrade</li> <li>Dual image backup and image rollback</li> </ul> | <b>Layer 2 Bridging</b> <ul style="list-style-type: none"> <li>Frame filtering by port and SA/DA</li> <li>2000-byte MTU</li> <li>IEEE 802.3as compliant</li> <li>4K MAC address table</li> </ul>          | <b>QoS</b> <ul style="list-style-type: none"> <li>Classification by SA/DA IP, SA/DA MAC, VLAN priority and DSCP</li> <li>Traffic classes mapped to GEM ports and T-CONTs</li> </ul>                                |
| <b>Port Control</b> <ul style="list-style-type: none"> <li>Per-port bandwidth control</li> <li>Port mirroring</li> </ul>                                                                                                                          | <b>VLAN</b> <ul style="list-style-type: none"> <li>Ingress / egress 802.1p tagging on each port</li> <li>Ingress / egress 802.1Q tagging on each port</li> <li>Double tagging per IEEE 802.1ad</li> </ul> | <b>PoE Management</b> <ul style="list-style-type: none"> <li>Per-port PSE monitoring and management</li> <li>Input / output voltage and current of each terminal</li> <li>Remote PoE Mode A/B selection</li> </ul> |

## 06 ORDERING INFORMATION

SELECTED CONFIGURATION · MODEL NUMBER KEY

uOPG

Outdoor GPON gateway series

800

GPON

04

4× GE PoE ports

SU / LU

SC/UPC or LC/UPC connector

V1 / V3

Cable power or AC mains

PART NO.

DESCRIPTION

uOPG800

Outdoor GPON gateway, 1× GPON Class B+, 4× GE 802.3af/at PoE (75 W total), IP67

Specify optical connector (SU = SC/UPC, LU = LC/UPC) and power supply (V1 = cable power 40–90 VAC, V3 = AC mains 110–220 VAC) when ordering. Contact UGRID Network Inc. to confirm the full part number.

## 07 REVISION HISTORY

| REVISION | DATE       | DESCRIPTION                                                                                  |
|----------|------------|----------------------------------------------------------------------------------------------|
| R01      | 2026-08-31 | Initial release.                                                                             |
| R02      | 2026-10-22 | Reformatted to the current UGRID datasheet layout; power supply options revised; IP67 added. |

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