AN6001C-GF16

# AN6001C-GF16 Optical Line Terminal Equipment

Overview

The AN6001C-GF16 is a mini OLT providing 10GE access on the network side and Agile-PON access on the user side. It caters for diversified demands for home access and enterprise access. With a sealed enclosure, the equipment can be installed on a utility pole or a wall and applied to sparsely-populated villages, towns, and urban villages which have insufficient equipment rooms or cabinets and harsh outdoor environment.

The AN6001C-GF16 addresses customers' pain points as follows:

- Allows wide network coverage in sparsely-populated rural areas.
- Features easy deployment by pole mounting or wall installation for lack of outdoor cabinets.
- Lowers network construction costs and transmission costs for cabled TV and broadcast signals by integrating an EDFA and allowing triple play.

Applications

The AN6001C-GF16 enables multiple PON (such as GPON, XG-PON and XGS-PON) access services in diverse scenarios like FTTH, FTTB, FTTO and FTTC.
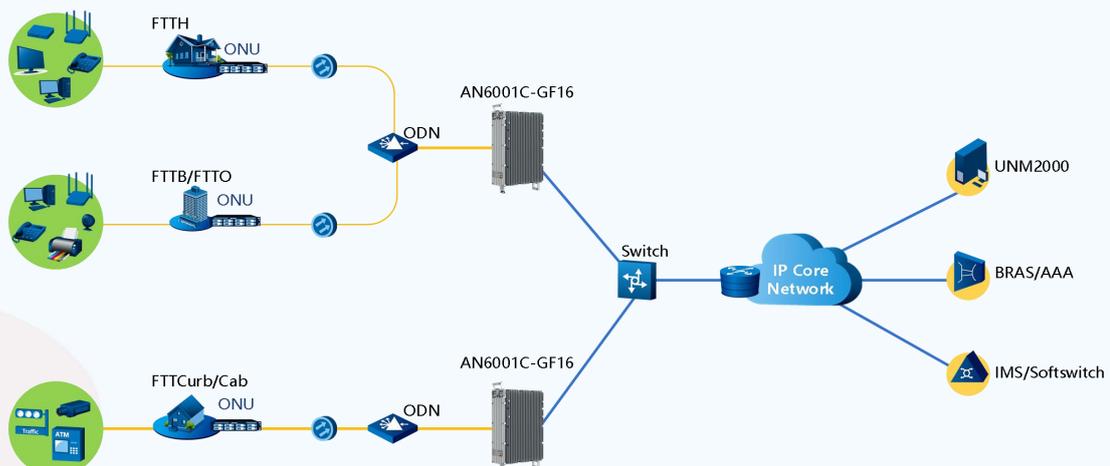
Appearance

The figures below show the appearance of the AN6001C-GF16.

Highlights

❖ Modular Design, High Density

- Fully sealed modular OLT, small sized and lightweight
- Connection to 2048 ONUs
- 16 Agile-PON ports
- 4 GE / 10GE upstream ports

❖ Carrier-class Reliability

- 1+1 redundancy for PON ports and upstream ports
- Type B / Type C PON protection, detection of rogue ONUs and optical link faults
- Flexibly and reliably powered by an external AC / DC power system (active) or batteries (standby)

❖ Flexible Deployment

- Wide-range operating temperature -40℃ to 55℃ / 50℃ (without / with solar radiation), well adapted to various environments
- One site for all the OLT, power system and batteries
- Pole or wall installation in no need of equipment room
- Side or flush mounting on a pole
- MPO port pre-connection with a FiberHome cable

❖ Diverse Ports

- GPON, XG-PON Combo and XGS-PON Combo access, addressing all access, management and maintenance demands
- VGA environment monitoring port for 485 communication and monitoring on the power system and batteries

❖ Smart O&M

- Equipment management through network management systems based on web pages, GUIs, or CLI
- Remote software upgrade
- Automatic shutdown of PON ports and optical modules without registered ONUs to save energy

❖ Leading Performance

- Large MAC address capacity; OLT cascade; flexible networking
- Environment monitoring on the power system / batteries
- IP65 protection level
- External DC / AC adapter for convenient power mode switching

Structure

The figures below show composition of the AN6001C-GF16 subrack.
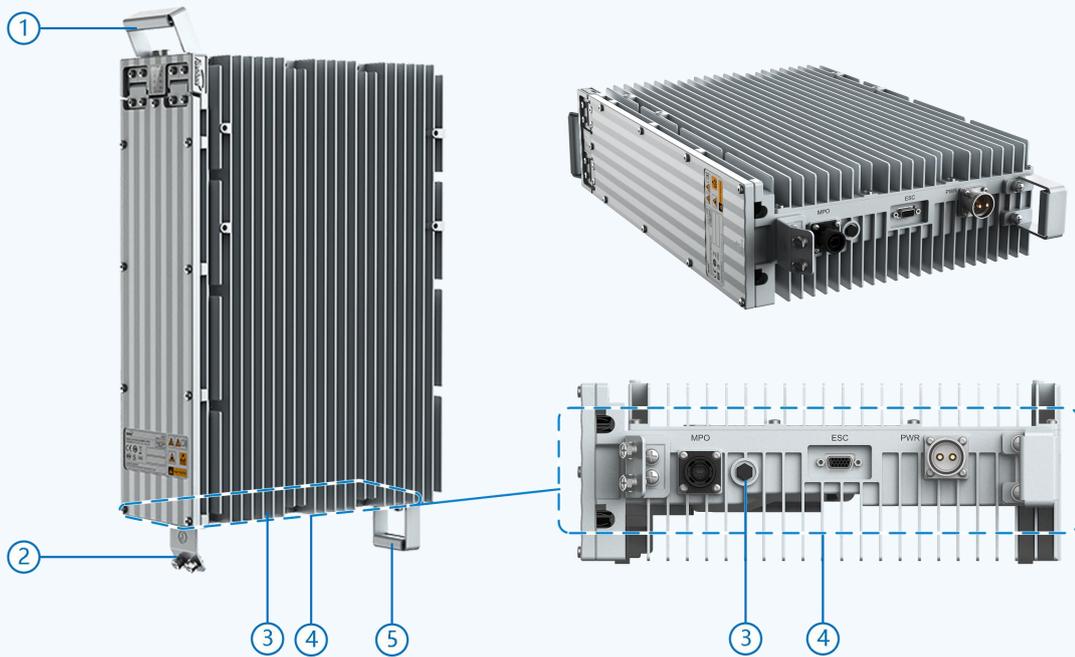
No.	Item	Function
①	Handle	Helps carry the equipment.
②	Earth ground point	Connects the protection earth ground cable to ground the equipment.
③	Ventilation valve	Keeps the internal and external air pressure consistent and prevents condensation inside.
④	Port area	Provides power input, MPO, GE/10GE upstream and VGA environment monitoring ports. See *Ports* below for more information.
⑤	Support foot	Supports the equipment.

Ports

Identifier	Meaning	Description
PWR	Power port	Leads in -48 VDC power to the equipment.
MPO	Agile-PON port	Connects with internal PON ports 1-16, and external ONUs through an ODN to provide Agile-PON service access.
XGE	GE / 10GE upstream port	Connects with internal GE / 10GE ports 1-4 and an external IP network.
ESC	VGA environment monitoring port	Connects with an AC / DC power system, communicates with the environment monitoring module of the power system, and allows state query on the power system and batteries.

Indicators

Identifier	Meaning	Color	Status	Description
ACT	Working status indicator	Green	ON	The card is functioning properly.
			Blinking slowly	The card is being initialized.
			OFF	The card is not powered on.
ALM	Alarm indicator	Red	ON	The card has alarms.
			OFF	The card has no alarms.
GE/10GE 1-4	Port status indicator	Green	ON	The port is connected to an upper-layer device.
			Blinking	The port is transmitting or receiving data.
			OFF	The port is not connected to an upper-layer device.

Main Features

Layer 2 features	
VLAN+MAC forwarding	SVLAN+CVLAN forwarding
PPPoE+	DHCP option82

Layer 3 features	
Static routing	RIP / RIPng
OSPF / OSPFv3	IS-IS
BGP / BGP4+	ARP Proxy
DHCP Relay / Snooping / Server	VRF

Multicast	
IGMP V1 / V2 / V3	IGMP Proxy / Snooping
MLD V1 / V2	MLD Proxy / Snooping
VLAN-specific IPTV multicast	IPV4 PIM and PIM-SSM

IPv6	
IPv4/IPv6 dual-stacking	IPv6 Layer 2 and Layer 3 forwarding
DHCPv6 Relay	

QoS

Traffic classification	Priority processing
Traffic policing based on trTCM	WRED
Traffic shaping	HQoS
PQ / WRR / PQ+WRR	

System reliability

Type B / Type C PON protection	ERPS
In-service card detection and repair	

Specifications

Item	Specification
Dimensions (H × W × D)	• 450 mm × 120 mm × 320 mm
Weight	• 15 kg
Power supply	• DC voltage range: -38.4 VDC to -57.6 VDC
Power consumption	• Maximum: 153 W (measured at 61°C: 50°C + solar radiation) • Typical: 136 W
Protection level	• IP65
Heat dissipation	• Natural cooling
Operating temperature	• Without solar radiation: -40°C to 55°C • With solar radiation: -40°C to 50°C • Lowest start-up temperature: -25°C • Note: The operating temperature is measured within an altitude of 4000 m. The ambient temperature of the equipment decreases by 1°C for each altitude rise of 220 m.
Operating RH	• 5% to 90% (non-condensing)
Operating altitude	• ≤ 4000 m
System switching capacity	• 480 Gbit/s
Maximum upstream ports of the system	• 4 × GE / 10GE
Maximum Agile-PON ports of the system	• 16 × GPON / XG-PON Combo / XGS-PON Combo
Maximum ONUs connected to the system	• 2048
Maximum transmission distance (PON port)	• 60 km
System reliability	• Basic reliability: 30 000 hours • Task reliability: 50 000 hours • Note: The mean time to repair (MTTR) for the entire system is 0.5 hour.

Modules

The AN6001C-GF16 supports pluggable SFP and SFP+ optical modules with SC/PC/UPC or LC ports.

SC/PC/UPC   LC

The table below describes the mappings between modules and ports on the equipment.

Port	Module Type
PON 1-16 (internal)	Industrial grade GPON (Class C+)
	Industrial grade XGS/GP-COMBO enhanced (allowing data encryption, Class C+)
GE/10GE 1-4 (internal)	Industrial grade GE optical module (10 km)
	Industrial grade GE optical module (40 km)
	Industrial grade 10GE optical module (10 km)
	Industrial grade 10GE optical module (40 km)