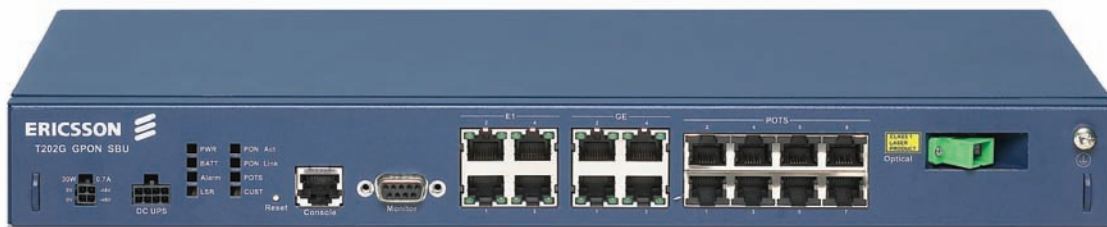


T202G Indoor GPON SBU

T-Series ONU
EDA 1500 Portfolio



The T202G GPON Small Business Unit (SBU) supports the delivery of carrier-class voice, high-speed Internet access, IP television and business E1 services. It features a flexible architecture in a small density and form factor solution that is ideal for Fiber-To-The-Building (FTTB) deployments. The T202G enhances the EDA 1500 portfolio with a robust ONU that is easy to install and requires minimal maintenance.

The T202G effortlessly integrates with the EDA 1500 Optical Line Terminal (OLT) and is remotely accessible and configurable for installation, monitoring, and maintenance using the EntriView management system. The T202G interfaces to the network via a single fiber connection and includes 8 voice, 4 Gigabit Ethernet and 4 E1 lines.

Service Interface

The T202G features advanced system performance that guarantees unaffected traffic for combined voice, data and E1 services.

The FXS interfaces enable voice services, including call features, and is compatible with existing customer premises equipment. Voice traffic is transported over IP via SIP signaling.

The Ethernet interfaces enable residential Internet access and switched digital video; additional features include:

- Port security to ensure traffic on one line cannot be accessed by another customer interface
- Bridging and GEM port mapping per individual Ethernet subscriber
- Multiple bridge instances per port to prevent flooding between subscribers
- Upstream rate limiting and Denial of Service (DoS) attacks prevention
- IGMP snooping and filtering of multicast channels received on GEMMC

The E1 interfaces enable deployment of leased line services that include:

- CESoPSN, SAToP encapsulation methods
- G.703 unframed and G.704 framed modes
- CAS and CRC-4 bit generation (E1)
- 120 ohm balanced impedance on RJ45

Deployment Options

The T202G is designed for indoor installation and can be rack, desk or wall-mounted. A single optical fiber carries upstream and downstream traffic over GPON between the OLT and the SBU. The T202G is fully provisioned and managed from the OLT using PLOAM/OMCI.

Advanced Data Services

Data capabilities for the T202G include data transfer at wirespeed, auto-negotiation and auto-sensing. The T202G supports VLAN manipulation, classification and filtering.

Virtual LAN (VLAN)

By use of VLAN technology it is possible to create separate logical networks within the Ethernet LAN. The T202G uses VLAN to separate traffic types or different services and to improve security. The T202G supports bridge per sub, bridge per service VLAN operations.

IP Multicast

The T202G optimizes multicast switching performance using IGMP snooping standard. With this standard, the T202G monitors the join and leave messages generated by the set-top box to selectively deliver multicast streams only to involved ports.

Quality of Service

The T202G supports classification, queuing, scheduling, rate limiting for QoS.

VoIP Services

Carrier-class voice services are provided via SIP. The VoIP stacks have been homologated with a variety of softswitches and support many country variations

Technical Specifications

GENERAL FEATURES

Compliance

ITU-T G.984.1 - GPON: General characteristics
ITU-T G.984.2 - GPON: Physical Media Dependent (PMD) layer specification
ITU-T G.984.3 - GPON: Transmission convergence layer specification
ITU-T G.984.4 - GPON: ONT Management and Control Interface (OMCI) specification
ITU-T G.984.5 - Enhancement band for gigabit capable optical access networks
ITU-T H.248v2 - Gateway control protocol
IEEE 802.1, 802.1D, 802.3i, 802.1p, 802.1Q, 802.3u, 802.3x flow control

Layer 2 protocol

Ethernet over GPON Encapsulation Method (GEM)
9 T-CONTs

Network Interface

Class B+ GPON optical transceiver
Diplexer fiber class B+

Line rate at 2488 Mbps downstream and 1244 Mbps upstream

Transmitter (Upstream):

DFB laser diode
Wavelength: 1310 nm +/- 20 nm
Average optical transmit power: up to +5 dBm

Receiver (Downstream):

APD receiver
Wavelength: 1490 nm +/- 10 nm
Sensitivity: -28 dBm

IPTV Support

PON multicast
IGMP v2, v3-ASM, Snooping, Fast Leave
IGMP Snooping with proxy reporting/query

SUBSCRIBER INTERFACES

Ethernet Ports

Four 10/100/1000Base-T Ethernet ports
RJ45 connectors
Ethernet ports are auto-sensing and auto-negotiating
Management and firmware upgrades through OMCI
Supports VLAN QoS and T-CONT types 1-5
802.1D learning bridge with 8K MAC addresses
802.1p mapper with classifier, 4 priority queues per T-CONT
Supports 802.1Q tag-based VLANs, QinQ or port based VLANs

Voice Ports

Eight FXS ports
RJ11 female connectors
Voice Signaling: SIP
Call Features: Outgoing, Incoming call, Call waiting, Call transfer, Three party conference, DTMF in/out band
Caller ID FSK, DTMF
Voice CODECs: G.711 μ -law, A-law, G729a/b (optional)
G.168 Echo cancellation, tail length: 32 ms
T.38 Fax relay

E1 Ports

Four E1 ports
Balanced RJ45 connector
ITU-T Rec. G.703, G.704, G.706, G.732, G.823
Data rate: 2.048 Mbps
Line code: HDB3
Framing: Unframed, framed
Line impedance: 120 ohm, balanced
Jitter and wander performance: ITU-T G.824 (for internal, loopback and external clock modes)
Synchronous and plesiochronous operation

PHYSICAL SPECIFICATIONS

Dimensions

HxWxD: 382.5 x 200.25 x 43.65 mm
(HxWxD: 15.05 x 7.88 x 1.71 inches)

Weight

2.38 kg (5.28 lbs)

Mounting Options

Rack, desk or wall-mounting
All connectors front accessible

LED Indicators

Power, Battery, Alarm, LSR, PON Act, PON Link, POTS, CUST

Power

Input working: DC voltage: -48 to -56.7 VDC
AC unit voltage: 110 to 230 VAC
Average power consumption: < 40 W

UPS

RS-232 DB-9 male COM port for AC UPS support

Alarms

DB-9 female MONITOR port for up to 3 alarm inputs

Environmental

Storage temperature: -40°C to +70°C (-40°F to 158°F)
Operating temperature: -5°C to +55°C (23°F to 131°F)
Operating humidity: 5 - 95% relative humidity
Atmospheric pressure: 86kPa to 106 kPa

Regulatory Approvals and Compliance

EMI/EMC: EN 300 386 Class B
Safety: IEC 60950-1, EN 60950-1, IEC 60825-1
RoHS: EU directive 2002/95/EC
Environmental: ETSI 300 019 series