

XGS-PON ONT XG-99M

Product Datasheet

VERSION 1.0

Jul, 2019

www.actiontec.com

■ Overview

To deliver triple-play services to the subscriber in Fiber-to-the-Home or Fiber-to-the-Premises application, the XGS-PON SFU (Single Family Unit) XG-99M incorporates interoperability, key customers' specific requirements and cost-efficiency.

Equipped with ITU-T G.9807.1 compliant 10G Downstream and 10G Upstream XGS-PON interface, XG-99M supports the full Triple Play of services including voice, video, and high speed internet access service.

Compliant with standard OMCI definition, XG-99M is manageable at remote side and supports the full range FCAPS functions including supervision, monitoring and maintenance.



■ Service

Data

The XG-99M ONT is delivered with one 10G Base-T, and one 10/100/1000 Base-T Ethernet data interfaces, supporting:

- Auto-negotiation and MDI/MDIX auto-sensing
- Built-in layer-2 switch
- Advanced data features such as VLAN tag manipulation, classification, and filtering

Video

The XG-99M ONT supports delivered in form of data (by multicast or unicast).

In case where multicast technology is used for delivering video contents through data channel, the ONT supports the dedicated multicast XGEM port on the Downstream. So the video contents are received and processed by all the ONTs through the unified channel and this greatly improves the bandwidth efficiency.

In addition, the ONT supports IGMP snooping function to be applied for further optimization. When IGMP snooping is enabled, the ONT monitors the member joining and leaving activities at the Ethernet service port, and then selectively delivers the multicast streams.

Voice

The XG-99M ONT can optionally be delivered with up to two POTS interface ports for carrier-grade voice services, supporting:

- 5 REN per line, balanced Ring at 55V RMS, DTMF dialing and pulse dialing
- Multiple voice codec
- Echo Cancelling, VAD, CNG
- Supporting static or dynamic jitter buffer
- Various CLASS services - Caller ID, Call Waiting, Call Forwarding, Call Transfer, etc.
- SIP (RFC3261)
- MEGACO v2 (H.248)
- Common architecture, drop-in replacement

■ Interface

Product	10G Base-T	10/100/1000 Base-T Interface	POTS Interface	MOCA Interface
XG-99M	1	1	2	1

■ Specification

Dimensions

- 208mm x 150mm x 35mm(W x D x H)

Power Supply

- +16V (feed via external AC/DC adapter)
- 8 pin UPS Molex connector
- Dying Gasp support
- Power switch
- Power Consumption: less than 18W

Working Environment

- Temperature: -5°C ~ 55°C
- Humidity: 5% ~ 95% relative humidity

Safety & EMI

- CE certificate
- FCC/ETL compliant

Installation

- Desktop mounting & wall mounting

PON Interface

- Compliant with ITU-T G.9807.1 XGS-PON standards
- BOSA on board
- 10 Gbps Burst Mode Upstream Transmitter
- 10 Gbps Downstream Receiver

- Compliant with ITU-T G.9807 Class N1
 - +4dBm ~+9dBm launch power, -28dBm sensitivity, and -9dBm overload
- Wavelengths:
 - US 1260nm to 1280nm, DS 1575nm to 1580nm

PON QoS

- Multiple T-CONTs per device
- Multiple XGEM Ports per device
- Flexible mapping between XGEM Ports and T-CONT
- Activation with automatic discovered SN and password in conformance with ITU-T G.9807.1
- AES-128 Decryption with key generation and switching
- FEC (Forward Error Correction) in both directions
- DBA reporting
- 802.1p mapper service profile on U/S
- Mapping of XGEM Ports into a T-CONT with priority queues based scheduling
- Support Multicast XGEM port and incidental broadcast XGEM port..

Ethernet Interface

- 10/100/1000 Base-T interface with RJ-45 connector
- 10G Base-T interface with RJ-45 connectors
- Ethernet port auto negotiation or manual configuration
- MDI/MDIX automatically sense
- Hardware priority queues on the downstream direction in support of CoS
- 802.1D bridging
- VLAN tagging/detagging per Ethernet port
- VLAN stacking (Q-in-Q) and VLAN Translation
- IP ToS/DSCP to 802.1p mapping

- Class of Service based on UNI, VLAN-ID, 802.1p bit, and combination
- Marking/remarking of 802.1p
- IGMP v2/v3 snooping and IGMP snooping with proxy report
- Broadcast/Multicast rate limiting

POTS Interface

- RJ-11 connector
- 5-REN
- Balanced Ring, 55V RMS
- DTMF Dialing and Pulse Dialing
- Multiple Codecs:
 - G.711 (μ -law and A-law)
 - G.729 (A and B)
 - G.723.1
- Echo Cancellation
- Voice Activity Detection and Comfortable Noise Insertion
- SIP (RFC3261)
- MEGACO v2 (H.248)
- SDP (RFC2327)
- RTP (RFC3550/3551)
- DTMF encoding by RELAY or IN-BAND method
- Support various CLASS services - Caller ID, Call Waiting, Call Waiting control (OMCI + local), Direct Call, CLIP (onhook, offhook), Call Forwarding, Call Transfer, Call Toggle, Three Way Calling, Distinctive Ringing, etc.
- G.711 for FAX, modem connection
- T.38 FAX
- Configurable dial plan
- Country specific ring tone generation
- DHCP Client or static IP configuration
- Metallic Loop Testing

MOCA Interface

- Support up to MOCA 2.5

LED

- POWER
- OPTICAL
- LAN
- UPDATE
- ALARM
- POTS
- MOCA

OAM

- Standard compliant OMCI (the embedded operations channel) interface as defined by ITU-T G.988
- Alarming and AVC report, performance monitoring
- Remotely software image download over OMCI, as well as activation and rebooting
- Hold two software sets with software image integrity checking and automatic rollback

■ **Contact Information**

■ **Actiontec Electronics, Inc.**

- 2445 Augustine Dr., 6th FL
- Santa Clara, CA 95054
- Tel: +1(408) 606-2200
- Email: info@actiontec.com