



ADTRAN®

Data Sheet

ADTRAN

504VG

4-port G.fast Sealed, Outdoor ONU



Product Features

- Fully sealed enclosure for go-anywhere deployment in IP68 environment
- Passive cooling for completely silent operation in residential areas
- Ultra-low Total Cost of Ownership (TCO) for triple-play service delivery
- Provides 4-port of vectored 212 MHz G.fast or VDSL2 services
- Reverse powered
- Supports IPTV video service
- Advanced traffic management supports business services
- One 2.5G GPON uplink
- Supports EFM bonding for greater bandwidth and reach
- Ideal for FTTH or FTTHDoor deployments
- OMCI TR-301 Model 2 (TR-156 backhaul) or Persistent Management Agent (PMA)
- Bypass relay function with PRP for smooth migration and “zero-touch” provisioning
- Optimized power consumption

Premium broadband services are fueling the need for pushing fiber deeper into the network and closer to the end user. As this occurs, it provides an opportunity for network operators to leverage next-generation broadband technologies like VDSL2 17a Vectoring, VDSL2 35b (Super Vectoring), and G.fast.

The ADTRAN 504VG G.fast ONU allows service providers to deliver up to 2 Gbps (per pair aggregate) broadband services over existing copper infrastructure. Now if a location has a phone line, it can be served with Gigabit services.

Part of ADTRAN’s comprehensive family of G.fast products, the 500G and SDX 2200 series G.fast ONUs are purpose-built for Fiber-to-the-distribution point (FTTdp), Fiber-to-the-Cabinet (FTTCab), Fiber-to-the-Door (FTTHDoor), Fiber-to-the-Building (FTTB), or Fiber-to-the-home (FTTH) markets. Fully sealed housing and submersible housing makes the 504VG ONU a robust and reliable network element that can be deployed in pedestals, on poles, or in low-profile “doghouse” enclosures and even underground vaults and hand-holes.

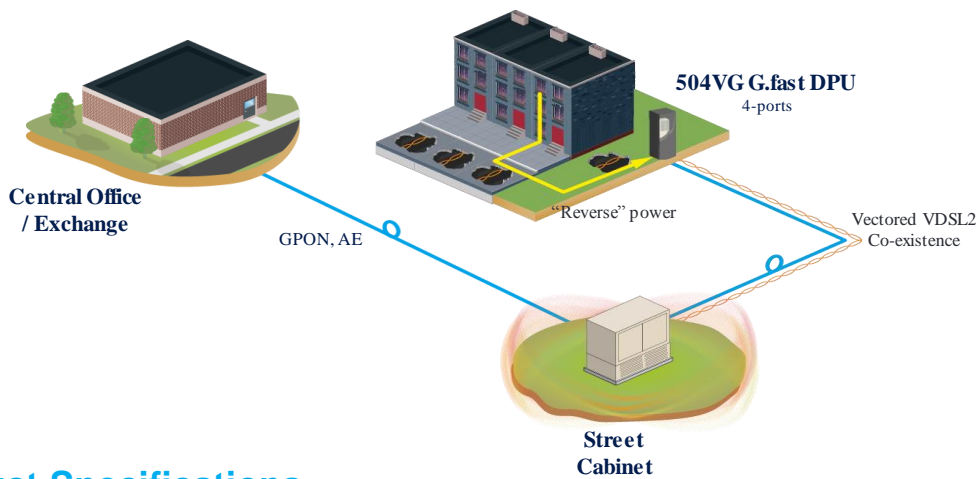
The most cost-effective solutions for Distribution Point Units (DPUs) support long-term operation without requiring direct touch installation or maintenance. They also must be able to support a positive operator business case for only a small number of served subscribers. Concepts for simplified installation like “zero-touch” customer turn-up processes allow a single truck roll/site visit for hardware installation and then a zero-touch turn-up for every subsequent customer.

Fed with one 2.5 GPON uplink, the 504VG ONU supports up to four subscribers with vectored 212 MHz G.fast data service, and is ideal for FTTdp or FTTB deployments. The 504VG also supports fallback to 106 MHz or VDSL2 (17a and 35b) providing a truly versatile ultra broadband solution.

The 504VG G.fast ONUs support ultra-high-speed (up to 2 Gbps per pair) data rates, IPTV, and voice services over the existing in-building copper infrastructure. Services can be deployed rapidly and with minimal installation and construction costs. Combining the ability to be deployed in any outdoor or indoor environment with dramatically lower deployment costs, the ADTRAN 500G and SDX 2200 series ONUs allow carriers to maximize the performance of G.fast for every subscriber in their network. It also enables operators to invest in a full FTTH network over a longer period of time, making the cost more manageable.

The 504VG G.fast ONUs support reverse powering.

The ADTRAN G.fast solutions can be operationally aligned with FTTH architectures for common OMCI provisioning simplifying integration. They also work seamless with ADTRAN’s widely deployed hiX5600 and Total Access 5000 series Multi-Service Access Nodes (MSANs) and the SDX 8210 and 8310 Access/Aggregation switches, bridging the gap between existing and next-generation network architectures.



Product Specifications

Mechanical

- **Dimensions:** 2.4" x 6.1" x 12" (6 cm x 15.6 cm x 30.5 cm) (H x W x D)
- **Weight:** 3.3 lbs. (1.5 kg)
- **Mounting:** Pedestal, Pole, Wall, Hand-hole, Dog House-style Cabinets

Interfaces

Network

- 1 x 2.5Gbps GPON Uplink

Subscriber

- 4-port G.fast and VDSL2 All Digital Loop
- Integrated copper connector

G.fast Performance

- 212MHz G.fast (ITU-T G.9700 and G.9701)
- VDSL2 Profiles 17a and 35b
- G.vector ITU-T G.993.5
- Configurable G.fast frequency >2.2 MHz
- Programmable Downstream/Upstream ratio (1:1 to 10:1)
- SRA, SOS, Physical Layer Retransmission

Ethernet Services

- 802.1D Bridging
- Virtual Switch Based on 802.1q VLAN
- VLAN Tagging/Untagging per Ethernet Port
- VLAN Stacking (Q-in-Q) and VLAN Translation
- Class of Service (CoS) Based on VLAN-ID, 802.1p Bit
- Marking/Remarking of 802.1p

IPTV Support

- Dynamic Host Configuration Protocol Support (DHCP) with Option 82

Power Options

- Reverse Power: Supports power class 2 (15W) and 3 (21W)

Bypass Function

- Relay-function Per Subscriber Port with POTS RCR Protocol, PRP

Regulatory Approvals

- ETSI EN 300 019
- ETSI EN 300 386
- ETSI EN 60950
- ETS 300 753
- ETS ES 201 468
- DTAG TS 0364/96
- DTAG 1TR9
- ITU-T K.72/31/35
- ITU-T K.45
- GR-950-CORE, Issue 3
- GR-1089-CORE, Issue 6
- GR-63-CORE, Issue 4
- GR-3108, Issue 3
- UL 60950-1/21/22
- FCC Part 15
- RoHS 6 of 6 Compliant

Environmental

- **Operating Temperature:** -40° F to +149° F (-40° C to +65° C)
- **Storage Temperature:** -40° F to +185° F (-40° C to +85° C)
- **Relative Humidity:** 100%, Non-Condensing, Fully Submersible

Ordering Information

Equipment	Part No.
ADTRAN 504VG G.fast ONU	11321706Fx



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TL 9000



TL19.1270