

ADTRAN

## 401/411

## Micro FTTH Indoor ONT



Low TCO



Security



VoIP



IPTV



Service Automation



## Benefits

- Most cost-effective delivery of symmetric gigabit services
- Uniquely supports SFU, SBU, and MDU deployments streamlining installation procedures
- Key part of a wireless residential gateway deployment strategy
- Improves security and reduces vandalism
- Increases life of ONT, improving ROI
- Saves cost of a truck roll to upgrade service
- Native Ethernet transport over GPON (GEM Based)
- Dual-mode Active Ethernet and GPON uplink
- POTS support
- VoIP using SIP or MGCP
- IPTV video support including IGMP snooping feature set
- Traffic management through priority queuing, scheduling, policing and traffic shaping

## Overview

**Carriers today are dealing with increasing competition, operational costs, and demand for bandwidth.** To address these concerns, ADTRAN® offers a complete suite of fiber access solutions that are enabling carriers to compete more cost-effectively while expanding broadband services to unserved and under-served areas, like those targeted by national broadband initiatives.

With fiber access solutions like GigabitPassive Optical Networking (GPON) carriers have a new means to compete in an environment where bandwidth is critical. GPON provides the flexibility, reliability and bandwidth to give carriers a competitive advantage in today's market. As part of our FTTx strategy, ADTRAN offers a range of differentiated GPON, Active Ethernet and Dual Mode Optical Network Terminal (ONT) solutions to address residential, business, and cell-site applications.

With the introduction of the 400 Series of Micro ONTs, ADTRAN is driving the market forward with a simpler and more cost-effective architecture that allows service providers to reduce the number of devices that they deploy and manage. In a typical indoor ONT deployment, many Ethernet ports are never used because users migrate to more wireless connections off of a separate residential gateway versus wired Layer 2 connections. Micro ONTs cost optimize this model by removing the unused ports while retaining all of the data and video functionality expected from a carrier-class product.

In addition to this simplified and cost-effective architecture, the 400 Series allows service providers to leverage existing residential gateway

vendors that they have depended on for years. We have watched the wireless market continuously evolve from 802.11b to 802.11g to 802.11n, now to 802.11ac, and beyond to 802.11ad. There is no end in sight for wireless evolution and the Micro ONT family allows service providers to easily keep up with this continuous Wi-Fi evolution without unnecessarily replacing the ONT or sending a technician to the home.

For years, service providers have struggled with migrating to indoor ONTs because of the challenges of running fiber inside the home. The ultra-compact size of the new 400 Series enables easy and inconspicuous wall mounting right where the fiber enters the home, significantly limiting the amount of indoor fiber routing. Since the ONT and residential gateway are separate devices, this allows for the residential gateway to be located in a central location to provide consistent wireless coverage throughout the home without requiring fiber all the way to this location.

The 400 Series ONTs are designed to address the market with industry-leading voice, data, and video capabilities. These ONTs include both indoor and outdoor models for residential and business applications. With the 400 Series ONTs, carriers can benefit from high data rates, fiber-optic transmission, and the flexibility offered by the ADTRAN portfolio of Ethernet-based systems that can be easily configured for new, customized service offers.

The Micro ONT leverages the industry-leading converged voice and data functionality widely deployed in ADTRAN integrated access, IP gateway, and Voice over IP (VoIP) platforms. Based on the ADTRAN Operating System (AOS), each ONT provides unmatched SIP and MGCP interoperability with a host of major softswitch vendors, as well as integrated statistics and tools that allow carriers to quickly and easily troubleshoot network configuration issues, and monitor performance.

# ADTRAN 401/411

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## Product Specifications

### Ethernet Interfaces

- 1 Gbps Symmetric Throughput
- 10/100/1000Base-T Interface with RJ-45 Connector
- Ethernet Port Auto Negotiation or Manual Configuration
- MDI/MDIX Automatically Sense
- Hardware Priority Queues on the Downstream Direction in Support of CoS

### Ethernet Services Support

- 802.1D Bridging
- 802.1x Authentication
- Virtual Switch Based on 802.1q VLAN
- VLAN Tagging/Untagging
- VLAN Stacking (Q-in-Q) and VLAN Translation
- Class of Service Based on VLAN-ID, 802.1p Bit
- Marking/Remark of 802.1p

### Video Services Support

- Mediaroom Bridged Video Models
- Minerva Bridged Video Models
- IGMP v2/v3 Snooping

### Voice Services Support (411 only)

- GR-303/TR-008, MGCP, and SIP Softswitch Support
  - ◆ Metaswitch
  - ◆ Broadsoft
  - ◆ Genband
  - ◆ Taqua
- T.38 Fax
- ANSI/ETSI POTS
- RJ-11 Connector
- 3-REN
- Balanced Ring, 55V RMS
- DTMF Dialing
- DHCP or Static IP for VoIP
- Echo Cancellation
- Multiple Codecs
  - ◆ G.711 (mu-law and a-law)
  - ◆ G.729

### Dimensions

- 1.0 in. x 2.8 in. x 2.8 in. (25 mm x 71 mm x 71 mm) (H x W x D) for ADTRAN 401
- 1.0 in. x 2.8 in. x 3.9 in. (25 mm x 71 mm x 100 mm) (H x W x D) for ADTRAN 411

# Micro FTTH Indoor ONT

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## Power Supply

- +12V (Feed via External AC/DC Adapter)
- 2-PIN Power Adaptor Input
- Dying Gasp Support
- Multi-pin Connector for Power and Alarm Input from UPS (411 only)
- **Power Consumption:** Less than 4W

## Working Environment

- **Temperature:** 32° F to 104° F (0° C to 40° C)
- **Humidity:** 5% to 95% Relative Humidity

## Safety and EMI

- CE Certificate
- FCC/UL Compliant
- ITU-T K.21 Enhanced Certified (411 only)
  - ◆ 6kV Surge Protection

## Environmental Directive

- RoHS 6 of 6

## Installation

- Wall Mounting and Desktop Mounting

## Network Interface

- Dual Mode Interface (Active Ethernet or GPON)
- Compliant with ITU-T G.984 GPON Standards
- Compliant with ITU-T G.984.2 Amd1, Class C+
- DBA (Dynamic Bandwidth Allocation)
- Mapping of GEM Ports into a T-CONT with Priority Queues Based Scheduling
- Ready for NGPON2 Overlay Per G.984.5

## LEDs

- Power
- LAN
- Fiber
- Voice (411 only)

## OAM

- Standard Compliant OMCI (the Embedded Operations Channel) Interface as Defined by ITU-T G.988
- Provisioning All Kinds of Services Including Ethernet, VoIP etc.
- Alarming and Performance Monitoring
- Remote Software Image Download over OMCI, as well as Activation and Rebooting
- Hold Two Software Sets with Software Image IntegrityChecking and Automatic Rollback

# ADTRAN 401/411

## Ordering Information

Equipment	Part No.
ADTRAN 401 Micro FTTH Indoor ONT	1287786F1
ADTRAN 411 Micro FTTH Indoor ONT	1287787F1



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