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The following documents provide additional information for this product:

Total Access 5000 GPON OLT User Interface Guide

Total Access Series 5000 Fiber to the Premises Deployment Guide

Total Access 5000/5006 Engineering Guide

DESCRIPTION

The Total Access 401 1 GigE Micro ONT (Micro ONT, P/N 1287786F1) is a member of the Micro ONT family. The Micro ONT supports auto-detection of GPON network connections for use in point-to-point and point-to-multipoint optical distribution networks (ODNs).

Figure 1 illustrates the Micro ONT.

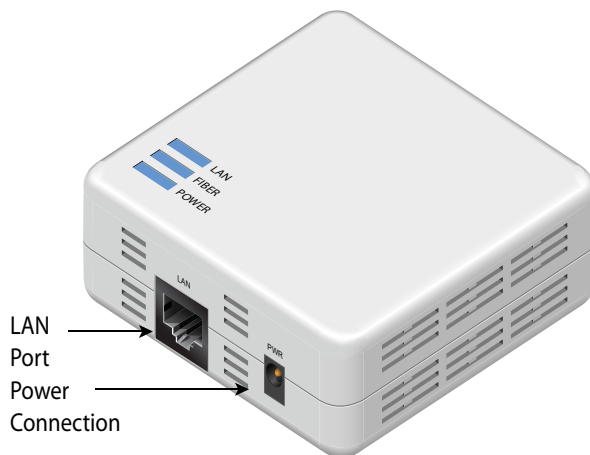


Figure 1. Micro ONT

FEATURES

The Micro ONT has the following features:

- Single fiber interface with 1.244 Gigabits per second upstream and 2.488 Gigabits per second downstream in GPON mode
- 10/100/1000BASE-T Ethernet Interface
- AC Power Adapter

ONT Reset (RESET)

Refer to Figure 2 for the location of the Reset button.

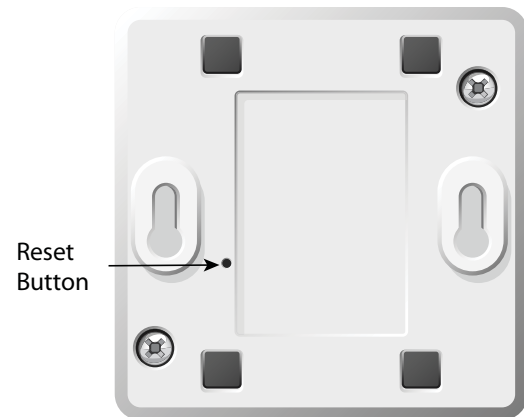


Figure 2. Reset Button

Reset the Micro ONT if you need to reboot the unit. The RESET button is accessed through an opening on the bottom of the unit. To reset the Micro ONT, insert a small pin (paper clip) into the RESET opening and hold the button down for 10 seconds.

The Micro ONT will automatically download the latest provisioning after the reset process has completed.

Ethernet Interface (LAN)

The Micro ONT supports data service through one 10/100/1000BASE-T Ethernet interface via an RJ-45-style connector.

Power (PWR)

The power feed is +12 VDC from the included AC to DC Adapter. The adapter plugs into the PWR connector. The total power consumption is approximately 5 watts.

Fiber (FIBER)

Fiber is supplied to the Micro ONT using an SC/APC Fiber connection located on the rear of the unit.

INSTALLATION

Before installing the Micro ONT, inspect it for damage. If damage has occurred during shipping, file a claim with the carrier and then contact ADTRAN. For more information, refer to the warranty.

Installation Guidelines

The following are guidelines for this installation.

- Read all warnings and cautions before installing or servicing the Micro ONT.
- Do not locate the Micro ONT in direct sunlight or next to any thermal obstructions.
- When the SC/APC fiber connection is not in use, replacing the Protective Cover will help keep the optical connection clean.

Installation Overview

To install the Micro ONT, you will need to complete the following steps:

- Step 1: Position the Micro ONT
- Step 2: Connect Ethernet
- Step 3: Connect Fiber
- Step 4: Connect Power

Required Tools

Standard technician tools and those listed below are required for installing the Micro ONT.

- PON power meter with wavelength filtering
- Fiberscope or videoscope

For fiber optic connections, the following are required:

- ODC Fiber cleaning tool

Installation Steps

To install the Micro ONT, refer to Figure 3 and complete the following steps.

Step 1: Position the Micro ONT

The Micro ONT can either be mounted on a wall, or on a desktop.

Wall Mount Installation

To wall mount the Micro ONT, complete the following steps:

NOTE

Refer to [Figure 3](#) when installing the Micro ONT on a wall.

1. Determine a location for the Micro ONT.

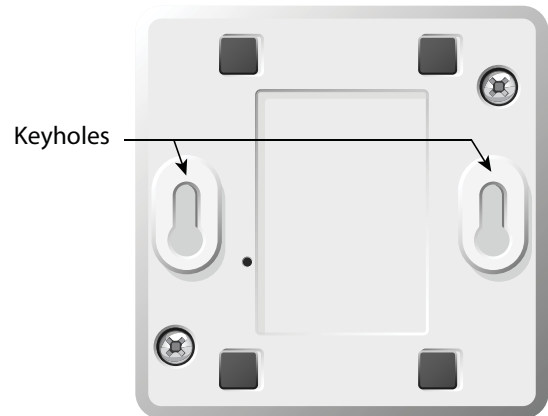


Figure 3. Wall Mount Keyholes

2. Use the key holes (2 inches apart) on the back of the Micro ONT as a template and install two #6 drywall anchors.
3. Install two #6 Pan Head screws. Leave approximately 1/4 inch protruding from the mounting surface.
4. Slide the Micro ONT over the Pan Head screws and exert a small amount of downward pressure to ensure that the top of the slots are resting on the shafts of the Pan Head screws.

Desktop Installation

The Micro ONT can be located on a desktop. Ensure the Micro ONT is not located in direct sunlight or next to any thermal obstructions.

Step 2: Connect Ethernet

The Micro ONT supports a Gigabit (10/100/1000BASE-T) connection to an RJ-45-type connector (**LAN**).

If an Ethernet cable is not available, use the procedure and table on the following page to build the Ethernet cable.

1. Use a CAT 5E or 6 rated cable and trim the insulation for the subscriber Ethernet cable back approximately 1/2 inch.
2. Connect the wires per the following table using an RJ-45 Crimper.

| Ethernet RJ-45 Pin-out | | | |
|------------------------|-------|---------------------------|--------------|
| Pin | Name | Description | Color Code |
| 1 | TRD0+ | Transmit/Receive Positive | White/Orange |
| 2 | TRD0- | Transmit/Receive Negative | Orange |
| 3 | TRD1+ | Transmit/Receive Positive | White/Green |
| 4 | TRD2+ | Transmit/Receive Positive | Blue |
| 5 | TRD2- | Transmit/Receive Negative | White/Blue |
| 6 | TRD1- | Transmit/Receive Negative | Green |
| 7 | TRD3+ | Transmit/Receive Positive | White/Brown |
| 8 | TRD3- | Transmit/Receive Negative | Brown |

3. Refer to [Figure 1](#) and Insert the CAT 6 rated cable in the LAN Port.

Step 3: Connect Fiber

CAUTION

LASER RADIATION

1310 nm to 1600 nm

Do not view directly with optical instruments.

This product contains a Class 1M Laser module that complies with 21 CFR 1040.10 and 1040.11 and IEC 60825-1 and -2.

Fiber is installed in an SC/APC connector (**FIBER**) located on the rear of the Micro ONT (see [Figure 4](#)). Complete the following steps to install fiber.

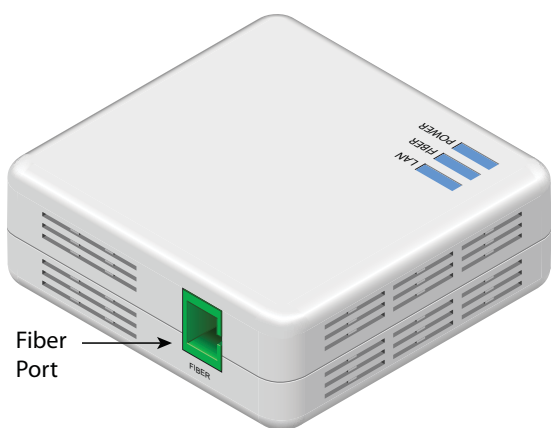


Figure 4. GPON Connection

1. Refer to [Figure 5](#) and pull the Protective Cover from the SC/APC Connector.



Figure 5. SC/APC Protective Cover

2. Clean the ends of the Incoming Fiber Connector.
3. Before installing the fiber, use an optical power meter to measure the dB power. The level should not exceed -8dB. Use an appropriate bi-directional optical attenuator if the power levels are at or above -8dB. A level between -12 and -18dBm is acceptable.
4. Refer to the [Figure 6](#) and connect the Incoming Fiber Connector.

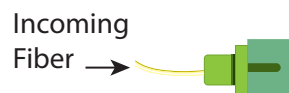


Figure 6. Fiber Installed

NOTE

When the SC/APC fiber connection is not in use, replace the Protective Cover. This will help keep the optical connection clean.

Step 4: Connect Power

Refer to the illustration on the first page and the following steps when connecting power.

1. Plug the supplied 12 V AC/DC Power Converter into the **PWR** connection on the rear of the chassis.
2. Connect the power plug to a standard AC outlet. This immediately turns the unit ON.

LED STATUS

The following table provides the LED status during normal operations.

| Label | Status | Indication |
|--------------|-----------------------|--|
| POWER | ○ Off | ONT power is Off |
| | ● Green | ONT power On |
| FIBER | ○ Off | ONT is not connected or PON link is down |
| | ● Green | ONT PON link is ranged and Up |
| LAN | ○ Off | Ethernet is not connected |
| | ● Green | Ethernet is connected, but data is not being transmitted |
| | * Green Flashing Fast | Ethernet is connected; data is being transmitted |

TROUBLESHOOTING

The following table provides troubleshooting tips.

| Problem | Possible Solution |
|---|---|
| POWER LED is Off | <ul style="list-style-type: none"> ■ Make sure the power cable connector is properly seated in the PWR connector. ■ Verify that the power adapter is plugged into a live AC outlet. ■ Check the power cable for shorts or breaks. ■ Disconnect the power input connector at the ONT and use a voltmeter to verify that the proper voltage level is present on the 12 V pin (power and power return) from the power adapter. |
| FIBER LED is flashing green | <ul style="list-style-type: none"> ■ This is normal at boot-up and may take up to one minute to turn solid green. If this state persists, contact the Central Office to verify that the ONT serial number, password, and vendor ID match those provisioned in the database. ■ If provisioning is correct, have the Central Office determine if there are alarms on the PON feeding the ONT. If no alarms exist, use an optical power meter to troubleshoot the fiber network. |
| LAN LED is off when the Ethernet cable is connected | <p>Check the Ethernet connection, or check to see if the Ethernet service is disabled. Contact the Central Office for verification.</p> |

■ Optical

- ◆ TX min power: +0.5 dBm
- ◆ TX max power: +5.0 dBm
- ◆ RSSI max sensitivity: -27.0 dBm
- ◆ RX overload: -8.0 dBm
- ◆ TX wavelength: 1310 nm typical
- ◆ RX wavelength: 1490 nm typical

MAINTENANCE

The Micro ONT does not require routine hardware maintenance for normal operation. We do not recommend that you attempt repairs in the field. Obtain repair services by returning the defective unit to ADTRAN. Refer to the warranty for further information. Field support for software is provided through upgrade facilities.

SAFETY AND REGULATORY COMPLIANCE

Refer to the Safety and Regulatory Compliance Notice for this product (61287786F1-17) for detailed safety and regulatory information.

Consultez l'avis sur la sécurité et la conformité à la réglementation pour ce produit (61287786F1-17) pour obtenir des renseignements détaillés sur la sécurité et la réglementation.

SPECIFICATIONS

The specifications for the Micro ONT are as follows:

- Electrical
 - ◆ Voltage: 12 volts typical
 - ◆ Minimum Voltage: 10 Volts
 - ◆ Maximum Voltage: 13.9 Volts
 - ◆ Power Consumption: Typical 5 watts
- Physical
 - ◆ 2.5 inches wide (6.4 centimeters)
 - ◆ 2.5 inches deep (6.4 centimeters)
 - ◆ 0.75 inches high (2.0 centimeters)
 - ◆ Weight: 8 ounces (0.23 kilograms)
- Environmental
 - ◆ Operational Temperature: 32°F to +104°F (0°C to +40°C)
 - ◆ Storage Temperature: -4°F to 122°F (-20°C to +50°C)
 - ◆ Relative Humidity: 90%, noncondensing

Warranty: ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found online at www.adtran.com/warranty.



CAUTION!
 SUBJECT TO ELECTROSTATIC DAMAGE
 OR DECREASE IN RELIABILITY
 HANDLING PRECAUTIONS REQUIRED

ADTRAN CUSTOMER CARE:

From within the U.S. 1.800.726.8663
 From outside the U.S. +1 256.963.8716

PRICING AND AVAILABILITY 1.800.827.0807

