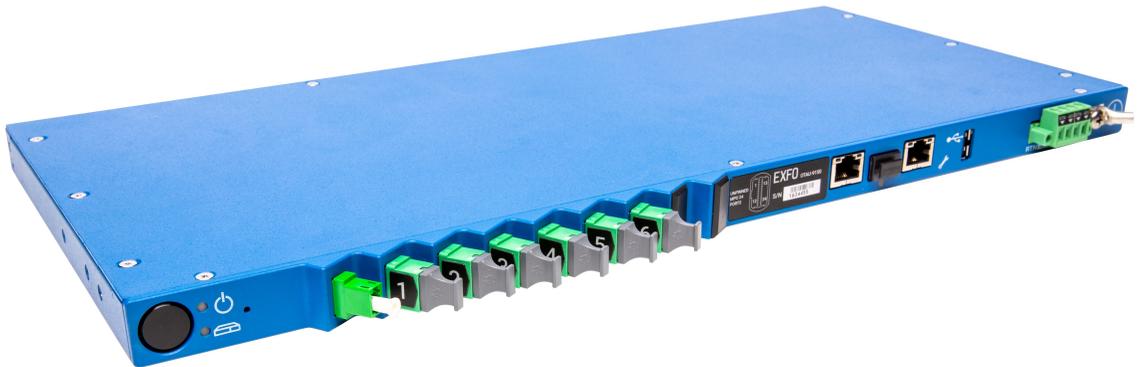


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# OTAU-9150



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EXFO's Commerce And Government Entities (CAGE) code under the North Atlantic Treaty Organization (NATO) is 0L8C3.

The information contained in this publication is subject to change without notice.

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### ***Units of Measurement***

Units of measurement in this publication conform to SI standards and practices.

### ***Patents***

The exhaustive list of patents is available at [EXFO.com/patent](http://EXFO.com/patent).

Version number: 2.0.0.1

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## Regulatory Information

### **USA Electromagnetic Interference Regulatory Statement**

Electronic test and measurement equipment is exempt from FCC part 15, subpart B compliance in the United States of America. However, EXFO Inc. makes reasonable efforts to ensure compliance to the applicable standards.

The limits set by these standards are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user documentation, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

### **Canada Electromagnetic Interference Regulatory Statement**

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference.

Cet équipement génère, utilise et peut émettre de l'énergie radio-fréquence et, s'il n'est pas installé et utilisé conformément à la documentation de l'utilisateur, il peut occasionner une interférence néfaste aux communications radio. L'utilisation de cet équipement dans une zone résidentielle est susceptible d'occasionner une interférence néfaste.

## Regulatory Information

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**Caution:** This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

**Attention :** Cet appareil n'est pas destiné à être utilisé dans des environnements résidentiels et peut ne pas assurer la protection adéquate à la réception radioélectrique dans ce type d'environnements.

This is a class A, group 1 product.

Ceci est un produit de classe A, groupe 1.

- **Class A equipment:** Equipment that is, by virtue of its characteristics, highly unlikely to be used in a residential environment, including a home business shall be classified as class A and shall comply with the class A limits specified in the applicable ICES standard. Characteristics considered in this assessment include price, marketing and advertising methodology, the degree to which the functional design inhibits applications suitable to residential environments, or any combination of features that would effectively preclude the use of such equipment in a residential environment.

Classe A : Matériel qui, en raison de ses caractéristiques, ne sera fort probablement pas utilisé dans un milieu domiciliaire ni par des entreprises établies à domicile. Parmi les caractéristiques considérées dans cette évaluation, il y a le prix, les méthodes de commercialisation et de publicité, la mesure dans laquelle les fonctions de l'appareil font qu'il ne se prête pas à des applications convenant au milieu domiciliaire ou toute combinaison de ces caractéristiques qui aurait pour conséquence d'en prévenir effectivement l'utilisation à domicile. Utilisé également pour indiquer les limites d'émission correspondantes qui s'appliquent à un tel matériel.

- **Class B equipment:** Equipment that cannot be classified as Class A shall comply with the Class B limits specified in the applicable ICES standard.

Classe B : Matériel qui ne peut pas être inclus dans la classe A. Utilisé également pour indiquer les limites d'émission correspondantes qui s'appliquent à un tel matériel.

- Group 1 equipment: group 1 contains all equipment which is not classified as group 2 equipment, and includes equipment such as laboratory and scientific equipment, industrial process, measurement and control equipment.

Group 2 equipment: group 2 contains all ISM RF equipment in which radio-frequency energy in the frequency range 9 kHz to 400 GHz is intentionally generated and used or only used locally, in the form of electromagnetic radiation, inductive and/or capacitive coupling, for the treatment of material for inspection/analysis purposes, or for transfer of electromagnetic energy.

Appareils du groupe 1 : le groupe 1 réunit tous les appareils compris dans le domaine d'application de la présente Norme, qui ne sont pas classés comme étant des appareils du groupe 2. Le groupe 1 inclut les appareils scientifiques et de laboratoire, les processus industriels, appareils de mesure ou de contrôle.

Appareils du groupe 2 : le groupe 2 réunit tous les appareils ISM à fréquences radioélectriques dans lesquels de l'énergie à fréquences radioélectriques dans la plage de fréquences comprises entre 9 kHz et 400 GHz est produite et utilisée volontairement ou uniquement utilisée localement sous forme de rayonnement électromagnétique, de couplage inductif et/ou capacitif, pour le traitement de la matière, à des fins d'examen ou d'analyse ou pour le transfert d'énergie électromagnétique.

## Supplier's Declaration of Conformity (SDoC)

The SDoC for your product is as follows:

CAN ICES-001 (A) / NMB-001 (A)

### **EU and UK Electromagnetic Compatibility Regulatory Statement**

Warning: This is a class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures. Your product is suitable for use in industrial electromagnetic environments.

### **Simplified EU and UK Declaration of Conformity**

The full text of the declaration of conformity is available at the following Internet address: *[www.exfo.com/en/resources/legal-documentation](http://www.exfo.com/en/resources/legal-documentation)*.

### **EU Economic Operator**

**EXFO Solutions SAS**  
2, rue Jacqueline Auriol,  
Saint-Jacques-de-la-Lande,  
35091 Rennes Cedex 9  
FRANCE

# 1 **Introducing the OTAU-9150**

The OTAU-9150 is a remote optical switch that you can use in conjunction with Nova Fiber Monitoring System (FMS).

When you work with FMS, you can program tests or perform them on demand. FMS is the central management software for all EXFO's fiber monitoring probes such as the OTH-7000, FG-750, and RTU-2.

**Note:** *The OTAU-9150 is compatible with the OTH-7000 and RTU-2 units.*

## **Main Features**

Your unit offers the following:

- A number of optical output ports ranging from 4 to 144, depending on the purchased configuration
- One USB host port
- One LAN/WAN Ethernet port (10/100/1000 Base-T)
- One management Ethernet port (10/100/1000 Base-T) for local access
- One port to connect an SFP transceiver module

## Introducing the OTAU-9150

*Available Configurations*

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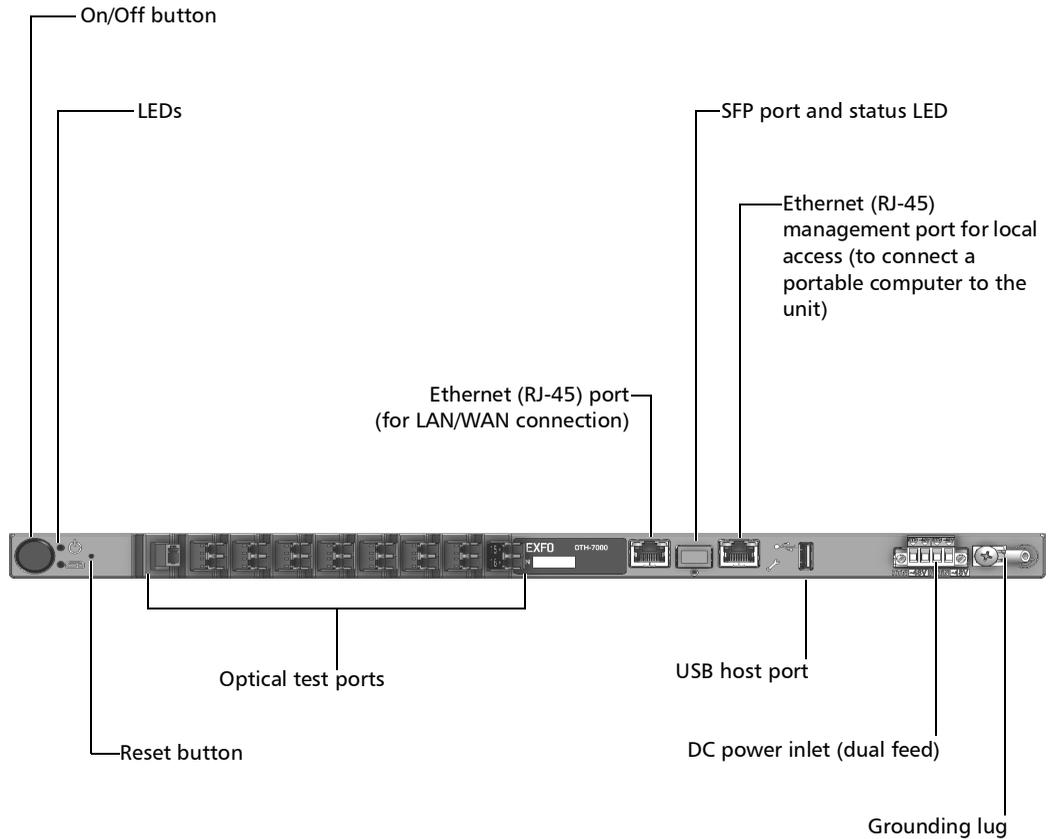
### Available Configurations

Several configurations are available for the OTAU-9150.

All configurations come with a LAN/WAN port and an SFP port for an optional SFP module.

Configuration	Features
OTAU-9150-1-04-B-104	<ul style="list-style-type: none"><li>➤ Duplex remote OTAU</li><li>➤ Four (4) LC-APC output ports</li></ul>
OTAU-9150-1-16-B-104	<ul style="list-style-type: none"><li>➤ Duplex remote OTAU</li><li>➤ Sixteen (16) LC-APC output ports</li></ul>
OTAU-9150-1-32-B-MPO16	<ul style="list-style-type: none"><li>➤ Remote OTAU</li><li>➤ Thirty-two (32) output ports (two MPO ports containing 16 fibers each)</li></ul>
OTAU-9150-1-32-B-WDM-MPO16	<ul style="list-style-type: none"><li>➤ Remote OTAU</li><li>➤ Thirty-two (32) output ports (two MPO ports containing 16 fibers each)</li><li>➤ Equipped with WDM for live fiber application</li></ul>
OTAU-9150-1-64-B-MPO16	<ul style="list-style-type: none"><li>➤ Remote OTAU</li><li>➤ Sixty-four (64) output ports (four MPO ports containing 16 fibers each)</li></ul>
OTAU-9150-1-96-B-MPO24	<ul style="list-style-type: none"><li>➤ Remote OTAU</li><li>➤ Ninety-six (96) output ports (four MPO ports containing 24 fibers each)</li></ul>
OTAU-9150-1-144-B-MPO24	<ul style="list-style-type: none"><li>➤ Remote OTAU</li><li>➤ A hundred and forty-four (144) output ports (six MPO ports containing 24 fibers each)</li></ul>

## Front panel (16-port model shown)



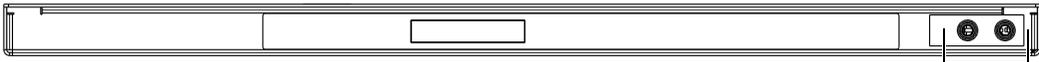
**Note:** You can also connect the unit to AC power with the AC/DC power adapter sold by EXFO.

# Introducing the OTAU-9150

## LED Indicators Description

---

### Back panel



Holes for alternative installation of a grounding lug

## LED Indicators Description

There are LED indicators located on the front panel of your unit, providing you with information about the power and system statuses.

The table below presents the possible statuses once the initial startup sequence is complete.

LED	Status	Meaning
 Power	Green	Unit is on.
	Off	Unit is off.
 System <sup>a</sup>	Green	The unit is working properly and is ready.
	Green, slow blinking	The initialization of the unit is underway.
	Green, fast blinking	The unit is being restored to its original state at time of purchase (factory state).
	Yellow	Non-critical hardware error detected. The temperature of the room where the unit is located could be slightly too high or there could be a hardware malfunction. Ensure that the temperature falls within the specified operating temperature range (see <i>Electrical Safety Information</i> on page 12). If the problem persists, contact EXFO.

LED	Status	Meaning
 System (continued)	Red	Critical hardware error detected. The temperature of the room where the unit is located is critically too high or there could be a hardware malfunction. Ensure that the temperature falls within the specified operating temperature range (see <i>Electrical Safety Information</i> on page 12). If the problem persists, contact EXFO.
	Off	Unit is off.
SFP port LED	Green	A communication link has been established through the SFP transceiver module.
	Off	No SFP transceiver module is connected to the port or no communication link is currently established with the SFP transceiver module.

- a. If more than one error is detected at the same time, the color of the LED will be set according to the most severe error (red as the most severe, followed by yellow).

### Product Registration

You can register your new EXFO products online and benefit from every possible opportunity to optimize their performance. By doing so, you will always be notified of the latest software updates, key product enhancements and up-to-date support information related to your products.

***To register your product online:***

- 1.** From a computer, open a Web browser and go to [www.exfo.com](http://www.exfo.com).
- 2.** Log in to your EXFO account.
- 3.** Click **Support > Product registration**.
- 4.** Under **My Products**, click **Register**.
- 5.** Follow the on-screen instructions.

### Technical Specifications

To obtain this product's technical specifications, visit the EXFO Web site at [www.exfo.com](http://www.exfo.com).

## Conventions

Before using the product described in this guide, you should understand the following conventions:



### **WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in *death or serious injury*. Do not proceed unless you understand and meet the required conditions.



### **CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in *minor or moderate injury*. Do not proceed unless you understand and meet the required conditions.



### **CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in *component damage*. Do not proceed unless you understand and meet the required conditions.



### **IMPORTANT**

Refers to information about this product you should not overlook.



## 2 **Safety Information**



### **WARNING**

Do not install or terminate fibers while a light source is active. Never look directly into a live fiber and ensure that your eyes are protected at all times.



### **WARNING**

The use of controls, adjustments and procedures, namely for operation and maintenance, other than those specified herein may result in hazardous radiation exposure or impair the protection provided by this unit.



### **WARNING**

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



### **WARNING**

Use only accessories designed for your unit and approved by EXFO. For a complete list of accessories available for your unit, refer to its technical specifications or contact EXFO.



### IMPORTANT

Refer to the documentation provided by the manufacturers of any accessories used with your EXFO product. It may contain environmental and/or operating conditions limiting their use.



### IMPORTANT

When you see the following symbol on your unit , make sure that you refer to the instructions provided in your user documentation. Ensure that you understand and meet the required conditions before using your product.



### IMPORTANT

When you see the following symbol on your unit , it indicates that the unit is equipped with a laser source, or that it can be used with instruments equipped with a laser source. These instruments include, but are not limited to, modules and external optical units.



### IMPORTANT

Other safety instructions relevant for your product are located throughout this documentation, depending on the action to perform. Make sure to read them carefully when they apply to your situation.



### WARNING

Use only the pluggable transceivers specified for your product and approved by EXFO. Refer to the technical specifications of your product for the list of approved transceivers and ordering codes.

## Other Safety Symbols on Your Unit

One or more of the following symbols may also appear on your unit.

Symbol	Meaning
	Direct current
	Alternating current
	The unit is equipped with an earth (ground) terminal.
	The unit is equipped with a protective conductor terminal.
	The unit is equipped with a frame or chassis terminal.
	On (Power)
	Off (Power)
 OR 	On/off (Power)
	Fuse

# Electrical Safety Information



## WARNING

- A readily accessible disconnect device must be installed on the mains (AC or DC circuits). The power cord of the AC/DC power adapter can be considered the disconnect device to the main power.
- If you intend to connect your OTAU-9150 to AC power, use only the listed and certified AC/DC power adapter provided by EXFO with your unit. It provides reinforced insulation between primary and secondary, and is suitably rated for the country where the unit is sold.
- DO NOT connect the unit interfaces metallicity to OSP (Outside Plant) wiring. The unit interfaces are designed for use as intra-building surfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of Primary Protectors is not sufficient protection in order to connect these interfaces metallicity to OSP wiring.
- Use only the certified power cord that is suitably rated for the country where the unit is used.
- Replacing detachable MAINS supply cords by inadequately RATED cords may result in overheating of the cord and create a risk of fire.



## CAUTION

Position the unit so that the air can circulate freely around it.

Equipment Ratings	
Temperature	
<ul style="list-style-type: none"> <li>▶ Operation</li> </ul>	<ul style="list-style-type: none"> <li>▶ unit connected to DC power: -10 °C to 65 °C (14 °F to 149 °F)</li> <li>▶ unit connected to AC power (with AC/DC power adapter): -10 °C to 65 °C (14 °F to 149 °F)</li> </ul>
<ul style="list-style-type: none"> <li>▶ Storage</li> </ul>	<ul style="list-style-type: none"> <li>▶ -40 °C to 70 °C (-40 °F to 158 °F)</li> </ul>
Relative humidity <sup>a</sup>	0 % to 95 % non-condensing
Maximum operation altitude	<ul style="list-style-type: none"> <li>▶ unit connected to DC power: 3000 m (9843 ft)</li> <li>▶ unit connected to AC power (with AC/DC power adapter): 2000 m (6562 ft)</li> </ul>
Pollution degree	2
Oversvoltage category	I
Measurement category	Not rated for measurement categories II, III, or IV
Input power <sup>b</sup>	<ul style="list-style-type: none"> <li>▶ unit: -48 V ---; 2 A<sup>c</sup></li> <li>▶ AC/DC power adapter (units connected to AC power only): 100 - 240 V ~; 50/60 Hz; 1 - 0.5 A</li> </ul>

a. Measured in 0 °C to 31 °C (32 °F to 87.8 °F) range, decreasing linearly to 50 % at 40 °C (104 °F).

b. Not exceeding ± 10 % of the nominal voltage.

c. Range: -38.5 - -70 V.



## CAUTION

The use of voltages higher than those indicated on the label affixed to your unit may damage the unit.



# 3 **Getting Started with Your Unit**

## Preparing for Installation



### **WARNING**

- Your unit is designed to be installed in a limited access area, for example, Central Offices, Telecommunication Centers, computer rooms, wiring closet, Outside Plant/CELL-Site class 1, and similar type locations and in accordance with local codes.
- Only trained personnel can perform the unit installation and configuration tasks. These people have appropriate technical training and experience to be aware of the hazards to which a person can be exposed when performing these installation tasks.



### **IMPORTANT**

To ensure compliance with GR-1089-CORE, use only shielded cables for Ethernet connections to the unit. The shielded cables must be grounded at both ends.

Before installing your unit, you should take the following into consideration:

- The chosen location provides adequate clearance for maintenance procedures.
- The location is an environmentally-controlled area that meets the minimum operating parameters.
- The location is isolated from strong electromagnetic fields produced by electrical devices.
- The power cable and power supply are compatible with your power service.
- The power source is properly grounded and falls within the internal power supply rating.

## Getting Started with Your Unit

### *Installing Your Unit in a Rack*

---

## Installing Your Unit in a Rack

Your unit is designed to be installed in 19-inch racks and in ETSI (21-inch) racks with the corresponding provided mounting brackets. It will not fit into 23-inch racks.

- The height of the unit is half a rack unit (0.5U) high or 22,2 mm (0.87 in.).
- When operating the unit, select a location that provides at least 75 mm (3 in.) of clearance on the front.



### CAUTION

Failure to provide adequate clearance from hot surfaces may result in an excessive internal temperature, thus reducing the reliability of your OTAU-9150 unit.

**Note:** *There is no need to leave an empty slot between units when you stack them one on top of the other inside a rack.*



## WARNING

- The equipment rack must be anchored to an unmovable support to prevent it from falling over when one or more units are extended in front of the rack on slides. You must also consider the weight of any other device installed in the rack. A crush hazard exists if the rack tilts forward, which could cause serious injury.
- Mounting of the unit in a rack or cabinet should be such that a hazardous condition is not achieved due to uneven mechanical loading.

### ***To install your unit in a rack:***

1. Ensure that your unit is turned off.
2. Ensure that no USB or electrical cables are connected to the unit.
3. Position the unit so that its bottom panel rests on a flat surface such as a table.



## IMPORTANT

The OTAU-9150 is only half a unit high. To maximize the utilization of rack space in 19-inch racks, EXFO recommends to alternate the position of the brackets for each unit. The brackets should be placed with their rack screw holes at the bottom for the first unit, at the top for the second, at the bottom for the next unit, and so on (see illustrations hereafter).

## Getting Started with Your Unit

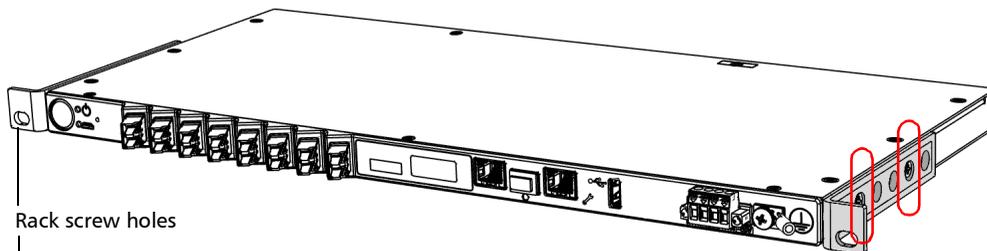
### Installing Your Unit in a Rack

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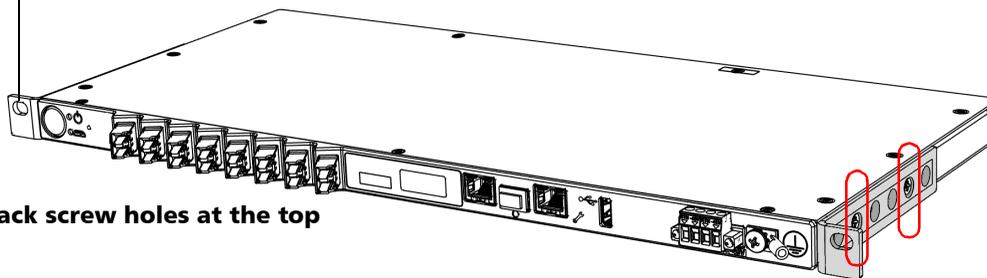
4. Align the holes of the first bracket with the holes of the unit's casing at the position that best suits your installation needs. You can even invert position of the mounting bracket if necessary.

#### Brackets in standard position - 19-inch racks

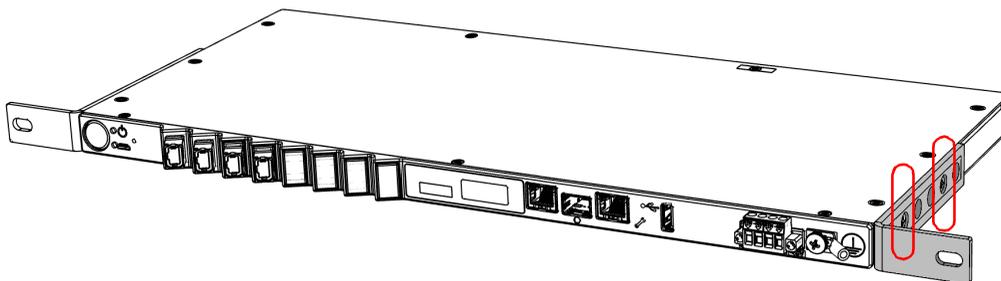
##### Rack screw holes at the bottom



##### Rack screw holes at the top



#### Brackets in standard position - ETSI racks

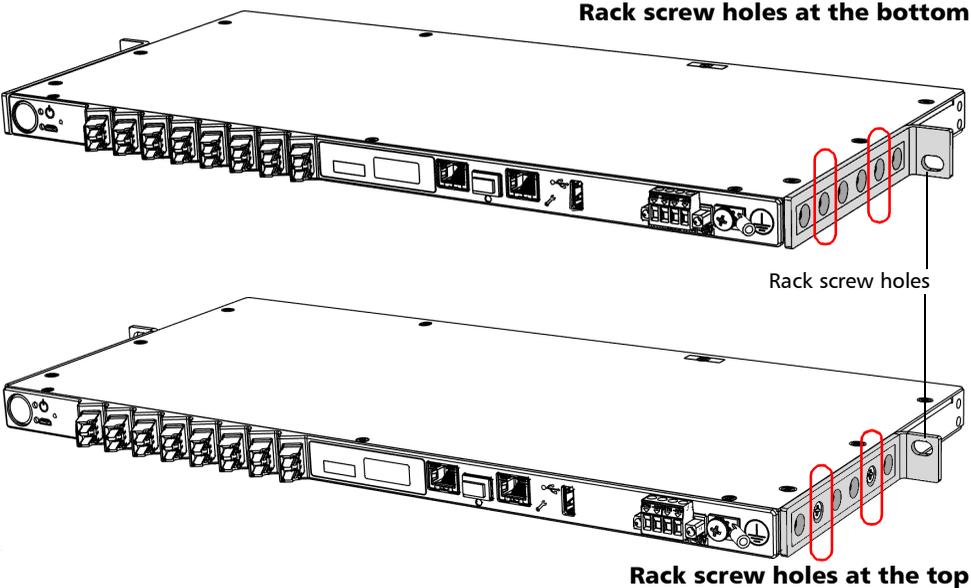


# Getting Started with Your Unit

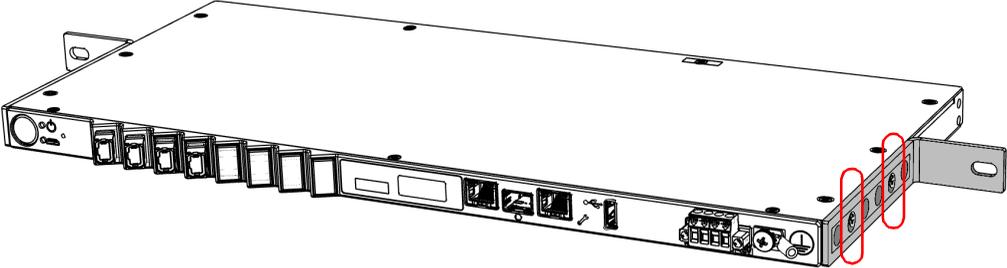
## Installing Your Unit in a Rack

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### Brackets in inverted position - 19-inch racks



### Brackets in inverted position - ETSI racks



## Getting Started with Your Unit

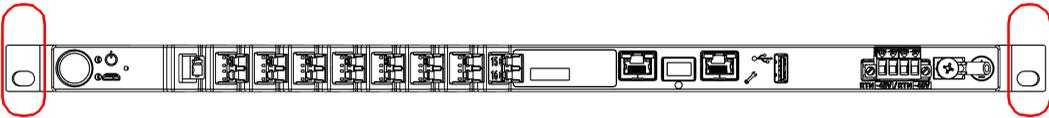
### Installing Your Unit in a Rack

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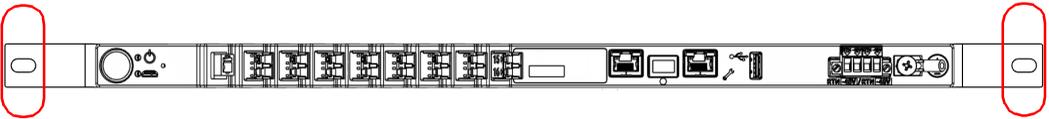
5. Fix the first bracket on the unit with the supplied screws (two screws per bracket).
6. Repeat steps 4 and 5 with the other bracket, ensuring that you place the bracket at the exact same position (orientation of the bracket, set of holes on the bracket and on the unit's casing).
7. Place the unit in the rack at the desired height.
8. Fix the unit in place using the hardware supplied with the rack. Use one screw per side.

To ground your unit properly, you must ensure that there is a metal-to-metal contact between the rack and the mounting hardware. For this reason, EXFO recommends to use thread-forming screws, star (tooth) lock washers, or similar hardware that remove any paint or non-conductive coatings. For more information, see *Grounding Your Unit* on page 21.

#### 19-inch rack



#### ETSI rack



## Grounding Your Unit

To avoid the potential for an electrical shock hazard, you must reliably connect an earth grounding conductor to the unit.

**Note:** *The DC units are intended for installation with an isolated DC return (DC-I) and are to be installed in a Common Bonding Network (CBN) per GR-1089-CORE.*



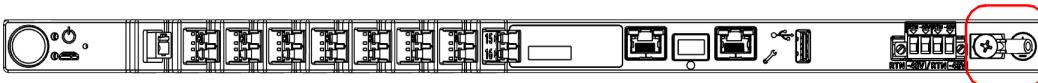
### WARNING

All wiring and installation must be in accordance with local building and electrical codes acceptable to the authorities in the countries where the equipment is installed and used.

If you are not sure on how to proceed, consult a certified electrician.

#### **To ground your unit:**

1. Remove the Phillips screw and the grounding lug from the front panel of your unit.



2. Prepare the ground wire (#14 AWG, green), and attach one of its ends to the unit's grounding lug using a crimping tool.
3. Use the Phillips screw to attach the grounding lug and wire assembly to the front panel of your unit.
4. Ground the other end of the wire as per your local regulation.

Your unit is now grounded properly.

**Note:** *For particular installation needs, you can attach your own grounding lug and wire to the back panel of the unit (to the corresponding holes) instead.*

## Working With an SFP Transceiver Module

You can connect an SFP transceiver module to your unit using the corresponding port located on the front of your unit.



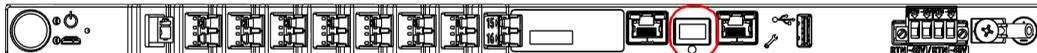
### IMPORTANT

Ensure that your unit is off before inserting the SFP transceiver module. Otherwise, the transceiver module will not be recognized and you will have to restart your unit to force its detection.

**Note:** You will be able to configure the related settings such as the network addresses from the Nova Fiber application (see Working With Your Unit for the First Time on page 33).

#### **To insert an SFP transceiver module into your unit:**

1. Ensure that your unit is off.
2. Slide the transceiver module into the corresponding port.



# Connecting Your Unit to a Power Source

Before starting to work with your unit, you must connect it to a power source (AC or DC). There is a specific procedure for each of these types of power sources.



## WARNING

- A certified over-current protecting device that is suitably rated must be installed at the source.
- All electrical installation and accessories must be done and selected as per local electrical code and regulation.
- To avoid fire hazards and ensure your safety, when you intend to connect your unit to DC power, always select a wire gauge according to the OTAU-9150 unit's ratings, cable length, and local electrical code.



## CAUTION

For optimum performance and safety, you must either crimp a terminal (ferrule) onto the stranded conductors, or tin them before installing them in the terminal block.

**Note:** *The AC/DC power adapter is not covered by the NEBS certification.*

## Getting Started with Your Unit

### Connecting Your Unit to a Power Source

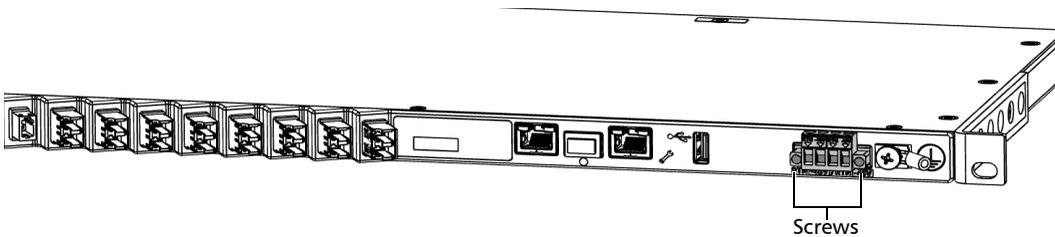
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#### To connect your unit to DC power:

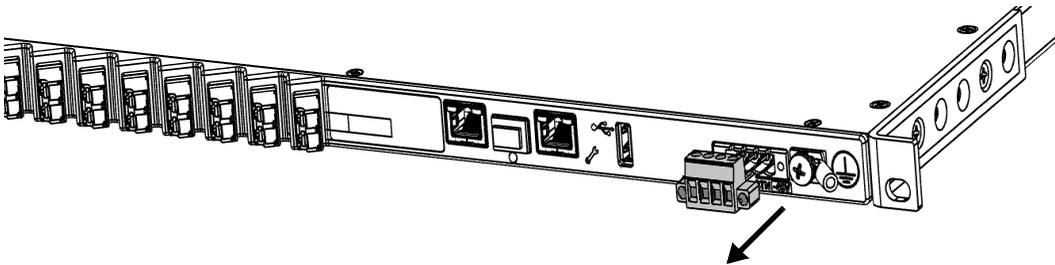
1. Ensure all power is off or disconnected at the source.

**Note:** A certified over-current protection, suitable for your particular setup, must be installed at the power secondary distribution. If you are not sure on how to proceed, consult a certified electrician.

2. Ensure that the unit is grounded properly. For more information, see *Grounding Your Unit* on page 21.
3. Unscrew the two screws holding the terminal block in place.



4. When the terminal block is loose, gently pull it toward you to remove it, exposing the electrical connectors.



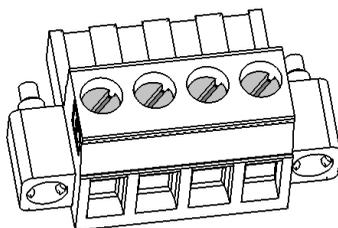
5. Crimp each power lead (maximum 14 AWG) with a terminal (ferrule) or tin each of them.

## Getting Started with Your Unit

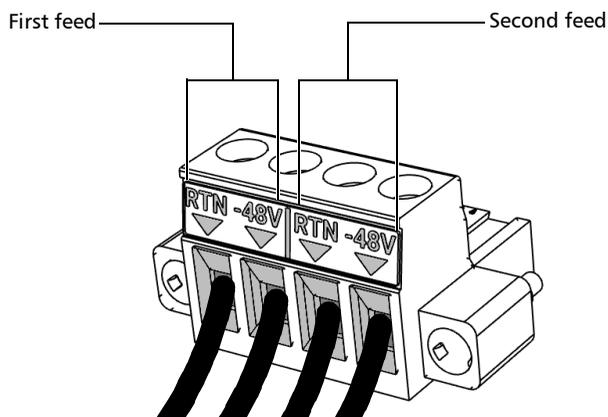
### Connecting Your Unit to a Power Source

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6. Unscrew the four screws (shown in gray) located at the top of the terminal block.



7. Pair the power leads with the appropriate power terminal for each of the feed, respecting the polarity as indicated on the terminal block.

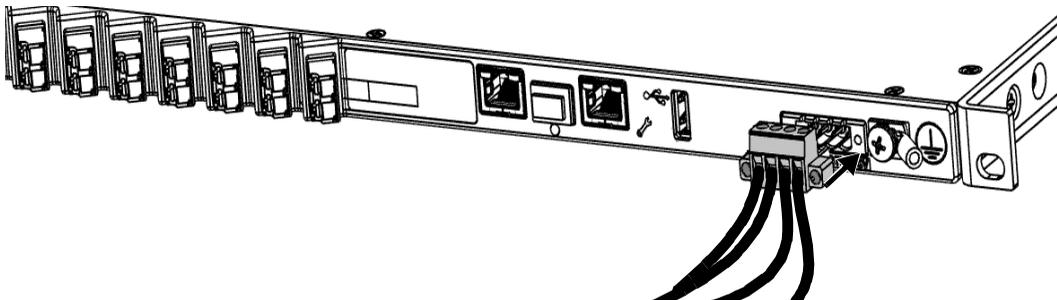


## Getting Started with Your Unit

### *Connecting Your Unit to a Power Source*

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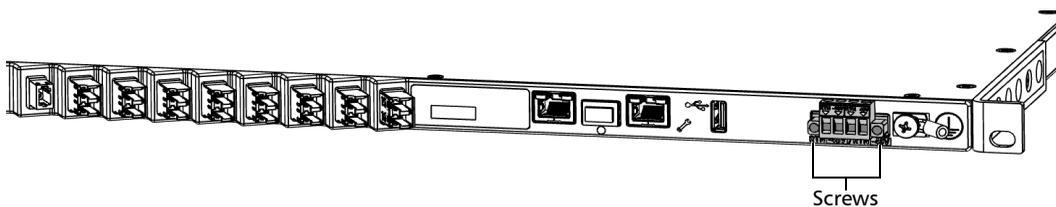
- 8.** Tighten the four screws located at the top of the terminal block to secure the wires in place.
- 9.** Ensure that the terminal block is aligned properly with the bay containing the electrical connectors.



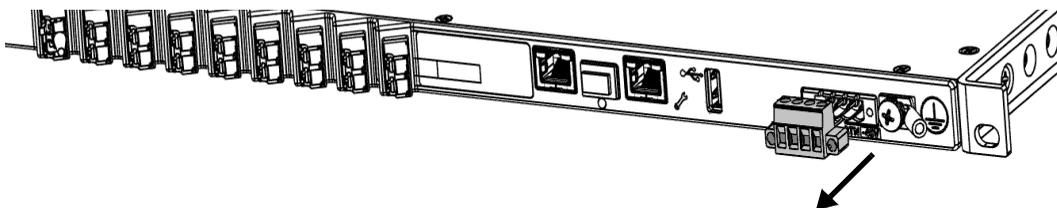
- 10.** Slide the terminal block all the way into the bay until it stops.
- 11.** Screw the two screws to secure the terminal block in place.
- 12.** Turn on the disconnect device that is connected to the unit.  
The unit will start automatically.

#### **To connect your unit to AC power:**

- 1.** Ensure all power is off or disconnected at the source.
- 2.** Ensure that the unit is grounded properly. For more information, see *Grounding Your Unit* on page 21.
- 3.** If necessary, remove the block terminal (shown in gray below) as follows:
  - 3a.** Unscrew the two screws holding the terminal block in place.



- 3b.** When the terminal block is loose, gently pull it toward you to remove it, exposing the electrical connectors.

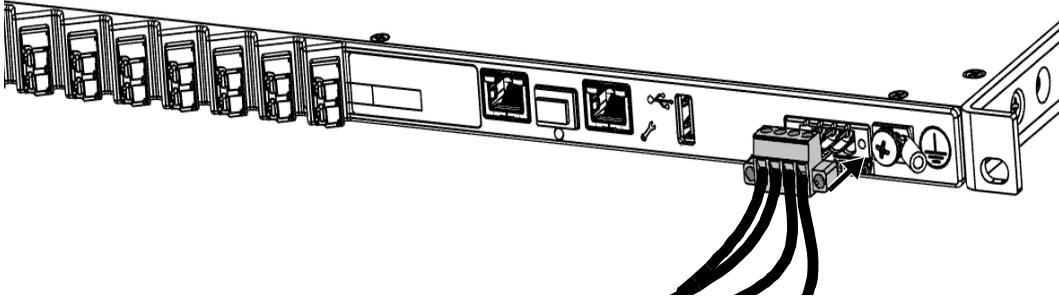


## Getting Started with Your Unit

### *Connecting Your Unit to a Power Source*

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4. Ensure that the connector of the AC/DC power adapter is aligned properly with the bay containing the electrical connectors.



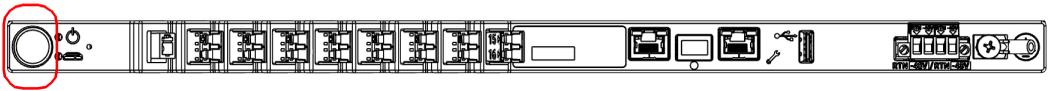
5. Slide the connector of the AC/DC power adapter all the way into the bay until it stops.
6. Screw the two screws to secure the connector of the AC/DC power adapter in place.
7. Ensure that the removable power cord is connected to the other end of the AC/DC power adapter, and then connect the adapter to the power outlet.
8. If necessary, turn on the disconnect device.  
The unit will start automatically.

### Turning on Your Unit

Before you turn on the unit for the very first time, EXFO recommends that you read the safety and installation instructions, including how to connect the unit to AC or DC power.

**To turn on the unit:**

Press the on/off button. For more information about working with your unit for the very first time, see the corresponding section in this documentation.



**Note:** You will know that your unit is ready when its  (System) LED is steady green. The startup process may take a few minutes to complete.

## Turning off Your Unit

Your unit will shut down when you press the power button. It will perform a complete restart routine the next time you use it.

**Note:** *Should the unit ever stop responding, you can force a hardware reset by pressing and holding down the on/off button for at least 10 seconds. To restart your unit, release the on/off button, and then press it again as you would normally do to start your unit.*

In the event of a power outage, your unit is configured to automatically restart when the power comes back.



### CAUTION

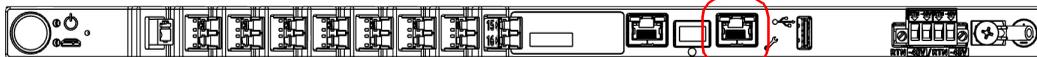
To avoid damaging your unit when you need to disconnect it from its external power source, first turn the unit off.

***To turn off the unit completely from the unit itself:***

Press the on/off button.

### **To restart the unit or turn it off completely from the Nova Fiber application:**

1. If it is not already done, connect one end of a network cable to the management port of your unit and the other end to an Ethernet port on the computer.



2. Ensure that the  (System) LED is steady green.
3. From your computer, open a Web browser and type 169.254.10.10 in the address bar to access the Nova Fiber application.

**Note:** *It may take a few seconds before you can see the Nova Fiber application if your computer needs to reconfigure its network to a link-local address first.*

4. When the application prompts you, enter the connection information.
  - The default user name is: localadmin
  - The default password is: admin



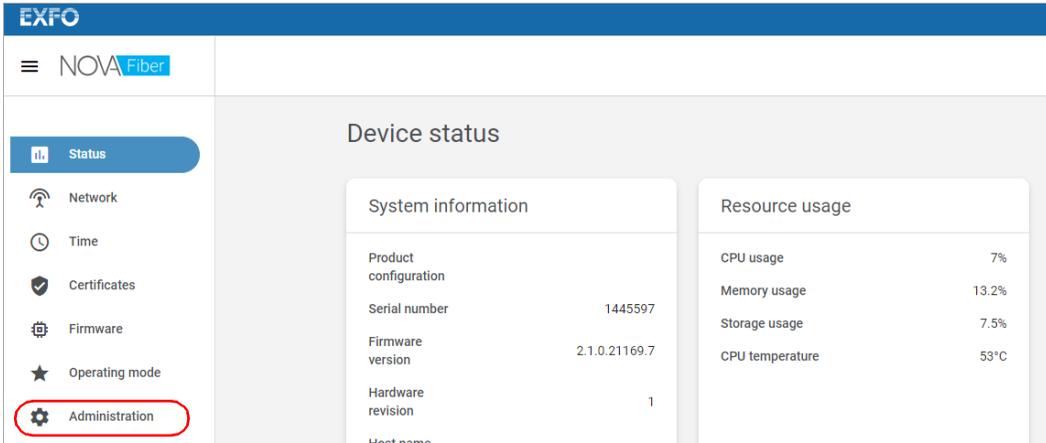
## IMPORTANT

The application will lock your account after a certain number of unsuccessful connection attempts. Before entering your connection information again, you will have to wait a few minutes. The waiting time starts increasing after the fifth unsuccessful connection attempt up to a maximum of fifteen minutes.

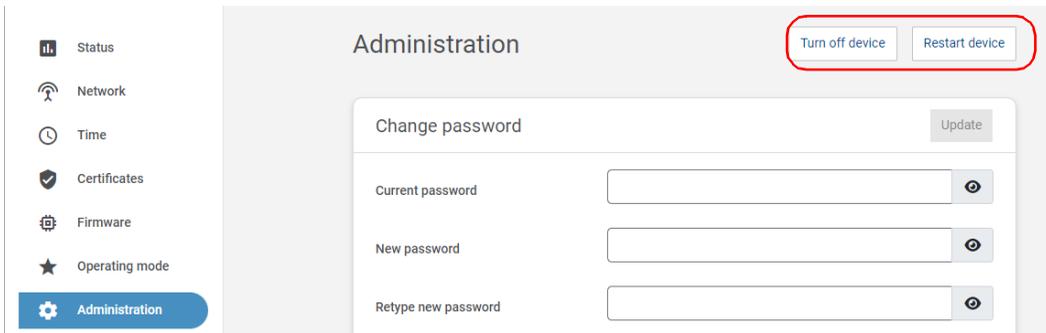
# Getting Started with Your Unit

## Turning off Your Unit

- From the list, select **Administration**.



- Click the **Restart device** or the **Turn off device** button, depending on the operation that you want to perform.



# Working With Your Unit for the First Time

By starting to use your unit, you implicitly agree to the EXFO and third-party EULAs related to your unit and instruments.

You will need a computer (laptop) and a network cable to connect to your OTAU-9150 unit.

By default, the management of your unit is done locally by connecting a laptop to your unit. However, if you prefer to be able to manage your unit remotely (via LAN or WAN) after the first connection, you can enable a feature allowing you to do so. For more information on how to connect remotely to your unit, see *Accessing Your Unit Remotely* on page 51.

The following procedure takes into account that you have already mounted your unit in a rack, grounded it, inserted an SFP transceiver module if applicable, etc. For more information, see the corresponding sections presented earlier in this chapter.



6. When the application prompts you, enter the connection information.
  - The default user name is: localadmin
  - The default password is: admin



### **IMPORTANT**

The application will lock your account after a certain number of unsuccessful connection attempts. Before entering your connection information again, you will have to wait a few minutes. The waiting time starts increasing after the fifth unsuccessful connection attempt up to a maximum of fifteen minutes.

7. For security reasons, when the application prompts you, change the password. The password must have a minimum of eight characters and include characters from at least three of the following categories:
  - Lowercase letters ('a' - 'z')
  - Uppercase letters ('A' - 'Z')
  - Numbers (0 - 9)
  - Special characters

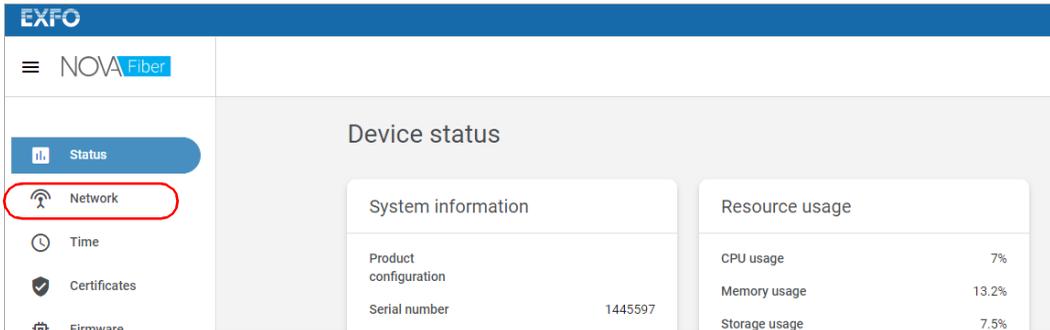
## Getting Started with Your Unit

*Working With Your Unit for the First Time*

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**8.** Configure the network as follows:

**8a.** From the list, select **Network**.



The screenshot shows the EXFO NOVA Fiber web interface. The left sidebar contains a menu with the following items: Status (highlighted in blue), Network (circled in red), Time, Certificates, and Firmware. The main content area is titled 'Device status' and is divided into two columns: 'System information' and 'Resource usage'.

System information	
Product configuration	
Serial number	1445597

Resource usage	
CPU usage	7%
Memory usage	13.2%
Storage usage	7.5%

- 8b.** Set the IP address and various parameters as needed, and then click **Apply** to confirm.

**Note:** You can access the SFP parameters by clicking the arrow next to the currently displayed adapter.

To access the parameters of other network adapters

To confirm the changes

EXFO NOVA Fiber

Status

Network

Time

Certificates

Operating mode

Firmware

Administration

Logs

### Network

#### Configuration

Adapter LAN/WAN Ethernet ▾

IPv4

Address  Obtain address automatically  Configure manually

IP address

Subnet mask

Gateway

DNS  Obtain address automatically  Configure manually

Primary DNS

Secondary DNS

Apply

# Getting Started with Your Unit

Working With Your Unit for the First Time

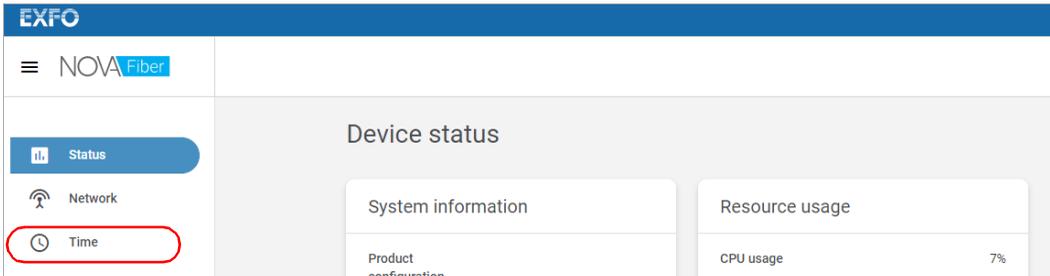


## IMPORTANT

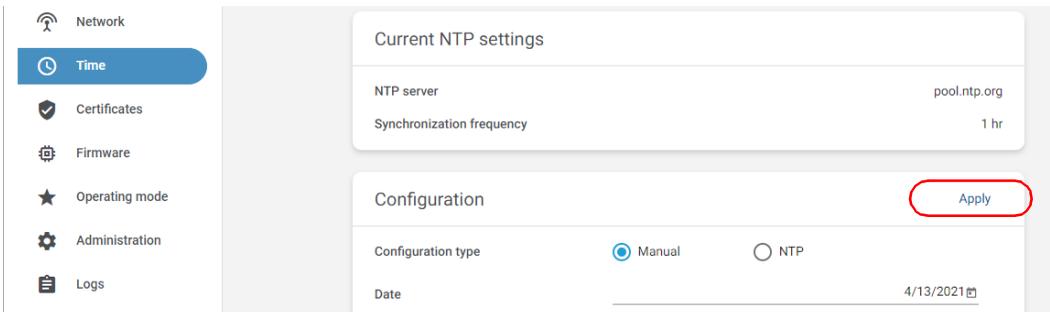
To avoid connection problems between your unit and FMS, ensure that the date and time set on your unit correspond to the current date and time.

9. Configure the date and time as follows:

9a. From the list, select **Time**.

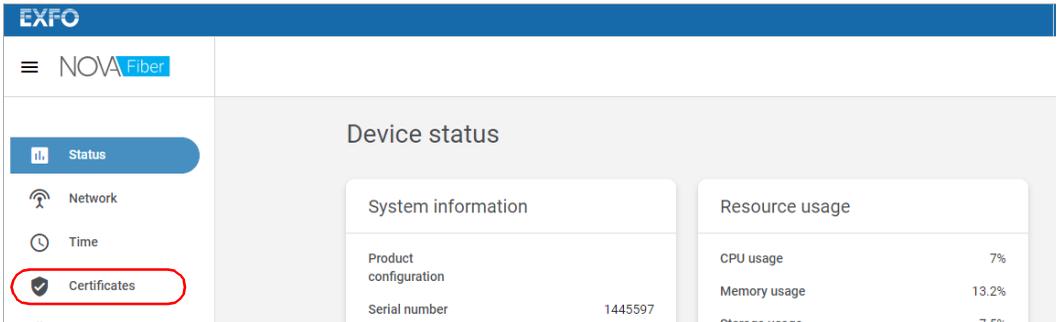


9b. By default, the application sets the date and time values to those of the Web browser you are currently using, but you can change them as needed. You can set the date and time manually or use an NTP server. Click **Apply** to confirm.

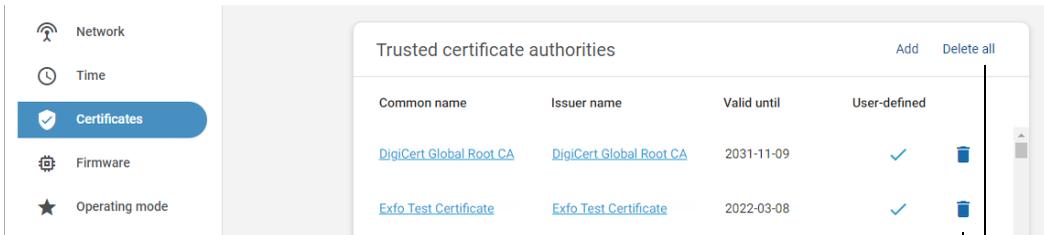


**10.** Configure the list of trusted certificates as follows:

**10a.** From the list, select **Certificates**.



**10b.** Click **Add** to add a trusted certificate to the list. The certificate file that you provide must be in PEM format.



To delete a specific trusted certificate from your unit

To delete all trusted certificates from your unit

**10c.** Follow the instructions on screen.

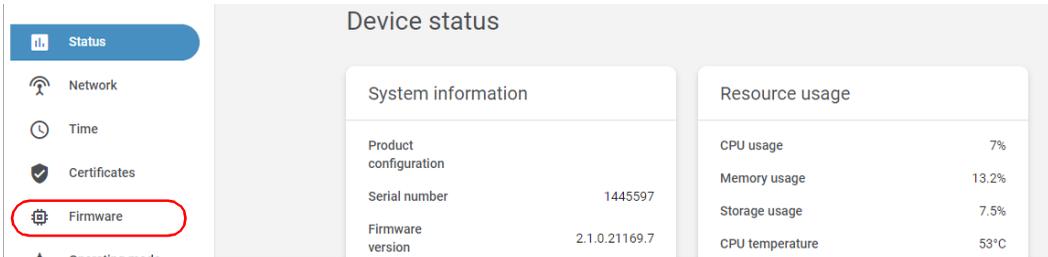
# Getting Started with Your Unit

## Working With Your Unit for the First Time

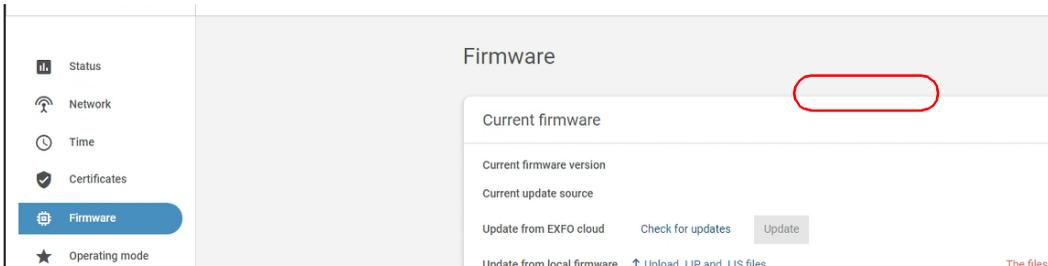
**11.** If desired, ensure that your unit is up to date as follows:

**Note:** Refer to the Nova Fiber FMS Readme for the complete compatibility information.

**11a.** From the list, select **Firmware**.



**11b.** Click **Check for updates**.



**Note:** Your unit must have access to an Internet connection to be able to download updates and install them.

**11c.** If there are updates available, click the **Update** button to start the process. The unit will restart automatically at the end.

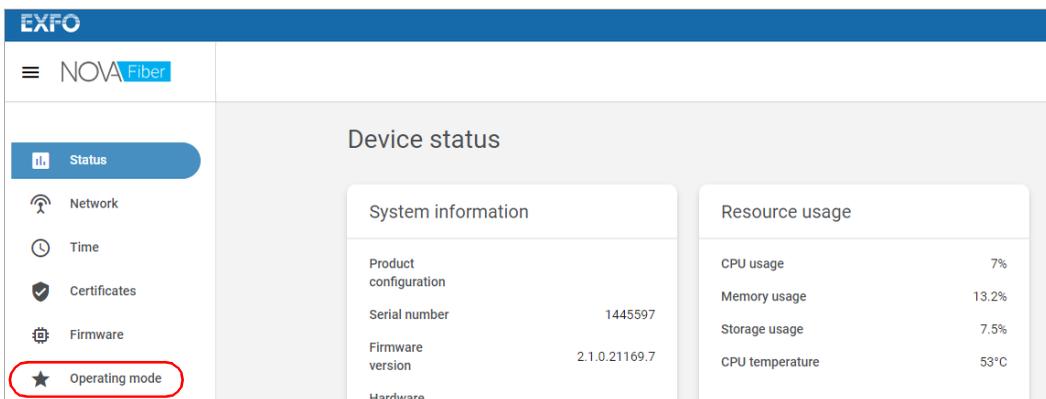
**11d.** Wait for your unit to be ready (its  (System) LED will be steady green), and then connect again to the Web application.

**Note:** The update operation may take a few minutes to complete.

**Note:** After a successful connection between FMS and your unit, FMS will provide the updates if your unit is running a compatible version.

**12.** Select the operating mode as follows:

**12a.** From the list, select **Operating mode**.



The screenshot shows the EXFO NOVA Fiber web interface. The left sidebar contains a menu with the following items: Status (selected), Network, Time, Certificates, Firmware, and Operating mode (highlighted with a red circle). The main content area is titled 'Device status' and contains two panels: 'System information' and 'Resource usage'.

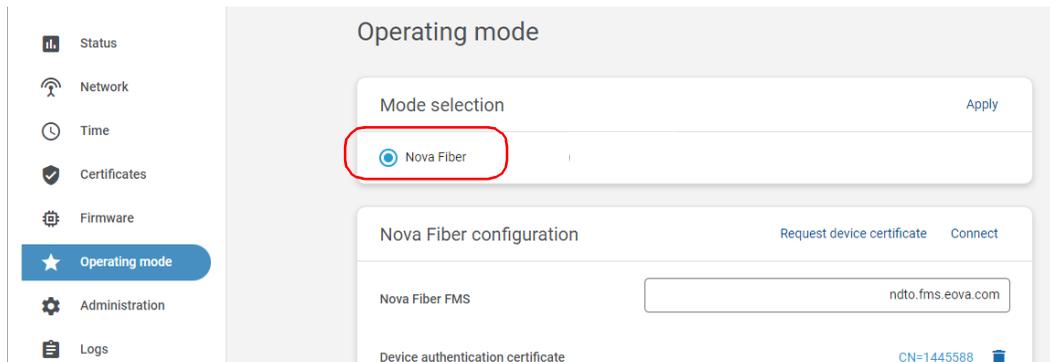
System information	
Product configuration	
Serial number	1445597
Firmware version	2.1.0.21169.7
Hardware	

Resource usage	
CPU usage	7%
Memory usage	13.2%
Storage usage	7.5%
CPU temperature	53°C

## Getting Started with Your Unit

### Working With Your Unit for the First Time

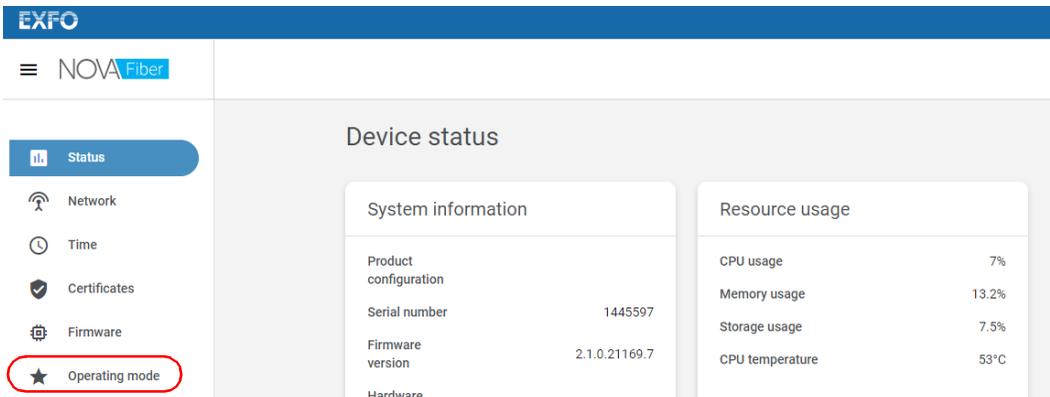
**12b.** Ensure that **Nova Fiber** is selected.



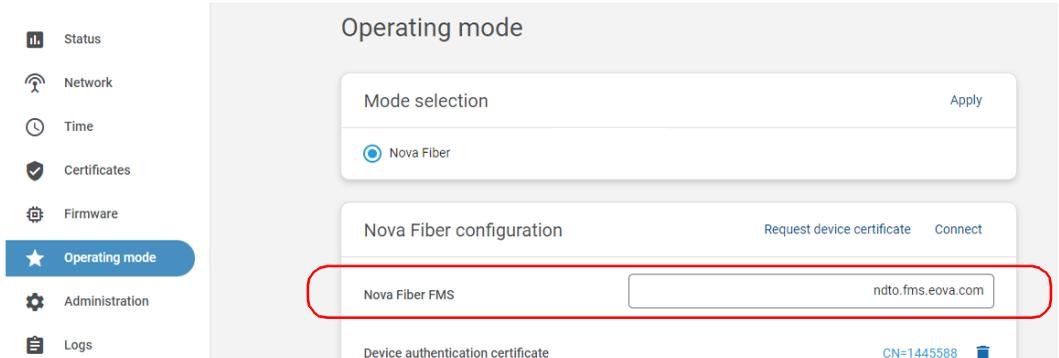
**12c.** Click **Apply** to confirm.

**13.** Connect your unit to FMS as follows:

**13a.** From the list, select **Operating mode**.



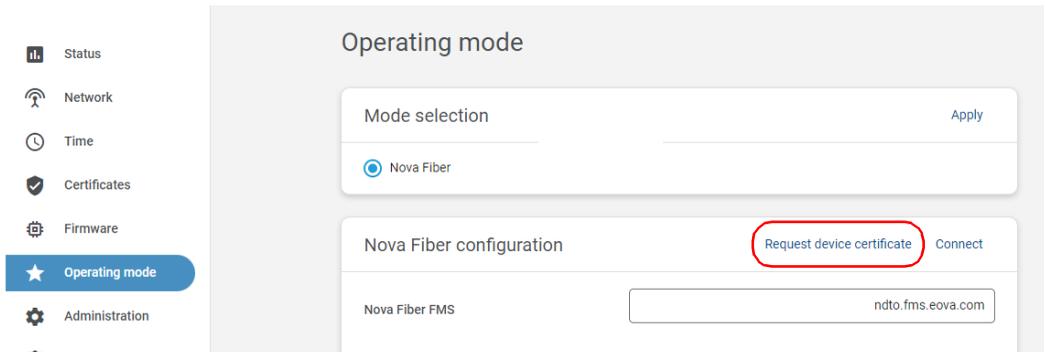
**13b.** In the Nova Fiber FMS box, enter the name of your FMS server (ex.: *abc.fms.your\_company.com*).



**13c.** If your system is configured so that FMS requires the authentication of all OTAU-9150 units, click **Request device certificate**.

OR

If FMS does not require the authentication of the OTAU-9150 units, go directly to step 13e.



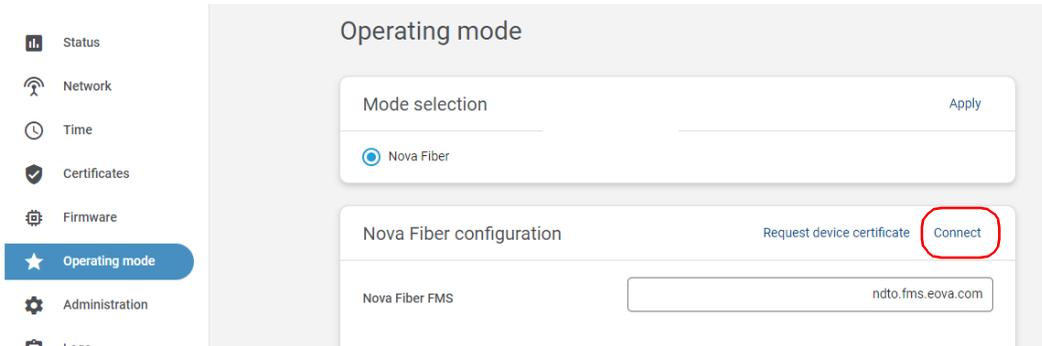
## Getting Started with Your Unit

### Working With Your Unit for the First Time

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**13d.** When the application prompts you, enter the username and password for certificate retrieval that was provided by your system administrator. As soon as the application notifies you that the certificate has been updated, you are ready for the connection.

**13e.** Click **Connect** to establish the connection with FMS.

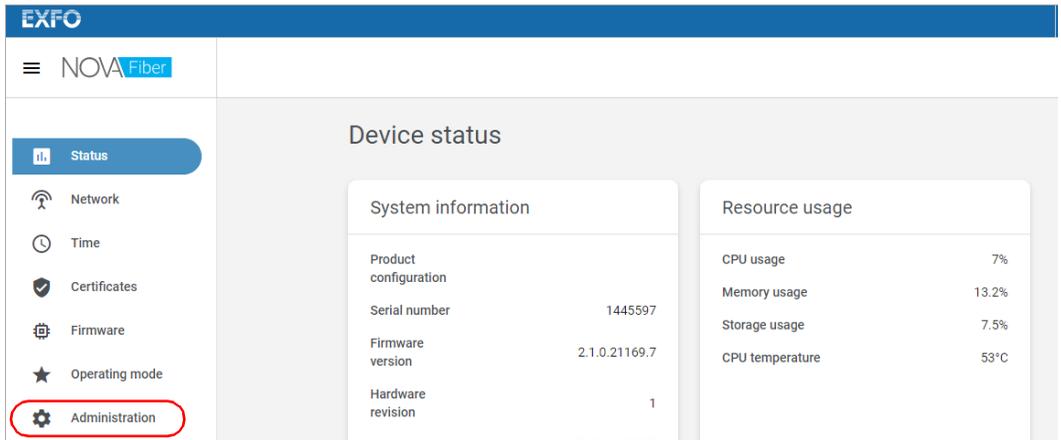


**Note:** The status of the connection is visible from the **Status** page. The status goes from “Not configured” to “Connecting” to “Established”. If any connection problem occurs, the application will display “Connecting” along with the last error, and the OTAU-9150 will periodically try to reconnect to the FMS server.

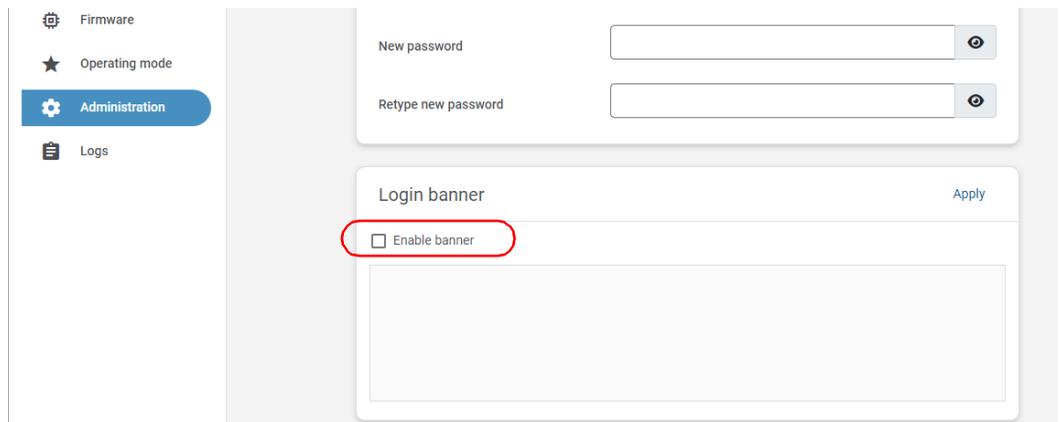
**Note:** If you need to detach your unit from the link, you can click **Disconnect**. At this point, since there are no monitoring data acquired so far, no data can be lost.

**14.** If you need to define a login banner, you can do so as follows:

**14a.** From the list, select **Administration**.



**14b.** Select the **Enable banner** check box.



**14c.** Enter the desired text, and then click **Apply** to confirm.

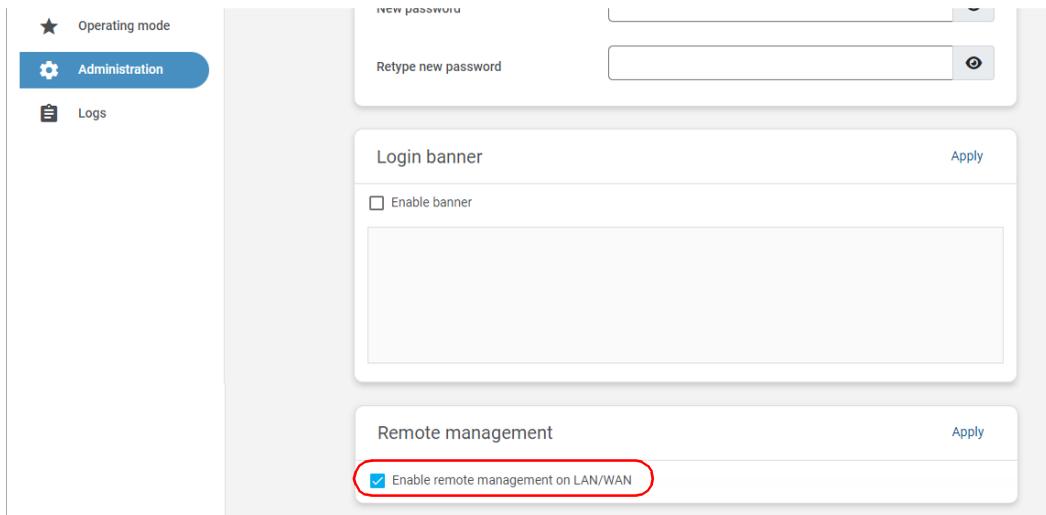
## Getting Started with Your Unit

Working With Your Unit for the First Time

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**15.** If you want to be able to access your unit remotely for management, proceed as follows:

**15a.** Select the **Enable remote management on LAN/WAN** check box.



The screenshot shows the web interface of the unit. On the left, there is a navigation menu with three items: 'Operating mode' (with a star icon), 'Administration' (with a gear icon and highlighted in blue), and 'Logs' (with a document icon). The main content area is divided into three sections. The top section is for password management, with fields for 'new password' and 'Retype new password'. The middle section is titled 'Login banner' and contains a checkbox labeled 'Enable banner' which is currently unchecked. The bottom section is titled 'Remote management' and contains a checkbox labeled 'Enable remote management on LAN/WAN' which is checked. A red circle highlights this checked checkbox. Each section has an 'Apply' button in the top right corner.

**Note:** *The remote management will be enabled both on the LAN/WAN Ethernet port and SFP transceiver.*

**15b.** Click **Apply** to confirm.

Your OTAU-9150 unit is now configured properly.

## 4 **Maintenance**

To help ensure long, trouble-free operation:

- Always inspect fiber-optic connectors before using them and clean them if necessary.
- Keep the unit free of dust.
- Clean the unit casing and front panel with a cloth slightly dampened with water.
- Store unit at room temperature in a clean and dry area. Keep the unit out of direct sunlight.
- Avoid high humidity or significant temperature fluctuations.
- Avoid unnecessary shocks and vibrations.
- If any liquids are spilled on or into the unit, turn off the power immediately, disconnect from any external power source and let the unit dry completely.



### **WARNING**

The use of controls, adjustments and procedures, namely for operation and maintenance, other than those specified herein may result in hazardous radiation exposure or impair the protection provided by this unit.

## Maintenance

### *Cleaning SC or LC Connectors*

---

## Cleaning SC or LC Connectors

You can clean the SC or LC connectors of your unit using a mechanical cleaner.



### **WARNING**

Never look directly into a live fiber. It could cause serious eye damage. Always use a Fiber Inspection Probe.



### **WARNING**

Before cleaning the connectors, you should suspend the tests to avoid hazardous radiation exposure.

#### ***To clean a connector using a mechanical cleaner:***

1. Insert the mechanical cleaner into the optical adapter, and push the outer shell into the cleaner.

**Note:** *The cleaner makes a clicking sound that indicates that the cleaning is done.*

2. Verify connector surface with a fiber inspection probe (for example, EXFO's FIP).

## Cleaning and Inspecting MPO-Type Connectors

If your unit is equipped with MPO ports (connectors), you can clean them using a multifiber mechanical cleaner.



You can inspect these connectors using a fiber inspection scope supporting MPO connector configurations (for example, EXFO's FIP-500).



### WARNING

Never look directly into a live fiber. It could cause serious eye damage. Always use a fiber inspection scope.



### WARNING

Before cleaning the connectors, you should suspend the tests to avoid hazardous radiation exposure.

#### ***To clean and inspect an MPO-type connector:***

1. Insert the cleaning tip into the optical adapter, and push the outer shell into the cleaner.

**Note:** *The cleaner makes a clicking sound to indicate that the cleaning is done.*

2. Verify connector surface with a fiber inspection scope. From the dedicated FIP-500 application, ensure to select the fiber layout corresponding to the configuration of your unit.

**Note:** *For the exact inspection procedure, refer to the FIP-500 user guide.*



## Accessing Your Unit Remotely

By default, the management of your unit is done locally by connecting a laptop to your unit. However, if you prefer to be able to manage your unit remotely (via LAN or WAN) after the first connection, you can enable a feature allowing you to do so.

The following procedure takes into account that you have already configured your unit for remote access. If it is not the case, you will need to connect locally to your unit, and then, from the Nova Fiber application ensure you have enabled the remote access (**Administration** page).

### **To access your unit remotely:**

1. Ensure that the unit is reachable with your computer.
2. On your computer, open a Web browser of your choice.
3. Type *https://<IP\_address\_of\_your\_unit>*.

**Note:** *The unit uses a self-signed certificate, which could cause Web browsers to display a message about security issues.*

## Changing the Administrator Password

By default, the administrator user account (user name: localadmin), is protected with the *admin* password.

For security reasons, EXFO recommends that you change the default password for a password of your choice after the first connection, and then periodically, according to your own security policy.

### **To change the administrator password:**

1. Connect to your unit, either locally or remotely. For more information, see *Accessing Your Unit Locally* on page 50 or *Accessing Your Unit Remotely* on page 51.
2. When the application prompts you, enter the connection information.
  - The default user name is: localadmin
  - The default password is: admin



## IMPORTANT

The application will lock your account after a certain number of unsuccessful connection attempts. Before entering your connection information again, you will have to wait a few minutes. The waiting time starts increasing after the fifth unsuccessful connection attempt up to a maximum of fifteen minutes.

**3. From the list, select Administration.**

The screenshot shows the 'Device status' page. On the left is a navigation menu with items: Status, Network, Time, Certificates, Firmware, Operating mode, and Administration (highlighted with a red circle). The main content area is divided into two columns: 'System information' and 'Resource usage'.

System information	
Product configuration	
Serial number	1445597
Firmware version	2.1.0.21169.7
Hardware revision	1
Host name	

Resource usage	
CPU usage	7%
Memory usage	13.2%
Storage usage	7.5%
CPU temperature	53°C

**4. Under Change password, enter the information.**

The screenshot shows the 'Change password' form. The left navigation menu is the same as in the previous screenshot, but 'Administration' is now highlighted. The form has three input fields: 'Current password', 'New password', and 'Retype new password', each with a toggle icon. An 'Update' button is at the top right. Below the form is a 'Login banner' section with an 'Apply' button.

The new password must have a minimum of eight characters and include characters from at least three of the following categories:

- Lowercase letters ('a' - 'z')
- Uppercase letters ('A' - 'Z')
- Numbers (0 - 9)
- Special characters

**5. Click Update to confirm.**

The new password is taken into account immediately.

## Upgrading the Firmware

After a successful connection between FMS and your unit, FMS will provide the updates if your unit is running a compatible version. Refer to the Nova Fiber FMS Readme for the complete compatibility information.

Your unit also allows you to check for updates, download these updates and install them directly.

**Note:** *Your unit must have access to an Internet connection to be able to download updates and install them manually.*

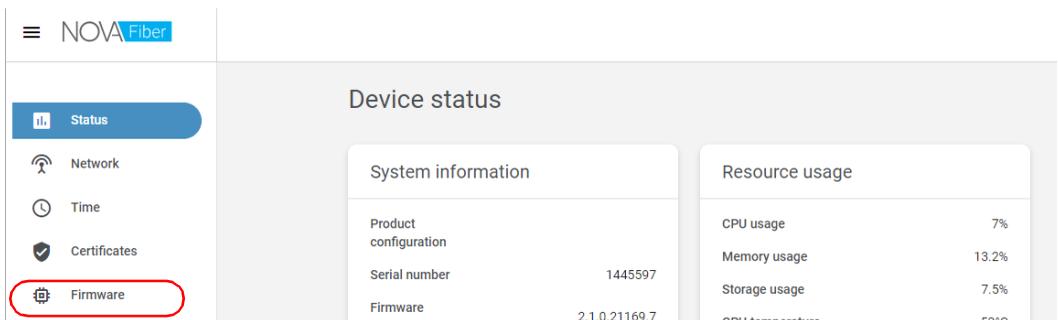


### CAUTION

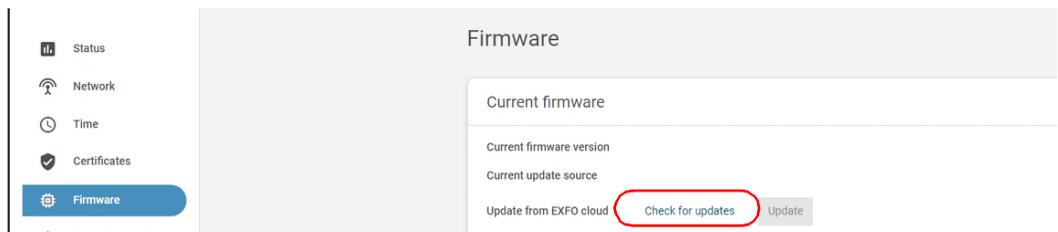
- For a trouble-free upgrade, ensure that your unit remains on during all the process.
- Turning off your unit (or disconnecting it from its power source) could result in unexpected behavior of the test applications, instability of the system, or even severely damage your unit, depending on the operation underway when the unit is turned off.  
Damaged units will need to be sent back to EXFO for repair.
- The upgrade could take several minutes to complete. Your unit could restart several times during the operation. You will know that the upgrade is finished when the  (System) LED turns steady green again.

**To upgrade the firmware manually:**

1. Ensure that your unit has access to the Internet.
2. Connect to your unit, either locally or remotely. For more information, see *Accessing Your Unit Locally* on page 50 or *Accessing Your Unit Remotely* on page 51.
3. When the application prompts you, enter your connection information.
4. From the list, select **Firmware**.



5. Click **Check for updates**.



6. If there are updates available, click the **Update** button to start the process. The unit will restart automatically at the end.
7. Wait for your unit to be ready (its  (System) LED will be steady green), and then connect again to the Web application.

**Note:** *The update operation may take a few minutes to complete.*

## Updating Your Unit With Local Firmware

Keeping both FMS (on your server) and the firmware (on your unit) up to date ensures the optimum performance of your system.

However, should a major incompatibility occur between FMS and your unit's firmware, you could upgrade your unit with local firmware to reestablish compatibility between the two.



### CAUTION

- For a trouble-free update, ensure that your unit remains on during all the process.
- Turning off your unit (or disconnecting it from its power source) could result in unexpected behavior of the test applications, instability of the system, or even severely damage your unit, depending on the operation underway when the unit is turned off.  
Damaged units will need to be sent back to EXFO for repair.
- The update could take several minutes to complete. Your unit will restart at the end of the operation.



### IMPORTANT

- If the local firmware update results in a downgrade of versions, some data could be lost in the process. You may want to back up your data before the update.
- Performing a local firmware update **DOES NOT** update the image used to revert the unit to its factory state. For this reason, if you revert your unit to its factory state after performing a local firmware update, the compatibility between FMS and the unit's firmware will be lost again. You will need to perform a new update.

#### To update your unit with local firmware:

1. Retrieve both the .LIP and .LIS files provided by EXFO to a folder of your choice on your computer (or to a USB key).
2. Connect to your unit, either locally or remotely. For more information, see *Accessing Your Unit Locally* on page 50 or *Accessing Your Unit Remotely* on page 51.
3. When the application prompts you, enter your connection information.
4. From the list, select **Firmware**.

The screenshot shows the EXFO NOVA Fiber web interface. The left sidebar contains a menu with the following items: Status, Network, Time, Certificates, and Firmware. The 'Firmware' item is highlighted with a red circle. The main content area is titled 'Device status' and contains two panels: 'System information' and 'Resource usage'.

System information		Resource usage	
Product configuration		CPU usage	7%
Serial number	1445597	Memory usage	13.2%
Firmware	2.1.0.21169.7	Storage usage	7.5%
		CPU temperature	53.0

5. Click **Upload .LIP and .LIS files**.

The screenshot shows the EXFO NOVA Fiber web interface. The left sidebar contains a menu with the following items: Status, Network, Time, Certificates, Firmware, Operating mode, and Administration. The 'Firmware' item is highlighted with a blue bar. The main content area is titled 'Firmware' and contains a 'Current firmware' section with the following options:

- Current firmware version
- Current update source
- Update from EXFO cloud  Check for updates
- Update from local firmware  Upload .LIP and .LIS files

## Maintenance

### Recycling and Disposal

---



## IMPORTANT

You must select both the .LIP and .LIS files to be able to start the upgrade.

6. Select the .LIP and .LIS files that you want to use. The upgrade starts automatically.

The unit will restart at the end of the operation.

**Note:** *The update operation may take a few minutes to complete.*

7. Wait for your unit to be ready (its  (System) LED will be steady green), and then connect again to the Web application.

## Recycling and Disposal



This symbol on the product means that you should recycle or dispose of your product (including electric and electronic accessories) properly, in accordance with local regulations. Do not dispose of it in ordinary garbage receptacles.

For complete recycling/disposal information, visit the EXFO Web site at [www.exfo.com/recycle](http://www.exfo.com/recycle).

# 5 Troubleshooting

## Solving Common Problems

Before calling EXFO's technical support, you may want to consider the following solutions to problems that could occur.

Problem	Possible Cause	Solution
<p>My unit does not start. Its power LED (🔌) remains off when I press the on/off button.</p>	<p>There is a problem related to electrical power.</p>	<ul style="list-style-type: none"> <li>➤ If your unit is connected to DC power, make sure that the disconnect device is turned on.</li>   <li>If your unit is connected to AC power, make sure that the external power supply is connected at both ends, and that the disconnect device is turned on.</li>   <li>➤ If the unit is connected to DC power, ensure that the wires are connected properly, respecting polarity (see <i>Connecting Your Unit to a Power Source</i> on page 23).</li> </ul>
<p>I cannot sign in to my account with my user name and password.</p>	<p>The application locked your account after five or more unsuccessful connection attempts.</p>	<p>Wait a few minutes before attempting a new connection. After eight unsuccessful attempts, you will have to wait 15 minutes before trying again.</p>
	<p>You forgot or lost your password.</p>	<p>Create a new password with FMS. For more information about FMS, refer to its user documentation.</p>

## Restoring Your Unit to Normal Operation

If you ever encounter major problems with your unit (for example, the unit does not behave the way it used to), you can revert it to its initial state (as it was at time of purchase).

When you reset your unit to its factory settings:

- All data files will be lost once the operation is complete.
- If you have installed products and updates since you purchased your unit, you will have to reinstall them.



### IMPORTANT

Resetting your unit to its factory settings will disable the remote management if it was enabled. This means that, once the operation is complete, you will no longer be able to connect remotely to your unit.



### CAUTION

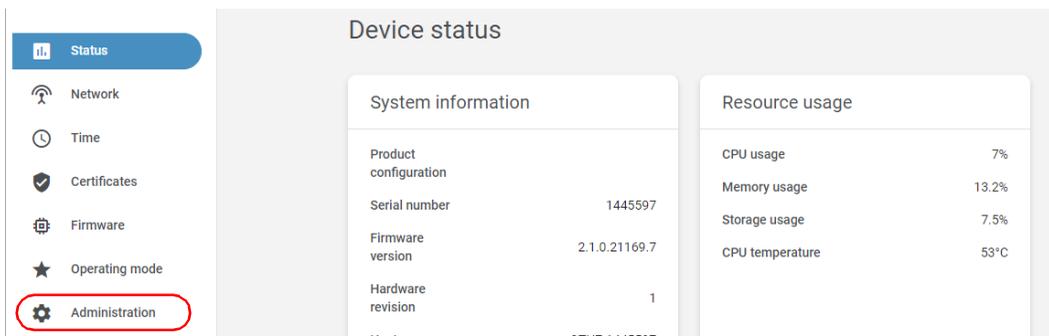
**DO NOT TURN OFF** your unit while the recovery operation is underway. Doing so may severely damage your unit. Damaged units will need to be sent back to EXFO for repair.

You can perform this operation from the Nova Fiber application or manually, especially if you cannot access the Nova Fiber application.

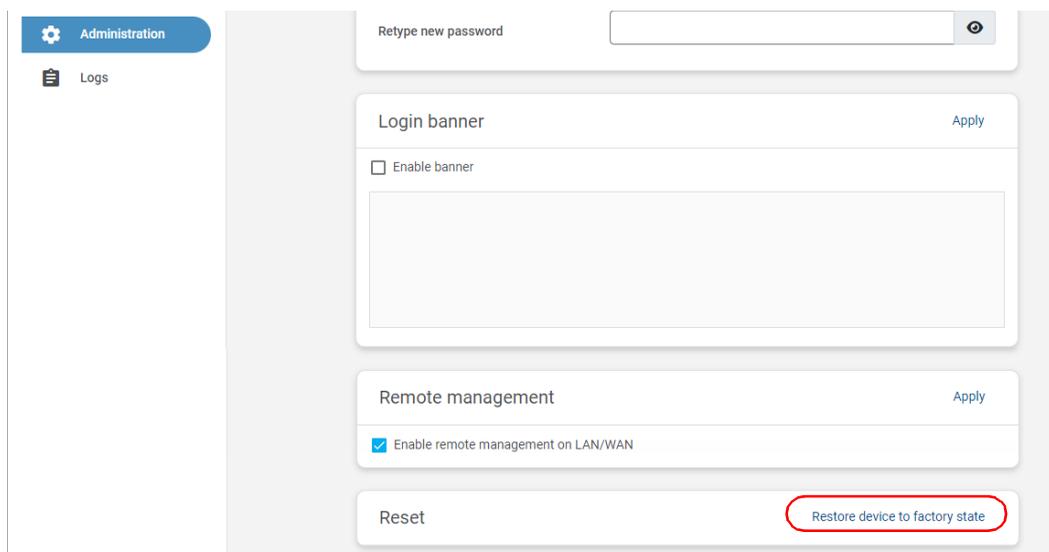
#### **To restore your unit to factory state with the Nova Fiber application:**

1. Connect to your unit, either locally or remotely. For more information, see *Accessing Your Unit Locally* on page 50 or *Accessing Your Unit Remotely* on page 51.
2. When the application prompts you, enter your connection information.

**3. From the list, select **Administration**.**



**4. Click **Restore device to factory state**.**



## Troubleshooting

### *Restoring Your Unit to Normal Operation*

---

5. Follow the on-screen instructions.

The restoring process is now underway and the  (System) LED will keep blinking rapidly. Your unit will restart automatically.

Once your unit has restarted, its  (System) LED will blink slowly during the whole initialization. You will know that the operation is complete when the LED becomes steady green.

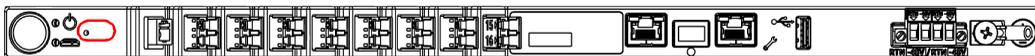
**Note:** *The restoring process may take a few minutes to complete.*

6. Configure your unit as you did when you first received it. However, use the following credentials to establish a connection:
  - User name: admin
  - Password: admin

For more information, see *Working With Your Unit for the First Time* on page 33.

**To restore your unit to its factory state without the Nova Fiber application:**

1. Turn off your unit.
2. Insert the end of an unbent paper clip into the tiny hole to access the reset button.



3. While you keep pushing on the paper clip, turn on the unit. Do not remove the paper clip yet.
4. As soon as the  (System) LED starts blinking rapidly, remove the paper clip.

The restoring process is now underway and the  (System) LED will keep blinking rapidly. Your unit will restart automatically.

Once your unit has restarted, its  (System) LED will blink slowly during the whole initialization. You will know that the operation is complete when the LED becomes steady green.

**Note:** *The restoring process may take a few minutes to complete.*

5. Configure your unit as you did when you first received it (see *Working With Your Unit for the First Time* on page 33).

## Troubleshooting

Accessing the User Documentation

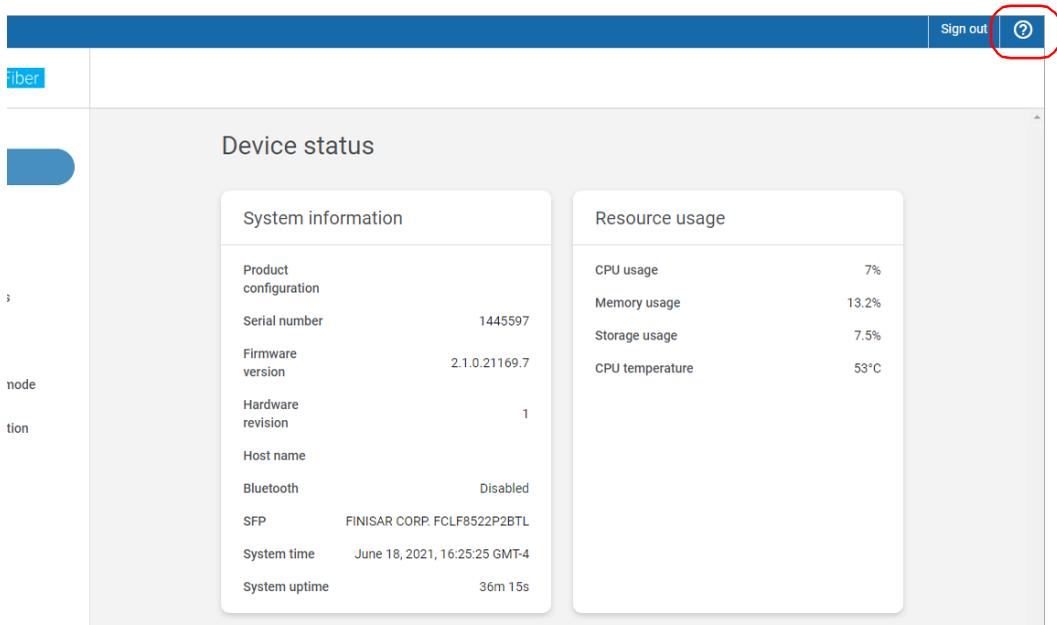
# Accessing the User Documentation

You can access the user documentation in PDF format at all times from your unit.

**Note:** The user guides of all products are also available from the My EXFO section of the EXFO Web site ([www.exfo.com](http://www.exfo.com)) for download in PDF format.

### To view the user documentation:

From the title bar of the Nova Fiber application, click .



The screenshot shows the Nova Fiber application interface. At the top, there is a blue title bar with a "Sign out" button and a help icon (a question mark inside a circle) which is circled in red. Below the title bar, the main content area displays "Device status" information. The interface is divided into two columns: "System information" and "Resource usage".

System information	
Product configuration	
Serial number	1445597
Firmware version	2.1.0.21169.7
Hardware revision	1
Host name	
Bluetooth	Disabled
SFP	FINISAR CORP. FCLF8522P2BTL
System time	June 18, 2021, 16:25:25 GMT-4
System uptime	36m 15s

Resource usage	
CPU usage	7%
Memory usage	13.2%
Storage usage	7.5%
CPU temperature	53°C

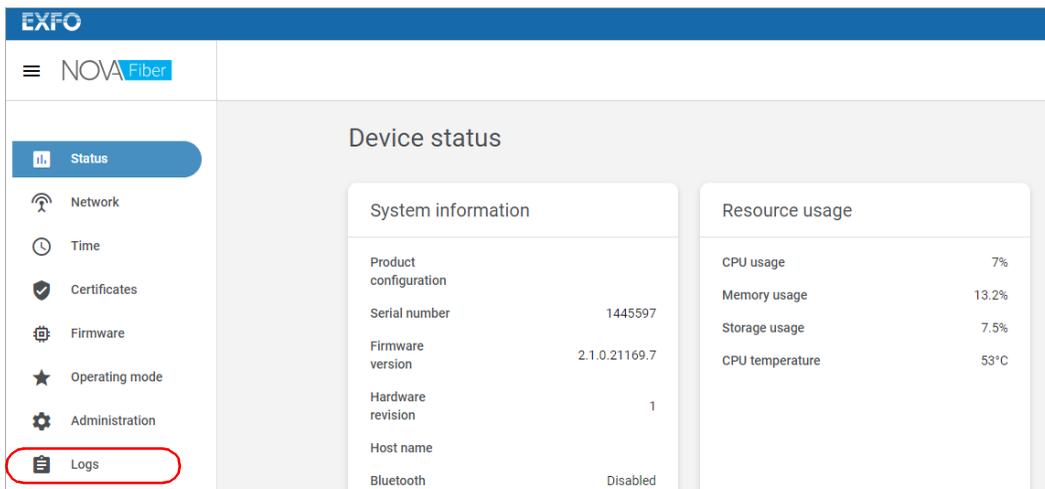
## Retrieving Logs

There are two types of logs that you can retrieve from the Nova Fiber Web application:

- The audit log that lists events and changes that occurred on the OTAU-9150 unit.
- The system log that provides special information that you can send to the technical support team at EXFO for further analysis.

### To retrieve logs:

1. Connect to your unit, either locally or remotely. For more information, see *Accessing Your Unit Locally* on page 50 or *Accessing Your Unit Remotely* on page 51.
2. From the Nova Fiber Web application, go to the **Logs** page.

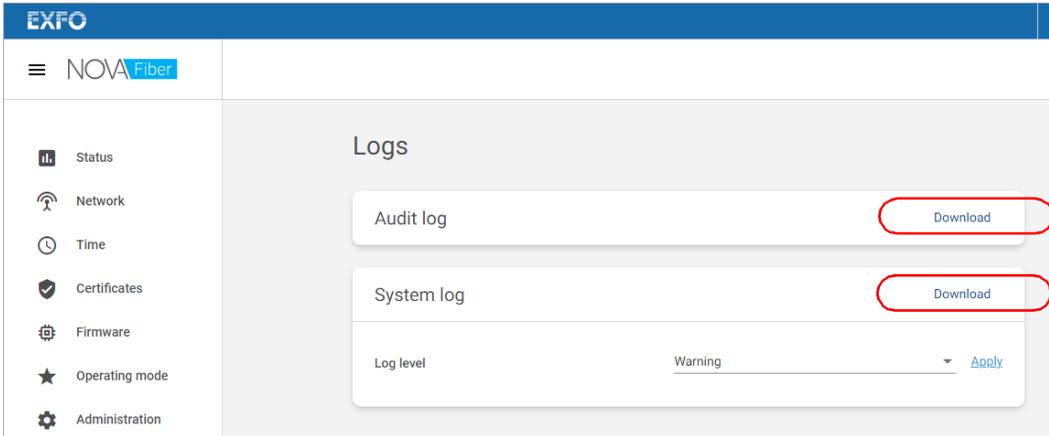


## Troubleshooting

### Retrieving Logs

---

3. Go to the section corresponding to the type of log that you want to retrieve, and then click the corresponding **Download** link.



**Note:** *By default, the logging level of the system log is set to Warning. If necessary, the technical support team will ask you to change the level to another value for subsequent actions. The Debug level should be used temporarily as it can slow down the system. EXFO recommends to set the level back to Warning once the debug operation is complete.*

**Note:** *The time necessary to retrieve a log will vary with its size.*

## **Contacting the Technical Support Group**

To obtain after-sales service or technical support for this product, contact EXFO at one of the following numbers. The Technical Support Group is available to take your calls from Monday to Friday, 8:00 a.m. to 7:00 p.m. (Eastern Time in North America).

### **Technical Support Group**

400 Godin Avenue  
Quebec (Quebec) G1M 2K2  
CANADA

1 866 683-0155 (USA and Canada)  
Tel.: 1 418 683-5498  
Fax: 1 418 683-9224  
support@exfo.com

For detailed information about technical support, and for a list of other worldwide locations, visit the EXFO Web site at [www.exfo.com](http://www.exfo.com).

If you have comments or suggestions about this user documentation, you can send them to [customer.feedback.manual@exfo.com](mailto:customer.feedback.manual@exfo.com).

To accelerate the process, please have information such as the name and the serial number (see the product identification label), as well as a description of your problem, close at hand.

## **Transportation**

Maintain a temperature range within specifications when transporting the unit. Transportation damage can occur from improper handling. The following steps are recommended to minimize the possibility of damage:

- Pack the unit in its original packing material when shipping.
- Avoid high humidity or large temperature fluctuations.
- Keep the unit out of direct sunlight.
- Avoid unnecessary shocks and vibrations.



# 6 **Warranty**

## **General Information**

EXFO Inc. (EXFO) warrants this equipment against defects in material and workmanship for a period of one year from the date of original shipment. EXFO also warrants that this equipment will meet applicable specifications under normal use.

During the warranty period, EXFO will, at its discretion, repair, replace, or issue credit for any defective product, as well as verify and adjust the product free of charge should the equipment need to be repaired or if the original calibration is erroneous. If the equipment is sent back for verification of calibration during the warranty period and found to meet all published specifications, EXFO will charge standard calibration fees.



### **IMPORTANT**

The warranty can become null and void if:

- **unit has been tampered with, repaired, or worked upon by unauthorized individuals or non-EXFO personnel.**
- **warranty sticker has been removed.**
- **case screws, other than those specified in this guide, have been removed.**
- **case has been opened, other than as explained in this guide.**
- **unit serial number has been altered, erased, or removed.**
- **unit has been misused, neglected, or damaged by accident.**

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL EXFO BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.

## **Warranty**

### *Gray Market and Gray Market Products*

---

## **Gray Market and Gray Market Products**

Gray market is a market where products are traded through distribution channels that are legal but remain unofficial, unauthorized, or unintended by the original manufacturer. Intermediaries using such channels to distribute products are considered to be part of the gray market (hereafter unauthorized intermediary).

EXFO considers that a product originates from the gray market (hereafter gray market product) in the following situations:

- A product is sold by an unauthorized intermediary.
- A product is designed and destined for a particular market and sold on a second market.
- A product is resold, despite being reported lost or stolen.

When products are purchased on the gray market, rather than through an authorized EXFO distribution channel, EXFO is unable to guarantee the source and quality of those products nor the local safety regulations and certifications (CE, UL, etc.).

EXFO will not honor warranty, install, maintain, repair, calibrate, provide technical support nor make any support contracts available for gray market products.

For complete information, refer to EXFO's policy regarding gray market products at

[www.exfo.com/en/how-to-buy/sales-terms-conditions/gray-market/](http://www.exfo.com/en/how-to-buy/sales-terms-conditions/gray-market/)

## **Liability**

EXFO shall not be liable for damages resulting from the use of the product, nor shall be responsible for any failure in the performance of other items to which the product is connected or the operation of any system of which the product may be a part.

EXFO shall not be liable for damages resulting from improper usage or unauthorized modification of the product, its accompanying accessories and software.

## **Exclusions**

EXFO reserves the right to make changes in the design or construction of any of its products at any time without incurring obligation to make any changes whatsoever on units purchased. Accessories, including but not limited to fuses, pilot lamps, batteries and universal interfaces (EUI) used with EXFO products are not covered by this warranty.

This warranty excludes failure resulting from: improper use or installation, normal wear and tear, accident, abuse, neglect, fire, water, lightning or other acts of nature, causes external to the product or other factors beyond the control of EXFO.



### **IMPORTANT**

In the case of products equipped with optical connectors, EXFO will charge a fee for replacing connectors that were damaged due to misuse or bad cleaning.

## **Certification**

EXFO certifies that this equipment met its published specifications at the time of shipment from the factory.

## Service and Repairs

EXFO commits to providing product service and repair for five years following the date of purchase.

**To send any equipment for service or repair:**

1. Call one of EXFO's authorized service centers (see *EXFO Service Centers Worldwide* on page 73). Support personnel will determine if the equipment requires service, repair, or calibration.
2. If equipment must be returned to EXFO or an authorized service center, support personnel will issue a Return Merchandise Authorization (RMA) number and provide an address for return.
3. If possible, back up your data before sending the unit for repair.
4. Pack the equipment in its original shipping material. Be sure to include a statement or report fully detailing the defect and the conditions under which it was observed.
5. Return the equipment, prepaid, to the address given to you by support personnel. Be sure to write the RMA number on the shipping slip. *EXFO will refuse and return any package that does not bear an RMA number.*

**Note:** *A test setup fee will apply to any returned unit that, after test, is found to meet the applicable specifications.*

After repair, the equipment will be returned with a repair report. If the equipment is not under warranty, you will be invoiced for the cost appearing on this report. EXFO will pay return-to-customer shipping costs for equipment under warranty. Shipping insurance is at your expense.

Routine recalibration is not included in any of the warranty plans. Since calibrations/verifications are not covered by the basic or extended warranties, you may elect to purchase FlexCare Calibration/Verification Packages for a definite period of time. Contact an authorized service center (see *EXFO Service Centers Worldwide* on page 73).

## **EXFO Service Centers Worldwide**

If your product requires servicing, contact your nearest authorized service center.

### **EXFO Headquarters Service Center**

400 Godin Avenue  
Quebec (Quebec) G1M 2K2  
CANADA

1 866 683-0155 (USA and Canada)  
Tel.: 1 418 683-5498  
Fax: 1 418 683-9224  
support@exfo.com

### **EXFO Europe Service Center**

Winchester House, School Lane  
Chandlers Ford, Hampshire S053 4DG  
ENGLAND

Tel.: +44 2380 246800  
Fax: +44 2380 246801  
support.europe@exfo.com

### **EXFO Telecom Equipment (Shenzhen) Ltd.**

3rd Floor, Building C,  
FuNing Hi-Tech Industrial Park, No. 71-3,  
Xintian Avenue,  
Fuhai, Bao'An District,  
Shenzhen, China, 518103

Tel: +86 (755) 2955 3100  
Fax: +86 (755) 2955 3101  
support.asia@exfo.com

To view EXFO's network of partner-operated Certified Service Centers nearest you, please consult EXFO's corporate website for the complete list of service partners:

<http://www.exfo.com/support/services/instrument-services/exfo-service-centers>.



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CHINESE REGULATION ON RESTRICTION OF HAZARDOUS SUBSTANCES (RoHS)

中国关于有害物质限制的规定

NAMES AND CONTENTS OF THE TOXIC OR HAZARDOUS SUBSTANCES OR ELEMENTS  
CONTAINED IN THIS EXFO PRODUCT

包含在本 EXFO 产品中的有毒有害物质或元素的名称及含量

Part Name 部件名称	Lead 铅 (Pb)	Mercury 汞 (Hg)	Cadmium 镉 (Cd)	Hexavalent Chromium 六价铬 (Cr(VI))	Polybrominated biphenyls 多溴联苯 (PBB)	Polybrominated diphenyl ethers 多溴二苯醚 (PBDE)
Enclosure 外壳	O	O	O	O	O	O
Electronic and electrical sub-assembly 电子和电气组件	X	O	X	O	X	X
Optical sub-assembly <sup>a</sup> 光学组件 <sup>a</sup>	X	O	O	O	O	O
Mechanical sub-assembly <sup>a</sup> 机械组件 <sup>a</sup>	O	O	O	O	O	O

Note:

注:

This table is prepared in accordance with the provisions of SJ/T 11364.

本表依据 SJ/T 11364 的规定编制。

O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下。

X: indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572. Due to the limitations in current technologies, parts with the "X" mark cannot eliminate hazardous substances.

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 标准规定的限量要求。

标记 "X" 的部件, 皆因全球技术发展水平限制而无法实现有害物质的替代。

a. If applicable.

如果适用。

MARKING REQUIREMENTS  
标注要求

Product 产品	Environmental protection use period (years) 环境保护使用期限 (年)	Logo 标志
This EXFO product 本 EXFO 产品	10	
Battery <sup>a</sup> 电池	5	

a. If applicable.  
如果适用。

P/N: 1086481

[www.EXFO.com](http://www.EXFO.com) · [info@EXFO.com](mailto:info@EXFO.com)

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