

# FTB



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

### ***Patents***

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

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## Regulatory Information



### **CAUTION**

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



### **CAUTION**

The emissions class and electromagnetic environment of some test instruments may differ from those specified for your unit. In this case, always ensure that you comply with the most restrictive conditions (either test instrument or unit).

## **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.

## 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.

**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)

### 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.

### General Wireless Compliance Related Information

If you purchased the wireless option, your unit comes with an internal wireless module (adapter) and antennas for which the information hereafter applies:

This product does not contain any wireless user-serviceable components. Any unauthorized product changes or modifications will invalidate warranty and all applicable regulatory certifications and approvals.

### Canada and/or USA Wireless Compliance Related Information

If you purchased the wireless option, your unit comes with an internal wireless module (adapter) and antennas for which the information hereafter applies:

- This device complies with Part 15 of the FCC Rules.

- This device contains transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's RSS standards.

L'émetteur/récepteur contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio.

- Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference

and

(2) this device must accept any interference received, including interference that may cause undesired operation of the device.

L'exploitation est autorisée aux deux conditions suivantes :

(1) L'appareil ne doit pas produire de brouillage;

(2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

### ***Use in Specific Environments:***

- The use of wireless products in hazardous locations is limited by the constraints posed by the safety directors of such environments.
- The use of wireless products on airplanes is governed by the Federal Aviation Administration (FAA).
- The use of wireless products in hospitals is restricted to the limits set forth by each hospital.
- Do not operate a portable transmitter near unshielded blasting caps or in an explosive environment.
- This wireless product is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz and 5.47 to 5.75 GHz frequency ranges.
- In Canada, operation in the band 5150 to 5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Au Canada, les dispositifs fonctionnant dans la bande de 5150 à 5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

- High-power radars are allocated as the primary users of the 5.25 to 5.35 GHz, and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and/or damage to this device.

### **IoT 2G/3G/4G(LTE Cat.4) and GNSS:**

Supported bands:

- 2G bands: B2, B3, B5, B8
- 3G bands: B1, B2, B4, B5, B6, B8, B19
- 4G bands: B1, B2, B3, B4, B5, B7, B8, B8\_US B9, B12, B13, B14, B18, B19, B20, B25, B26, B28

Maximum transmission power:

Operating frequency bands and related max radio-frequency power transmitted:

- GPRS 900: 33.5 dbm
- GPRS 1800: 30.5 dbm
- EGPRS 900: 28 dbm
- EGPRS 1800: 27 dbm
- WCDMA all bands: 24.5 dbm
- LTE all bands: 24 dbm
- Supported GNSS: GPS, Glonass, Beidou, Galileo, QZSS

### **Specific Absorption Rate (SAR)/Débit d'absorption spécifique:**

The product complies with FCC, ISED and EU Specific Absorption Rate (SAR) limits applicable to devices approved for use in uncontrolled environments (general public use) when used as directed in this user documentation.

Le produit est conforme aux limites de débit d'absorption spécifique (DAS) de la FCC, de l'ISDE et de l'UE applicables aux appareils approuvés pour une utilisation dans des environnements non contrôlés (utilisation par le grand public) lorsqu'il est utilisé conformément aux instructions.

**Note:** *Information such as the FCC and IC numbers is available directly from the About page in the Home menu.*

## EU and UK Wireless Compliance Related Information

The information about the Bluetooth and Wi-Fi frequency bands is as follows:

- Bluetooth: Between the frequencies 2400.0 MHz - 2483.5 MHz.  
The output power is 13.0 dBm typical.
- Wi-Fi: Between the frequencies 2400.0 MHz - 2483.5 MHz.  
The maximum output power is 20.0 dBm typical.
- Wi-Fi: Between the frequencies 5150.0 MHz - 5825.0 MHz.  
The maximum output power is 18.0 dBm.

This is a 2.4 GHz and 5 GHz wideband transmission system (transceiver), intended for use in all EU member states, United Kingdom, and EFTA countries, except in France and Italy where restrictive use applies.

In Italy, the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying access to telecommunications and/or network services.

This device may not be used for setting up radio links in France, and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 - 2483.5 MHz. For detailed information, the end-user should contact the national spectrum authority in France. In the European Union and United Kingdom, operation in the band 5150 - 5350 MHz is for indoor use only.

## **Local Restrictions on 802.11a, 802.11b, 802.11d, 802.11g, 802.11n, 802.11ac and 802.11ax Radio Usage**

Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11d, 802.11g, 802.11n, and 802.11ac wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11d, 802.11g, 802.11n, 802.11ac and 802.11ax products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use.

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

Hereby, EXFO declares that the radio equipment type “FTB” is in compliance with European Directive 2014/53/EU and the UK legislation S.I. 2017/1206 Radio Equipment Regulations 2017.

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 FTB Unit

Your unit is used to perform tests, run jobs with your instruments and view results. Used in conjunction with EXFO Exchange, you can receive jobs from supervisors and send summary results through Bluetooth and full results through Wi-Fi.

**Note:** *In this documentation, the words “tap” and “double-tap” (related to the use of a touchscreen) replace the words “click” and “double-click”.*

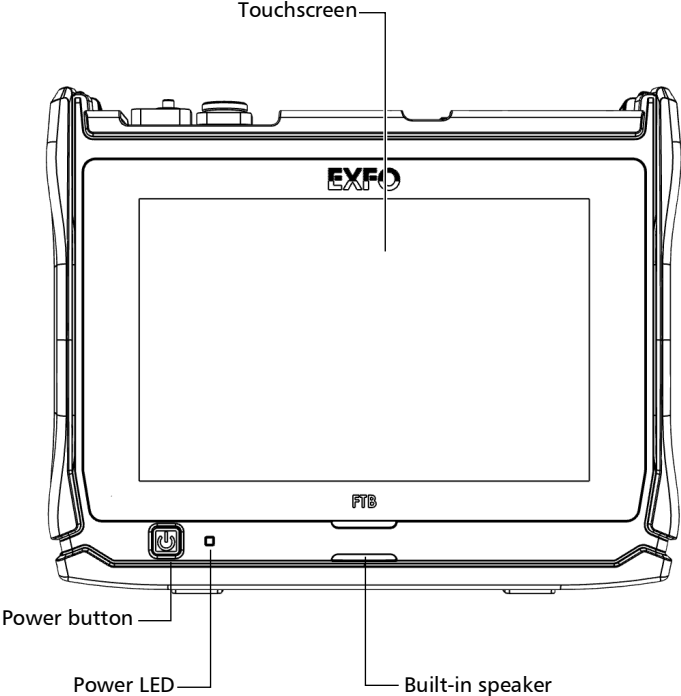
**Note:** *Depending on the instrument that is installed on your unit, the appearance of the applications may vary slightly from the illustrations presented in this documentation.*

### Main Features

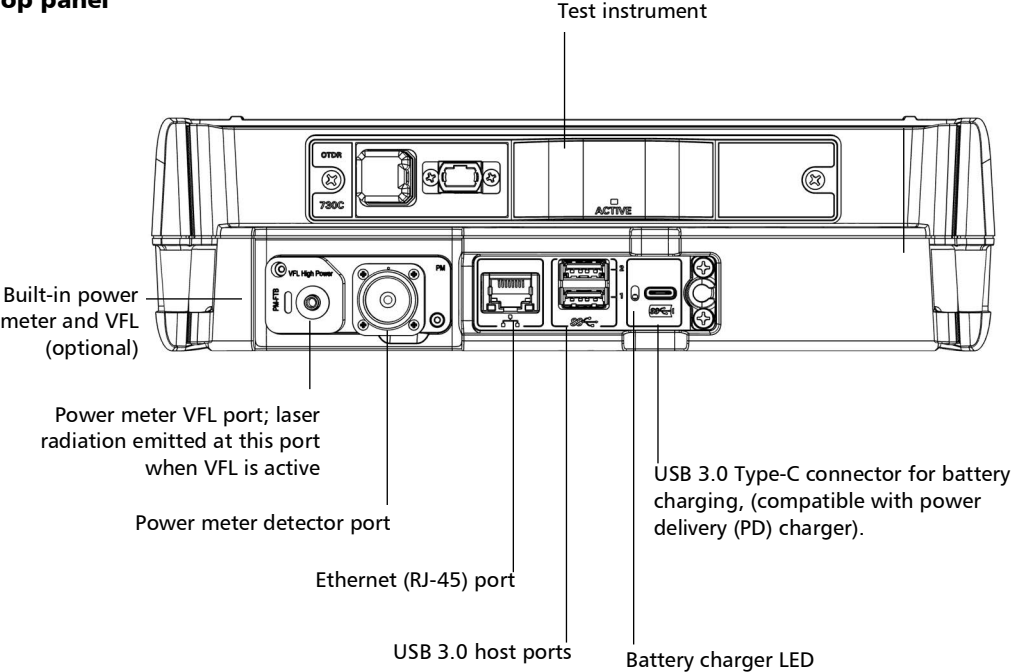
Your unit includes the following:

- 8-inch color touchscreen (LCD and touchscreen optimized for outdoor use) usable with fingers or the provided stylus
- Three USB 3.0 host ports
- Ethernet port (10/100/1000 Base-T)
- Wi-Fi, Bluetooth®, 4G LTE and GNSS capability
- Optional built-in power meter and VFL
- Multitasking possibilities
- Easy software updates

**Front panel**

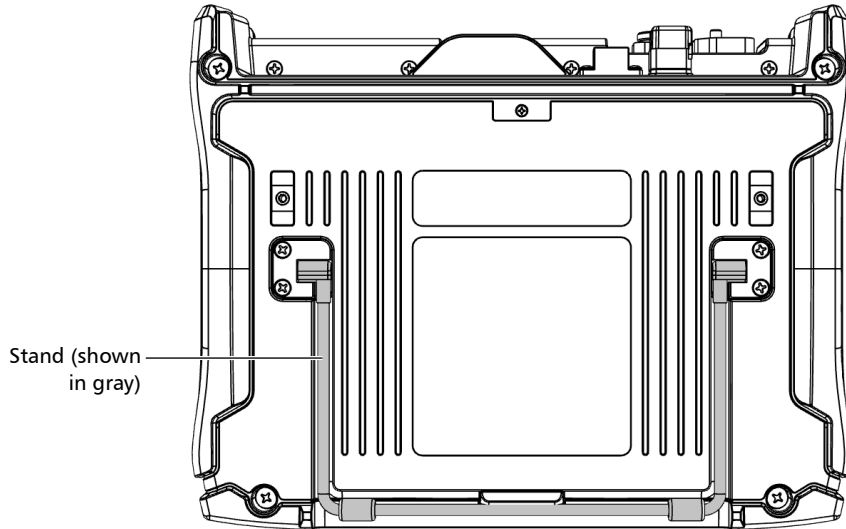


Top panel



**Note:** For a description of the test instruments' ports, refer to their user documentation.



**Back panel**



## LED Indicators Description

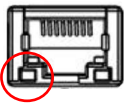
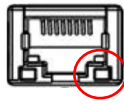
### Power and Battery LEDs

There is a LED indicator located on the front panel of your unit, providing you with information about the power. There is another LED located on the top panel, providing you with battery statuses.

LED	Status	Meaning
<b>Power - located next to the power button</b> 	White	Unit is on.
	White, blinking	Unit is in Standby mode.
	Off	Unit is off.
	Red	A condition is preventing the unit from turning on. For more information, see <i>Solving Common Problems</i> on page 102.
	Green	The battery is fully charged.
	White	The battery is charging and its current level is above 20 %.
	Orange	The battery is charging and its current level is below 20 %.
	Off	<ul style="list-style-type: none"> <li>➤ The unit is not connected to an external power source and not charging an external device either.</li> <li>➤ The battery in the unit is not charging. For more information, see <i>Solving Common Problems</i> on page 102.</li> </ul>

## Ethernet Port LEDs

There are LED indicators on both sides of the Ethernet port, providing you with information about network speed and link/activity status. The Ethernet port is located between the power meter detector port and the USB host port on the top panel of your unit.

LED	Status	Meaning
	Off	Indicates a 10 Mbps connection.
	Green	Indicates a 100 Mbps connection.
	Orange	Indicates a 1000 Mbps connection.
	Off	No link is established.
	Yellow, blinking	There is activity on the port.
	Yellow, steady	There is a link without activity on the port.

## Power Sources

Your unit operates with the following power sources:

- Indoor use only: USB power adapter connected to a power outlet (fastest way to charge the battery).

When it is connected to an external power source, the unit will function even if the battery is not present.

The battery recharges automatically when the unit is connected to an external power source.

**Note:** *The standard USB ports of a computer cannot power your unit or charge its battery while the unit is on. If you connect your unit to such a USB port with the USB cable, the unit will still consume battery power. If the unit is off when you connect it to the USB port of a computer, its battery could charge, but slowly.*

**Note:** *If you have a vehicle equipped with dedicated USB charging ports, you could connect your unit to one of these ports to charge the battery. The actual results will vary with each vehicle. You could also use a certified USB power bank (portable charger) to charge your unit.*

- Indoor and outdoor use: One lithium iron phosphate (LiFePO<sub>4</sub>) rechargeable battery (automatically takes over if you disconnect the unit from its external power source). You can switch from an external power source to battery power or vice versa without affecting operation.

**Note:** *When the ambient temperature is below 10 °C (50 °F) or when it reaches or exceeds about 40 °C (104 °F), the battery can either charge more slowly than usual, or not charge at all, depending on the internal temperature of your unit.*

For more information, see *Electrical Safety Information* on page 15.

## Product Registration

You can now 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.** Open a Web browser and go to *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 website at *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.



### **CAUTION**

This product does not contain any user-serviceable components, except if indicated otherwise in this document. Any unauthorized product changes or modifications will invalidate warranty and all applicable regulatory certifications and approvals.




## 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.

## 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.
 or 	On (Power)
 or 	Off (Power)
	On/off (Power)
	Standby (Power)
	Fuse

## Laser Safety Information

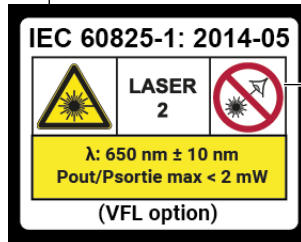
### Units with a Built-In VFL (Standard)

Your instrument is in compliance with standard IEC 60825-1: 2014 + A11: 2021 and IEC 60825-1 Ed. 3.

Laser radiation may be encountered at the optical output port.

The following label(s) indicate that the product contains a Class 2 source:

Affixed to the back of the unit.



The following symbol means "DO NOT STARE INTO THE BEAM".

DO NOT STARE IN THE BEAM  
CLASS 2 LASER PRODUCT  
NE PAS REGARDER DANS LE FAISCEAU  
APPAREIL À LASER DE CLASSE 2

The VFL laser is active when the  symbol is displayed in the power meter and VFL application.


Refer to the user documentation of the different modules or instruments for the relevant laser safety information.

The modules and instruments that you use with your unit may have different laser classes. Refer to their user documentation for the exact information.

## Units with a Built-In VFL (High Power)



### WARNING

The following symbol on your unit  indicates that laser radiation in excess of Class 1 or Class 2 may be emitted from the aperture.

**AVOID EXPOSURE – LASER RADIATION IS EMITTED FROM THIS APERTURE**

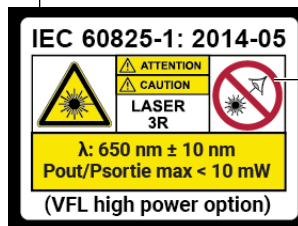
**ÉVITER TOUTE EXPOSITION – RAYONNEMENT LASER ÉMIS PAR CETTE OUVERTURE**

Your instrument is in compliance with standard IEC 60825-1: 2014 + A11: 2021 and IEC 60825-1 Ed. 3.

Laser radiation may be encountered at the optical output port.

The following label(s) indicate that the product contains a Class 3R source:

Affixed to the back of the unit.



The following symbol means "DO NOT STARE INTO THE BEAM".

AVOID DIRECT EYE EXPOSURE  
CLASS 3R LASER PRODUCT

EXPOSITION DIRECTE DANGEREUSE POUR LES YEUX  
APPAREIL À LASER DE CLASSE 3R

The VFL laser is active when the  symbol is displayed in the power meter and VFL application.

Refer to the user documentation of the different modules or instruments for the relevant laser safety information.

The modules and instruments that you use with your unit may have different laser classes. Refer to their user documentation for the exact information.

## Units without a Built-In VFL

If your unit is not equipped with a VFL, the laser class of your unit depends on the instruments that you use. Refer to the user documentation of the different instruments for the exact information.

## Electrical Safety Information



### WARNING

If you need to ensure that the unit is completely turned off, disconnect the power cable and remove the battery. For more information on how to remove the battery, see the section about replacing the battery in this user documentation.

**Note:** *There is no need to remove the batteries before inserting or removing a power meter or a VFL, but you need to follow the instructions provided in the user documentation carefully.*



### WARNING

- Do not replace any components while the power cable and battery are connected. There is no need to remove the batteries before inserting or removing a power meter or a VFL, but you need to follow the instructions provided in the user documentation carefully.
- Unless otherwise specified, all interfaces are intended for connection to ES1 circuits only.



## **WARNING**

Your unit is compatible with USB-C chargers that support USB power delivery 3.0 and can be operated using a standard 45 W power delivery compliant charger. Use only the listed and certified USB 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.



## **CAUTION**

- Position the unit so that the air can circulate freely around it.
- When you use the unit outdoors, ensure that it is protected from liquids, dust, direct sunlight, precipitation, and full wind pressure.



## **IMPORTANT**

The USB-C port on your device is compliant with USB 3.0 specifications for power delivery (PD) of up to 100 W with the following voltage and current profiles: 5V, 15W / 9V, 27W / 15V, 45W and 20V / 100W.

Equipment Ratings	
Temperature ➤ Operation	<ul style="list-style-type: none"> <li>➤ unit powered by battery: 10 °C to 50 °C (14 °F to 122 °F)<sup>a,b</sup></li> <li>➤ unit connected to AC power (with USB-C power adapter): 0 °C to 40 °C (32 °F to 104 °F)<sup>c</sup></li> </ul>
Relative humidity <sup>d</sup>	<ul style="list-style-type: none"> <li>unit: FTB-Lite: 10 % to 90 % non-condensing</li> <li>➤ USB-C power adapter: 10 % to 80 % non-condensing</li> </ul>
Maximum operation altitude	<ul style="list-style-type: none"> <li>➤ 5000 m (16405 ft) (unit connected to external power source)</li> <li>➤ 5000 m (16405 ft) (unit operated from battery)</li> </ul>
Pollution degree	<ul style="list-style-type: none"> <li>➤ 2 (unit connected to external power source)</li> <li>➤ 3 (unit operated from battery)<sup>e</sup></li> </ul>
Overvoltage category	<ul style="list-style-type: none"> <li>➤ unit: I</li> <li>➤ USB-C power adapter: II</li> </ul>
Measurement category	Not rated for measurement categories II, III, or IV

- a. When the unit is used at an altitude of 5000 m, the maximum operating temperature is 32 °C (89.6 °F)
- b. Operating time is dependent upon power consumption and temperature. If the unit is used at maximum power and maximum temperature, it will power off automatically any time after 10 minutes for safety reasons. If the unit is used with high power consuming modules, it will power off immediately.
- c. When the ambient temperature is below 10 °C (50 °F) or when it reaches or exceeds about 40 °C, the batteries can either charge more slowly than usual, or not charge at all, depending on the internal temperature of your unit.
- d. Measured in 0 °C to 31 °C (32 °F to 87.8 °F) range, decreasing linearly to 50 % at 40 °C (104 °F).
- e. Equipment must be normally protected against exposure to direct sunlight, precipitation and full wind pressure.



## **CAUTION**

- The use of voltages higher than those indicated on the label affixed to your unit may damage the unit.
- The operation and storage temperatures, as well as the altitude and relative humidity values of some instruments may differ from those specified for your platform. In this case, always ensure that you comply with the most restrictive conditions (either instruments or platform).

# 3

## Getting Started with Your Unit

### Positioning Your Unit

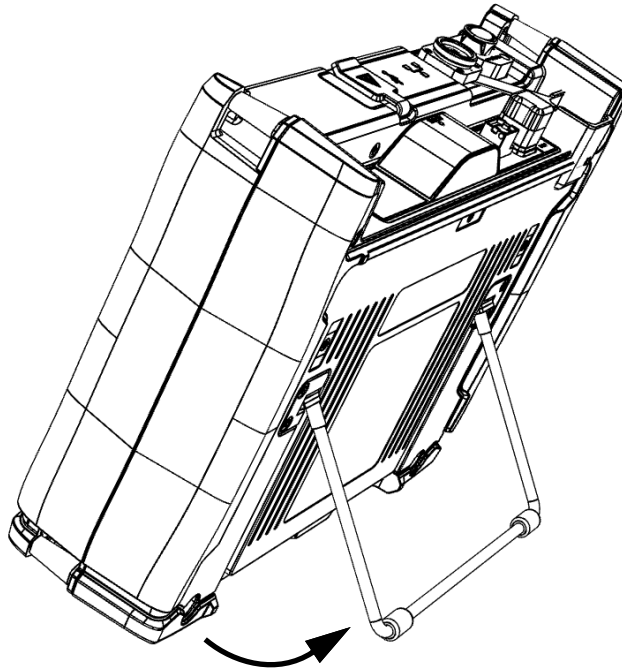
You can position your unit either vertically (with the screen facing you), or at an angle, using the stand on the back panel. You can also hold your unit with the optional hand strap.

**Note:** *The stand ensures optimum stability to the unit during your tests.*

If you are using a FTB-Pro, stands are also located at the bottom of the unit.

#### **To position the unit using the stand:**

Pull out the support.



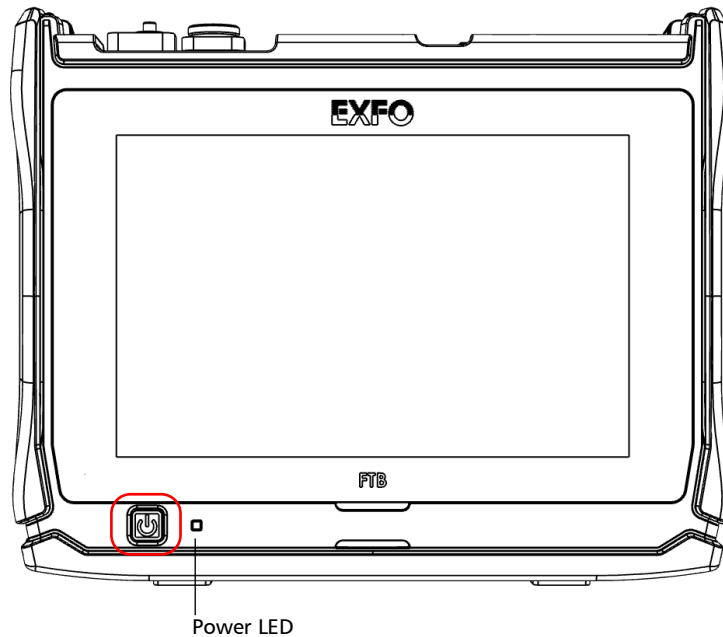
## Turning on Your Unit

When you turn on the unit for the very first time, you will be invited to create your EXFO Exchange account.

Once it is done, the main window is displayed.

### **To turn on the unit:**

Press and hold the power button. The power LED will light up.



## Turning off Your Unit

There are several ways to turn off the unit, including the following:

- *Sleep*: keeps the unit's status information in memory (RAM). The next time you turn your unit on, you will quickly return to your work environment (running applications will still be running). This mode will take more battery power while the unit is off.
- *Shutdown*: the unit will perform a complete restart routine the next time you use it. You should perform a shutdown if you do not intend to use your unit for a week or more.

After a shutdown, the unit will start in the overview page.

**Note:** *Should the unit ever stop responding, you can force a hardware reset by pressing and holding down the on/off button for more than 10 seconds*

### **To enter the sleep mode:**

Press the power button. The unit's display will turn off. The power LED will start blinking.

### **To exit the sleep mode and resume your work:**

Press the power button.

### **To turn off the unit completely (shutdown):**

Press and hold the power button for a couple of seconds and release it as soon as the display turns off.

## Activating Software Options

Your software options are handled by EXFO Exchange. Whether you purchase the options at the same time as your modules and units, or purchase the options afterwards, EXFO Exchange enables them automatically as soon as your unit connects to the internet and you have nothing further to do.

## Configuring Your Unit At First Startup

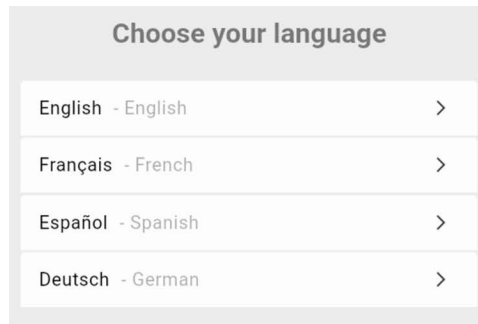
When you turn on the unit for the first time, a configuration wizard may be displayed, enabling you to set up your unit.

**Note:** *If no configuration wizard is displayed, it means that the settings have been pre-configured before the shipment of your unit. In this case, you can always modify the various settings later to better suit your needs, if necessary.*

To be able to work with the unit, you must accept all the EULA (when displayed), and confirm that you have read the security information.

### **To configure your unit at first startup:**

1. If it is not already done, turn on the unit.
2. If the wizard is displayed, set the parameters according to your needs. Select the language for the user interface (you can change it later).



3. Select the desired distance units (you can change them later).

#### Choose your distance unit system

Meters (m)	>
Kilometers (km)	>
Feet (ft)	>
Kilofeet (kft)	>
Miles (mi)	>

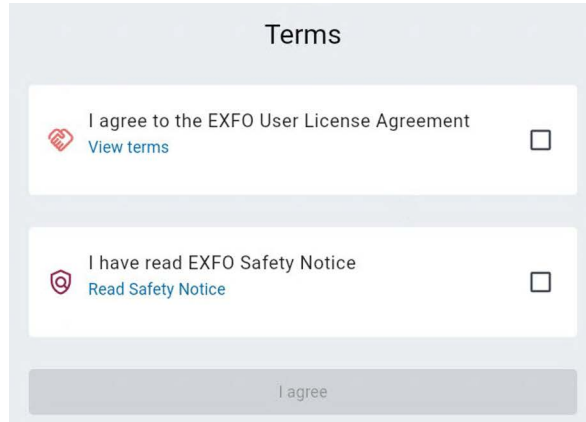
**Note:** *The wizard proceeds to the next step when you select an option.*

4. Select the time zone where you will use your unit (this can be changed later).

#### Select your time zone

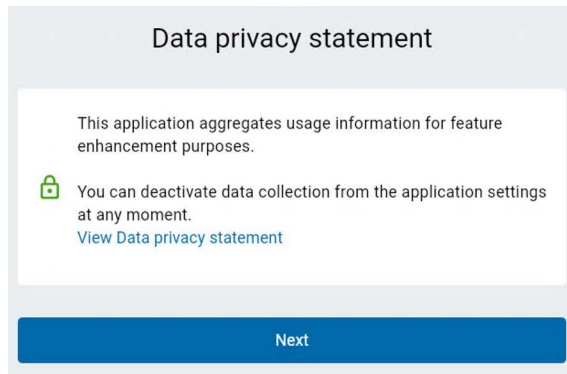
UTC-05:00, CDT, America/Chicago	>
UTC-06:00, CST, America/Chihuahua	>
UTC-06:00, CST, America/Costa_Rica	>
UTC-04:00, America/Cuiaba	>
UTC+00:00, GMT, America/Danmarkshavn	>
UTC-07:00, MST, America/Dawson	>
UTC-07:00, MST, America/Dawson_Creek	>

5. Read and accept the EULA and the regulatory and safety information. Once you tap on **I agree**, you are taken to the next window.



The screenshot shows a 'Terms' screen with two sections. The first section contains the text 'I agree to the EXFO User License Agreement' with a red document icon, a blue link 'View terms', and an unchecked checkbox. The second section contains the text 'I have read EXFO Safety Notice' with a red shield icon, a blue link 'Read Safety Notice', and an unchecked checkbox. At the bottom of the screen is a grey button labeled 'I agree'.

6. Consult the data privacy statement, then tap **Next** to close the wizard. You are now ready to use your unit.



The screenshot shows a 'Data privacy statement' screen. It contains the text 'This application aggregates usage information for feature enhancement purposes.' followed by a green padlock icon and the text 'You can deactivate data collection from the application settings at any moment.' with a blue link 'View Data privacy statement'. At the bottom of the screen is a blue button labeled 'Next'.

## **Right-Clicking with the Touchscreen**

If you are used to work with a mouse, you may find it useful to be able to perform a right-click on your touchscreen.

***To right-click with the touchscreen:***

From the location where you want to right-click, using the stylus or any blunt pointing device, press the screen for a few seconds until the shortcut menu appears.

If you want to hide the shortcut menu without performing any action, simply tap anywhere outside the menu.

### Accessing Your Unit

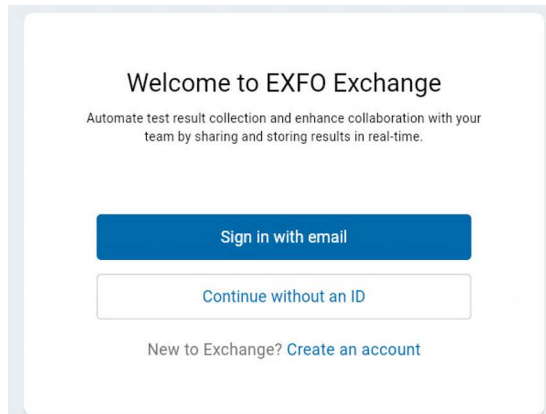
Most of the time, you will use your unit in conjunction with EXFO Exchange to work in workspaces you are part of and jobs you are assigned to.

You can also use your unit without logging into an EXFO Exchange account, but the tasks you can do will be limited.

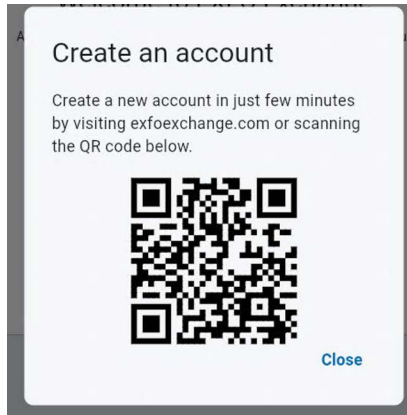
**Note:** For more information on using EXFO Exchange and its features, refer to its user documentation.

#### To sign in:

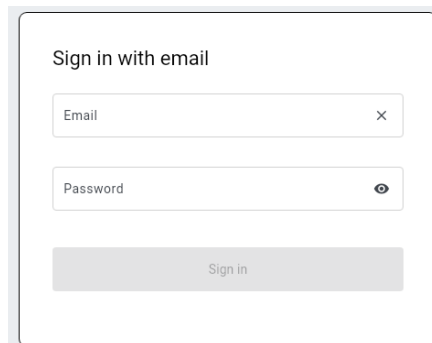
1. When you power on your unit, you are presented with the welcome window. Select which option suits your need and tap the corresponding button.



If you do not have a user account at this time, tap **Create an account**. Scan the QR code using your mobile device to create an account, then proceed to the next step.



2. If you have selected to sign in with your e-mail, enter your EXFO Exchange user name and password.

A screenshot of a mobile application sign-in form titled "Sign in with email". It features two input fields: "Email" with a clear button (X) on the right, and "Password" with a toggle button (eye icon) on the right. Below the fields is a grey "Sign in" button.

3. If you want to, you can add a PIN to protect your unit when it goes in sleep mode.

**Note:** *This PIN is unique to your session. You will need to create another one the next time you sign in.*

Set up Your PIN

Keep things moving—set up a PIN for easy local access.

Enter PIN

•••••

The PIN must be 5 digits

Re-enter PIN

•••••

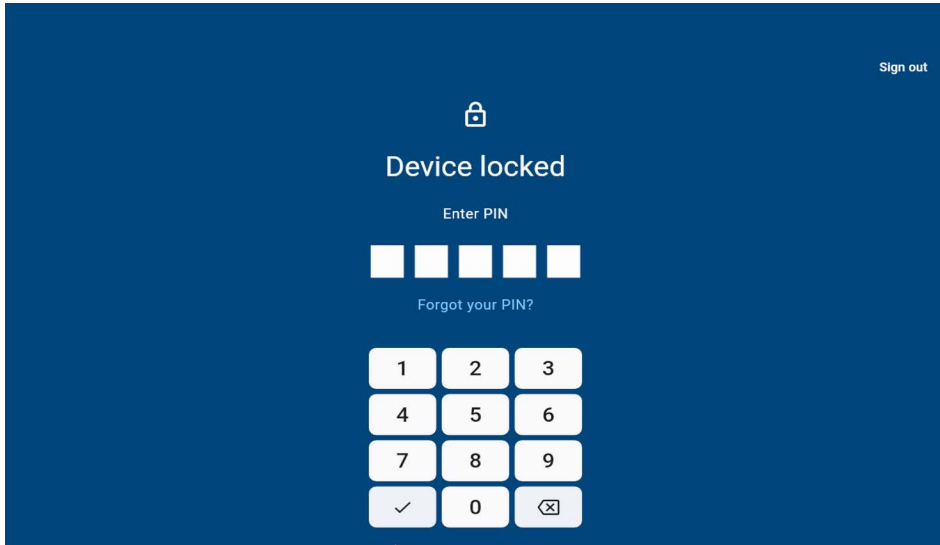
Confirm

Skip

4. Tap **Confirm** to continue, then follow the on-screen instructions.

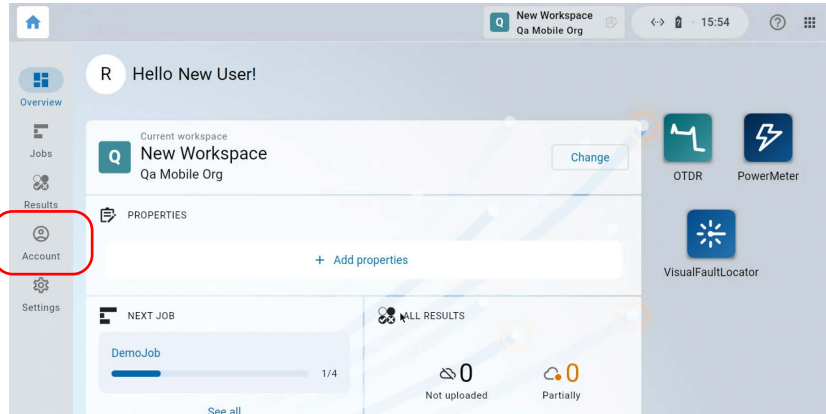
**To unlock your screen:**

When prompted, enter your PIN.

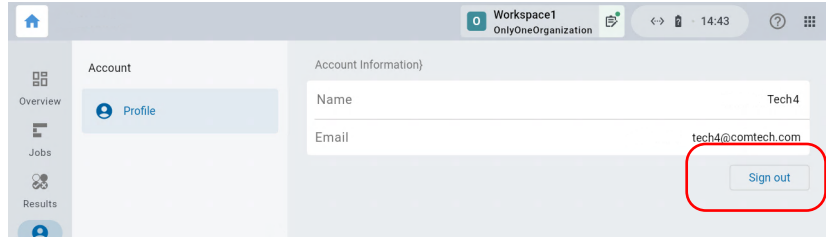


### To change users once you are signed in:

1. From the main window, tap **Account**.



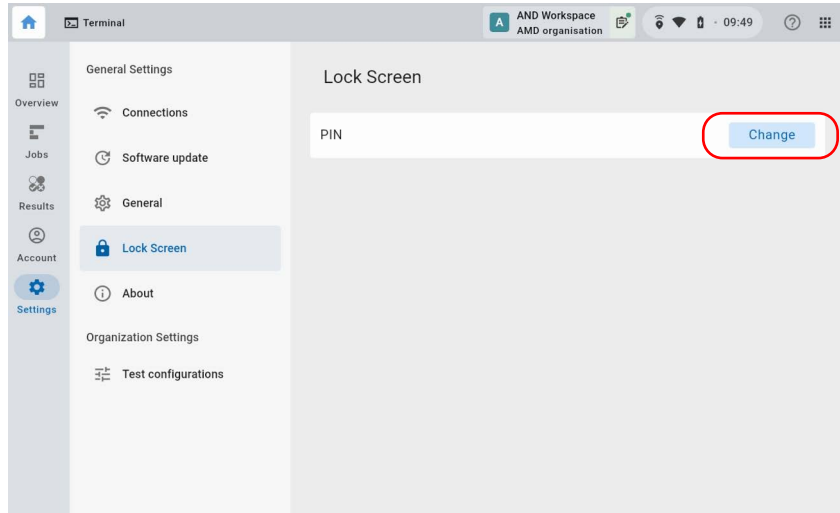
2. Tap **Sign out**.



3. Sign in using another account.

**To change the PIN once you are signed in:**

1. From the main window, tap **Settings**, then **Lock screen**.
2. Tap **Change**.



3. Enter your your new PIN twice, then tap **Confirm**.

## Managing Workspaces

Workspaces hold jobs and tests that your organization have created and assigned to you. When you sign in, you are taken to your active workspace.



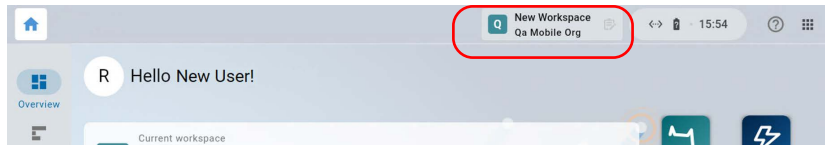
### IMPORTANT

If you do not sign in, you will work in a local workspace that gathers your test results as a local user, Local workspaces are visible only if you are signed out and you cannot see workspaces associated with accounts.

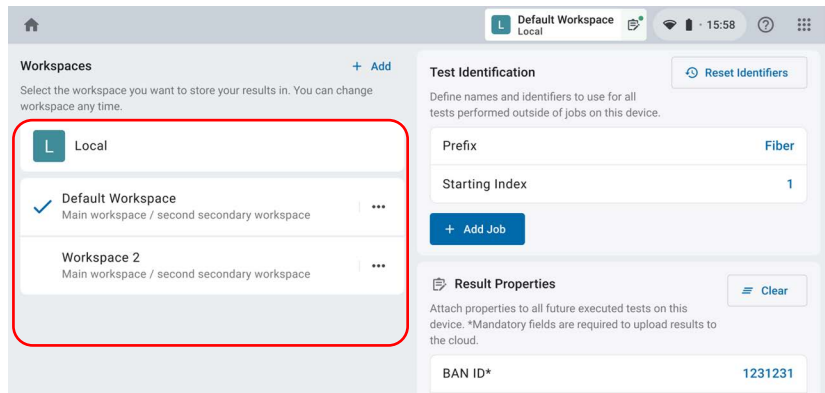
**Note:** For more information about workspaces, refer to the EXFO Exchange user documentation.

#### To change workspaces:

1. Tap on the current workspace in the toolbar to access the workspaces.



2. Select another workspace in the list of available choices for your account. A check mark appears next to the active workspace. Tap the header of the workspace list to go to other available workspaces available for the current user account.



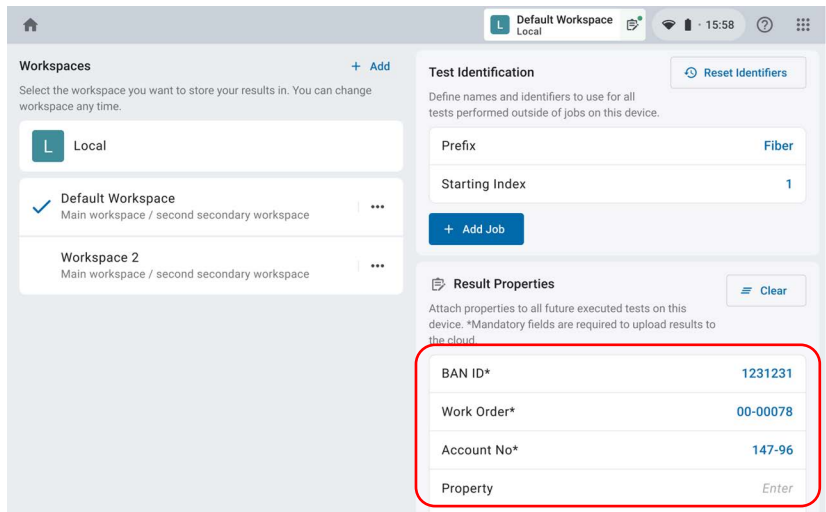
**Note:** Other workspaces might be available for other accounts. You will need to sign out and switch account to access them.

**To include information that applies to all jobs within a workspace:**

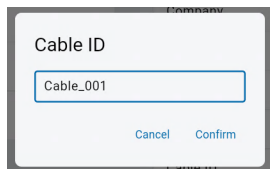
1. Tap on the current workspace in the toolbar to access the workspaces.



2. Tap on a property you want to modify.



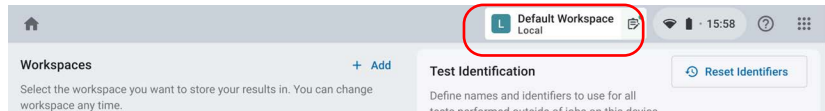
3. Enter the information.



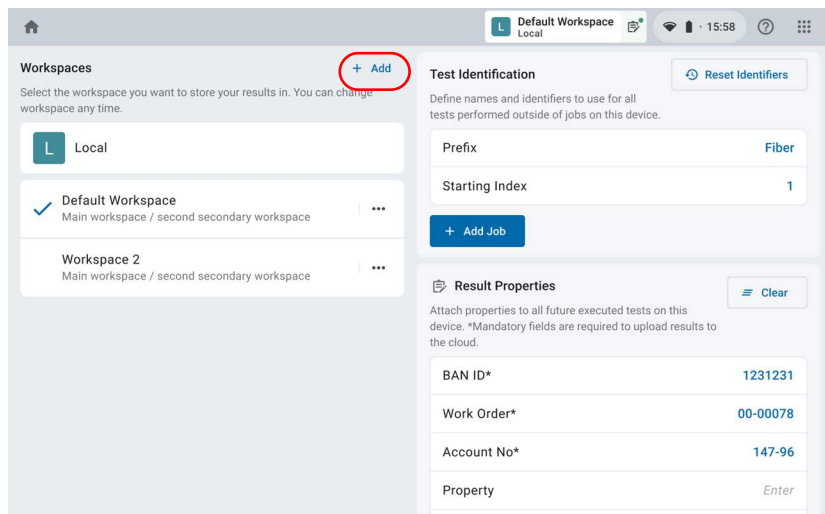
The job information is updated automatically.

### To add a local workspace:

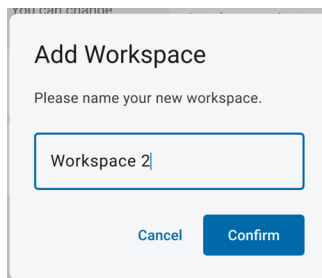
1. Tap on the current workspace in the toolbar to access the workspaces.



2. Tap Add.



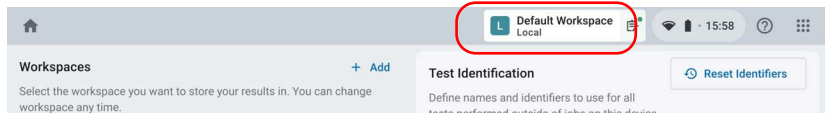
3. Enter a name for your new workspace, then tap **Confirm**.



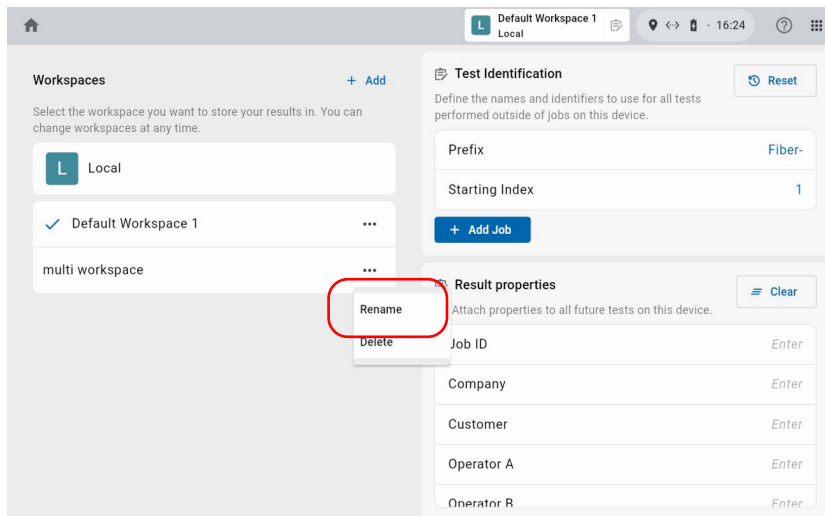
You can set this workspace becomes as the active workspace by tapping it in the list. You can then start your local tests.

### To rename a local workspace:

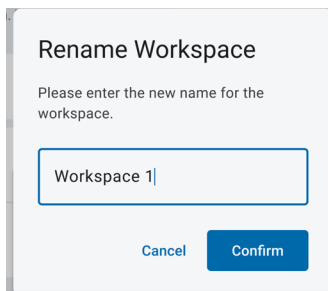
1. Tap on the current workspace in the toolbar to access the workspaces.



2. Tap ..., next to the workspace to rename, then select the corresponding action.



3. Change the name as needed, then tap **Confirm**.



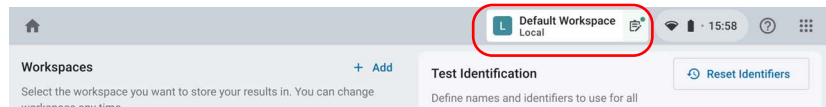
### To delete a local workspace:



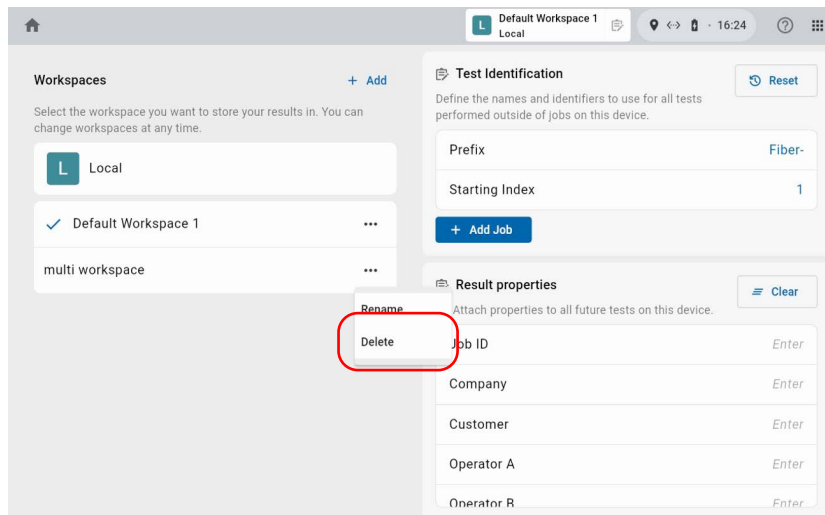
## IMPORTANT

Deleting a local workspace will delete the ad hoc tests and results it contains as well.

1. Tap on the current workspace in the toolbar to access the workspaces.



2. Tap ... next to the desired workspace, then select **Delete**.



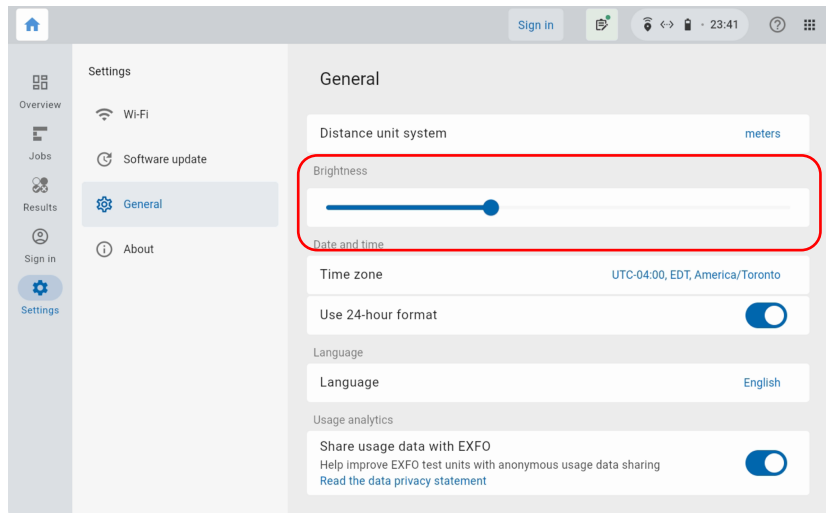
3. Confirm your choice.

## Adjusting Screen Brightness

You can adjust the screen brightness to suit your work environment.

**To adjust the screen brightness:**

1. From the main window, tap **Settings**, then **General**.
2. Use the slider to change the screen brightness as needed.

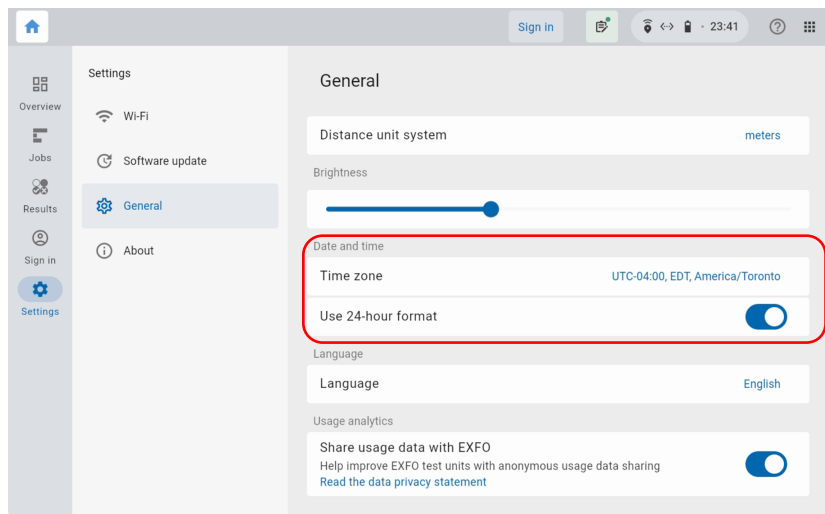


## Adjusting the Time

The current time is displayed on the upper-right corner of the window. When saving results, the unit also saves the corresponding date and time.

### To adjust the time format or time zone:

1. From the main window, tap **Settings**, then **General**.
2. Tap the timezone to change it as needed. To switch between the 12- and 24-hour format, use the toggle.

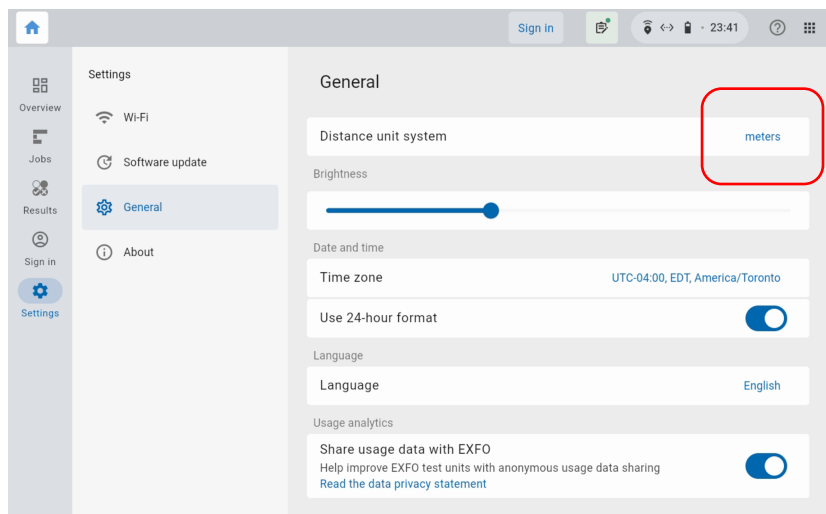


## Selecting the Distance Units

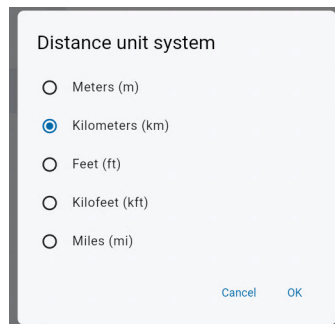
You can use either the metric or imperial distance units for your measurements.

**To select the distance units:**

1. From the main window, tap **Settings**, then **General**.
2. Tap the current unit.



3. Select the desired unit.



4. Tap OK to exit the window.

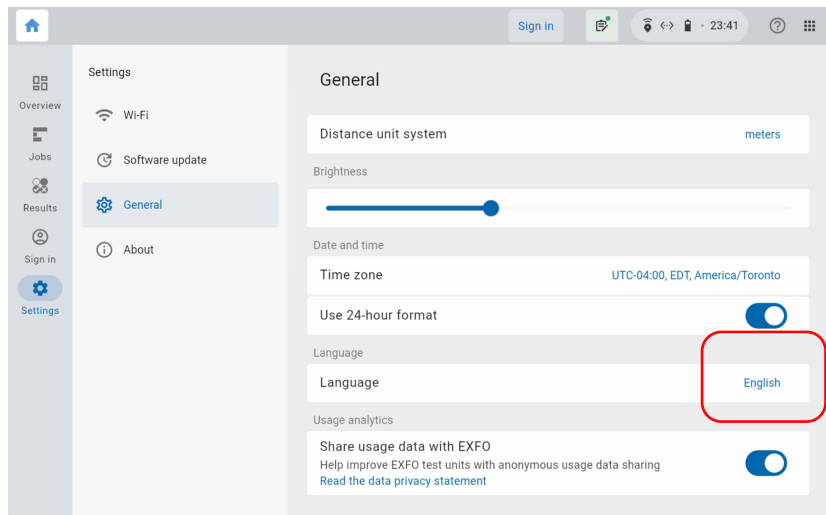
## Selecting the User Interface Language

When you perform the first setup for your unit, you can select the language at that time, but you can change it again as needed.

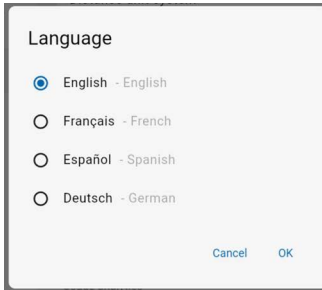
**Note:** *The language selection applies for all users on your unit.*

### To change the language:

1. From the main window, tap **Settings**, then **General**.
2. Tap currently selected language.



3. Select the desired language.



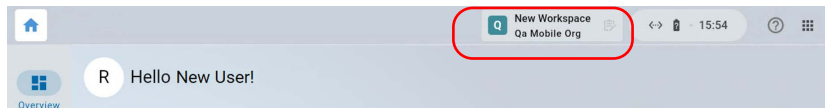
4. Tap **OK** to exit the window.

## Naming Ad Hoc Tests

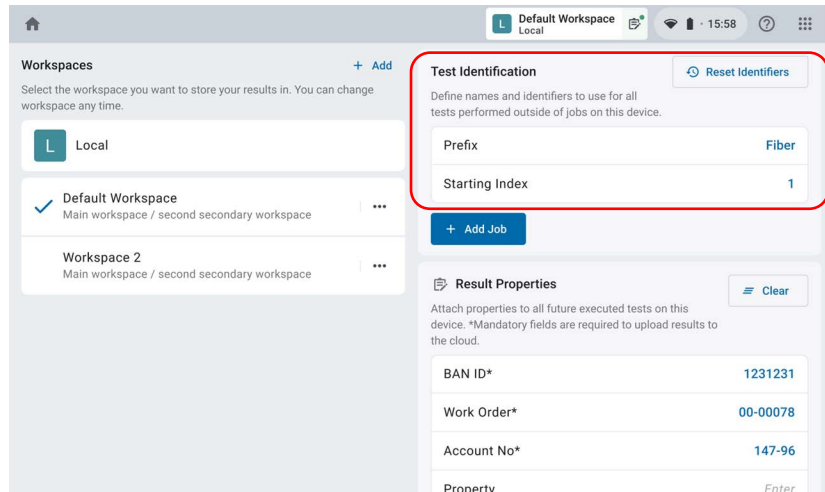
When performing ad hoc tests, you can use a name made of a static part (alphanumeric) and a variable part (numeric) that will be incremented after the test is complete.

### ***To configure ad hoc test identification:***

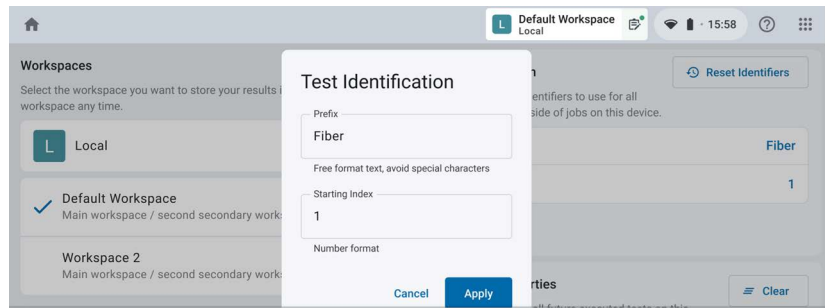
1. Tap on the current workspace in the toolbar to access the workspaces.



2. Under **Test Identification**, tap on either the prefix or suffix value.

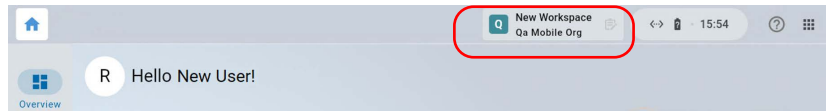


3. Enter the new prefix and starting index as desired, then tap **Apply**.

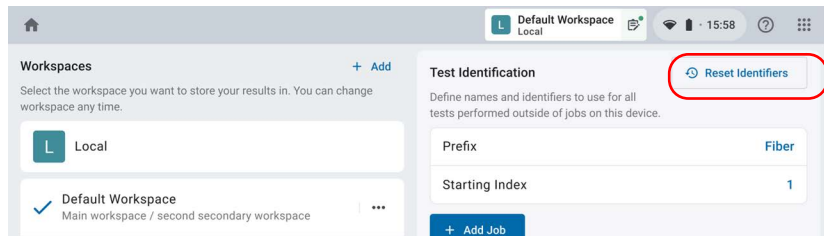


### To reset the identifiers in the test applications:

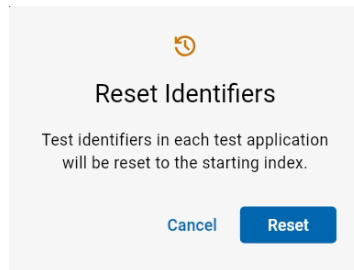
1. Tap on the current workspace in the toolbar to access the workspaces.



2. Under **Test Identification**, tap **Reset identifiers**.



3. Tap **Reset** to confirm your choice.



# 4

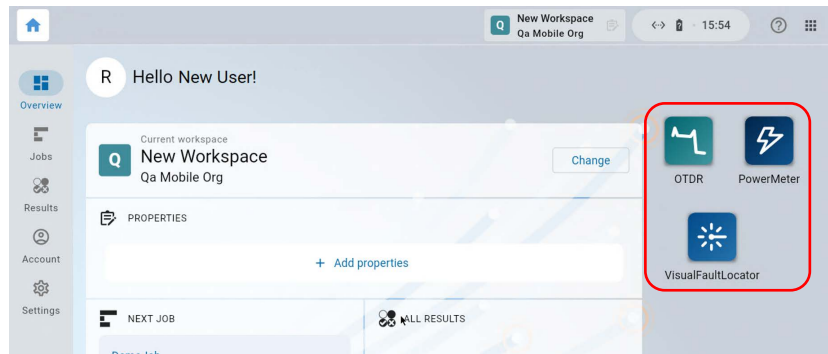
## Working With Your Unit

### Accessing Test Applications

The overview tab lets you access the applications installed on your unit. If you need to perform an ad hoc test, you can access the applications directly from here.

#### **To access an application on your unit:**

From the **Overview** tab, tap on the desired application.



**Note:** *The available applications may differ depending on the instruments installed on your unit.*

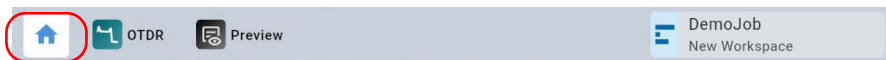
#### **To exit an application:**

Tap the app menu on the top right part of the window, then select which application you want to close.



#### **To return to the main window from any application:**

Tap the home button on the top left part of the window.

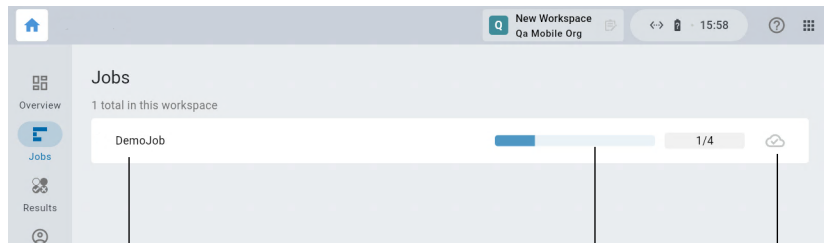


## Working With Jobs

Every measurement you take with your unit is part of cloud-based jobs that have already been created and assigned to you.

**Note:** For more information about jobs, refer to the EXFO Exchange user documentation.

From the **Jobs** page, you can see the complete list of jobs that have been created for you and sent to your unit using EXFO Exchange.



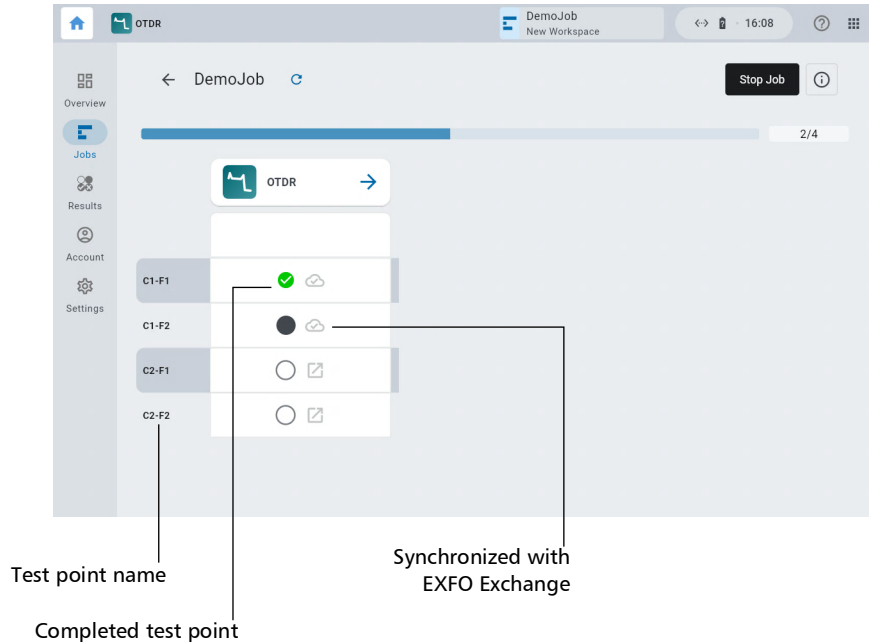
Number of test points completed/total number of test points

Job name

Synchronization status with EXFO Exchange

### To view job details:

Tap on the desired job. You will see the instruments required for the job and test points for each.



**Note:** If a job contains tasks for an instrument that is not on your unit, those tasks will be grayed out.

### To start a test:

From the test point list, tap once on the test point you want to work on and tap **Start job**.

OR

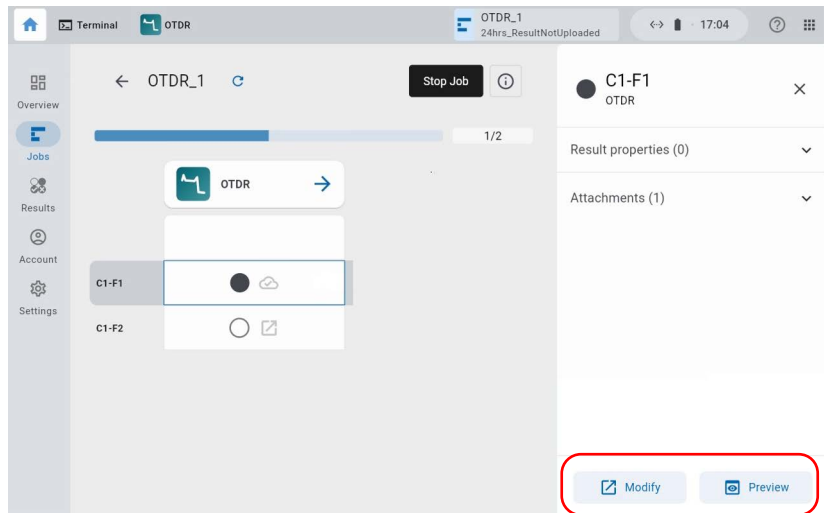
Tap the instrument name in the header of the column.

**Note:** When you select a test point or the column header from a job that is not the active job, your new selection becomes the active job.

**Note:** Tapping the instrument name or **Start Job** will take you to the next non executed test point.

#### To view details on a test point that was already tested:

1. From the **Jobs** tab, tap on the desired test point.
2. Tap **Modify** to perform a new test, or **Preview** to see the test result in the instrument's viewer.



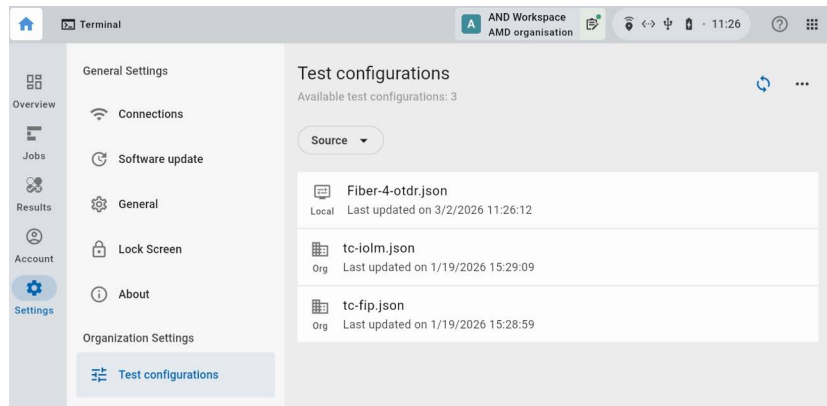
## Managing Test Configurations on Your Unit

Test configurations have all the settings ready for your tests. They can either originate from your organization or you can import them from a USB key to use locally on your unit.

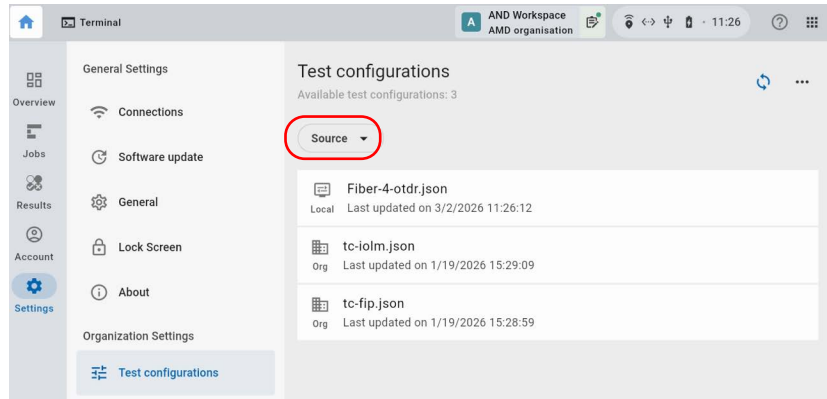
**Note:** *For more information on test configurations for your application, refer to the corresponding user documentation.*

### **To view the available test configurations:**

1. From the main window, tap **Settings**, then select **Test Configurations**.

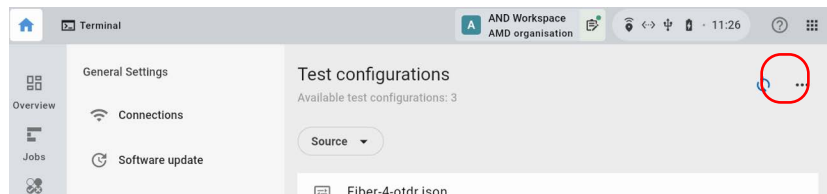


2. Filter the configurations if needed using the corresponding button.

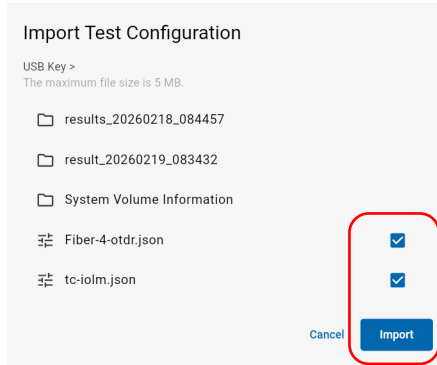


**To import test configurations:**

1. Connect the USB key to the unit.
2. From the main window, tap **Settings**, then select **Test Configurations**.
3. Tap on the ... menu, then select **Import**.

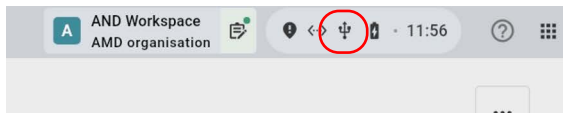


4. Navigate to the location of the configuration you want to import and select which ones you want to import, then tap **Import**.

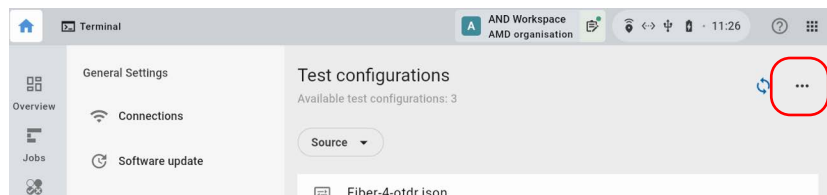


**To export local test configurations:**

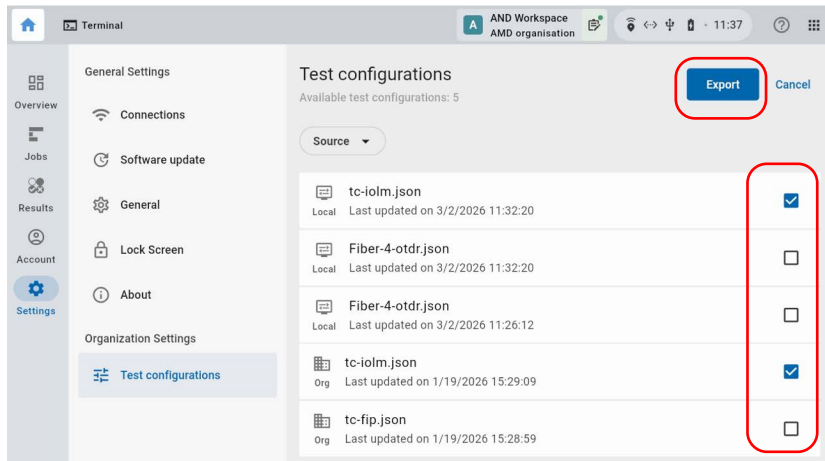
1. Connect your USB key to one of the ports on your unit. You can see that the transfer is available when you see the USB icon in the taskbar.



2. From the main window, tap **Settings**, then select **Test Configurations**.
3. Tap the ... menu and select **Export**.



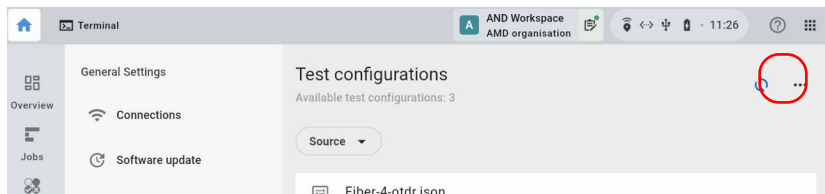
4. Select which configurations you want to export in the list of available choices, then tap **Export**



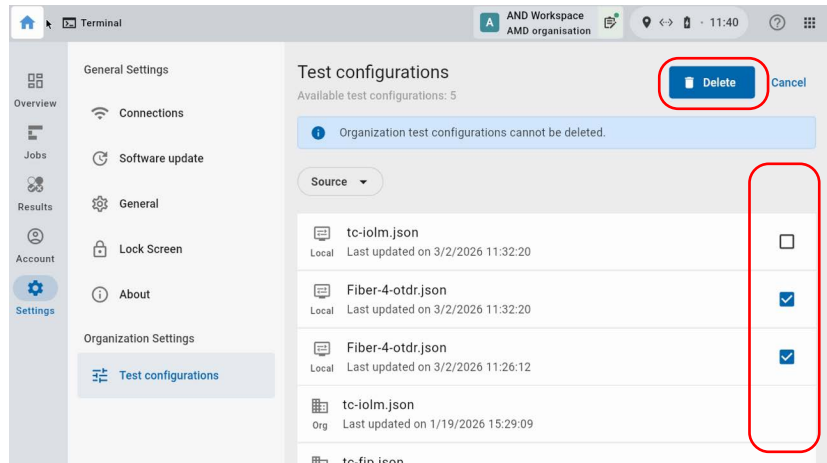
5. Navigate to the location on the USB key where you want to save the test configuration, then tap **Export**.

**To delete local test configurations:**

1. From the main window, tap **Settings**, then select **Test Configurations**.
2. Tap the ... menu and select **Delete**.



3. Select which configurations you want to remove in the list of available choices, then tap **Delete**.

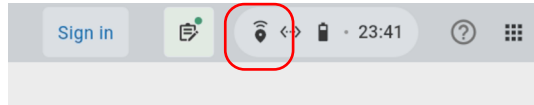





4. Confirm your action.

## Understanding the Geolocation Indicator

Your unit uses a GPS module to identify the location of your tests and jobs.

This information is automatically updated when the module receives signal. The icon, located on your taskbar, indicates the geolocation status.



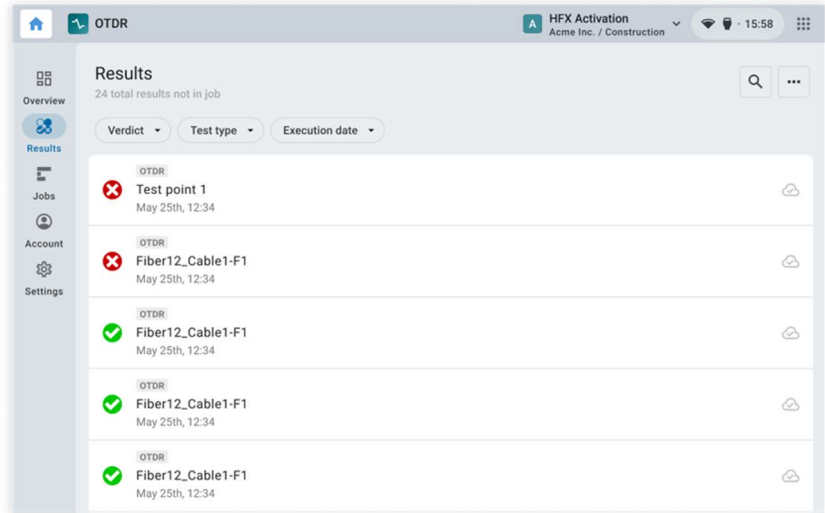
Icon	Status
No icon	The module is not enabled on your unit
	The module is enabled but the geolocation information cannot be retrieved. The GPS values indicated in the tests represent the most recently recorded geolocation information.
	The module is enabled and the unit is currently retrieving the GPS coordinates.
	The module is enabled and the GPS coordinates indicated in the tests will be the information at the moment the test is performed.

## Viewing Test Results

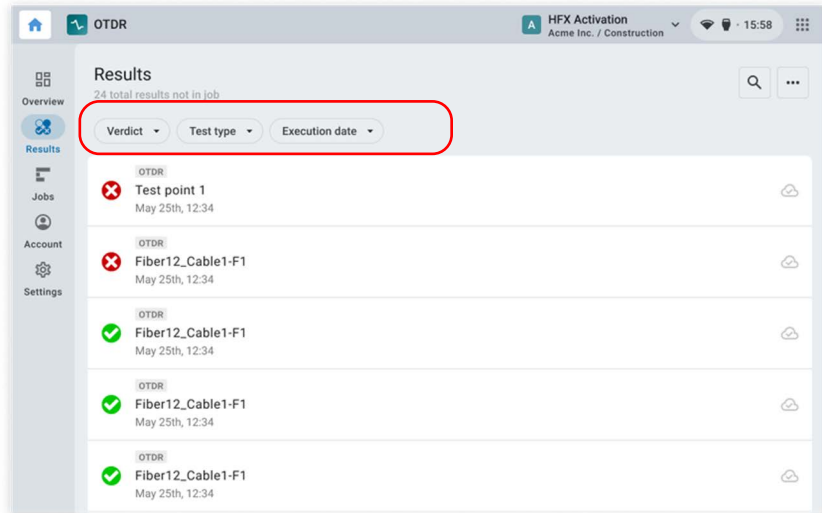
You can view measurements directly from your unit.

### To view test results:

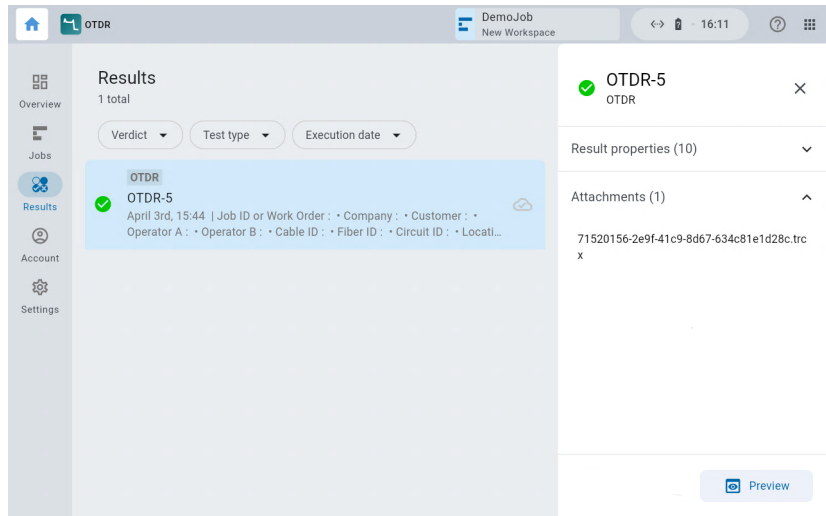
1. From the main window, select the **Results** tab.



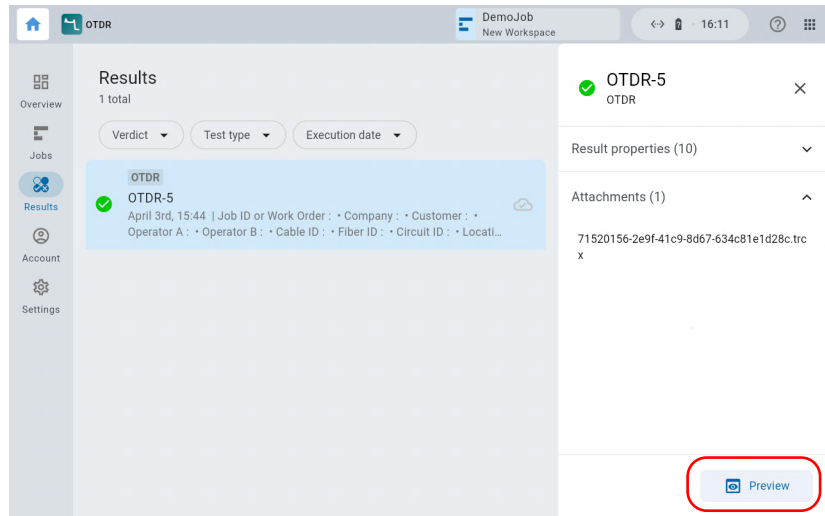
2. Use the filters to find the results according to various criteria.



3. To view details about a test result, tap on it to display the corresponding panel.



4. If you would rather view the test result in the corresponding instrument viewer, tap **Preview**.

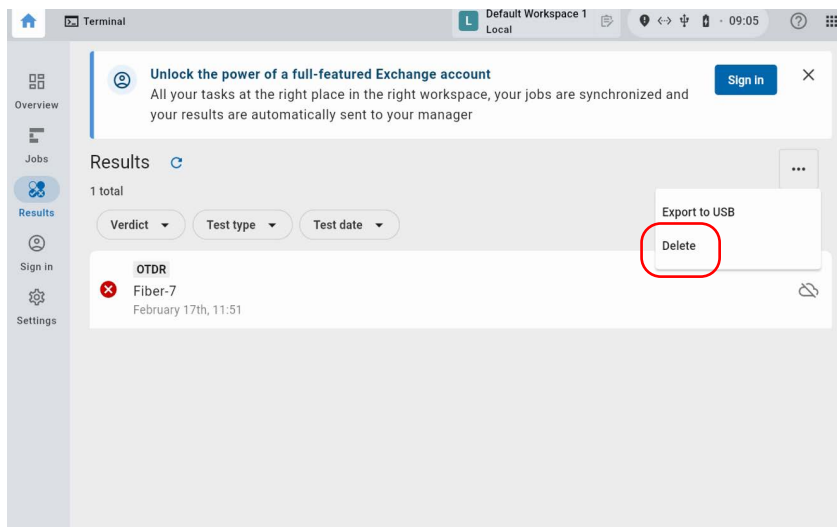


## Deleting Local Test Results

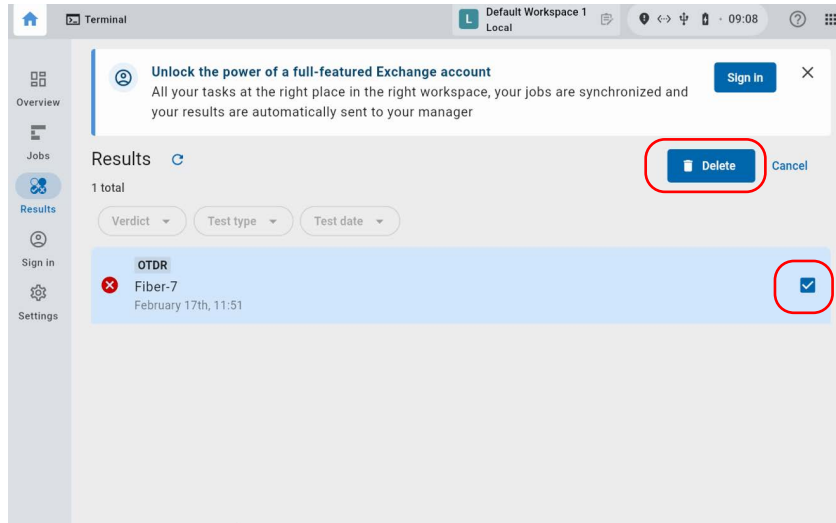
When in your local workgroup, you can delete local results to free up space.

**To delete local test results:**

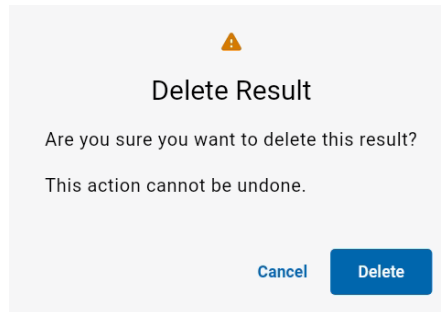
1. From the main window, select the **Results** tab.
2. Tap the ... menu, then select **Delete**.



3. Select the results to remove, then tap **Delete**..



4. Confirm your choice.



## Installing EXFO Exchange on Your Smart Device

Before you start working transferring and synchronizing jobs and results, you will need to install the EXFO Exchange application on your smart device.

**Note:** *For more information on how to use EXFO Exchange, refer to its user documentation.*

### **To install EXFO Exchange:**

1. Ensure that you have access to an Internet connection.
2. From your Android-based smart device, open the Google Play Store (usually **Play Store** or **Play** icon).

OR

From your iOS-based smart device, open the App Store (usually **App Store** icon).

3. From the Play Store or the App Store, search for *EXFO* to localize the EXFO Exchange.
4. Start the installation and follow the on-screen instructions.

## Enabling or Disabling the Wi-Fi Communication

The interactions between your unit and a smart device are accomplished using the Bluetooth Low Energy technology and Wi-Fi.

The interactions between your unit and the cloud server as well as the EXFO update server (to retrieve firmware and software updates), are accomplished using a connection to a wireless network.

**Note:** *By default, Wi-Fi is not enabled on your unit.*

**Note:** *If you do not intend to use your unit in conjunction with a smart device or do not need to connect to a wireless network for some time, you may wish to disable the Wi-Fi wireless communication to save battery power.*

Once the first connection is successful, the configured network is automatically added to the list of possible networks on your unit.

The list of configured networks as well as the last network used are kept in memory even when you turn your unit off. This means that the next time you work with your unit, it will automatically connect to the last network used, unless this network is not available or its password has changed in the meantime (reconfiguration necessary). Should a network failure occur while the unit is connected to it, the unit will try to reconnect to this network automatically as soon as it becomes available again.

The list of configured networks as well as the last network used are kept in memory even when you turn your unit off.




You can remove configured networks from the list to prevent automatic connections to these networks. If you remove the network currently in use, the unit will try to connect to the next configured network on the list that is available.

You can remove configured networks from the list to prevent automatic connections to these networks.

**Note:** *Your unit does not support public Wi-Fi hotspots requiring authentication from a Web page.*

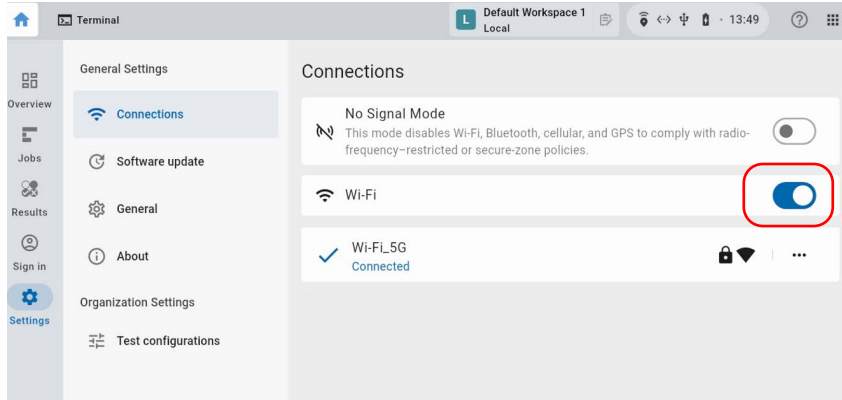
**Note:** *Every work environment has its own specifications. If you need information about the configuration of your router, contact your network administrator.*

The information about the Wi-Fi connection is indicated with an icon appearing both in the title bar (on your unit) and next to the name of the wireless networks.

Icon	Meaning
No Wi-Fi icon	The Wi-Fi communication is disabled.
	The Wi-Fi communication is enabled, but the unit is not connected to any wireless network.
	The portion of the icon that appears in white (title bar) or in dark gray (list of wireless networks) reflects the strength of the signal.
	Password-protected (secured) networks are identified by a lock.

#### **To enable the wireless communication from your unit:**

1. From the main window, tap **Settings**, then select **Connections**.
2. Tap on the **Wi-Fi** toggle to enable it.



3. Tap the item corresponding to the wireless network that you want to connect to.
4. If the network is protected by a network security key (password), enter it.

The application establishes the communication automatically.

## **Synchronizing Job Results With the Smart Device and the Cloud Server**

EXFO Exchange manages the measurements associated with jobs automatically for you.




The synchronization process begins as soon as a connection is established between your unit and the smart device. Test results are sent to the mobile application to allow report creation without filling the smart device's memory. By sending the results to EXFO Exchange, you can synchronize the entire job or the tests already done in a job. This way, you can resume a job that has already been started by someone else on another unit and transfer it to the FTB you are using for your tests.

The following types of data can be synchronized:

- **Summary:** includes the name, pass/fail verdict, element table with losses and reflectances, which will be used to see the results on the viewer.
- **Complete:** includes the raw data which includes the traces. This type of data can be used in a post-processing software like FastReporter 3 for further analysis.
- **Status data:** this type of data will be sent to the unit from the smart device when a cloud job was already started on another unit. It only includes the pass/fail verdict and a timestamp.

Both summary and complete data are synchronized using Bluetooth, with priority given to the summary data. For a faster transfer, use a Wi-Fi connection instead.

The icon next to the job name indicates the current synchronization status of each job with the cloud server. The table below shows the different possible synchronization statuses and their respective meanings.

Icon	Status
	The upload was not performed (for example if there is no Internet connection) or an error occurred.
	The test result is being uploaded to EXFO Exchange.
	The test result was successfully uploaded to EXFO Exchange.

Once the results are synchronized, they are marked as such in the list of measurements both on the smart device and on your unit.

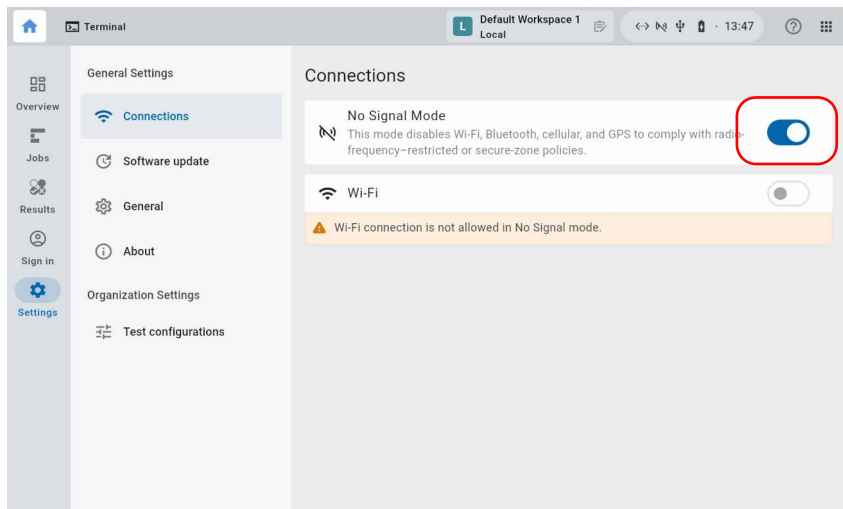
When a synchronization is in progress with the smart device or the cloud server, no data is lost if the battery level of the unit is too low or your FTB is disconnected from the Wi-Fi network. The synchronization process resumes once the FTB is connected to a power outlet and a Wi-Fi connection is established.

## Working in No Signal Mode

Sometimes, your work environment might require that you work without Wi-Fi, Bluetooth or cellular interference. You can temporarily disable the connections without disturbing your usual settings.

### *To work in no signal mode:*

1. From the main window, tap **Settings**, then select **Connections**.
2. Tap on the **No Signal Mode** to enable the mode.



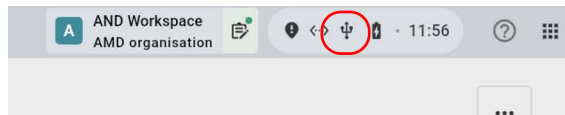
## Exporting Ad Hoc Test and Job Results Using a USB Key

You have the possibility of exporting your ad hoc test and job results to a USB key. This can be useful when working in no signal mode or as a backup method.

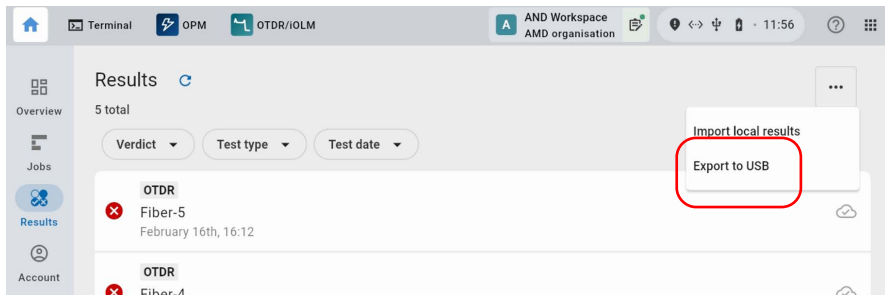
**Note:** You cannot export results that were already uploaded to EXFO Exchange.

### To export ad hoc test results to a USB key:

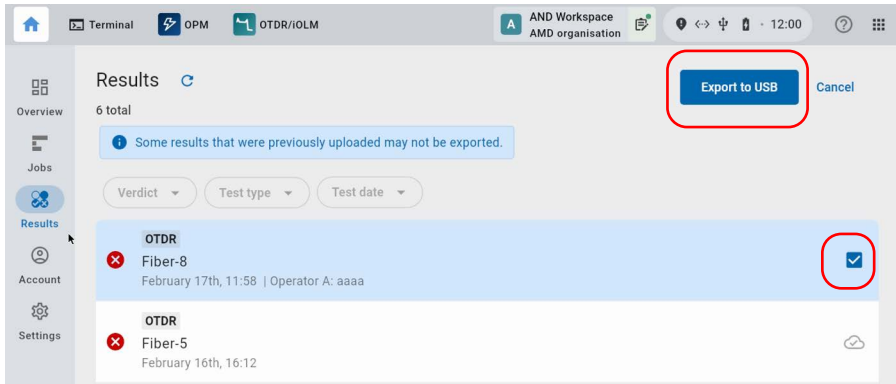
1. Connect your USB key to one of the ports on your unit. You can see that the transfer is available when you see the USB icon in the taskbar.



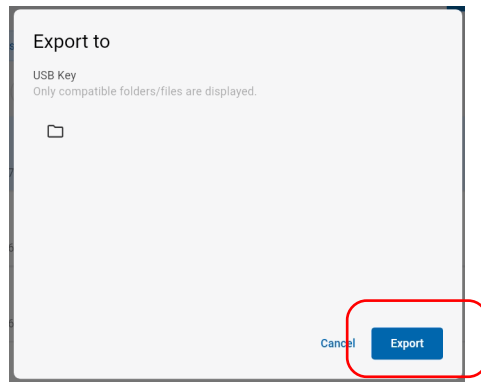
2. From the main window, select the **Results** tab.
3. Tap the ... menu, then select **Export to USB**.



4. Select which results you want to export in the list, then tap **Export to USB**.

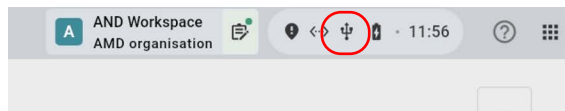


5. If needed, navigate to the desired location, then tap **Export**.



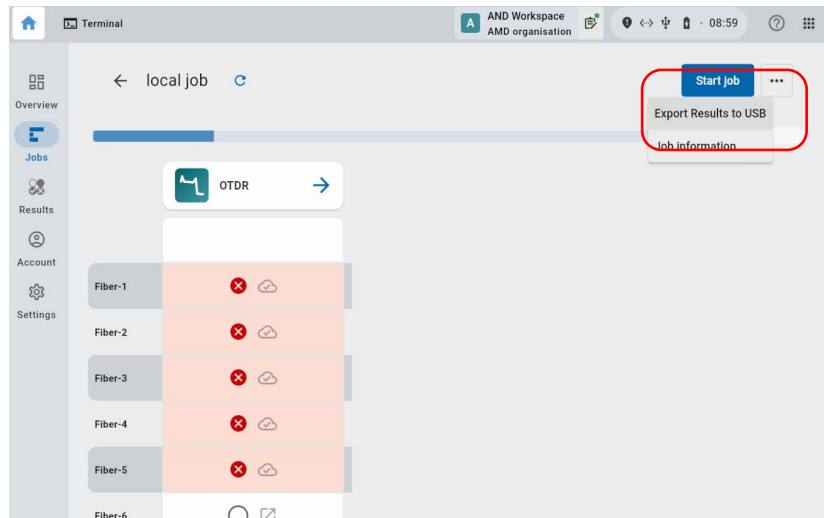
#### To export job results to a USB key:

1. Connect your USB key to one of the ports on your unit. You can see that the transfer is available when you see the USB icon in the taskbar.

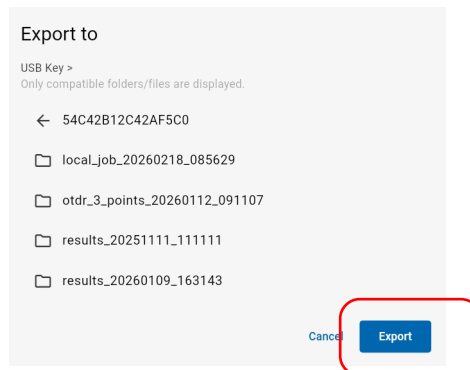


2. From the main window, select the **Jobs** tab.

3. Tap the ... menu, then select **Export Results to USB**.



4. If needed, navigate to the desired location, then tap **Export**.



## 5 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 dirt and 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.



### 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.

## Cleaning the Touchscreen

Clean the touchscreen with a soft, non-abrasive cloth, such as one used for cleaning reading glasses, dampened with water.



### CAUTION

Using anything else than water can damage the special coating used for units equipped with an outdoor-enhanced screen.

When not using your unit, EXFO recommends using the screen protector that came with it.

## Cleaning Optical Connectors Using a Mechanical Cleaner

Optical connectors are fixed on your unit and can be cleaned using a mechanical cleaner.



### WARNING

Verifying the surface of the connector with a fiber-optic microscope WHILE THE UNIT IS ACTIVE WILL result in permanent eye damage.



### CAUTION

If you are cleaning an with a mechanical cleaner, do not remove it from your device to clean it.

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

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 probe (for example, EXFO's FIP).

## Cleaning Detector Ports

Regular cleaning of detectors will help maintain measurement accuracy.



### IMPORTANT

Always cover detectors with protective caps when unit is not in use.

#### *To clean detector ports:*

1. Remove the protective cap and adapter (FOA) from the detector.
2. If the detector is dusty, blow dry with compressed air.
3. Being careful not to touch the soft end of the swab, moisten a cleaning tip with *only one drop* of optical-grade liquid cleaner.



### IMPORTANT

Some cleaners may leave traces if used abundantly. Do not use bottles that distribute too much liquid at a time.

4. While applying light pressure (to avoid breaking the detector window), gently rotate the cleaning tip on the detector window.
5. Repeat step 4 with a dry cleaning tip or blow dry with compressed air.
6. Discard the cleaning tips after one use.

## Battery Maintenance Recommendations



### **WARNING**

Your unit uses the following type of batteries: lithium iron phosphate.

These are batteries with built-in protection that have been especially designed for EXFO. For this reason, you can only replace them with EXFO-approved batteries of the same type and model.



### **WARNING**

The use of incorrect type or unapproved batteries may result in explosion or the batteries expanding or igniting (that is, catching fire).



### **WARNING**

Do not throw batteries into fire or water and do not short-circuit their electrical contacts. Do not disassemble.



### **IMPORTANT**

Recycle or dispose of used batteries properly, according to the manufacturer's instructions and in accordance with local regulations. Do not dispose of them in ordinary garbage receptacles. For more information, see the section about recycling and disposal in this user documentation.

- At EXFO, we take the safety of our customers very seriously and want to make sure any battery replacement is done properly.

The batteries of all EXFO-branded products are tested, certified, and in compliance with these international safety standards:

- ❖ United Nations (UN) Transport Regulations UN38.3: Covers battery safety during air transport.
  - ❖ UL 61010-1, CAN/CSA C22.2 61010-1 and International Standard IEC/EN 61010-1: Covers the use of batteries for test and measurement equipment.
  - ❖ International Standard IEC 62133: Covers secondary cells and batteries containing alkaline or other non-acid electrolytes.
  - ❖ In some countries, when required, EXFO-approved batteries have been certified and are marked as per local regulation.
- To get pricing and correct part number for replacement batteries for your products, please contact (via email):
    - ❖ For Americas: [Isales.us@exfo.com](mailto:Isales.us@exfo.com)
    - ❖ For Europe: [Isales.emea@exfo.com](mailto:Isales.emea@exfo.com)
    - ❖ For APAC: [Isales.apac@exfo.com](mailto:Isales.apac@exfo.com)
    - ❖ For China: [Isales.China@exfo.com](mailto:Isales.China@exfo.com)
  - You may also obtain replacement batteries for your products by contacting your local distributor:  
<https://www.exfo.com/en/how-to-buy/find-distributor>
  - You may return your unit for service at your local service center:  
<https://www.exfo.com/en/services/field-network-testing/exfo-service-centers/>

## Recharging the Battery

Your unit uses a lithium iron phosphate battery. The unit also indicates the charge status with the battery LED on its top panel (see *LED Indicators Description* on page 5).



### CAUTION

Use only the certified and approved USB-C power adapter provided by EXFO that is suitably rated for the country where the unit is used.



### IMPORTANT

- The battery is not charged at the factory. You must fully charge it before using the unit for the first time. The battery is fully charged after a few hours or when the battery LED indicator turns green.
- The time required to charge the battery depends on various factors such as the type of modules currently in use and the ambient temperature.
- To ensure that the battery functions or charges properly, keep it in temperatures between 10 °C and 40 °C (50 °F and 104 °F). Store them between -20 °C to 60 °C (-4 °F to 140 °F).
- Do not leave the battery discharged for several days.
- Depending on the way the unit is used, after a while, the charge status icon may no longer correspond to the actual power level of the battery (for example, the icon indicates that the power level is sufficient, but the unit turns off because the battery is too weak).
- After 4000 cycles for lithium iron phosphate batteries, or 1000 cycles for lithium-polymer batteries, you may want to replace the battery with a new one to maintain optimal operation conditions. Otherwise, the operating time might be reduced.



## **IMPORTANT**

- Remove the battery if the unit will not be used for more than two weeks. For more information on how to remove the battery, see *Replacing the Battery* on page 77.
- If you need to store the battery for an extended period of time, place it in a cool dry place, and ensure that it is charged at around 80% of their capacity. Every three months during the storage period, verify the battery level. Recharge the battery when necessary, so that its charge level remains around 80 % of the total capacity. This will ensure that you get the optimum performance out of the battery.

### ***To recharge the battery:***

Connect the unit to a power outlet using the USB-C power adapter.

The charge cycle will start and end automatically.

Your unit is now ready to use.

## Replacing the Battery



### **IMPORTANT**

Before replacing the battery, disconnect the USB-C power source from the unit.

Your unit can be powered either by a battery or from an appropriate power outlet when used with the provided USB-C power adapter.

For more information on the available power sources for your unit, as well as their characteristics, refer to the unit's technical specifications.

Before you go out in the field, make sure you install the battery in the unit unless you have an adequate and reliable power source.

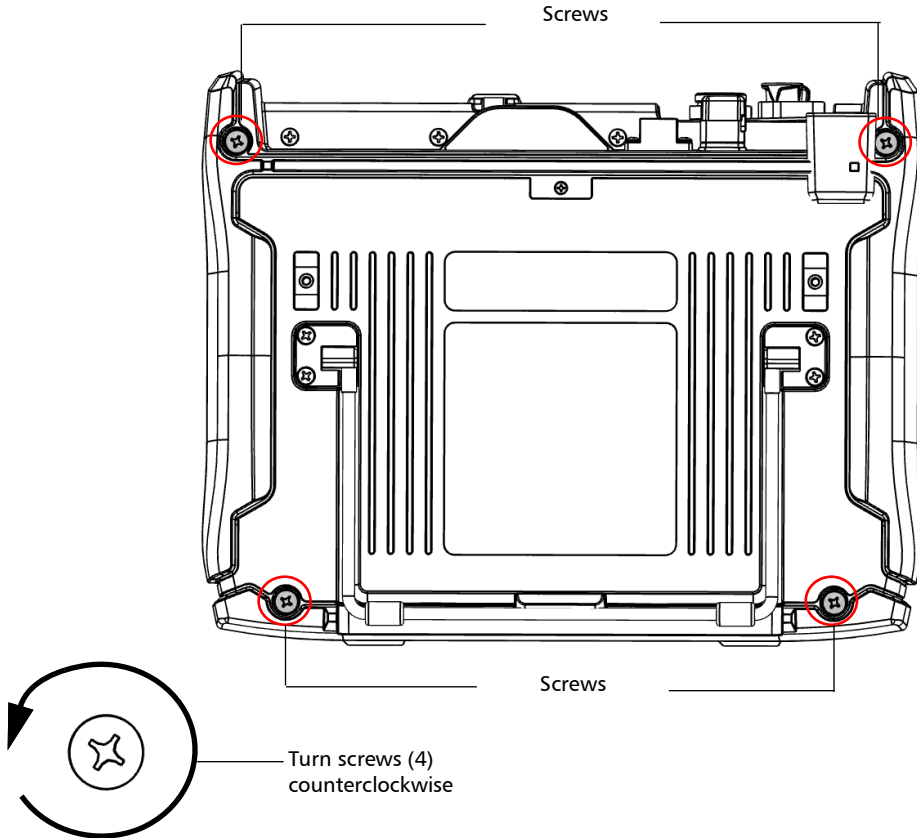


### **WARNING**

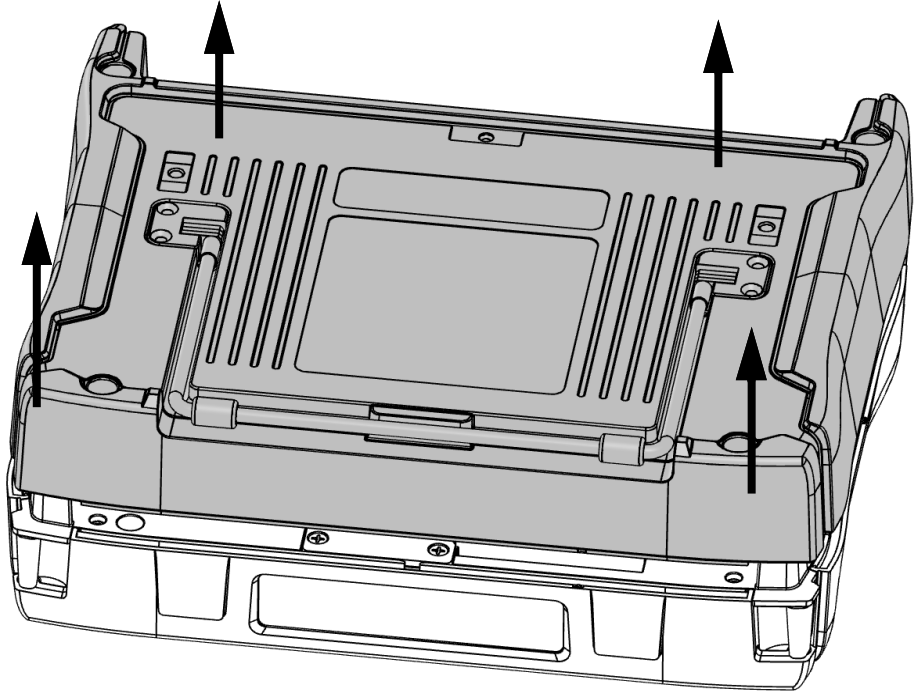
Your unit uses lithium iron phosphate batteries with built-in protection that have been especially designed for EXFO. For this reason, you can only replace them with batteries of the same type and model.

**To replace the battery in the unit:**

1. Position the unit so that its front panel rests on a flat surface such as a table.
2. Using a Phillips screwdriver, loosen and remove the screws (4) in the corners of the unit's back panel by turning them counterclockwise.



3. Hold the back panel by its sides and pull it up to remove it.

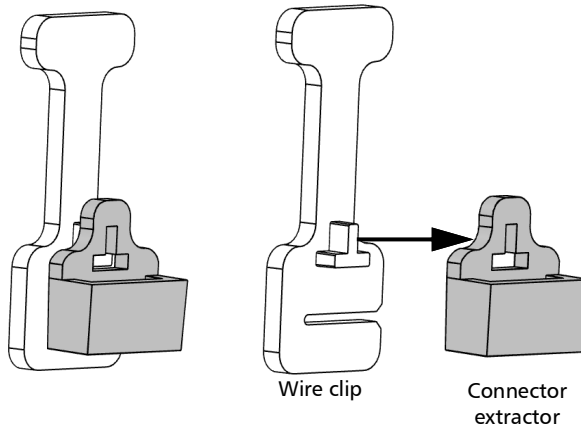




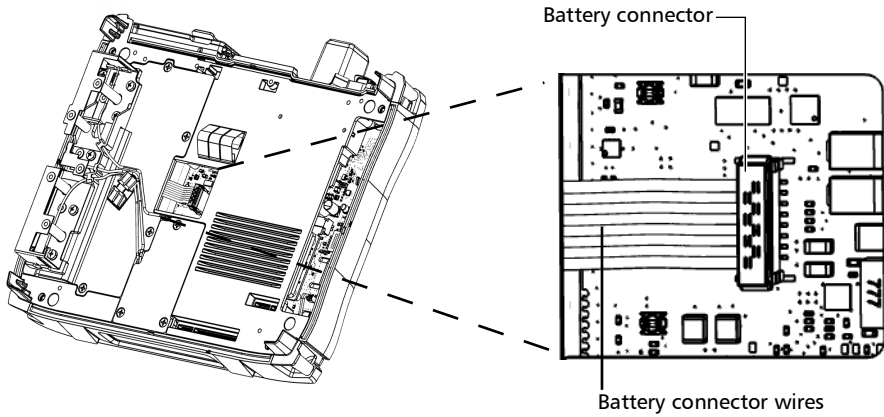
## **CAUTION**

Use the provided tool to disconnect the battery connector from its socket. Using other tools or methods may damage the unit's hardware.

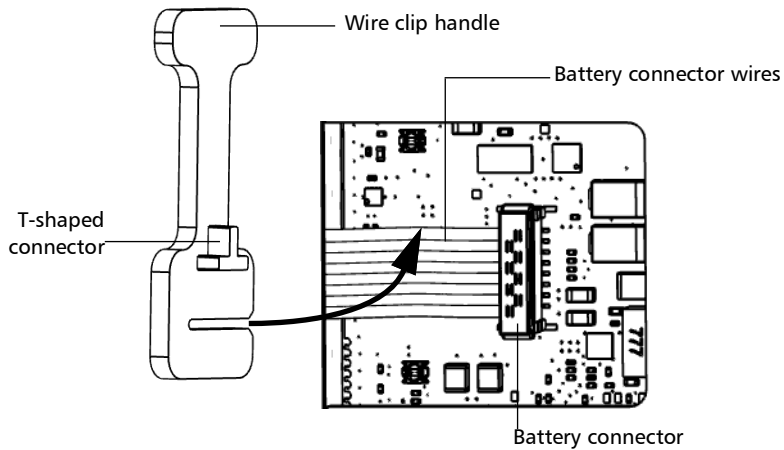
4. The tool consists of two parts: a wire clip and a connector extractor.



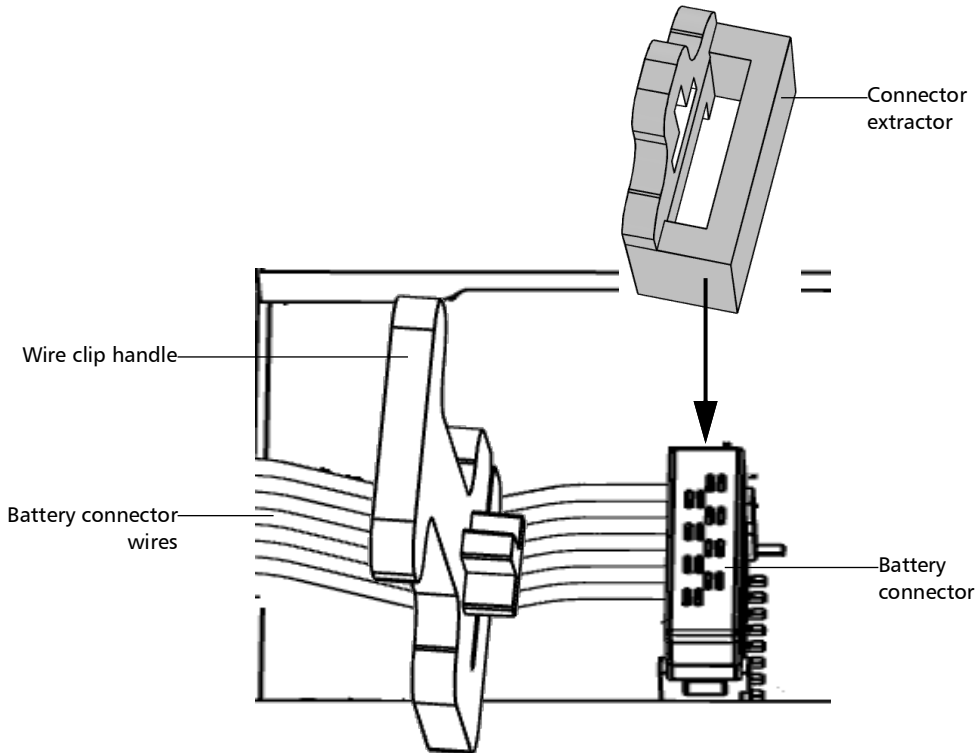
**4a.** Locate the battery connector and its wires on your unit.



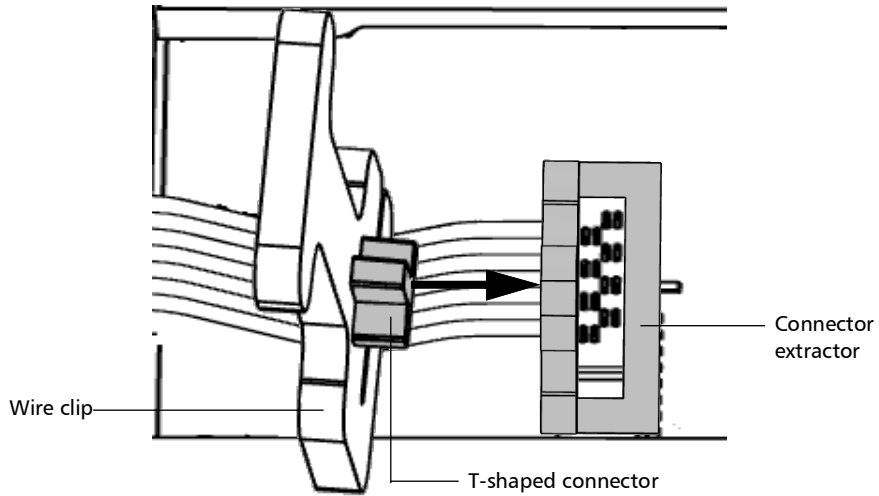
- 4b.** With the T-shaped connector facing the battery connector, gather the battery connector wires into the wire clip. Ensure the wire clip handle is facing you.



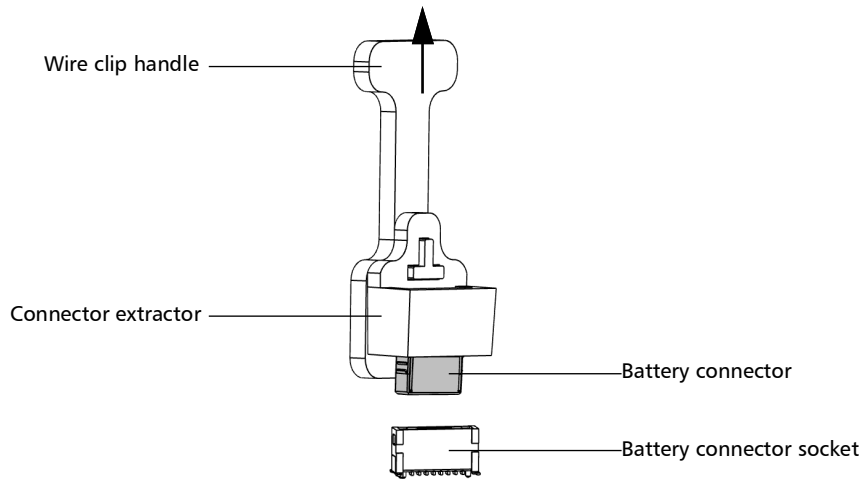
- 4c.** Place the connector extractor over the battery connector and push down gently until you feel resistance.



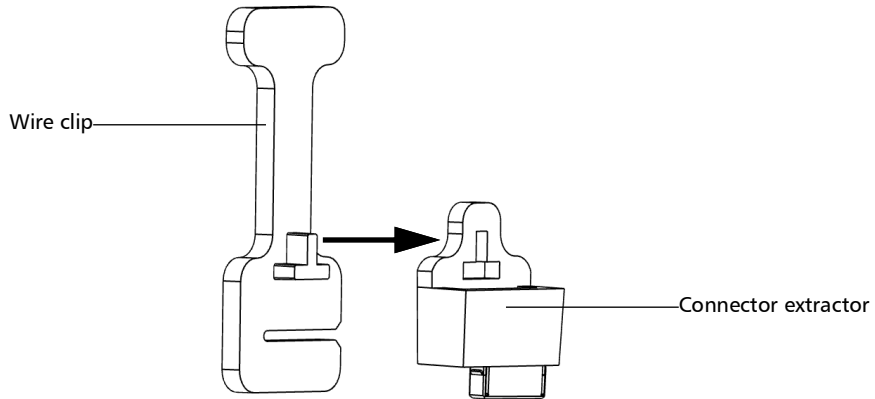
- 4d.** Align the t-shaped connector on the wire clip with the corresponding slot on the connector extractor and push them together.



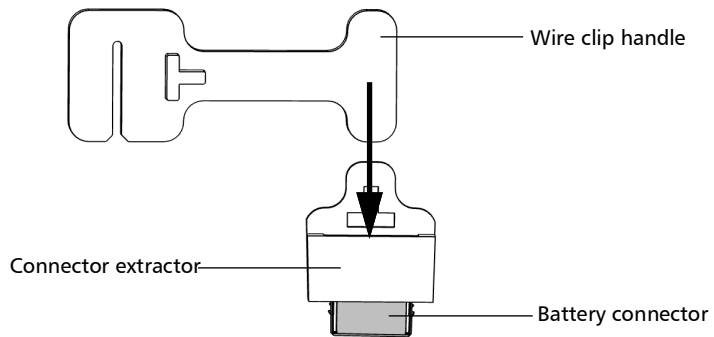
- 4e.** Gently lift the wire clip handle while moving it left to right to release the battery connector from its socket.



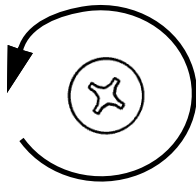
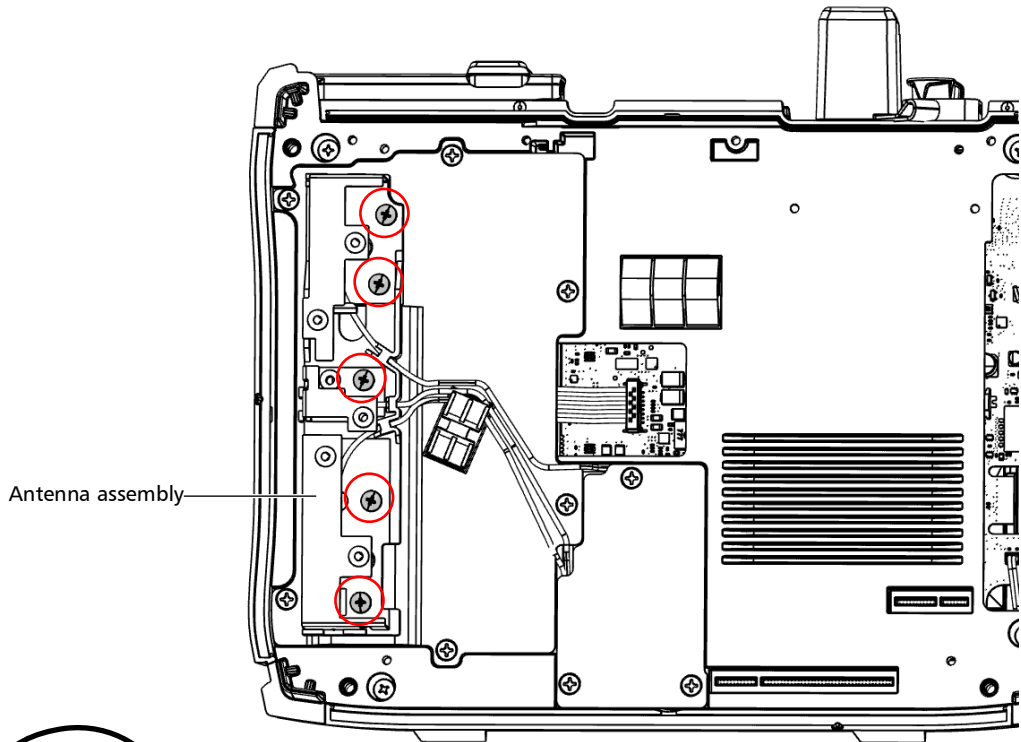
**4f.** Disconnect the wire clip from the connector extractor.



**4g.** Use the wire clip handle to push the battery connector out of the connector extractor.



5. Using a Phillips screwdriver, loosen the screws (5) by turning them counterclockwise, then remove them and their flat washers (5) from the antenna assembly.

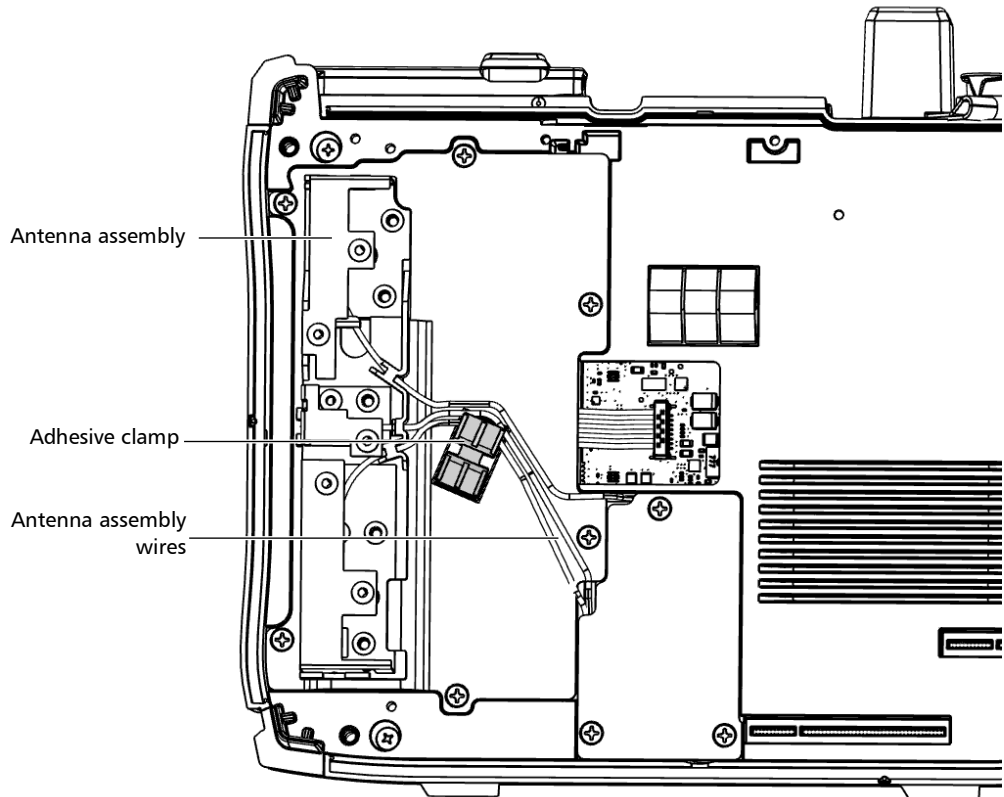


Turn screws (5)  
counterclockwise

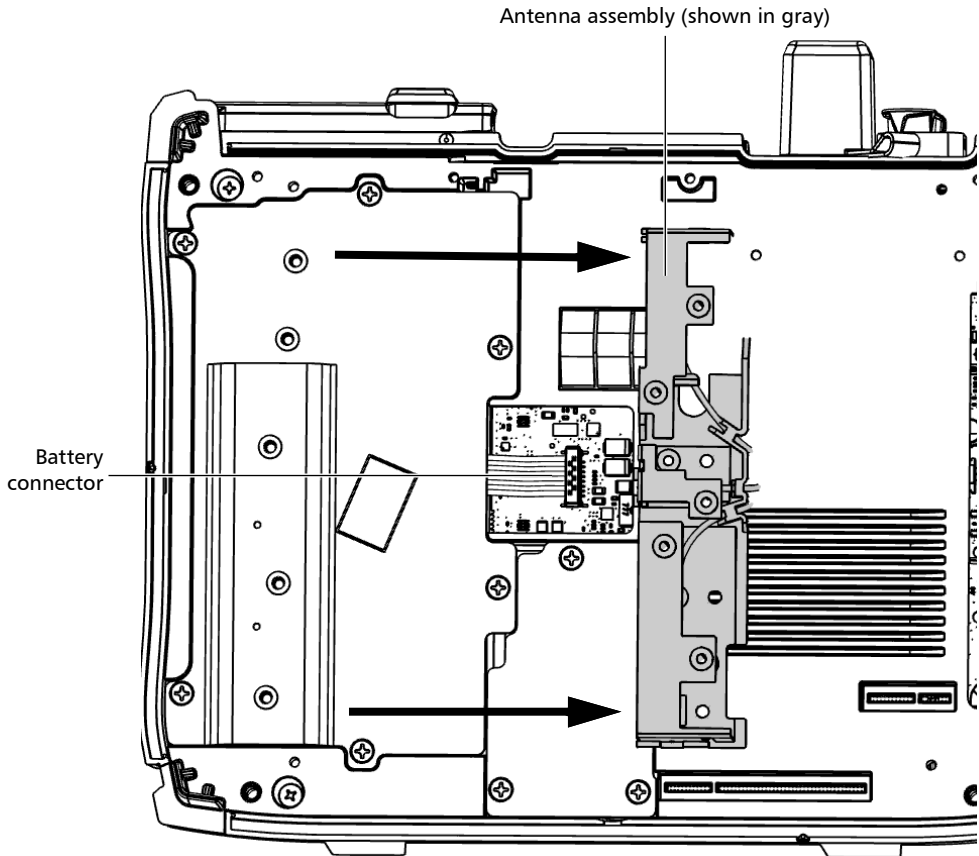


Flat washer (5)

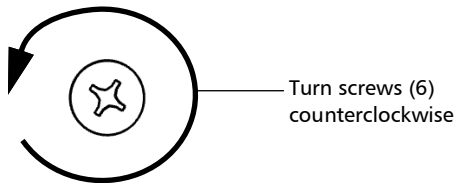
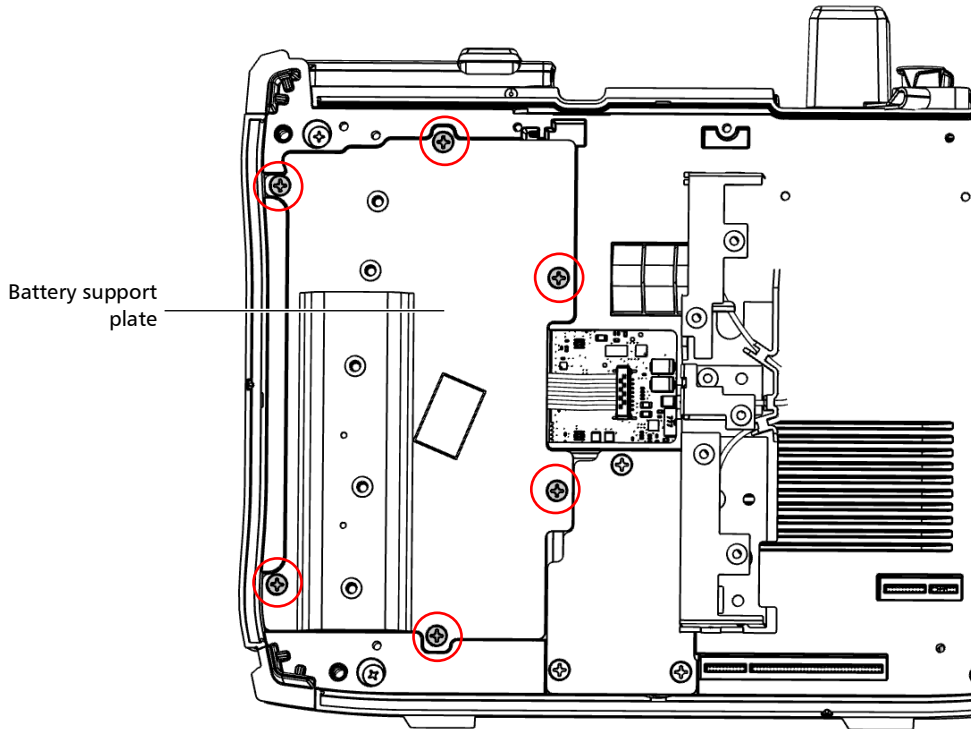
6. Use a flathead screwdriver to gently lift and remove the adhesive clamp securing the antenna assembly wires.



7. Position the antenna assembly to the right of the disconnected battery connector.

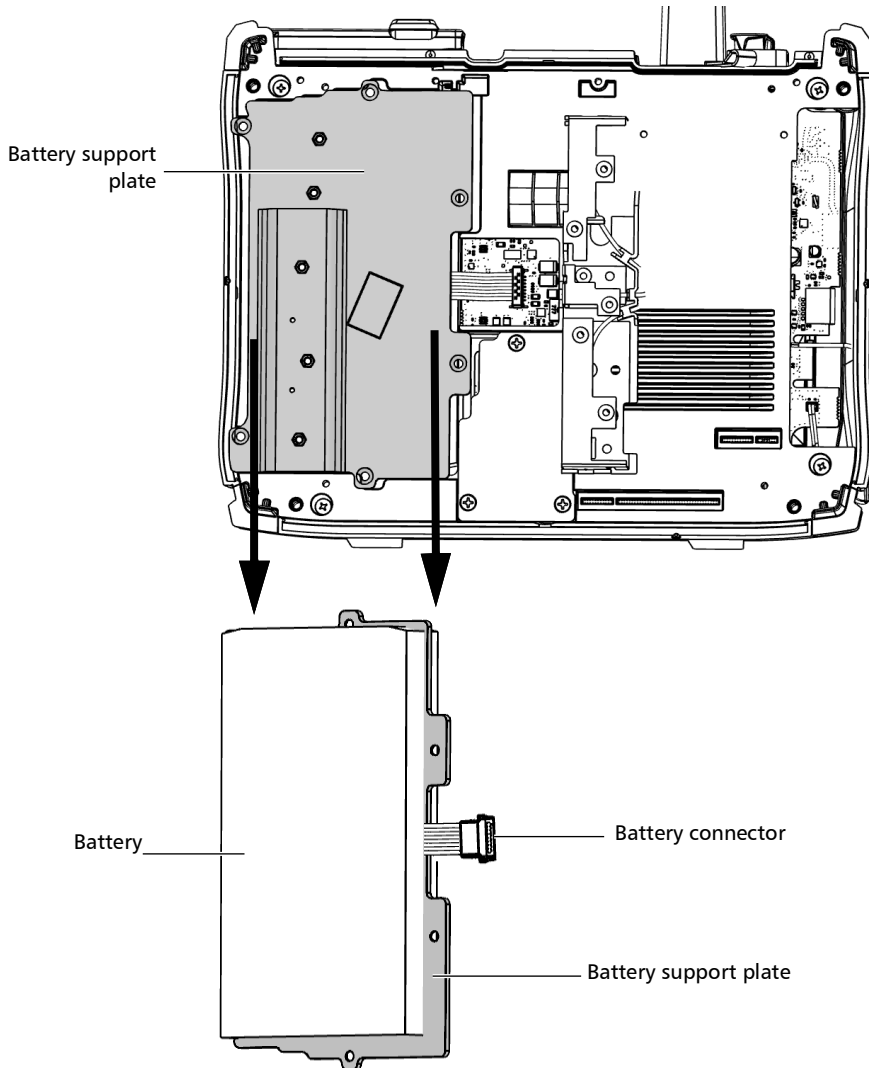


- Using a Phillips screwdriver, loosen the screws (6) by turning them counterclockwise, then remove them from the battery support plate.



9. Gently lift the battery support plate and remove it from the unit.

**Note:** *The battery remains attached to the battery support plate when removed.*

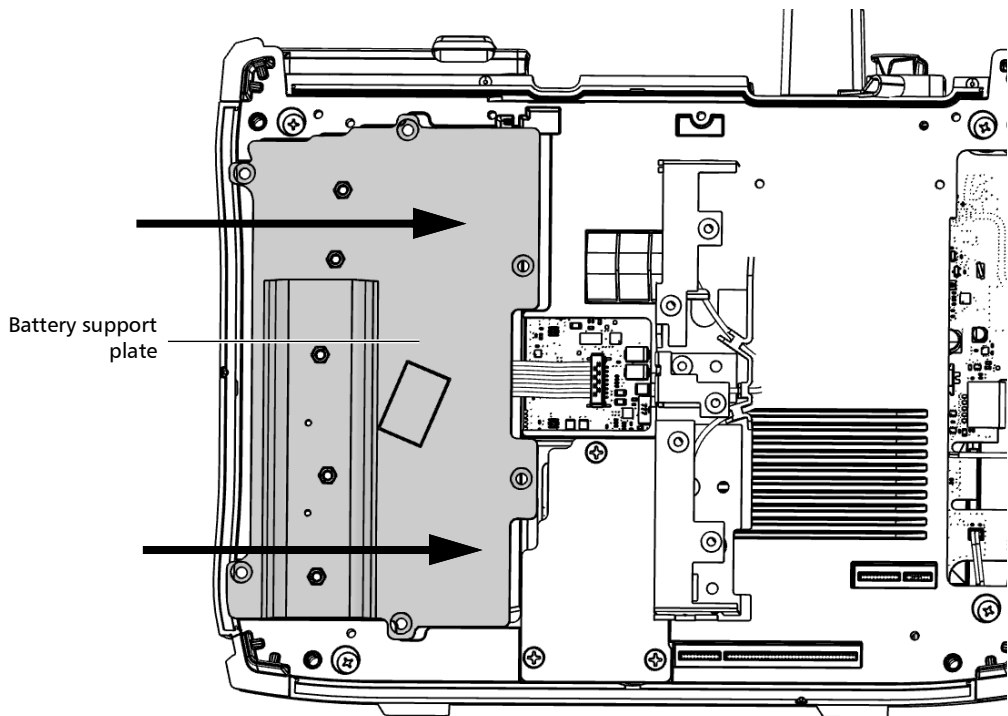


10. Insert the new battery support plate and its attached battery into its designated slot.

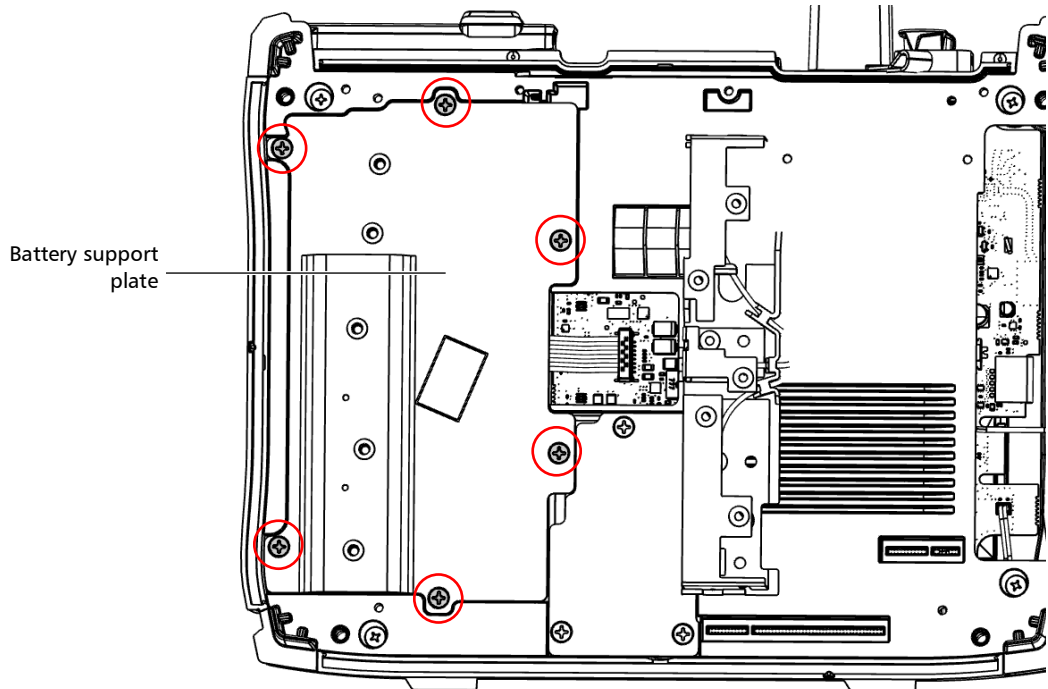


## **CAUTION**

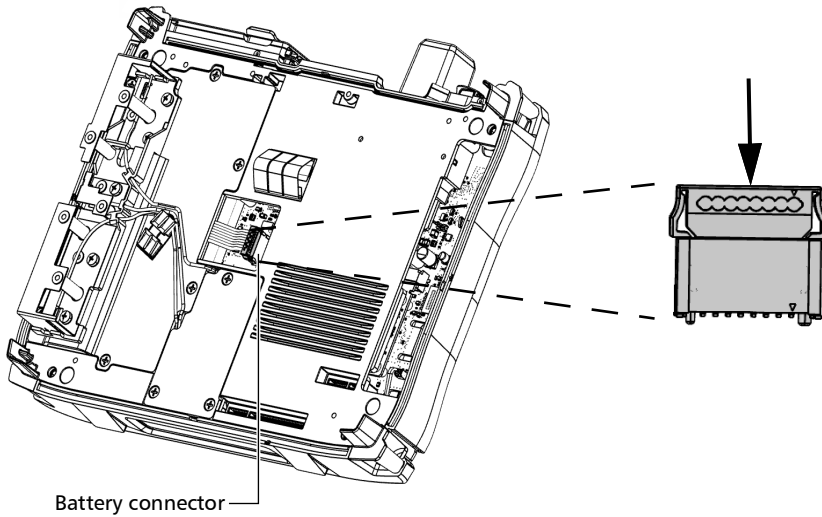
Carefully position the battery support plate on the unit, ensuring no antenna assembly wires are trapped underneath to prevent damage.



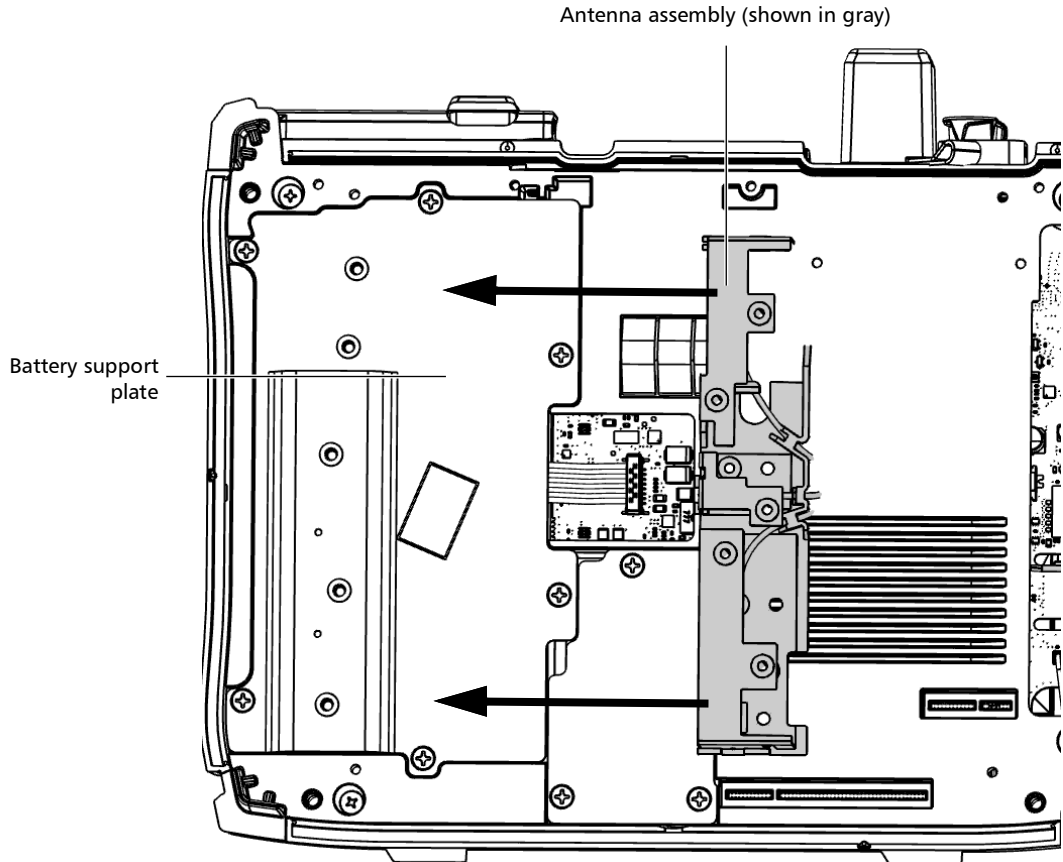
- 11.** Using a Phillips screwdriver, replace the screws (6) and turn them clockwise until they are tightened.



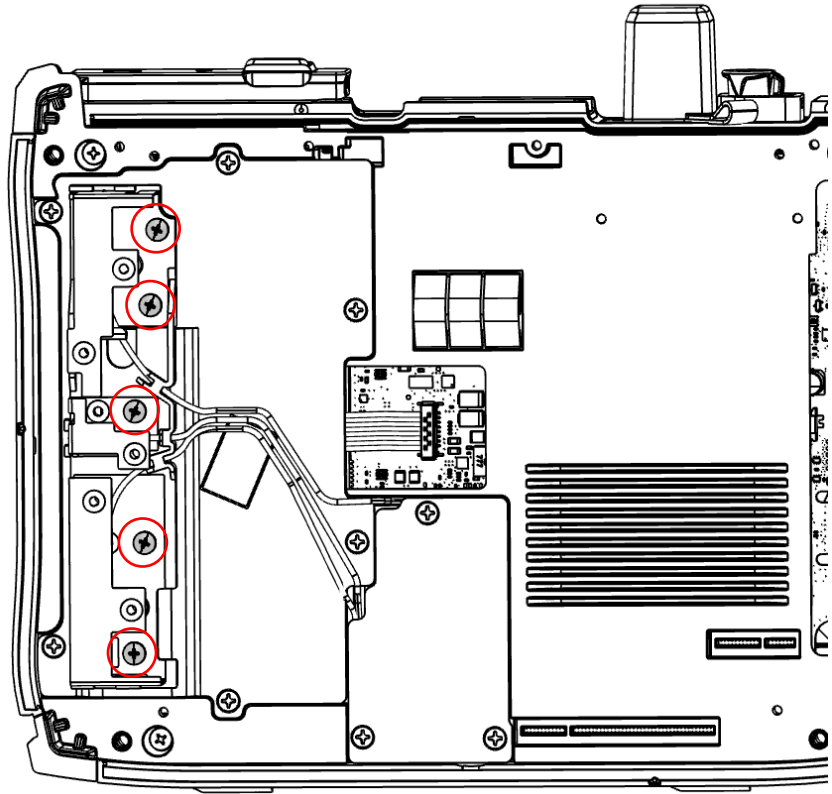
- 12.** To reconnect the battery, align its connector with the corresponding socket and gently push it into place.



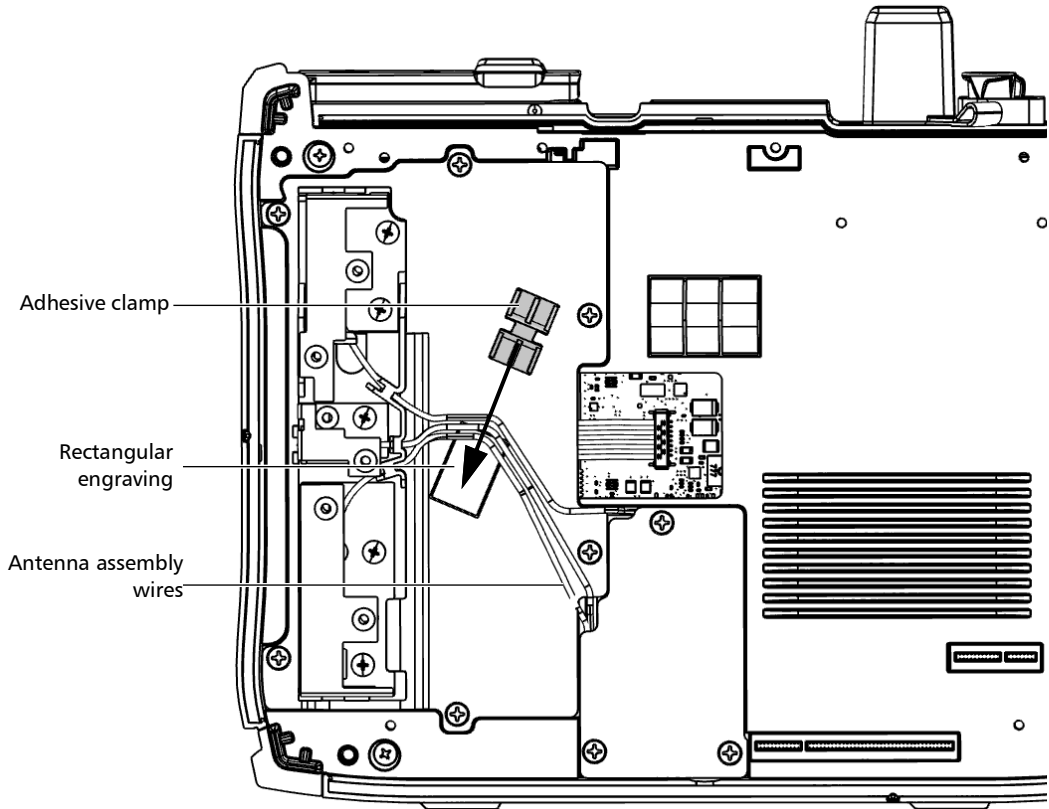
- 13.** Place the antenna assembly in its dedicated position over the battery support plate.



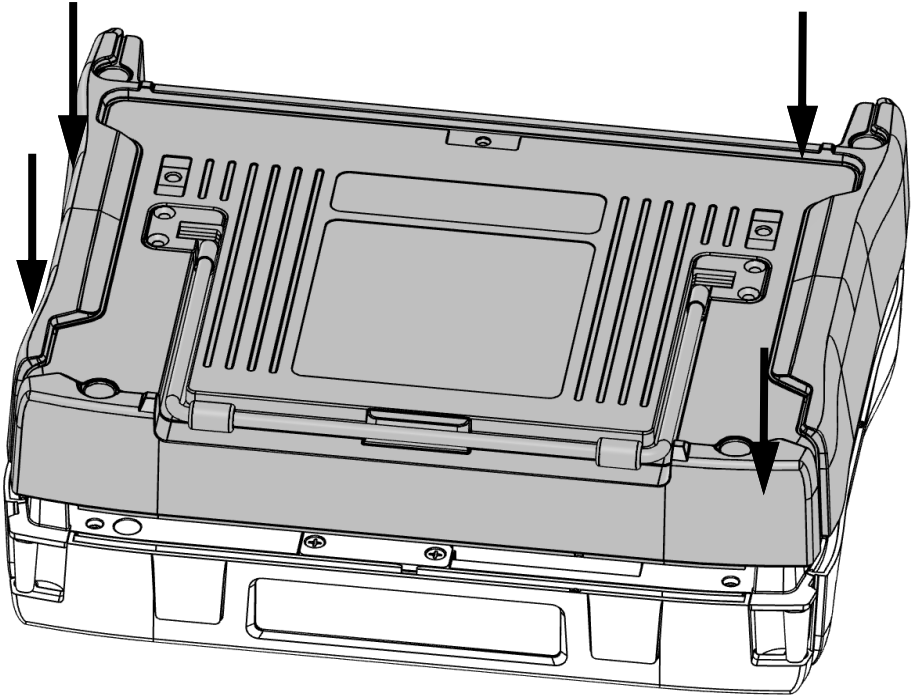
14. Using a Phillips screwdriver, replace and turn the screws (5) along with their flat washers clockwise until they are tightened.



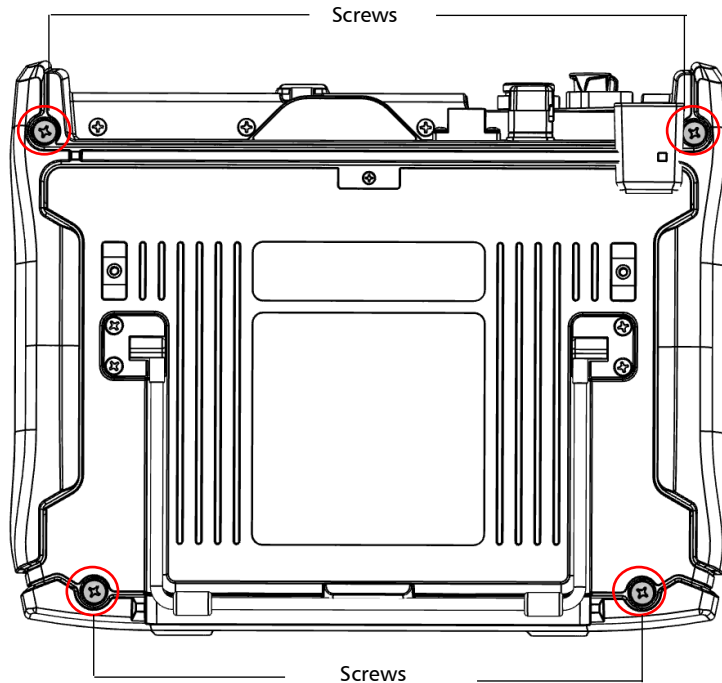
- 15.** Bundle the three antenna assembly wires under the adhesive clamp, then press the clamp onto the rectangular engraving.



16. Place the back panel on the unit, making sure that it is aligned properly with the front of the unit. The sides of the back panel should be flush with those of the front. There should be no gap between the back panel and the front of the unit. If necessary, slightly move the back panel until alignment is correct.



17. In the four corners on the back panel of the unit, using a Phillips screwdriver, turn the screws (4) clockwise until they are tightened.



## Updating Your Application

You can easily update your application and instruments to have the most recent changes and features available.



### IMPORTANT

You can only update your unit through a Wi-Fi connection. Updating is not available using Bluetooth.



### IMPORTANT

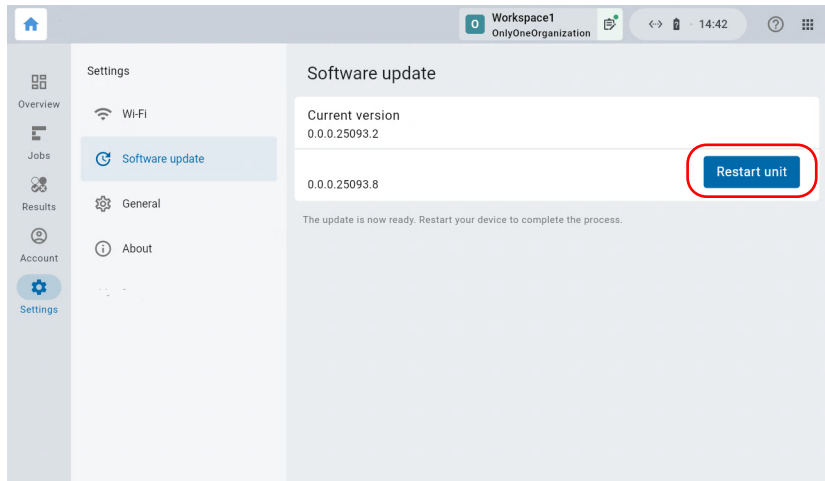
Do not turn your unit off during the update process.

#### *To update your application.*

1. Make sure that you are connected to a power outlet or that your battery has enough charge left.
2. Make sure that you are connected to a network through Wi-Fi or the RJ-45 port of your unit.
3. From the main window or any application window, tap **Settings**, then **Software update**.

4. The unit will look for any available new version, download it and install it automatically. When it is done, tap **Restart unit**.

**Note:** *The update process can take several minutes.*



## 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).

# 6 Troubleshooting

## Solving Common Problems

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

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
My unit does not start.	It is not connected to a power source.	Make sure that the external power supply is connected at both ends.
	Battery level too low to power on the unit.	Connect the unit to an AC power source using the provided AC to USB-C adapter to recharge the battery.
	The system has encountered a problem.	Press the On/Off button for at least ten seconds to force a hardware reset on the unit.
	The operating temperature of the unit is too high.	Please wait for the unit to cool down.
My unit is not responding.	The system has encountered a problem.	Press the On/Off button for at least ten seconds to force a hardware reset on the unit.

<b>Problem</b>	<b>Possible Cause</b>	<b>Solution</b>
The USB device I have just connected is not working.	The device has not been detected.	Disconnect, then reconnect the device.  Turn off the unit, then turn it on again.
	The device is not supported.	Ensure that the device is part of the list of supported accessories or devices for your unit.
The unit does not recognize a test module.	Module application is not installed.	Install the corresponding application using the Update Manager application.
	Defective module.	If the unit recognizes other modules, the faulty module could be defective. Return it to EXFO for repairs.
	Module is not supported on your unit.	Refer to the unit's technical specifications for the complete list of supported modules.
The module application does not start when I tap the corresponding icon.	The unit is powered by batteries, and the module currently in use requires more energy than the batteries can provide.	Connect your unit to an external power source.
	Module is not supported on your unit.	Refer to the unit's technical specifications for the complete list of supported modules.

Problem	Possible Cause	Solution
The GPS coordinates are not accurate.	The reception of the GPS signal is poor, possibly because the unit is currently used indoors.	<ul style="list-style-type: none"> <li>➤ Try to use the unit outdoors and as far away as possible from buildings and other solid objects to see if you can get more accurate coordinates.</li> <li>➤ Wait a few minutes before retrieving the coordinates again.</li> </ul>
Batteries are not recharging.	Ambient temperature is too high or too low.	Make sure that the temperature in the location where you recharge the batteries is within the specifications
	The USB-C adapter is not connected properly.	Make sure that the USB-C cord is connected to both the unit and the adapter, and that the adapter is connected to the AC outlet. The battery charger LED lights up when the USB-C adapter is properly connected.
	The USB-C adapter does not support power delivery.	Make sure that you are using the USB-C power adapter provided with your unit or a compatible power adapter supporting power delivery.

## 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 to its factory/initial state with factory settings. You can revert your unit either to its initial state (as it was at time of purchase).



### **IMPORTANT**

Restoring your unit to normal operation will erase all data permanently. Make sure to back up any important information before proceeding.

#### ***To reset your unit to its factory settings:***

- 1.** If desired, back up your data.
- 2.** If it is not already done, turn off your unit. For more information, see *Turning on Your Unit* on page 20.

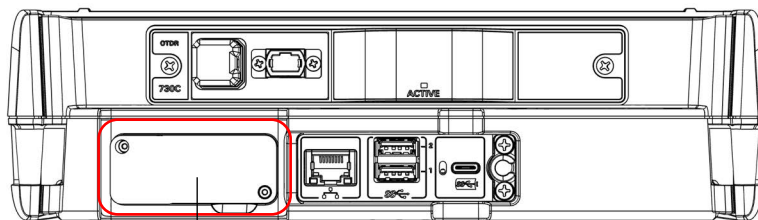
3. Position the unit vertically with the top panel facing you. Locate the protective cover that hides the power meter bay or, if installed, the power meter.



## IMPORTANT

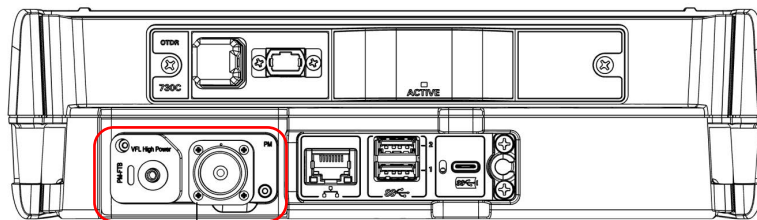
Before removing the power meter or the protective cover hiding the power meter bay, disconnect the USB-C power source from the unit.

Top panel view with the protective cover



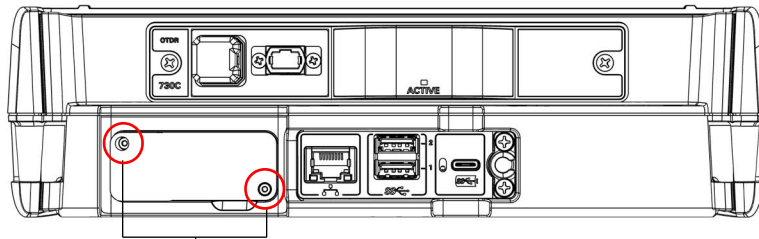
Protective cover hiding the power meter bay

Top panel view with the power meter installed

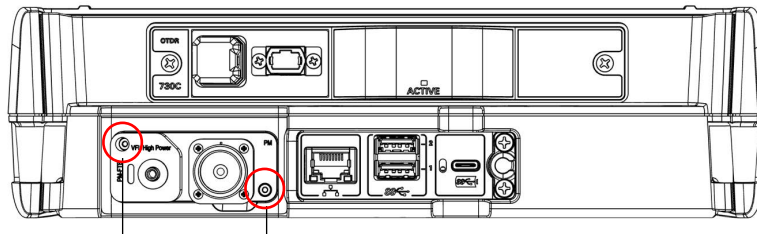


Power meter

4. In the opposite corners of the protective cover or power meter, using a Phillips screwdriver, turn the screws (2) counterclockwise until they are loose, and remove them.



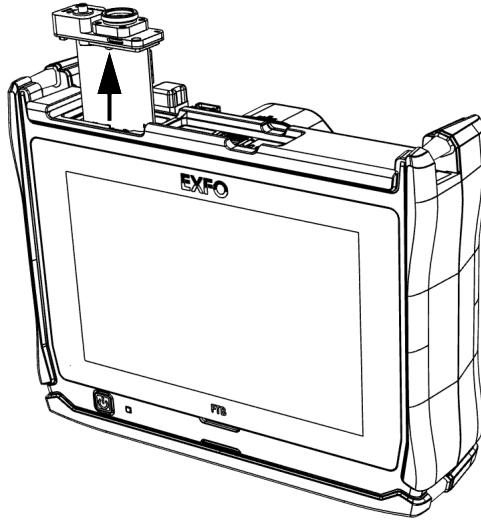
Screws holding the protective cover in place



Screws holding the power meter in place

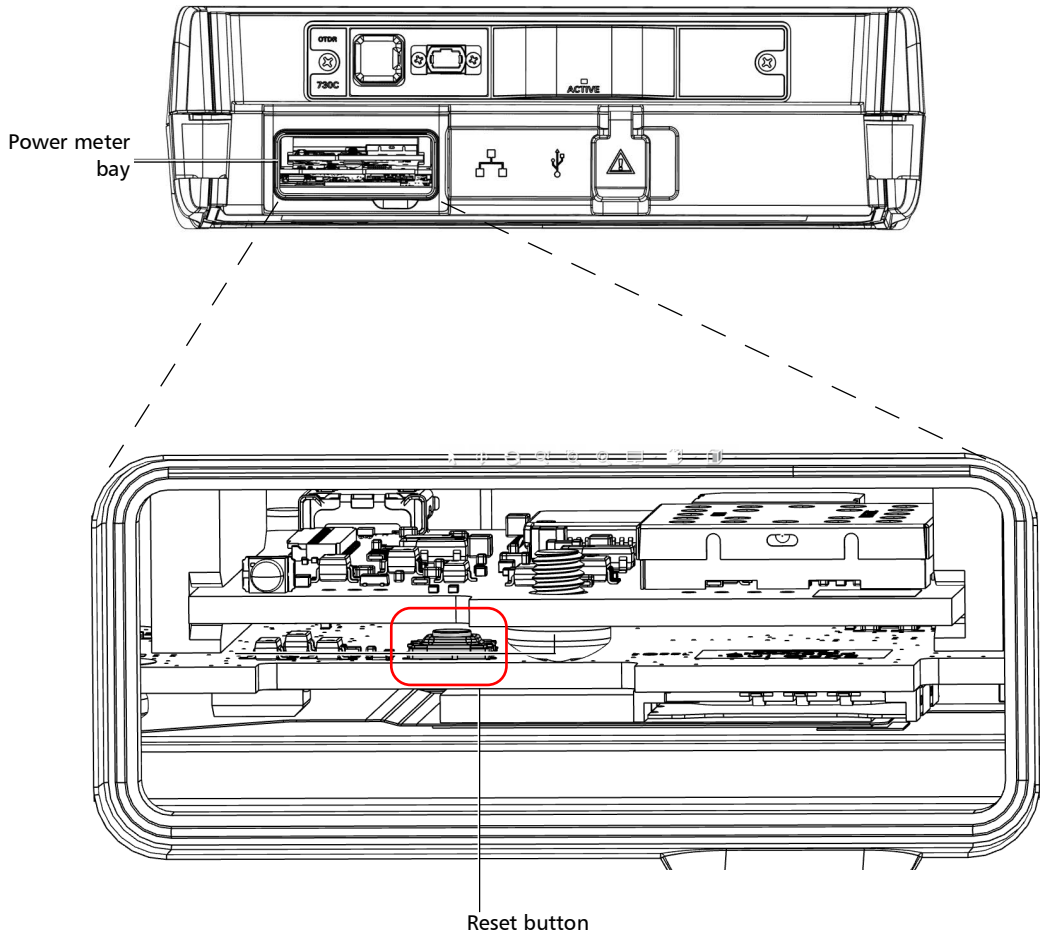
**Note:** *Keep the screws nearby for reinstalling the protective cover or the power meter later.*

5. Carefully remove the protective cover or power meter from the power meter bay to expose the reset button.

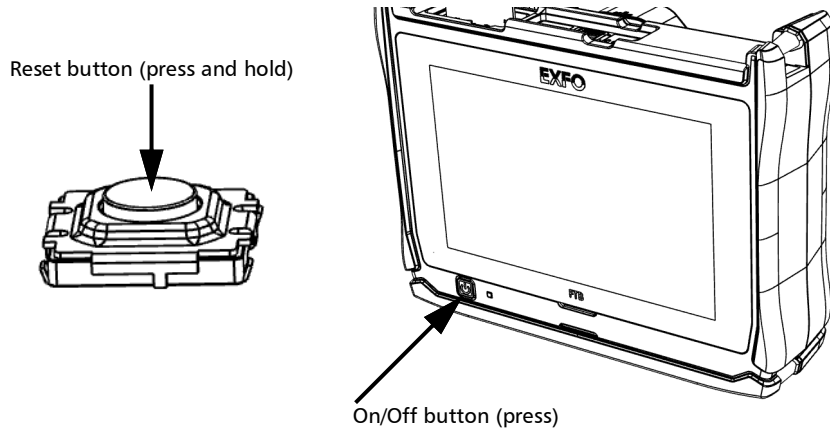


6. On the top panel of the unit, locate the reset button inside the power meter bay.

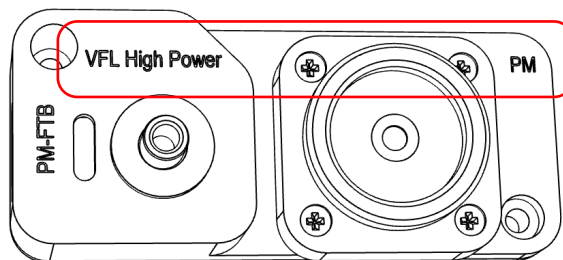
**Top panel**



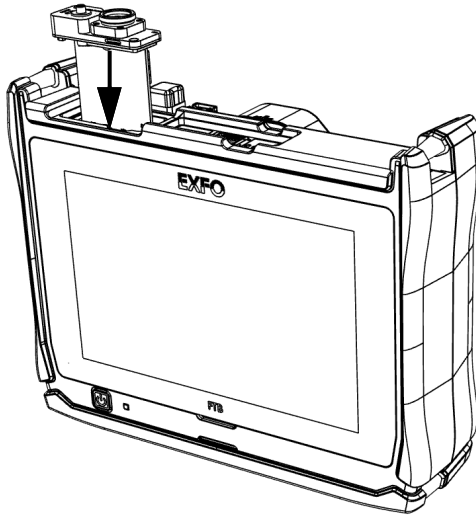
7. Press and hold the reset button, then press the On/Off button on the front panel to power on the unit. Keep holding the reset button until the display turns on, then release it. The factory reset process will begin, and the unit will restart once the process is complete.



8. If your unit is equipped with a protective cover, proceed to step 9. If your unit is equipped with a power meter, proceed as follows.
  - 8a. By holding the power meter by its faceplate, position it so that the writings are right side up.



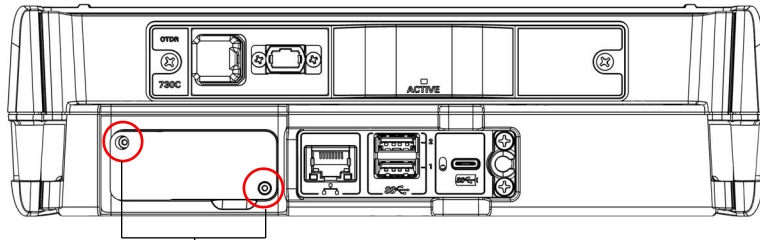
- 8b.** Carefully align the power meter with the corresponding bay.



- 8c.** Gently slide the power meter into the bay until its faceplate is flush with the edge of the bay.

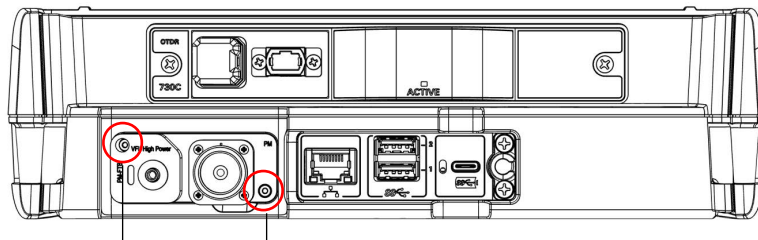
9. In the opposite corners of the protective cover or power meter, using a Phillips screwdriver, replace and turn the screws (2) clockwise until they are tightened.

#### Top panel with the protective cover



Mounting holes for the protective cover

#### Top panel with the power meter




Mounting holes for the power meter

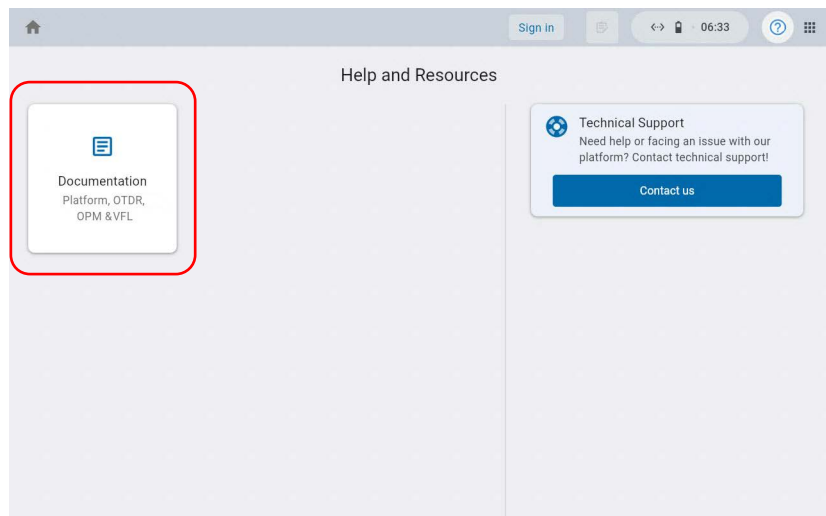
Your unit is now ready to use.

## Accessing the Online Documentation

You can access the user documentation as well as the license agreements at all times from your unit.

**To view the online help:**

1. From the main window or any application window, tap .
2. Tap **Documentation**, then select icon corresponding to the type of document that you want to view.



## **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.

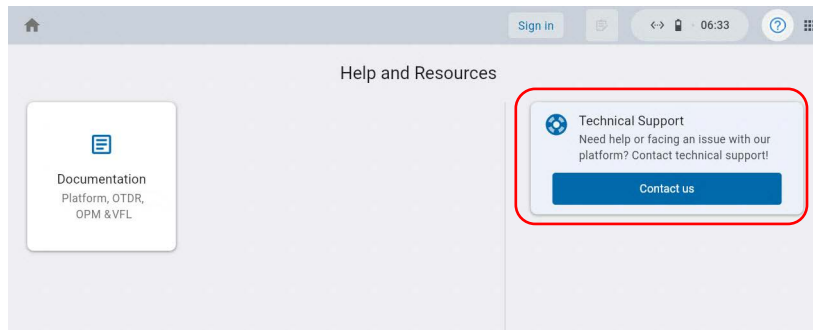
## Viewing System Information

You can easily access important information such as the serial number or version number for your applications. You can also find the contact information if you ever need to reach EXFO.

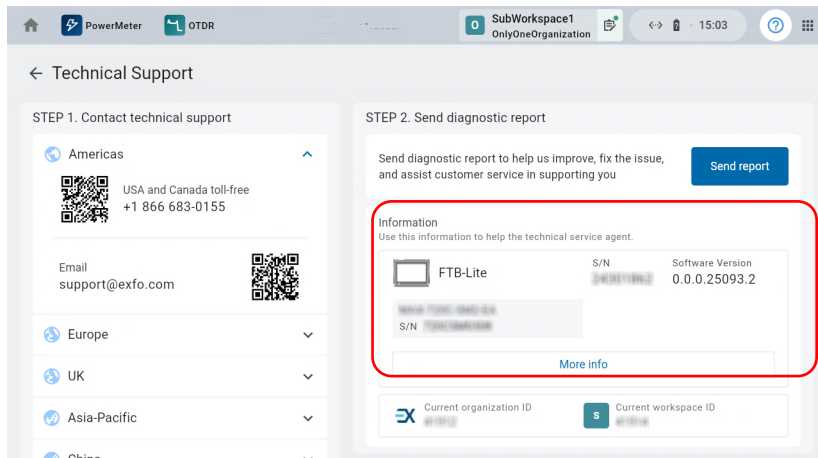
**Note:** You can also view the serial number on the label affixed to the back of your unit.

**To retrieve the serial number and software version of your unit:**

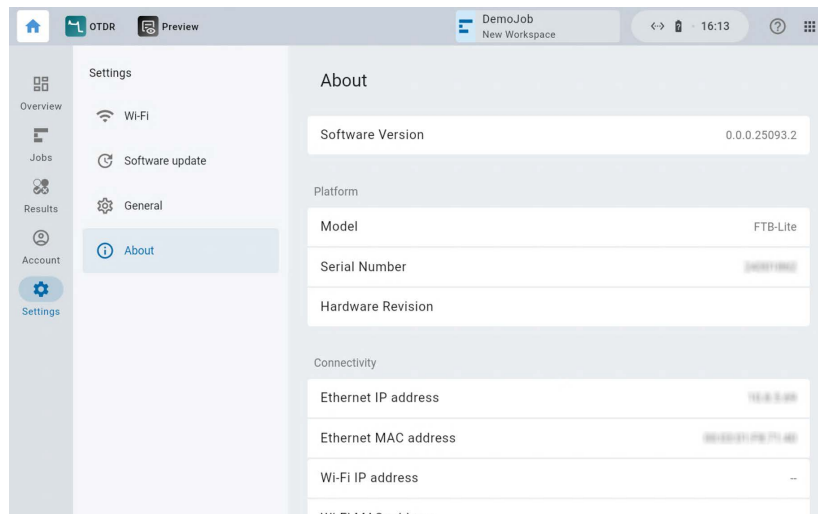
1. From the main window or any application window, tap .
2. Tap **Contact us**.



- Under **Information**, you can view the required information for your platform and installed modules and components.




- Tap on **More info** to access the **About** page and see additional information related to your test unit.

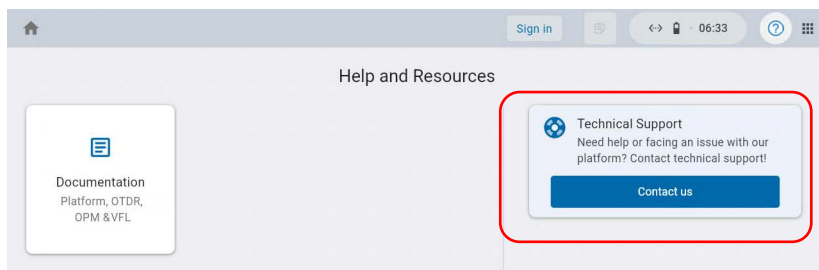


## Retrieving the Contact Information

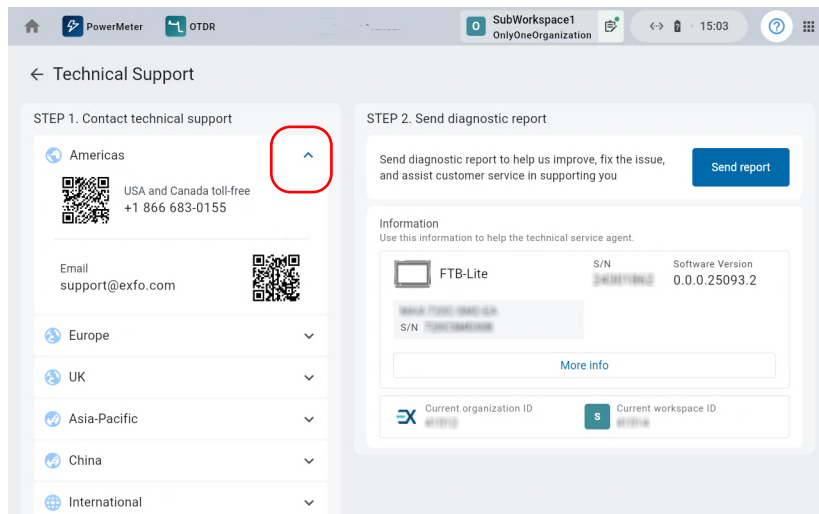
All the information necessary to contact EXFO is available from your unit.

**To retrieve the contact information:**

1. From the main window or any application window, tap .
2. Tap **Contact us**.



3. Under **Contact technical support**, you can view various locations where you can obtain help. Tap the down arrow to view or hide the details for each location.



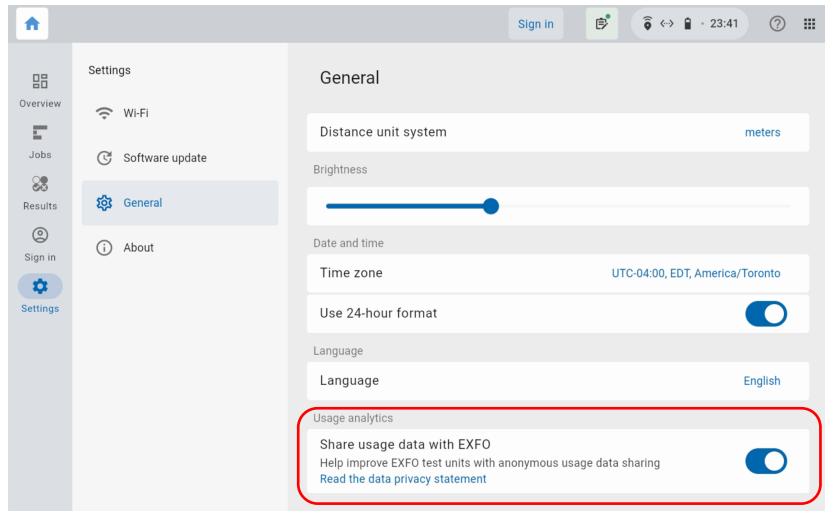
## Enabling or Disabling Telemetry on Your Unit

In order to help EXFO with troubleshooting and continuous improvement, you can enable telemetry on your unit. The data is collected and used in compliance with EXFO's privacy statement.

**Note:** *This option is enabled by default.*

### To enable or disable telemetry on your unit:


1. From the main window, tap **Settings**, then **General**.
2. Tap corresponding toggle to enable the option.

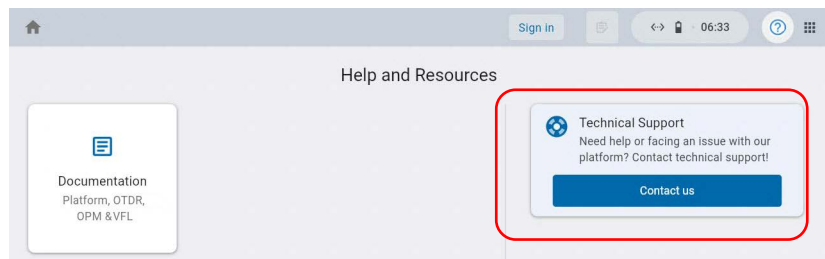


## Sending Diagnostic Reports

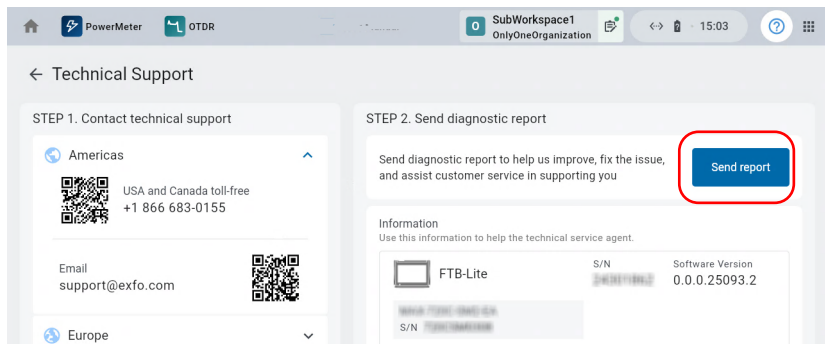
Sometimes you might need to send a diagnostic report to the technical support team so that they can help you work out an issue.

### To create a diagnostic report:

1. When instructed by the technical support team, from the main window or any application window, tap .
2. Tap **Contact us**.



3. Tap **Send report**. Your unit will gather the information for your instrument and create a compressed file folder that is sent automatically.



## 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.

# 7 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.

## **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 125). 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 125).

## **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:

<https://www.exfo.com/en/services/field-network-testing/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)	Bis(2-ethylhexyl) phthalate 邻苯二甲酸二 (2-乙基)己酯 (DEHP)	Benzyl butyl phthalate 邻苯二甲酸 丁基辛酯 (BBP)	Dibutyl phthalate 邻苯二甲酸 二正丁酯 (DBP)	Diisobutyl phthalate 邻苯二甲酸 二异丁酯 (DIBP)
Enclosure 外壳	○	○	○	○	○	○	○	○	○	○
Electronic and electrical sub-assembly 电子和 电气组件	X	○	○	○	○	○	○	○	○	○
Optical sub-assembly <sup>a</sup> 光学组件 <sup>a</sup>	○	○	○	○	○	○	○	○	○	○
Mechanical sub-assembly <sup>a</sup> 机械组件 <sup>a</sup>	○	○	○	○	○	○	○	○	○	○

Note:

注 1:

O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part meets the requirements of China's national standard for hazardous substances in electrical and electronic products.

O: 表示该有害物质在该部件所有均质材料中的含量均满足电器电子产品有害物质限制使用国家标准要求。

X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part

does not meet the requirements of China's national standard for hazardous substances in electrical and electronic products.

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不满足电器电子产品有害物质限制使用国家标准要求。

注 2:



For parts not listed above, it means all hazardous substances contained in them meet the requirements of China's national standard for hazardous substances in electrical and electronic products.

以上未列出的部件, 表明其有害物质含量均满足电器电子产品有害物质限制使用国家标准要求。

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。



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