Introducing the EXFO EX1

Designed to be paired with a smart device, the EXFO EX1 is a one-of-a-kind Ethernet tester used to qualify broadband connections delivered to both residential and business Ethernet customers—enabling service providers to validate delivery of full line rate Gigabit Ethernet speeds to their subscribers. The EXFO EX1's advantage is two-fold: it includes FPGA-powered hardware, as well as the industry-leading Speedtest powered by Ookla[1] algorithm, which together give service providers repeatable and reliable metrics, every time.

The EXFO EX1 ultra-intuitive application runs directly on a field technician's smart device to visualize all tasks performed including connection, setup, results-gathering, report generation, and cloud-enabled firmware upgrades.

1. Ookla is a third party provider. The Ookla Speedtest Powered technology involves Ookla owned and/or controlled servers that may or may not be within your network. Ookla retains the right to aggregate test results and to monetize aggregated results as they see fit.

EXFO EX1 Device

USB-C Charging Port

The battery of the EXFO EX1 device is not fully charged at the factory. Charge the battery before using the EXFO EX1 device for the first time or when it has been unused for extended periods.

The battery needs to be fully charged before using the unit for the first time.

To charge the EXFO EX1 device:

1. Connect the supplied USB cable to the USB power adapter.
2. Connect the other end of the USB cable to the EXFO EX1 USB-C charging port.
3. Connect the USB power adapter to a power outlet.

Note:
The battery is fully charged when the battery green LED stops flashing. The charge cycle starts and stops automatically.

Refer to Recharging the Battery on page 48 *for more information.*

On/Off Switch and LED

Turns the EXFO EX1 device on or off.

↗ To turn the EXFO EX1 device on, press and hold the on/off switch (about 1 second) until the LED starts flashing.

IMPORTANT

The EXFO EX1 device automatically shuts down after 3 minutes (by default) of inactivity when the EXFO EX1 device is not charging using the provided USB power adapter. Refer to Power Saving on page 45 for more information.

↗ To turn the EXFO EX1 device off, press and hold the on/off switch (about 5 seconds) until the LED starts flashing, then the LED turns off.

The power LED reports the EXFO EX1 device status as follows:

LED State	Description
Off	EXFO EX1 device is turned off.
Green	EXFO EX1 device is turned on and ready to be used.
Green flashing fast	EXFO EX1 device is booting or shutting down.
Amber flashing	EXFO EX1 device is performing a firmware update.
Red	EXFO EX1 device failed to boot.

Getting Started

This section describes the EXFO EX1 device setup, smart device software installation, then a quick procedure to initiate a test.

Turning the EXFO EX1 Device On

Note: *Make sure the EXFO EX1 device is fully charged*

Turn the EXFO EX1 device on by pressing the on/off switch for 1 second

Connecting the RJ45 and SFP Ports

Note: *For wireless test (Wi-Fi) there is no need to connect these ports. However a network connection using the RJ45 port may be required for firmware*

RJ45 Port

The RJ45 port is used for testing the Ethernet network using a wired electrical connection. It can also be used to connect to the network for firmware upgrade

Connect the RJ45 port of the EXFO EX1 device to the Ethernet network and make sure the link is up

SFP Port

The SFP port is used for testing an Ethernet/GPON optical network. Insert an SFP/GPON optical transceiver module into the EXFO EX1 interface receptacle.

Carefully connect optical fibre cable(s) to the transceiver IN/OUT port(s). To ensure good signal quality, make sure that the optical fibre connector is fully inserted into the optical connector port.

CAUTION

To prevent exceeding the maximum input power level please use an attenuator when a loopback configuration is used.

CAUTION

Before inserting an optical module into the interface receptacle, inspect the receptacle to make sure nothing is inside.

WARNING

Use only EXFO supported transceivers. Refer to www.exfo.com for the list of supported transceivers. Using non-supported transceivers can affect the performance and accuracy of the test; in the case of GPON the test may won't work.

Note: *Do not replace the transceiver while the test is running to avoid distorting results. First stop the test, replace the transceiver, and then restart the test.*

Installing the Smart Device Application

The EXFO EX1 application needs to be installed on the smart device that will be used to control the EXFO EX1 device.

Smart Device Minimum Requirements

- Operation System:
  - Android 6.0 or above.

    OR
  - Apple iOS 10 or above.
- Bluetooth Low Energy (BLE): version 4.0 or above; minimum recommended is version 4.2.

Software Installation

To install the EXFO EX1 application on a smart device:

1. From an Android smart device, open **Play Store** (Google).

   OR
2. From an Apple smart device, open **App Store**.
3. Search for EXFO or EXFO EX1 to locate the EXFO EX1 application.
4. Install the EXFO EX1 application.

Starting the Speedtest for the First Time

It is possible to start the Speedtest from the smart device EXFO EX1 application assuming the EXFO EX1 device is turned on and connected to the network to be tested.

To start the Speedtest:

1. Start the EXFO EX1 application on the smart device.
   Ensure that Bluetooth is enabled on the smart device.

   1a. For Android smart devices, confirm that the EXFO EX1 application can access the smart device location otherwise the application will not work.

   1b. Confirm the enabling of **Report Diagnostic Data**.

2. From the **Connection** page, select an EXFO EX1 device from the list

3. Once connected, the application opens automatically the **Speedtest**

   3a. Tap the settings icon and set the test parameters (see

   3b. Make sure the status bar is displaying the interface rate (refer to

4. From the **Speedtest** page, tap the start button

5. Once the test is completed, tap the quick report button to consult the full test results