Optical Explorer

THE FIRST OPTICAL FIBER MULTIMETER (OFM): INSTANT LINK VERIFICATION WITH EMBEDDED FAULT TRACKING

SPEC SHEET

Verify optical links in seconds and automatically explore further when potential issues are suspected. Accelerate fiber rollouts, simplify activation procedures and improve robustness of repairs for better QoS and MTTR.

KEY FEATURES

- Displays fiber length, loss and optical return loss (ORL) in under 3 seconds, with single-ended process
- On-the-spot detection and location of common causes of failures using EXFO's patent-pending Fault Explorer
- Intelligent device: no settings required—making it an essential multimeter for any frontline technician in their toolkit
- Built-in power checker and light source
- Patent-pending EXFO Advisor 5-star rating scale: qualitative approach to assess fiber links
- Standalone go/no-go tester for day-to-day installation/repairs or paired with EXFO's TestFlow mobile app for cloud-storage and full documentation of your jobs
- Save on cost of ownership: lifetime calibration, no factory returns thanks to our patent-pending Click-Out optical connector
- Rechargeable battery for over 10 hours of use on a single charge
- 3-year warranty

APPLICATIONS

- Any singlemode link up to 40 km (point-to-point)
- FTTx service activation
- FTTx last mile installation and repair, including in-service testing
- Last mile/access network installation and repair
- Fiber health check-up
- Power level testing
- Insertion loss and ORL testing
- Fiber break location
- Fault identification and location (splices, connectors, macrobends)

RELATED PRODUCTS AND ACCESSORIES

Test Cord Box

Click-Out optical connector

NEW CATEGORY OF TESTER TO TAKE ON THE CHALLENGES AHEAD

Keeping up with the accelerating pace of fiber deployments implies a major transformation in the way testing is approached. Optical Explorer has been designed from the ground up to tackle the challenges ahead and simplify testing. Optical Explorer allows streamlined procedures that reduce delays and escalation costs on the field while freeing up expert technicians to focus on more relevant tasks.

Optical Explorer is the industry's first optical fiber multimeter (OFM), a new purpose-built category of tools empowering frontline techs to effectively carry out installation, activation and repair operations. Optical Explorer speeds up link health verification with embedded fault tracking–all in one single-ended test that's quick and easy.

What's an optical fiber multimeter (OFM)

An OFM primarily verifies fiber optic link health. It can do so very quickly, usually in a few seconds. When issues are suspected, an OFM can also locate and diagnose common faults automatically for on-the-go troubleshooting.

OFMs are very easy to operate for technicians of any experience level.

To cope with the increasing volume of fiber being rolled out, Optical Explorer has been designed from the start to equip large crews of frontline technicians:

- Optimized for **utmost user experience**. It is highly intuitive and easy to use for any technician regardless of experience in fiber optics or other technologies (such as copper or DSL).
- Designed to **reduce total cost of ownership (TCO)** throughout the product life cycle by cutting all hidden costs.

5-STAR FIBER-OPTIC TESTING ACCESSIBLE TO ALL

Optical Explorer goes beyond basic testing as compared to power meters and fault locators. It offers a **brand new testing approach** powered by multiple pending patents.

Optical Explorer determines overall link quality and tracks potential faults, this in turn helps to boost work efficiency and quality for frontline techs. Unlike traditional instruments in their toolbox, Optical Explorer won't leave field technicians blind to faults. Instead, Optical Explorer introduces new capabilities that break boundaries to redefine the role of field technicians. Each technician gets more autonomy to solve issues, enabling a leaner troubleshooting process that doesn't require several technicians with various skills. Optical Explorer allows a fundamental shift in work organization–a new and better way to keep pace with the high volume of deployments and maintenance activities ahead.

INTELLIGENTLY EXPLORE FAULTS WHEN VERIFYING LINKS

While displaying **insertion loss (IL), optical return loss (ORL) as well as fiber length** under a few seconds and in one single-ended process requiring no referencing, Optical Explorer also looks for potential faults. It won't waste precious time on good links, but if a fault is suspected, Optical Explorer will automatically explore further and diagnose the fault, if applicable.

EXFO's patent-pending Fault Explorer technology requires no additional steps or expertise to identify and locate common causes of failure (fiber breaks, macrobends, bad splices or faulty connectors), allowing technicians to fix problems on-the-go. Putting this new device in the hands of all technicians means faster installation and activation plus quicker mean time to repair (MTTR)–both with increased quality. Fully leverage the presence of fiber professionals on the field, while eliminating the cost and delays associated with dispatching experts and truck rolls. Once a link is verified with Optical Explorer, a frontline technician can leave a site assured that everything concerning optical links is ready for seamless acceptance, activation or service recovery.

Combined with power checking and light source capabilities in a rugged and compact form factor, Optical Explorer is an intuitive field companion that upskills any field technician.

TAKING ON YOUR CAPEX AND OPEX CHALLENGES

Large instrument fleets come with maintenance challenges, and hidden or unplanned costs including:

- Cost of periodic calibration
- Cost of entry connector replacement in factory
- Cost of planned and unplanned downtime
- Cost and complexity of instrument fleet's maintenance management

Did you know?

Up to 95 % of units sent back to factory for periodic calibration have severely damaged connectors needing replacement.

Connector health is critical to ensuring optimal performance and accurate results for optical test instruments. Optical connectors have a hard life in the field, and are typically specified by connector manufacturers for 500 to 1000 matings.

OPTICAL EXPLORER TACKLES THE ROOT CAUSES OF THESE PAINS, ELIMINATING, BY DESIGN, HIDDEN COSTS OF OWNERSHIP:

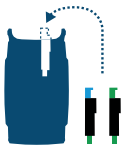
Lifetime calibration[1]

No yearly factory return costs and no downtime

Field replaceable battery

No factory or depot downtime

3-year warranty



Patent-pending Click-Out optical connector[2]

Click-out your unit's connector and swap it for a brand new one on-the-go—no factory servicing costs nor downtime

EXFO's proven robustness

Extremely rare repair downtime and associated costs

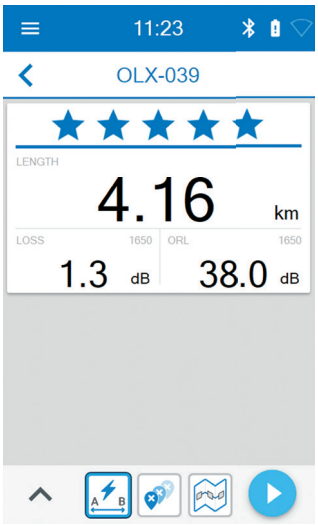
5-STAR FIBER LINK ASSESSMENT: GO BEYOND A PASS/FAIL DIAGNOSIS

Until now, pass/fail thresholds have been fulfilling the need for assessment criteria. Typically, these thresholds include minimum/maximum values (loss, attenuation and reflectance) for individual events such as connections or splices, for fiber sections and for the overall link under test (total loss, ORL, length). These thresholds are meant to be a consistent and objective way to accept or reject a link. What's offered, in complement to quantitative assessment is a qualitative evaluation, one that looks at how efficiently and robustly a link is built.

This is where EXFO's 30+ years of expertise and knowledge comes into play, intelligence acquired by working with the world's major operators, network builders and owners. We funneled that insight into algorithms that analyze fiber links based on industry best practices. Meet EXFO Advisor, our 5-star link quality indicator available on the Optical Explorer.

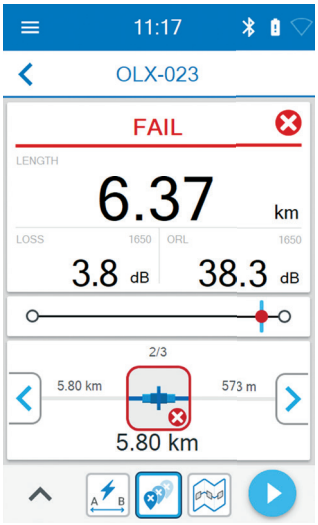
1. Considering a product lifetime of 10 years.
2. Optical Explorer PRO version only.

ONE OPTICAL EXPLORER, MANY ESSENTIAL FUNCTIONS FOR THE FRONTLINE TECHNICIAN



Lightning fast check of link length and quality

Flash Advisor displays the following in under 3 seconds: link length, IL, ORL and provides a unique 5-star rating diagnosis. It's a single-ended test ideal for instant length check, sanity check or mass volume control on cables prior or after an installation or repair.

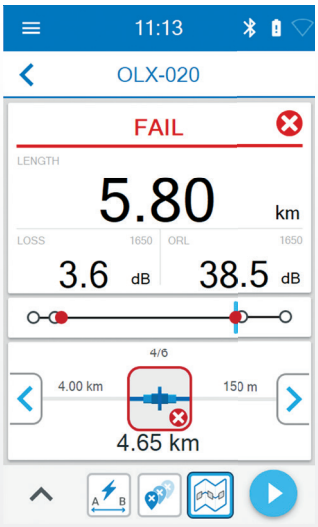


Swift link verification with embedded fault tracking

Quickly verify a link after an installation or a repair while automatically, and only when necessary, exploring potential faults. Within five seconds, **Fault Explorer** will display IL, ORL and length on good links while tracking suspicious events. In the case of suspected underlying issues, Optical Explorer will automatically allocate extra testing time to precisely diagnose (location, loss, reflectance, event type), or clear all doubts. Fault Explorer goes beyond flagging severe events like a fiber break, it identifies all link components that would not pass a full acceptance, giving techs the chance to solve problems on the spot, without escalation.

Link verification with element mapping[1]

In addition to link verification (i.e., IL, ORL, length), **Link Mapper** locates all faults and detectable elements. This visibility allows for "as found/as left" reports and helps to easily pinpoint faulty elements by reading their relative positions instead of interpreting the distance (e.g., specifying the fourth connection of the link versus the connection at 4.65 km).



Light and identify a fiber

Optical Explorer can be operated as a source in continuous mode or modulated signal (270 Hz, 330 Hz, 1 kHz, 2 kHz) for fiber identification.

Check power and identify a fiber

Check power level or loss or detect a tone to identify and trace a fiber.

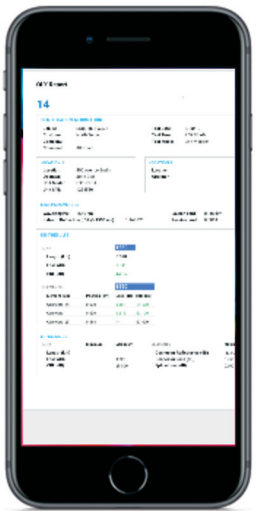
1. Optical Explorer PRO version only.

GO BEYOND WITH TESTFLOW MOBILE

Pair Optical Explorer with the TestFlow mobile app and leverage your smart device for:

- Occasional PDF reporting from the field to share on the go via email, text message or your favorite messaging app
- Cloud storage and full job documentation
- Get even more if your organization uses TestFlow's collaboration solution thanks to job management and results sharing in real time.

Go to **www.EXFO.com/TestFlow** for more details.



Available on the App Store

GET IT ON Google play

DESIGNED FOR EFFICIENCY

EXFO's extensive experience in field testing instruments has gone into creating Optical Explorer. Its ergonomic, robust design is a perfect fit for today's field technician. The Optical Explorer leverages built-in expertise to diagnose the quality of your fiber–reliably and quickly.

1. Optical test connector: field-replaceable Click-Out optical connector on PRO models, fixed connector on Basic models
2. Click-Out optical connector (PRO models)
3. USB C charge port
4. Power on/off
5. 4-inch touchscreen

PRO OR BASIC, FIND YOUR FIT

Optical Explorer is available in Installation (1310/1550 nm) and/or Maintenance (filtered 1650 nm) models. Go for the PRO version and experience the complete list of Optical Explorer benefits including full link mapping and lowest total cost of ownership thanks to our Click-Out optical connector.

BASIC

Features

- Light source / Power checker
- EXFO Advisor 5-star rating
- Flash Advisor
- Fault Explorer

PRO

Features

- Light source / Power checker
- EXFO Advisor 5-star rating scale
- Flash Advisor
- Fault Explorer
- Link Mapper
- Click-Out optical connector

SPECIFICATIONS [a]

FIBER EXPLORER	
Wavelengths	1310 nm ± 30 nm 1550 nm ± 30 nm 1650 nm ± 10 nm: Integrated filter isolation: 50 dB from 1265 nm to 1617 nm
Maximum link loss (dB)	15
Link length	Maximum: 40 km
Testing time	Flash Advisor (Distance, IL, ORL): 3 s Fault Explorer (Distance, IL, ORL, fault exploration): down to 5 s [b] Link Mapper (Distance, IL, ORL, mapping of detectable elements): down to 10 s [b]
Distance uncertainty	±1.5 m [c]
Calibration interval (years)	10

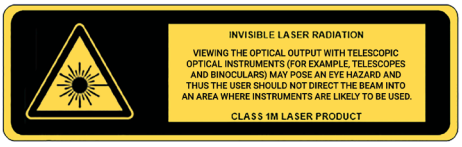
POWER CHECKER	
Wavelengths (nm)	1310, 1490, 1550, 1625, 1650
Power range (dBm) [d]	−60 to 15
Power uncertainty [e]	±0.5 dB at −20 dBm
Maximum input power (dBm)	17
Tone detection [f]	270 Hz, 330 Hz, 1 kHz, 2 kHz

LIGHT SOURCE	
Wavelengths	1310 nm ± 30 nm 1550 nm ± 30 nm 1650 nm ± 10 nm
Output power (dBm) [g, h]	> −8
Output power stability	±0.2 dB after 30 minute warm up ([Max. - Min.]/2)
Source modulation	CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz

Notes

a. All specifications are typical, at 23 °C ± 2 °C unless otherwise specified.
b. Depending on number of faults on link and link loss, measurement time will vary from 5 s to 40 s, typical.
c. For a 5 km link, total insertion loss 3 dB, and reflectance −42 dB, excluding uncertainty related to index of refraction.
d. Display high and low outside range.
e. With an Optical Explorer connector quality rated 5-stars by Optical output diagnosis.
f. Using an EXFO optical light source.
g. Must use a power meter/checker having measurement range ≥15 dBm.
h. Average power at duty cycle 1%, > −10dBm for the PRO-MI option.

LASER SAFETY



GENERAL SPECIFICATIONS

Display	4-inch touch screen
Size (H x W x D)	171 mm x 93 mm x 48 mm (6 3/4 in x 3 11/16 in x 1 7/8 in)
Weight	0.5 kg (1.1 lb)
Battery autonomy	>10 hour (in typical conditions of use)
Battery charging	< 5 hours charging time, when unit is off USB Type C charging port connector AC/DC charger/adapter input: ~ 100 – 240 V; 50/60 Hz; 1.0 A max, output: ⎓ 5 V; 2 A
Interfaces	WiFi 802.11 b/g/n 2.4 GHz, up to WPA2 encryption Bluetooth 4.2 with BLE, Class 2 (compatible with 4.0 smartphones)
Storage capacity	1000 test results for local reading
Reporting	- Single test: PDF on TestFlow mobile smart app - Batch of tests: online (TestFlow account required)
Temperature Operating Storage	 –10 °C to 45 °C (14 °F to 113 °F) –40 °C to 70 °C (–40 °F to 158 °F) [a]
Relative humidity range	≤ 93 %, non-condensing
Drop resistance	1 m (39 in)

GP-3151


GP-10-061


GP-10-071


GP-3157


GP-2227


GP-2269


GP-3150


GP-3152


GP-3153

TCB-SM-SCX-XXX-XX

ACCESSORIES

Carrying pouches and cases	
GP-3151	Optical Explorer soft pouch
GP-10-061	Medium size soft carrying case
GP-10-071	Small size soft carrying case
GP-3157	Wrist strap
Power adapters and battery	
GP-2227	USB AC adapter (includes interchangeable plugs for North America, Europe, UK and Australia)
GP-2269	USB-A to USB-C cable (for charging purposes only - no data transfer)
GP-3150	Rechargeable battery
Connectors	
GP-3152	SC/APC Click-Out optical connector (for PRO models)
GP-3153	SC/UPC Click-Out optical connector (for PRO models)
Test cord box	
TCB-SM-SCA-SCA-20	SC/APC to SC/APC (SM fiber, 20 m)
TCB-SM-SCA-LCA-20	SC/APC to LC/APC (SM fiber, 20 m)
TCB-SM-SCA-FCA-20	SC/APC to FC/APC (SM fiber, 20 m)
TCB-SM-SCA-SCU-20	SC/APC to SC/UPC (SM fiber, 20 m)
TCB-SM-SCA-LCU-20	SC/APC to LC/UPC (SM fiber, 20 m)
TCB-SM-SCA-FCU-20	SC/APC to FC/UPC (SM fiber, 20 m)
TCB-SM-SCU-SCU-60	SC/UPC to SC/UPC (SM fiber, 60 m)
TCB-SM-SCU-LCU-60	SC/UPC to LC/UPC (SM fiber, 60 m)
TCB-SM-SCU-FCU-60	SC/UPC to FC/UPC (SM fiber, 60 m)

Note

a. To preserve optimal battery performance, do not expose to high storage temperatures for extended periods of time.

YOUR STARTER KIT

Each Optical Explorer comes with:

› (1) soft pouch (GP-3151)
› (1) power adapter (GP-2227 + GP-2269)
› (1) battery (GP-3150)
› (1) wrist strap (GP-3157)

PRO models also include:

› (1) Click-Out optical connector with SC/APC (GP-3152) or SC/UPC (GP-3153) interface

Complement your kit with optional spare Click-Out optical connector (PRO models only) and test cord boxes to optimize your Optical Explorer experience.

Optical Explorer starter kit

ORDERING INFORMATION

OX1-XX-XX-XX

Model
OX1 = Optical Explorer

Options
I = Installation - 1310/1550 nm
M = Maintenance - 1650 nm (live)
PRO-I = Installation - 1310/1550 nm PRO version
PRO-M = Maintenance - 1650 nm (live) PRO version
PRO-MI = Installation and Maintenance - 1310/1550/1650 nm (live) PRO version

Connector interface [a]
88 = SC/APC
91 = SC/UPC

Example: OX1-PRO-M-88-TCB-SM-SCA-SCA-20

Optional test cord box
00 = None

For SC/APC Optical Explorer connector
TCB-SM-SCA-SCA-20 = SC/APC to SC/APC (SM Fiber, 20 m)
TCB-SM-SCA-LCA-20 = SC/APC to LC/APC (SM Fiber, 20 m)
TCB-SM-SCA-FCA-20 = SC/APC to FC/APC (SM Fiber, 20 m)
TCB-SM-SCA-SCU-20 = SC/APC to SC/UPC (SM Fiber, 20 m)
TCB-SM-SCA-LCU-20 = SC/APC to LC/UPC (SM Fiber, 20 m)
TCB-SM-SCA-FCU-20 = SC/APC to FC/UPC (SM Fiber, 20 m)

For SC/UPC Optical Explorer connector
TCB-SM-SCU-SCU-60 = SC/UPC to SC/UPC (SM Fiber, 60 m)
TCB-SM-SCU-LCU-60 = SC/UPC to LC/UPC (SM Fiber, 60 m)
TCB-SM-SCU-FCU-60 = SC/UPC to FC/UPC (SM Fiber, 60 m)

Note

a. Fixed connector on Basic model, Click-Out optical connector on PRO models.

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