

OneExpert Fiber ONX-700

Simplify 10G service deployments over PON

Empower techs with a fast, comprehensive and easy to use tool for all their residential and small business service testing needs.

10 Gbps Testing. All Interfaces. Under a Minute.

Accelerate service turn-up and troubleshooting with integrated 10 Gbps testing—validating Ethernet, Fiber, or WiFi 7 connections in less than a minute.

Expertise Made Easy.

With one-button testing, VIAVI Test Process Automation turns any technician into an expert—no training required.

Rugged. Reliable. Flexible.

This IP54 rated tool features a rugged, weatherproof, drop-tested, modular design built to perform reliably all day, every day for years to come.



Key Features

- **Unified OneCheck Workflow** – Automates pass/fail for Ethernet, WiFi, and PON
- **TruePON + PON Emulation** – Verifies PON-ID, loss, ODN Class; emulates ONT for GPON/XGS
- **Precision Optical Power** – Measures coexistent wavelengths; XGS w/GPON, 25G, or 50G
- **Built-In Fiber Tools** – VFL and scope with Auto Analysis for fast defect detection
- **Smart Access Anywhere** – Remote coaching and training via PC or mobile connection
- **Rugged, Modular, Connected** – IP54, 25G/50G ready, GPS, StrataSync, long-life battery

Key Benefits

- **Validate Multi-Gig Speeds** – Test, Ethernet, PON and WiFi 7 to 10 Gbps in under a minute
- **Simplify Tech Workflows** – Guided steps ensure consistency and cut training time
- **Fewer Repeat Visits** – Full install testing reduces callbacks and speeds delivery
- **Future-Ready Design** – Modular path supports 25G/50G PON for scalable upgrades
- **One Device, All Tests** – Ethernet, Fiber and WiFi 7 combined in one platform

OneExpert Fiber Mainframe Specifications

Ethernet	
Standard	IEEE 802.3 100M, 1G, 2.5G, 5G, and 10G Ethernet
Test Results	Ethernet Frames, IP Connectivity, Ping, Trace route, Web Connectivity, Speed Test up to 10 Gbps
Ethernet Testing Interfaces	10G Base-T RJ-45 Electrical – 100M, 1G, 2.5G, 5G, 10G
	SFP+ Optical Ethernet 1G, 10G (SFP dependent)(optional)
	SFP+ Electrical Ethernet (optional) 100M, 1G, 2.5G, 5G, 10G
WiFi (Optional)	
Test Results	
OneCheck WiFi (Connected Mode)	WiFi – 7 2x2 (802.11 a/b/g/n/ac/ax/be) 2.4, 5, 6 GHz bands • Signal strength (RSSI), Standard, Width, Max Router PHY Rate, IP/Web connectivity • Throughput Tests (SpeedCheck, Ookla Speedtest, iPerf)
Throughput/Performance Tests	
TCP Throughput Test	VIAVI SpeedCheck: 5 Gbps, 10 Gbps
	Ookla Speedtest: 5 Gbps, 10 Gbps
	VIAVI TrueSpeed (RFC-6349): 5 Gbps, 10 Gbps
	iPERF: 5 Gbps, 10 Gbps
Performance	Up to 10 Gbps for SpeedCheck, Ookla Speedtest, TrueSpeed, iPERF
Test Results	Delay, Upstream and Downstream Bit Rates
Bluetooth Communications	
Communication Interface	Bluetooth v5.0, BLE 2.0
Smart Device Support (recommendation)	VIAVI Mobile Tech app
	Android 8 or newer
	iOS12 or newer
Optical Fiber Scope Support	
Usb Optical Fiber Scope	P5000i, FiberChek Probe
Results for Zone Defects	Pass/Fail
Results for Zone Scratches	Pass/Fail
Low Mag Field-of-View (FOV)	Horizontal 740 µm, Vertical 550 µm
High Mag Field-of-View (FOV)	Horizontal 370 µm, Vertical 275 µm
Particle Size Detection	<1 µm
Power Source	USB port

Broadband Power Meter and Selective PON Power Meter

	Broadband Power Meter	Selective Power Meter
Photo Diode	InGaAs	InGaAs
Spectral Range	Broadband (800...1650 nm)	Passband (1260...1500 nm, 1540...1650 nm)
Wavelength Setting	850, 980, 1310, 1490, 1550, 1577, 1625, 1650 nm Custom 800...1650 nm, step size 1 nm	1342, 1358, 1490, 1577 nm Dual 1490/1577, 1342/1577, 1358/1577 nm Broadband: 1270...1650 nm ³ , Custom step size 1 nm
Resolution	0.01dB, 0.001 μ W	0.01 dB, 0.001 μ W
Measurement Range for Power Level	-65...+10 dBm	-45...+3 dBm
Max. Power Level	+16 dBm	+15 dBm
Measurement Uncertainty	± 0.2 dB/ $\pm 5\%$ (intrinsic) ¹	1490 nm: ± 0.5 dB/ $\pm 12\%$ ²
		1577 nm: ± 0.5 dB/ $\pm 12\%$ ²
		1342nm: ± 0.5 dB/ $\pm 12\%$ ²
		1358nm: ± 0.5 dB/ $\pm 12\%$ ²
		Broadband: ± 0.5 d / $\pm 5\%$ ^{2, 3}
Measurement Range for PON-ID	N/A	GPON: -30...0 dBm
		XGS-PON: -25...0 dBm
Number of Calibrated Wavelengths	8 (850,980,1310,1490, 1550,1577,1625,1650 nm)	2 (1490,1577 nm)
Tone Detection (Future Optional Capability)	270 Hz, 330 Hz, 1 kHz, 2 kHz ^{4, 5}	270 Hz, 330 Hz, 1 kHz, 2 kHz ^{4, 5}
Connection	UPP 2.5 mm	SC/APC

¹ Under reference conditions: -11 dBm (CW), 1310 nm ± 1 nm, 23 °C ± 3 K, 45 to 75% relative humidity,
SM test fiber (Single Mode, 9 μ m core, 8° APC), when used with SC/PC connectors

² Under reference conditions: -2 dBm (CW), nominal wavelength, 23 °C ± 3 K, 45 to 75% relative humidity,
SM test fiber (Single Mode, 9 μ m core, 8° APC), when used with SC/APC connectors

³ In Broadband Mode (activated SW option required)

⁴ For Broadband Power Meter: received optical power level ≥ -50 dBm – for Selective Power Meter:
in Broadband Mode (activated SW option required)

⁵ When used with VIAVI Light Source and received optical power level > -50 dBm – for Selective Power Meter:
in Broadband Mode (activated SW option required)

Visual Fault Locator (VFL)

	VFL
Fiber Compatibility	Single-mode, Multimode
Wavelength	650 nm (visible)
Output Modes	Continuous and flashing
Connector Interface	Universal 2.5 mm (fixed)
Controls	On/Off
	Continuous/Flashing
Output Power	1 mW
Laser Safety Rating	Class 2
Range (maximum) ⁶	7 km

⁶VFL range depends on many factors, including fiber quality/loss

Specifications

Size	
OneExpert Fiber: ONX-700	5.0 x 11.1 x 2.75 in (W x L x H)
Weight	
OneExpert Fiber: ONX-700	1.8 kg (3.95 lbs) (without protective case)
Operating Temperature Range	Non-Charging: -10°C to 50°C
	Battery Charging: 0°C to 40°C
Storage Temperature Range	-20°C to 60°C
Operating Humidity Range	10% to 90% RH, non-condensing
For Indoor/Outdoor Use	IP54 light rain (0.5 in/hr; 1.27 cm/hr)
Drop Rating	1 m (3.3 ft) onto concrete
Operating Altitude	4000 m max
Pollution	2°
RF Immunity	8.5 V/m (for CATV measurements)
DC Input Power	12 V@5 A
DC Charge Port	2.5 mm barrel
Battery	96 W/hr Li-Ion rechargeable battery
	Field replaceable
Battery Charge Time	4 Hrs (90%) 6-8 Hrs 100% (AC charger)
Battery Life	3-5 day typical usage for installation technicians (10 installs a day)
USB Host Port(s)	USB-C, USB-A (USB 3.0)

OneExpert Fiber

New Unit Product Packages and Ordering Information

Package and Feature Matrix

OneExpert Fiber: PON Service Activation ONX-700

	ONXF-700-BASE	ONXF-700-PLUS	ONXF-700-PRO	ONXF-700-BB-BASE	ONXF-700-BB-PLUS	ONXF-700-BB-PRO	ONXF-700-PON-BASE	ONXF-700-PON-PLUS	ONXF-700-PON-PRO
Fiber Optic Testing	No Optics			Broadband Power Meter			PON Selective Power Meter		
Broadband Optical Power Meter	N/A	N/A	N/A	•	•	•	N/A	N/A	N/A
PON Selective Optical Power Meter	N/A	N/A	N/A	N/A	N/A	N/A	•	•	•
TruePON PON-ID Analysis with OLT-ID and Loss	N/A	N/A	N/A	N/A	N/A	N/A	Opt.	Opt.	•
Broadband Power Capability for Selective PON Hardware	N/A	N/A	N/A	N/A	N/A	N/A	Opt.	Opt.	•
Optical Loss Mode (Set/clear Ref with Delta)	N/A	N/A	N/A	Opt.	Opt.	•	Opt.	Opt.	•
Visual Fault Locator (1mW)	N/A	N/A	N/A	•	•	•	•	•	•
Service Testing/Throughput Testing Options									
OneCheckWiFi7	Opt.	•	•	Opt.	•	•	Opt.	•	•
OneCheck Ethernet	•	•	•	•	•	•	•	•	•
Optical Ethernet Testing over SFP+	Opt.	Opt.	•	Opt.	Opt.	•	Opt.	Opt.	•
OneCheck PON w/Emulation – GPON/XGS PON using VIAVI SFP	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
VIAVI SpeedCheck – 5 Gbps	•	•	•	•	•	•	•	•	•
VIAVI SpeedCheck – 10 Gbps	Opt.	•	•	Opt.	•	•	Opt.	•	•
Ookla Speedtest – 5 Gbps	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
Ookla Speedtest – 10 Gbps	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
VIAVI TrueSpeed – 5 Gbps	Opt.	Opt.	•	Opt.	Opt.	•	Opt.	Opt.	•
VIAVI TrueSpeed – 10 Gbps	Opt.	Opt.	•	Opt.	Opt.	•	Opt.	Opt.	•
iPerf Speedtest – 5 Gbps	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
iPerf Speedtest – 10 Gbps	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
Smart Access Anywhere – Remote Connectivity	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.

OneExpert Fiber Ordering Information

Standard Packages

No Optics Packages	ONXF-700-BASE	OneCheck Ethernet
		5G SpeedCheck
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
	ONXF-700-PLUS	OneCheck Ethernet, OneCheck WiFi
		10G SpeedCheck
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
	ONXF-700-PRO	OneCheck Ethernet, OneCheck WiFi, Optical Ethernet
		10G SpeedCheck, 10G TrueSpeed
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
Broadband Power Meter Packages	ONXF-700-BB-BASE	Broadband Optical Power Meter, VFL
		OneCheck Ethernet, OneCheck WiFi
		5G SpeedCheck
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
	ONXF-700-BB-PLUS	Broadband Optical Power Meter, VFL
		OneCheck Ethernet
		10G SpeedCheck
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
	ONXF-700-BB-PRO	Broadband Optical Power Meter, VFL, Optical Loss
		OneCheck Ethernet, OneCheck WiFi, Optical Ethernet
		10G SpeedCheck, 10G TrueSpeed
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
PON Selective Power Meter Packages	ONXF-700-PON-BASE	PON Selective Optical Power Meter, VFL
		5G SpeedCheck
		OneCheck Ethernet
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
	ONXF-700-PON-PLUS	PON Selective Optical Power Meter, VFL
		10G SpeedCheck
		OneCheck Ethernet, OneCheck WiFi
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M
	ONXF-700-PON-PRO	PON Selective Optical Power Meter, VFL, TruePON, Optical Loss
		OneCheck Ethernet, OneCheck WiFi, Optical Ethernet
		10G SpeedCheck, 10G TrueSpeed
		Fitted protective case, AC charger, Cat6A jumper M-F and M-M

Ordering Information - Options

Options		
	Part Number	Description
Test Applications	ONXF-SW-OC-WIFI	OneCheck WiFi Software option
	ONXF-SW-OC-ETHERNET	OneCheck Ethernet Software option
	ONXF-SW-OPTICAL-ETH	Enables Ethernet testing over SFP+ port for VIAVI supported SPF
	ONXF-SW-TRUEPON	TruePON software option (requires PON selective HW)
	ONXF-SW-PON-BROADBAND	Enable Selective Power Meter to operate in broadband mode
	ONXF-SW-OPTICAL-LOSS	Optical Loss test mode option to save reference and calculate loss
	ONXF-SW-OC-PON	OneCheck PON-PON testing via GPON/XGSPON SFP+
	ONXF-SW-OC-GPON-EMUL	GPON Emulation for live service testing on GPON network
	ONXF-SW-OC-XGSPON-EMUL	GPON Emulation for live service testing on GPON network
	ONX-SMART-ACCESS	Smart Access Anywhere
Service Testing Options		
Ookla Speedtest	ONXF-SW-OOKLA-SPD-5G-1Y	ONX Ookla Speedtest to 5 Gbps 1 Yr Timed License/deployed via StrataSync
	ONXF-SW-OOKLA-SPD-5G-3Y	ONX Ookla Speedtest to 5 Gbps 3 Yr Timed License/deployed via StrataSync
	ONXF-SW-OOKLA-SPD-5G-5Y	ONX Ookla Speedtest to 5 Gbps 5 Yr Timed License/deployed via StrataSync
	ONXF-SW-OOKLA-SPD-5G	ONX Ookla Speedtest to 5 Gbps
	ONXF-SW-OOKLA-SPD-10G-1Y	ONX Ookla Speedtest to 10 Gbps 1 Yr Timed License/ deployed via StrataSync
	ONXF-SW-OOKLA-SPD-10G-3Y	ONX Ookla Speedtest to 10 Gbps 3 Yr Timed License/deployed via StrataSync
	ONXF-SW-OOKLA-SPD-10G-5Y	ONX Ookla Speedtest to 10 Gbps 5 Yr Timed License/deployed via StrataSync
	ONXF-SW-OOKLA-SPD-10G	ONX Ookla Speedtest to 10 Gbps
TrueSpeed	ONXF-SW-TRUESPEED-5G-1Y	ONX TrueSpeed to 5 Gbps 1 Yr Timed License/deployed via StrataSync
	ONXF-SW-TRUESPEED-5G-3Y	ONX TrueSpeed to 5 Gbps 3 Yr Timed License/deployed via StrataSync
	ONXF-SW-TRUESPEED-5G	ONX TrueSpeed to 5 Gbps Permanent License
	ONXF-SW-TRUESPEED-10G-1Y	ONX TrueSpeed to 10 Gbps 1 Yr Timed License/deployed via StrataSync
	ONXF-SW-TRUESPEED-10G-3Y	ONX TrueSpeed to 10 Gbps 3 Yr Timed License/deployed via StrataSync
	ONXF-SW-TRUESPEED-10G	ONX TrueSpeed to 10 Gbps Permanent License
iPerf	ONXF-SW-IPERF-5G-1Y	ONX iPerf test to 5 Gbps 1 Yr Timed License/deployed via StrataSync
	ONXF-SW-IPERF-5G-3Y	ONX iPerf test to 5 Gbps 3 Yr Timed License/deployed via StrataSync
	ONXF-SW-IPERF-5G	ONX iPerf test to 5 Gbps Permanent License
	ONXF-SW-IPERF-10G-1Y	ONX iPerf test to 10 Gbps 1 Yr Timed License/deployed via StrataSync
	ONXF-SW-IPERF-10G-3Y	ONX iPerf test to 10 Gbps 3 Yr Timed License/deployed via StrataSync
	ONXF-SW-IPERF-10G	ONX iPerf test to 10 Gbps Permanent License

Ordering Information - Options continued

Options		
	Part Number	Description
SFP	NSC-SFP-GPON	GPON SFP for GPON Emulation
	NSC-SFP-XGSPON	XGSPON SFP for XGSPON Emulation
	NSC-SFP-850-1G-10G	Optical Ethernet SFP+ 850 nm SR 1G and 10G
	NSC-SFP-1310-1G-10G	Optical Ethernet SFP+ 1310 nm LR 1G and 10G
	NSC-SFP-1550-1G-10G	Optical Ethernet SFP+ 1550 nm ER 1G and 10G
Optional Accessory		
	AC-CAR-CHARGER	Car Charger
	CC-034601	Large Carrying Case
	1019-00-1366	Strand Hook
	ONXF-HANDSTRAP	Handstrap for use on unit without a case
Replacement Parts		
	AC-CHARGER	Replacement AC charger (no power cord)
	ONXF-FIBER-BATT-96WHR	Replacement 96 W/Hr Battery
	ONXF-DISPLAY-PROTECTOR-5P	Replacement screen protector (5pack)
	ONXF-ETH-ADAPT-M-F	Ethernet Cat6a M-F adapter 0.5 m
	NSC-ETHERNET-CABLE	Ethernet Cat6a M-M Patch Cable
	ONXF-FIBER-BACK-COVER	Back cover w/kickstand for OneExpert Fiber ONX-700



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