FLUKE networks.

Datasheet: OneTouch™ AT 10G Network Assistant

Troubleshoot 10 Gigabit copper and fiber optic Ethernet network problems from client devices to cloud-hosted services and everything in between - even when you are not there. Troubleshoot persistent problems and validate network performance in real-time. Troubleshoot intermittent problems and assess performance over time with 24/7 automated testing and cloud-based trend analysis.

Ensure that newly installed or upgraded networks meet SLA objectives and are ready for new high-bandwidth applications by measuring end-to-end path performance. Measure throughput, frame loss, and jitter across wide and local area networks and within sites and datacenters. Test at rates up to 10 Gbps over copper or fiber optic links when the OneTouch AT 10G tester is paired with an OptiView XG Network Analysis Tablet. Test at rates up to 1 Gbps when the tester is paired with another OneTouch AT tester or a LinkRunner AT 2000 tester.

One button validation of network and datacenter performance at 10 Gigabit rates

- **10 Gigabit:** built-in 100M/1G/10G copper and 1G/10G fiber optic test ports for troubleshooting and performance measurement

- **All-in-one:** a handheld tester combining infrastructure, network service and end-to-end path performance measurement in one tool

- **Accurate:** create and save site-specific test profiles that emulate how client devices experience the network, including local, intranet and cloud-based services

- **Consistent:** everyone on the team uses the same preconfigured test profiles to encourage standardization and best practices

- **Fast:** measure end-to-end path performance to validate the performance of newly installed network infrastructure and critical network links within the LAN or data center

- **Pre-deployment:** automated wired and Wi-Fi discovery and analysis provides visibility into connected devices, key device properties, device interconnections and problems

- **Independent:** verify independently that service providers are meeting agreed upon service levels (SLAs) and maintaining QoS end-to-end

- **Long-term:** launch a repetitive test-and-upload trending process to collect results over time - testing is self contained, requiring no user interaction, and test results are uploaded to the OneTouch AT Cloud Service for storage and analysis

- **Cloud Service:** view color-coded charts of performance over time to establish a performance baseline, to perform more rigorous network acceptance testing and to troubleshoot intermittent problems – when and where it is convenient

- **Discovery:** see connected devices, key device attributes, connection paths and problems within the broadcast domain

- **Versiv™ Test Platform:** expand capabilities by adding new modules as testing needs evolve

OneTouch AT 10G Network Assistant

10G Ethernet tester for copper and fiber optic networks

The OneTouch AT 10G Network Assistant incorporates one 100M/1G/10G RJ-45 Ethernet test port and one 1G/10G SFP fiber optic transceiver port. Easily troubleshoot 10G connectivity issues and measure end-to-end network path performance at rates up to 10 Gbps.

Configurable profiles for standardized testing

Use the intuitive touch interface and the Setup Wizard to create test profiles, where a profile is a set of tests tailored to your network, services, and applications. Create simple profiles with only a few tests or advanced profiles consisting of dozens of tests. You can build profiles to accommodate different types of users, devices, locations or technologies. Once created, profiles can be saved for quick and easy reuse later. Create a library of standardized profiles to elevate the troubleshooting know-how of network support staff. Share profiles with other OneTouch AT users. Use profiles to establish best practices for consistent, faster, more productive troubleshooting and network acceptance testing.

End-to-end path performance measurement

The OneTouch AT 10G Network Assistant features 10G and 1G Wired Performance tests for validating and troubleshooting end-to-end network path performance. These Wired Performance tests facilitate measurement of throughput, frame loss, latency and jitter across wide area networks, local area networks and within sites and datacenters.

Enterprise network managers use the Wired Performance tests for:

- Assessing network performance prior to deployment of new services or network infrastructure
- Validating the performance of newly installed network infrastructure and critical network links within the LAN or data center
- Troubleshooting network and service performance problems
- Verifying independently that service providers are meeting agreed upon service levels (SLAs) and maintaining QoS end-to-end

Service providers and system integrators use the Wired Performance tests for:

- Documenting network performance from layer 1 to 7 where the documentation serves as proof that the services they provided were delivered successfully
- Providing value-added service to their enterprise customers in the form of network assessments and troubleshooting

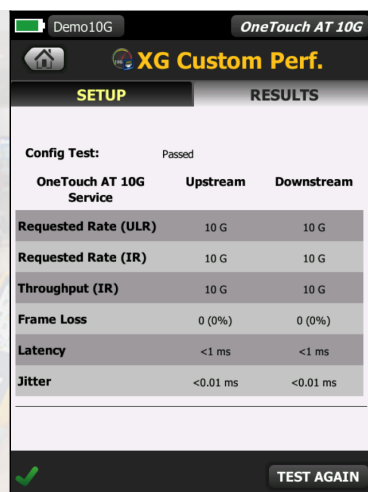To learn more about end-to-end performance testing visit **OneTouch AT 10G Network Assistant Performance Datasheet**
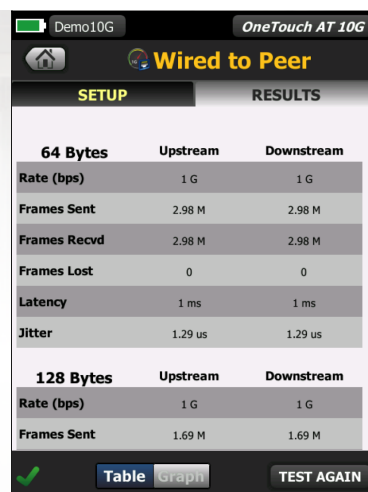
Figure 1. Detailed breakdown of XG custom performance

Figure 2. Detailed breakdown of wired to peer

Automated one-touch troubleshooting

One Hour of Testing Time in Just One Minute

Test everything defined in a profile automatically with the one-touch AutoTest. The AutoTest progresses from the physical layer of the network, through the wired infrastructure, to network services and user-defined applications tests. Clear pass/fail and warning indicators highlight potential problems. A top-level pass/fail indicator provides the overall AutoTest status at a glance.
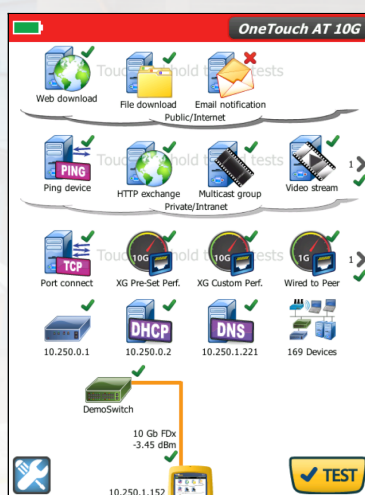

Figure 3. The AutoTest provides a comprehensive measurement of network performance from the end user point-of-view, from cable to services and applications

Client view of network performance

Most network trouble tickets start where a client device is connected to the network—where the device could be a PC, tablet, IP phone, printer, POS terminal, industrial equipment controller or a medical imager. Troubleshoot common issues—or prove that the network is not the cause—by emulating the client device and measuring network performance.

Infrastructure to application testing

The cause of a network problem can be elusive. Identify the root cause of a problem by measuring and analyzing the performance of the critical network elements: the network cabling, the connection to the nearest switch, and the performance of key network services and server-based applications.

Network services testing

Test DHCP server responsiveness. Identify the DHCP servers and view the offer and acceptance timing and lease information. Test DNS server responsiveness. Identify the DNS servers and view the DNS lookup time.

Network application testing

Determine if a server-based application is the root cause of a reported problem by measuring availability and responsiveness metrics. Add to the AutoTest profile the performance test appropriate for the application: ping (ICMP), connect (TCP), web (HTTP), file (FTP), multicast (IGMP), video (RTSP) or email (SMTP). Each test is graphically represented on the OneTouch AT home page as an icon. After running the AutoTest, touch a test icon on the home page to get a detailed breakdown of application performance including DNS lookup time, server response time and data rate.

The test results are presented side-by-side for easy IPv4/IPv6 performance comparisons. A few examples: connect to port 2000 on your VoIP call manager, download a page of an application with a web interface, upload or download a file from a server, subscribe to a multicast group, access video content from an on-demand streaming video server or email a text message to your mobile phone.

Local, intranet and internet performance

Understand the performance of network services and server-based applications wherever they are hosted: locally in the datacenter, on a corporate intranet server or on a server reached via the public internet. Create location centric AutoTest profiles by grouping together co-located services and applications. Measure service levels to the different groups to quickly spot problems.

Cloud-based trending

The Trending feature automatically and repeatedly uploads AutoTest results to the cloud for additional analysis. Control the number of AutoTest results uploaded by setting the trending duration and interval. Trending runs automatically once launched, untethering the user from the tester. The user does not need to be present to gather test results; simply launch Trending and leave.Trend results for up to 1 week, or until manually stopped. Long duration testing is invaluable when trying to troubleshoot sporadic, intermittent problems that frequently occur when network support staff is away.

Cloud analytics

Open a OneTouch AT Cloud Service account to view and analyze AutoTest results uploaded via the Trending feature. Correlate network events by viewing multiple test results simultaneously in side-by-side charts. All the test results uploaded during a single Trending session are available for analysis. The number of tests is defined by the complexity of your AutoTest profile and the number of results is defined by the Trending duration and interval. Select one or more of the tests within the trending session to analyze the results. The Cloud Service plots sequential results on a single color-coded chart to simplify analysis over time. Charting makes it easy to see performance irregularities. Zoom permits an even more detailed analysis of the sub-processes that comprise each individual test.

Access the Cloud Service over the web at anytime from anywhere using a web-connected smart device with a web browser. View and analyze results when and where convenient using a PC or smart device.
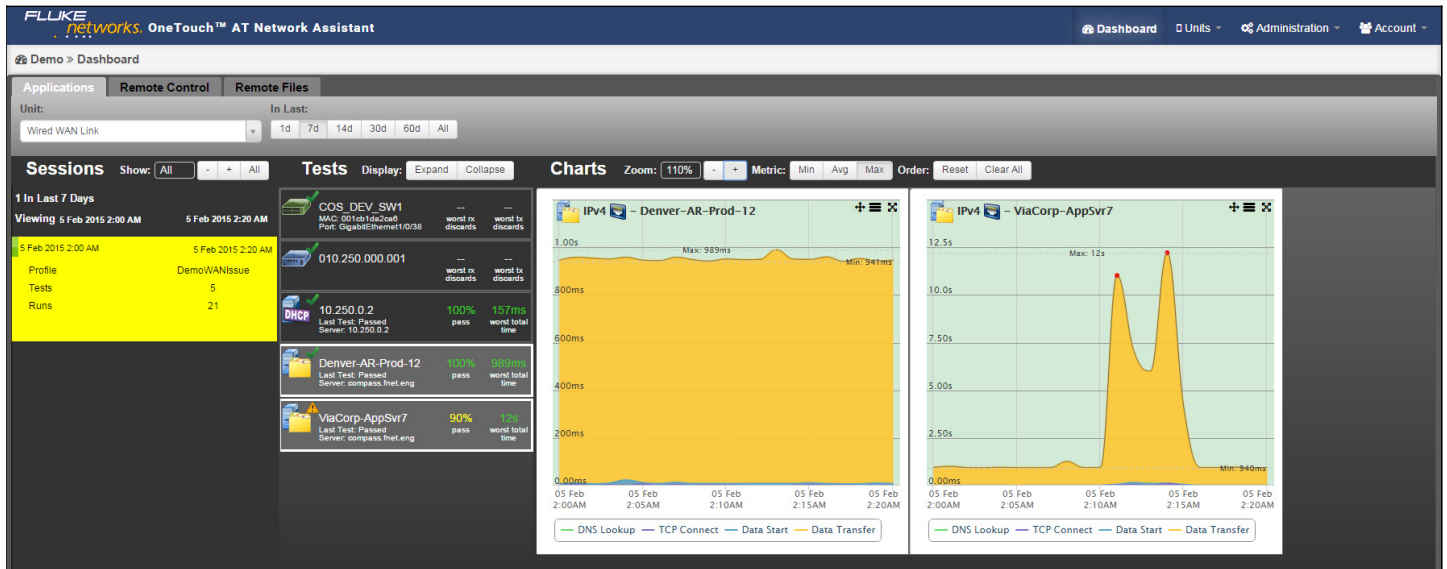

Figure 4. Cloud Service enables analysis of results over time to troubleshoot intermittent problems

Remote control and file access

Use the built-in RJ-45 management port or optional USB Wi-Fi adapter to remotely control the tester and access saved files. Any action that can be performed directly on the instrument using the touch screen can be performed remotely using a PC, laptop, tablet or smart phone. Manage the tester remotely when and where convenient using using a device at hand. Minimize the time, expense and inconvenience of traveling to the client location where the problem was reported. Webcam support enables live, remote viewing of the physical environment near the tester.

Remotely control the OneTouch AT 10G tester and access saved files from the Cloud Service web application. Increase productivity by remotely managing the tester and viewing trended AutoTest results all from a single location. Remote management via the Cloud Service web application also allows traversal of NAT devices, which is very advantageous when troubleshooting outside the office.

Problem avoidance and performance optimization

Cloud trending and analytics let you use the OneTouch AT 10G tester for proactive problem avoidance and performance optimization. Set a long trending duration – up to one week – and use Cloud Service analytics to identify potential vulnerabilities and performance bottlenecks. In this use model, the tester serves as a 24/7 portable network probe and the Cloud Service as the analytics engine. Identify and correct potential network, service or application vulnerabilities before they become problems that adversely impact users. Identify performance bottlenecks and reconfigure the network to optimize end user response time.

The OneTouch AT 10G tester excels at both "firefighting" - reactive troubleshooting of both persistent and intermittent problems – and daily network management - for proactively avoiding problems and optimizing performance.

Wired network discovery and analysis

Automatically discover copper and fiber-connected devices and key device properties. Select from among fourteen different sorts to obtain different views into the wired network. For example, sort by IPv4 or IPv6 address to identify used and available addresses. Or sort by switch name/slot/port to understand where on the network devices are connected. Sort by discovered problems to quickly identify potential issues. Additional discovery-assisted analysis tools aid with troubleshooting and profile creation. For example, the Multiport Statistics tool provides visibility into switch, router and AP port statistics including speed, duplex, slot, port, VLANs, host count, utilization, discards and errors.The Devices on Port tool provides visibility into the devices connected to an individual switch port.The Path Analysis tool provides a layer 2 and 3 trace route from the OneTouch AT to a target device including time to each hop and SNMP switch and router port statistics.

Packet capture

Capture network traffic when a packet-level view is required to solve a complex network or application issue. Filter the traffic to capture what is most important. Export the capture file to a PC for decoding and analysis using protocol analysis software. Capture traffic on either the copper or fiber optic port at rates up to 100 Mbps. Optionally capture traffic while the AutoTest runs.

Additional OneTouch AT 10G Network Assistant Features

Copper and Fiber Optic Cable Testing

Copper and Fiber Optic Cable Testing Troubleshoot twisted pair cable by measuring cable length. Measure the optical power received through fiber optic links. Verify the cleanliness of fiber optic connections by viewing connector end faces with the optional FiberInspector™ USB video probe.

Troubleshoot your IPv6 Network

Easily compare and contrast IPv4 and IPv6 network performance by viewing test results side-by-side.

Save Test Results

Save the test results in a PDF report to share with colleagues or outside parties. A report serves as trouble ticket documentation, as a record of historical performance for benchmarking or as a certification report after new infrastructure deployment and turn up. Define which test results to include in the report: Tools Settings, AutoTest, or Wired Analysis.

Setup Wizard

Simply AutoTest profile creation while learning about the tester's capabilities by running the Setup Wizard. The wizard simplifies profile creation with step-by-step guided instructions, yes/no prompts, on-screen help and graphical progress indicators. Experienced users can bypass the wizard if desired.

Purpose-built for Field Testing

The OneTouch AT 10G Network Assistant is engineered specifically for network support professionals on the go. Useful test and management tools include a web browser, Telnet/SSH client, webcam support and optional fiber optic connector inspection camera. The durable platform provides years of reliable operation in tough environments.

Versiv™ platform

Expand testing capabilities by adding new modules to the Versiv platform as testing needs evolve. Available modules include OneTouch AT Network Assistant, DSX CableAnalyzer™, CertiFiber® Pro OLTS and OptiFiber® Pro OTDR.

Gold Support

Protect your investment with Gold Support. Gold Support benefits include Gold Cloud Service, software upgrades, unlimited priority repair service with loaner units, annual factory performance verification, free accessory replacement and 24x7 technical support with priority members-only access numbers.

Technical Specifications

General	
Dimensions (with module and battery installed)	10.3 in x 5.3 in x 2.9 in (26.2 cm x 13.5 cm x 7.3 cm)
Weight (with module and battery installed)	3.5 lb (1.6 kg)
Display	5.7 in (14.5 cm) LCD with projected capacitance touch screen, 480 x 640 pixels
AC adapter	Input: 100-240 Vac, 50-60 Hz, 1.0 A
	Output: +15 Vdc, 2.0 A
Battery type	Lithium ion battery pack, 7.2 V
Battery life	Approximately 3-4 hours depending on type of usage, 4 hours to charge from 10% capacity to 90% capacity with the unit powered off
Memory	Internal: 2 GB shared between system and user files
	SD card: 4/8 GB, brand and model selected for optimal performance
	USB 2.0 type A port: for use with USB mass storage devices

Wired Network Interface

Network analysis ports	100/1000/10GBASE-T RJ-45 Ethernet over twisted pair
	1000BASE-X SFP/10GBASE-SR/LR SFP+ Ethernet over optical fiber
Management port	One RJ-45 10/100BASE-T Ethernet
	One USB 802.11 (requires optional adapter)
Supported network standards	IEEE 100BASE-T, IEEE 1000BASE-T, IEEE 10GBASE-T, IEEE 1000BASE-X, IEEE 10GBASE-SR, IEEE 10GBASE-LR
RFCs and standard MIBs used	1213, 1231, 1239, 1285, 1493, 1512, 1513, 1643, 1757, 1759, 2021, 2108, 2115, 2127, 2233, 2495, 2515, 2558, 2618, 2737, 2790, 2819, 3592, 3895, 3896, 4188, 4502.
Not for connection to telephone networks	The OneTouch AT analyzer is NOT designed for connection to a telephone network.
	The OneTouch AT analyzer is NOT designed for connection to an ISDN line.
	Do not connect to a telephone network or ISDN line except through a regulatory agency compliant computer network modem device.

Environmental and Regulatory

Operating temperature	32°F to 122°F (0°C to 50°C)
Battery charging temperature	32°F to 104°F (0°C to 40°C)
Storage temperature	-40°F to 160°F (-40°C to 71°C)
	-4°F to 122°F (-20°C to 50°C) for periods longer than 1 week
Operating relative humidity (% RH without condensation)	5% to 45% at 32°F to 122°F (0°C to 50°C)
	5% to 75% at 32°F to 104°F (0°C to 40°C)
	5% to 95% at 32°F to 86°F (0°C to 30°C)
Shock and vibration	Meets the requirements of MIL-PRF-28800F for Class 3 Equipment
Safety	CAN/CSA-C22.2 No. 61010-1-04, IEC 61010-1:2001
Operating altitude	13,123 ft (4,000 m), 10,500 ft (3,200 m) with AC adapter
Storage altitude	39,370 ft (12,000 m)
Pollution degree	2
EMC	EN 61326-1:2006

Cables

Cable types	100 Ω Unshielded Twisted Pair (UTP) LAN cables.		
	100 Ω Shielded or Screened Twisted Pair (SeTP) LAN cables.		
	TIA Category 3, 4, 5, 5e, and 6. ISO Class C, D, E and F.		
Cable length measurement	Measurable cable lengths are from 3 feet (1 meter) to 656 feet (200 meters).	Accuracy: ± 30 feet (± 10 meters).	Length measurement is based on Nominal Velocity of Propagation (NVP) for CAT 5e cable.

Test Settings

Wired	Speed, duplex, 802.1X, IPv4 address, IPv6 address, MAC address (port A can be changed by the user), VLAN, Wait for Rx Frame
Analysis	SNMP v1/v2, SNMP v3, Slow Discovery

Cloud Tools

Trending	Use (wired port, management port), duration (2 minutes to 1 week),interval (1, 2, 5, 10, 30, 60 minutes), proxy (off/on)
Claim Unit	Claim, proxy (off/on)
Unit Name	Text string
Cloud Remote	On/Off

Maintenance Tools

Management port	User and password security, Active Port (Wired/Wi-Fi), wired port configuration, Wi-Fi port configuration
Language (user interface)	Chinese (simplified), English, French, German, Japanese, Korean, Portuguese, Russian, Spanish
Date/time, number, length	Select format
Timeout period	Backlight time, power down time
Audible tone	On, off
Display	Brightness
Factory defaults restore	Quick, full (complete internal storage overwrite)

Network Tests

Receive Rx optical power measurement	accuracy varies by transceiver, typically ± 3.0 dB
Infrastructure	Cable, link, nearest switch, DHCP server, DNS server, gateway
Wired Analysis	hosts, access devices, servers, tools (port scan, add test, path analysis, multiport statistics,devices on port, browse, TELNET/SSH), sorts
Discovery protocols supported	SNMP v1/v2/v3, CDP, EDP, LLDP, ICMP, ARP, FDP
Services	Ping (ICMP), connect (TCP), web (HTTP), file (FTP), multicast (IGMP), video (RTSP), email (SMTP)
Wired Performance (local to remote)	Capabilities vary by instrument used as the remote: OneTouch AT 10G to LinkRunner AT • ≤1 Gbps rate • 1 traffic stream • IETF RFC 2544 test method • Round trip results • Frame loss, latency, jitter OneTouch AT 10G to OneTouch AT • ≤1 Gbps rate • 1 traffic stream • IETF RFC 2544 test method • Bi-directional results • Frame loss, latency, jitter OneTouch AT 10G to OneTouch AT 10G • ≤1 Gbps rate • 1 traffic stream • IETF RFC 2544 test method • Bi-directional results • Frame loss, latency, jitter Optiview XG to OneTouch AT 10G • ≤ 10 Gbps rate • ≤ 4 traffic streams • ITU Y.1564 test method • Bi-directional results • Frame loss, latency, jitter • Throughput, availability, information rate, burst rate • Class of service testing, traffic policing

Testing Tools

Capture, Wired	• Connection: Port A • Filters: MAC, VLAN, IP, Port, IPv6 • File size (MB): 1, 10, 100, 250, 500, 1000, 2000 • Frame slice (B): 64, 128, 256, 512, 1024, 1280, 1518, 9600 • AutoTest: off, on • Filter rate: line rate • Capture rate: 100 Mbps maximum
Performance Peer	Port number, enable AutoStart (on/off)
Browser	port (management/wired)
Telnet/SSH	Username/password (for SSH)
Flash switch port	1s, 2s, 3s
FiberInspector™/Webcam	real time, pause, scale (for fiber), save

File Tools

Profiles	Save, delete, rename, export, import, load
Reports	Save, delete, rename, export, import, view
Screens	Save, delete, rename, export, import, view

Certifications and Compliance

CE	Conformite Europeene. Conforms to the requirements of the European Union and the European Free Trade Association (EFTA).
c(SP)us	Listed by the Canadian Standards Association.
N10140	Conforms to relevant Australian standards.

Ordering Guide

Model	Description
1T10G-1000	OneTouch AT 10G Network Assistant, includes module and test frame, 1G SX SFP fiber transceiver, 10G SR SFP+ fiber transceiver, SD card, frame carry strap, hand strap, AC adapter and line cord, RJ45 patch cable, carrying case, getting started guide, and resource CD with user manual
1T10G-1000/GLD	OneTouch AT 1T10G-1000, plus 1 year of Gold Support (available in the United States only)
1T10G-1000-MOD	OneTouch AT 10G Network Assistant Module, includes module only, 1G SX SFP fiber transceiver, 10G SR SFP+ fiber transceiver, SD card, RJ45 patch cable, getting started guide, and resource CD with user manual

Accessories

Model Number/Name	Description
SFP-1000SX	1000BASE-SX Fiber SFP transceiver with DDM (850 nm, multimode)
SFP-1000LX	1000BASE-LX Fiber SFP transceiver with DDM (1310 nm, singlemode)
SFP-1000ZX	1000BASE-LZ Fiber SFP transceiver with DDM (1550 nm, singlemode)
OPVXG-SFP-PLUS-SR	Optical Transceiver Module, SFP+, 10GBASE-SR, 850nm, Multimode
OPVXG-SFP-PLUS-LR	Optical Transceiver Module, SFP+, 10GBASE-LR, 1310nm, Singlemode
VERSIV-M	Versiv Main Replacement
VERSIV-BATTERY	Versiv Battery
VERSIV-ACUN	Versiv Charger
VERSIV-SM-CASE	Versiv Carry Case for OneTouch AT, OptiFiber Pro, FI-7000
ASUS USB-N10	Wireless-N 150 USB Adapter, available through ASUS resellers only
FI-1000-KIT	FI-1000 USB video probe and tip set (LC,FC/SC bulkhead, 1.25 AND 2.5 mm universal tips in a box)

Gold Support

Model Number	Description
GLD-1T10G1000	1 year of Gold support for the 1T10G-1000 model
GLD-1T10G1000MOD	1 year of Gold support for the 1T10G-1000-MOD model
GLD3-1T10G1000	3 years of Gold support for the 1T10G-1000 model
GLD3-1T10G1000MOD	3 years of Gold support for the 1T10G-1000-MOD model

OneTouch AT product family comparison

	Feature	1T-1000	1T-1500	1T-2000	1T-3000	1T10G-1000
Network Interface	10/100/1000 RJ45 interface x2	✓	✓	✓	✓	
	100/1000/10G RJ45 interface					✓
	100/1000 Fiber SFP interface x2	✓	✓	✓	✓	
	1000/10G Fiber SFP+ interface					✓
	802.11 a/b/g/n 2.4/5GHz Wi-Fi radio			✓	✓	
	100/100 RJ45 management port	✓	✓	✓	✓	✓
	Wi-Fi management port adapter support[1]	✓	✓	✓	✓	✓
Cable Tests	Length and distance to fault	✓	✓	✓	✓	✓
	Wiremap (loopback or adapter)	✓	✓	✓	✓	
	WireView office ID support	✓	✓	✓	✓	
	Toning (analog and IntelliTone)[2]	✓	✓	✓	✓	
	FiberInspector support[3]	✓	✓	✓	✓	✓
	Flash switch port	✓	✓	✓	✓	✓
Basic Tests	Addresses, transmit and receive statistics	✓	✓	✓	✓	✓
	Link speed/duplex	✓	✓	✓	✓	✓
	TruePower PoE load (25.5W)	✓	✓	✓	✓	
	Nearest switch (port and statistics)	✓	✓	✓	✓	✓
	Connected access point (results and log)			✓	✓	
	DHCP, DNS, Gateway	✓	✓	✓	✓	✓
User Tests	Ping (ICMP)	✓	✓	✓	✓	✓
	Connect (TCP)	✓	✓	✓	✓	✓
	Web (HTTP)		✓		✓	✓
	File (FTP)		✓		✓	✓
	Multicast (IGMP)		✓		✓	✓
	Video (RTSP)		✓		✓	✓
	Email (SMTP)		✓		✓	✓
	1G Wired Performance (RFC2544)[4]		✓		✓	✓
	10G Wired Performance (Y.1564)[4]					✓
	Wi-Fi Performance[4]				✓	

Analysis	Wired Analysis (host, access, server)		✓	✓	✓	✓
	Wired tools (port scan, path analysis, multiport stats, devices on a port)		✓	✓	✓	✓
	Wi-Fi Analysis (network, AP, client, channel)			✓	✓	
	Wi-Fi tools (connect, name, authorization, connect, locate)			✓	✓	
Capture	Single port		✓		✓	✓
	Dual port		✓		✓	
	Inline		✓		✓	
	VOIP		✓		✓	
	AutoTest		✓		✓	✓
	Wi-Fi				✓	
Cloud Tools	Trending	✓	✓	✓	✓	✓
	Claim unit	✓	✓	✓	✓	✓
	Unit name	✓	✓	✓	✓	✓
	Cloud remote	✓	✓	✓	✓	✓
Test Tools	Setup Wizard	✓	✓	✓	✓	✓
	VoIP analysis	✓	✓	✓	✓	
	Performance peer	✓	✓	✓	✓	✓
	Browser	✓	✓	✓	✓	✓
	Telnet/SSH	✓	✓	✓	✓	✓
Accessories	AC adapter and line cord, RJ45 patch cable, carry strap, getting started guide, CD with users manual, carry case	✓	✓	✓	✓	✓
	WireView ID #1, RJ45 coupler	✓	✓	✓	✓	
	WireView IDs #2-6, USB flash drive, USB card reader		✓		✓	
	SD card		✓		✓	✓
	Wi-Fi external antenna and mounting clip			✓	✓	
	Two 1G SX SFP fiber transceivers		✓		✓	
	1G SX SFP and 10G SFP+ fiber transceivers					✓

[1]Wi-Fi adapter not included / [2]A compatible tone probe is not included / [3]FiberInspector USB video microscope not included /

[4]Performance tests are end-to-end and require a second remote tester, not included

Visit www.flukenetworks.com/OneTouchAT10G for a complete listing of specifications, models, options and accessories.