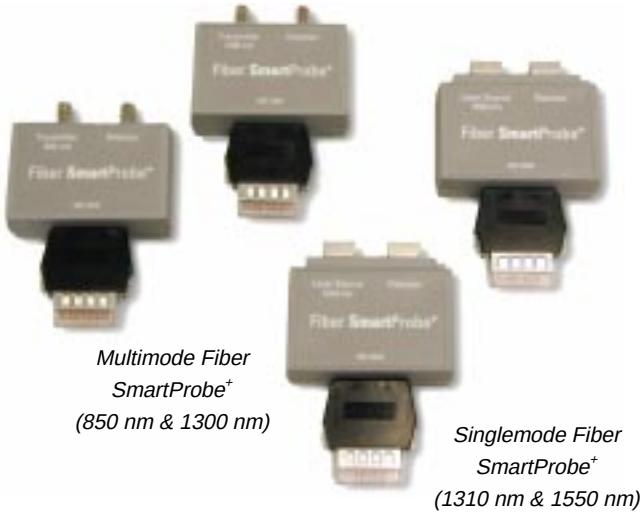
specification

Agilent Technologies
Innovating the HP Way

WireScope 350 | Fiber SmartProbe+

Features

- Transforms the WireScope 350 and Wirescope 155 into a high performance optical fiber power meter and loss meter
- Probe options for both 850 and 1300 nm power loss measurements on multimode fiber and 1310 and 1550 nm singlemode fiber
- Measures fiber length up to 50 km for SMF an 4 km for MMF
- Certifies fiber to TIA 568A, TIA 568B.3 and ISO 11801
- Network-specific pass/fail determination for 25 fiber interfaces, including Gigabit Ethernet
- Fibers can be tested individually or in pairs for faster testing
- Automatic set up through the WireScope 350 and WireScope 155 intelligent test port interface
- PC upload and management of test results with ScopeData Pro software



Multimode Fiber SmartProbe+ (850 nm & 1300 nm)

Singlemode Fiber SmartProbe+ (1310 nm & 1550 nm)

Operation

Attaching the Fiber SmartProbe+ transforms the WireScope 350 into a high performance optical fiber power meter and loss meter. The Fiber SmartProbe+ product line consists of a family of fiber optic test probes, each of which can function as both a transmitter and a detector. The detectors of all Fiber SmartProbes+ support both 850 and 1300 nm measurements for multimode and 1310 and 1550 nm for singlemode. Fiber SmartProbes+ are available with 850 nm, 1300 nm, 1310 nm, or 1550 nm transmitters. This architecture supports both single-ended and double-ended measurements and allows Fiber SmartProbes+ to be used together for double-ended measurements.

Certifies Fiber for Gigabit Ethernet

Fiber SmartProbes+ provide fast and comprehensive certification of installed fiber for use with Gigabit Ethernet equipment. Test profiles are available for both 1000BaseSX and 1000BaseLX and for multimode and singlemode fiber. Fiber SmartProbes+ support a total of 25 network-specific certification tests (see specifications section for detail).

Superior Measurement Performance

Length and propagation delay measurement capabilities are included in the multimode and singlemode Fiber SmartProbe+ modules. As data rates increase on LAN and WAN backbones, maximum feasible fiber transmission distances decrease. For example, a popular version of Gigabit Ethernet can only span 260 meters over optical fiber. It is therefore critical to verify compliance with the maximum length restrictions appropriate for the fiber type and network topologies planned for any new or existing installation. Fiber SmartProbes+ are faster and less expensive than an OTDR - the only alternative to perform this function.

Automatic Loss Budget Certification

TIA 568A, 568B.3 and ISO 11801 contain loss budgets that define the maximum allowable loss for installed fibers as a function of fiber length and the number of splices in a link. Until now, verifying compliance with these loss budgets required expensive OTDR equipment and manual calculations. Fiber SmartProbes+ automate this process to produce fast and accurate loss budget certifications with full test result documentation storage as you go.

Professional-Quality Reports

ScopeData Pro cable test data management and reporting software is bundled with the WireScope and Fiber SmartProbes+ at no additional charge. Scope Data Pro can upload stored fiber and copper test results into the same database for organized and convenient reporting.

Specifications

General

- **Size:** 2.4" x 1.6" x 0.8" (6.0 cm x 4.0 cm x 2.5 cm)
- **Optical Connectors:** Multimode: ST x 2; Singlemode: SC x 2
- **Power Source:** Draws power from WireScope 350/155 and Dual Remote 350/155
- **Operating Temperature:** 0° to 40° C
- **Storage Temperature:** 10° to 55° C

Detector

- **Receive Wavelengths:** Multimode: 850 and 1300 nm; Singlemode - 1310 and 1550 nm
- **Measurement Accuracy:** +/- 0.2 dB @ -20 dBm
- **Dynamic Range:** Multimode: 0 to -40 dBm (850 and 1300 nm); Singlemode: 0 to –40 dBm (1310 and 1550 nm)
- **Detector Type:** Germanium

Transmitter

- **Power Output:** Multimode (into 62.5/125 fiber): -11 dBm (850 nm), -13.5 dBm (1300 nm); Singlemode (into 9/125 fiber): -3 dBm (1310 & 1550 nm)
- **Source Type:** Multimode: LED; Singlemode: Stabilized Class 1 LASER product in accordance with EN 60825.1 and FDA 21 CFR 1040.10

Fiber Network Specifications

- **Cabling Standards:** TIA 568A, 568B.3 (MMF, SMF), ISO 11801 (MMF, SMF)
- **Gigabit Ethernet:** 1000 Base-SX (MMF), 1000 Base-LX (MMF, SMF)
- **Legacy Networks:** 100 Base-F (MMF), 10 Base-FL (MMF), 10 Base-FB (MMF), Token Ring (MMF)
- **ATM/Sonet:** ATM-155 (UNI 3.1) (MMF), ATM-155 SWL (MMF), ATM-622 (MMF, SMF), ATM/Sonet OC-3 (MMF, SMF), ATM/Sonet OC-12 (MMF, SMF), ATM/Sonet OC-48 (SMF)
- **FDDI/Fibre Channel:** FDDI (MMF, SMF), Fibre Channel-133 (MMF), Fibre Channel-266 (MMF, SMF), Fibre Channel-531 (MMF, SMF), Fibre Channel-1062 (MMF, SMF)

Propagation Delay

- **Accuracy (whichever is greater):** +/- 4% or +/- 1.5 ns (WS 350); +/- 4% or +/- 6.7 ns (WS 155)
- **Resolution:** +/- 1.5 ns (WS 350); +/- 6.7 ns (WS 155)
- **Range:** 0 - 300 µs

[1] Assumes double-ended configuration with 15 dB maximum multimode link loss and 25 dB maximum singlemode link loss. Divide by 2 for single-ended configuration links.

Cable Length

- **Accuracy (whichever is greater):** +/- 4% or +/- 0.3 meters (WS 350) or +/- 1.3 meters (WS 155)
- **Resolution:** +/- 0.3 meters (WS 350) @ 67% NVP; +/- 1.3 meters (WS 155) @ 67% NVP
- **Distance Range[1]:** Multimode: 0 - 4 km for 3.75 dB/km @ 850 nm, 0 - 10 km for 1.50 dB/km @ 1300 nm; Singlemode: 0 - 50 km for 0.5 dB/km @ 1310 & 1550 nm

Ordering Information

2 Way Fiber SmartProbe⁺ Kits:

Multimode: Includes 2 ST duplex patch cords, 2 ST calibration couplers & software

Model	Description
N2597A-030	2 Way MM Fiber SmartProbe⁺ Kit (Includes 850 and 1300 nm SmartProbes⁺)

Singlemode: Includes 2 SC duplex patch cords, 2 SC calibration couplers & software

Model	Description
N2597A-040	2 Way SM Fiber SmartProbe⁺ Kit (Includes 1310 and 1550 nm SmartProbes⁺)

Individual SmartProbe⁺ Kits:

Multimode: Includes 2 ST simplex patch cords, 1 ST calibration coupler & software

Model	Description
N2597A-031	MM Fiber SmartProbe⁺ 850 nm Kit includes the 850 nm SmartProbe⁺
N2597A-032	MM Fiber SmartProbe⁺ 1300 nm Kit includes the 1300 nm SmartProbe⁺

Singlemode: Includes 2 SC simplex patch cords, 1 SC calibration coupler & software

Model	Description
N2597A-041	SM Fiber SmartProbe⁺ 1310 nm Kit includes the 1310 nm SmartProbe⁺
N2597A-042	SM Fiber SmartProbe⁺ 1550 nm Kit includes the 1550 nm SmartProbe⁺

Please refer to www.wirescope.com for the latest up-to-date Fiber SmartProbe⁺ ordering information

Agilent Technologies, Inc.
753 Forest Street
Marlborough, MA 01752
www.wirescope.com
Tel: 508-486-0400
Fax: 508-486-0611

 Rev 10/00