

FlowScout® SE100 Single-Ended Test Set

Quickly and Easily Verify Continuity and Insertion Loss From One End

US Patent Pending



FlowScout SE100 with 1430 nm Wavelength Optical Reflector

Features

- Verifies fiber continuity and insertion loss at 1430 nm from a single end
- Excess reflection (low ORL) detection at 1550 nm
- Live fiber detection and reporting
- Built-in optical continuous wave (CW) reflectometer
- Combines light source and power meter into a single unit

Applications

Used to verify:

- FTTH continuity and insertion loss during service activation or troubleshooting
- FTTA continuity and insertion loss between Distribution Unit (DU) and Radio Unit (RU)
- Fiber backhaul continuity and insertion loss to demarcation point

AFL's FlowScout SE100 is designed to verify fiber continuity and measure insertion loss to the end of fibers terminated with AFL's 1430 nm Wavelength Optical Reflectors. When a reflector is detected, the FlowScout SE100 immediately reports its presence (confirming continuity to the reflector) and measures insertion loss to the reflector at 1430 nm wavelength. The reflector is near-transparent to PON and other wavelengths, allowing it to remain installed during network operation.

Reduce cost: Combining an optical light source and power meter into one low-cost test set, the FlowScout SE100 enables a single technician to verify continuity and measure insertion loss, reducing equipment costs by over 38% and labor costs by over 50%.

Shorten test time and eliminate setup errors: Traditional two-ended testing requires equipment configuration and test coordination. FlowScout SE100 eliminates time-consuming setup and technician coordination time. It also speeds up testing by reducing visits to subscriber premises, demarcation points, and cell tower climbs.

Enhance customer experience: The FlowScout SE100 eliminates the need for onsite troubleshooting of FTTH drop issues. All testing can be completed from a distribution panel or splitter, eliminating technician time at the subscriber premises and overcoming scheduling and access challenges for both subscribers and service providers.

Increase technician safety: Repeated tower climbs for troubleshooting FTTA fibers are eliminated by using the FlowScout SE100 to test from the ground to optical reflectors installed at the Radio Unit.

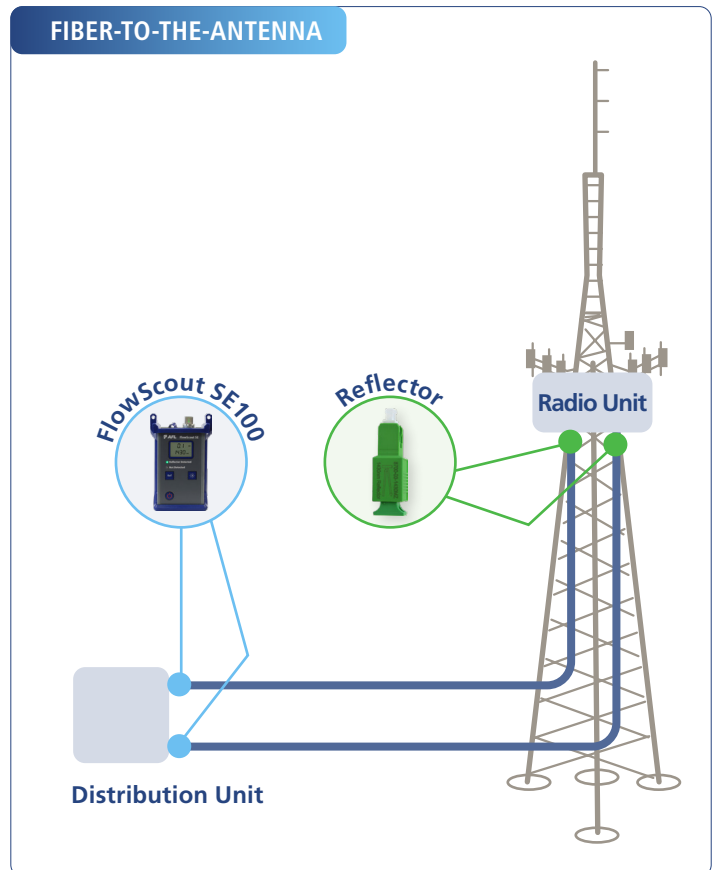
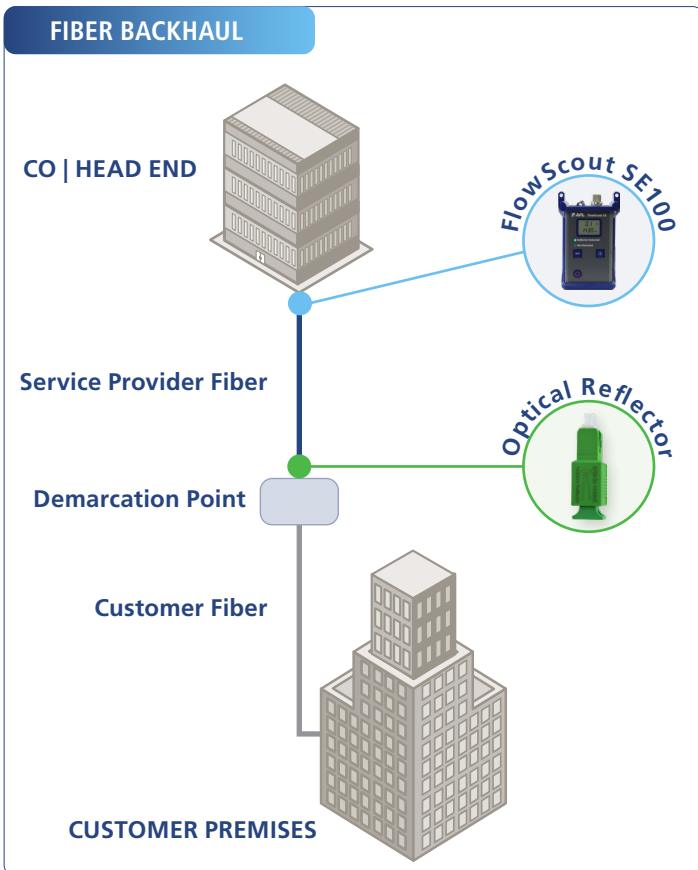
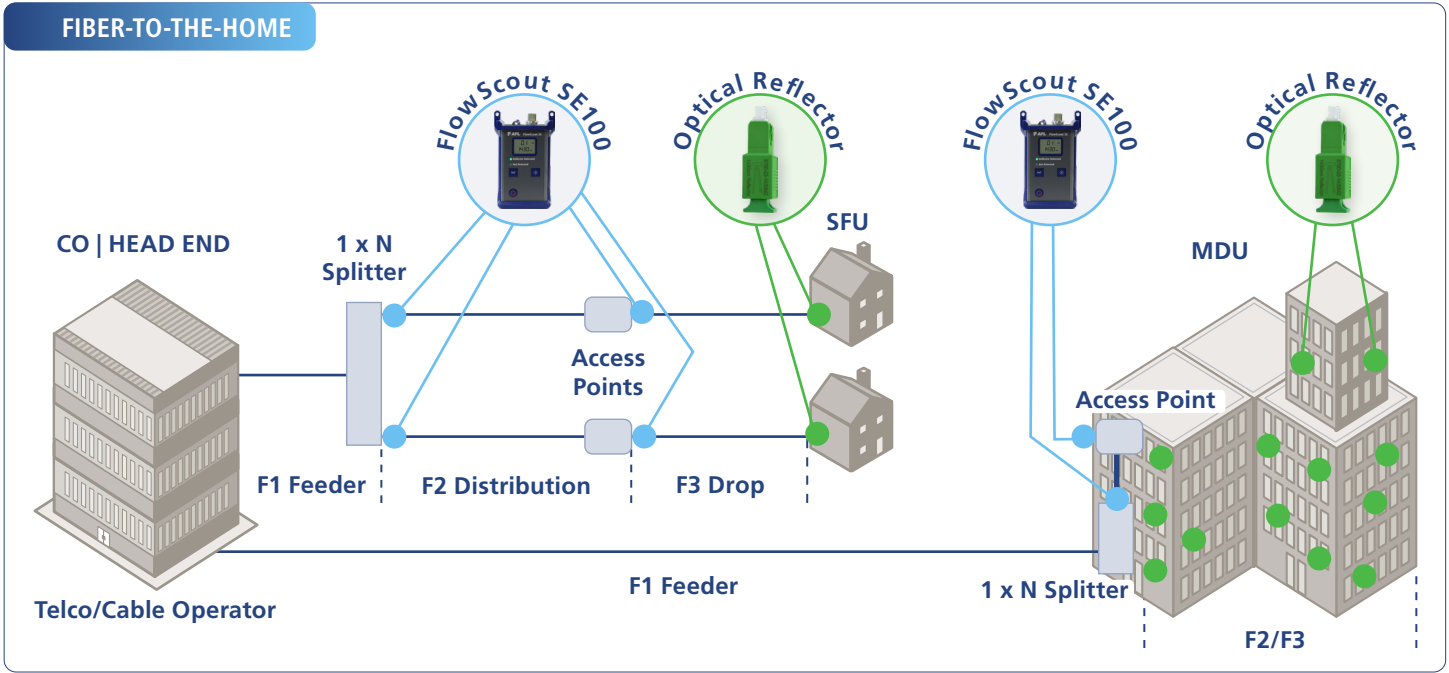
Ensure integrity of test results: FlowScout SE100 alerts the user when excess reflection or a live signal is present on the tested network. Reflection issues from damaged, open, mismatched, or dirty connectors often result in poor network performance. FlowScout SE100 immediately alerts the user and displays ORL when excess reflection is present.

Complements subscriber-installed ONT initiatives: Reducing the need for FTTH premises visits, the FlowScout SE100 solution supports service provider goals to reduce costs by adopting a subscriber self-install ONT methodology.

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Example Applications

Optical Loss Testing



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Optical Loss Testing

PRODUCT HIGHLIGHTS

- Easy to Use**
- Brightness Control**
- Battery Operated**
- Handheld**
- USB Power Port / Software upgrades**

- Single SC/APC Connection**
Simply plug in the fiber connector and get readings in >5 sec!
- Large LCD display**
Multi-function screen clearly shows all measurements and prompts
- Clear color-coded readings**
LED indicators allow you to view if reflector is detected in seconds
- Easy, one-handed operation**
Easily one hand operation. Large buttons for easy operation
- Durable design for field use**
Protective rubber boot for in-field durability and reliability

Specifications^a

OPTICAL	
Emitter Type	Laser
Safety Class ^b	Class I
Fiber Type	Single-mode; compatible with all G.652, G.655, and G.657 SMF
Calibrated Wavelengths	1430 and 1550 nm
Center Wavelength	1430 ±5 nm; 1550 ±20 nm
Spectral Width (FWHM)	≤5 nm
Output Power Level	-1 to -4 dBm CW
Output Power Stability	±0.1 dB over 1 hour (after 1 minute warmup)
Detector Type	InGaAs PIN
Detection Range	Reflector detected / not detected up to 20 km (18 mi) with optical loss ≤9 dB at 1430 & 1550 nm and 1550 nm ORL ≥25 dB
Insertion Loss Measurement Range	At least 10 dB when ORL ≥25 dB @1550 nm At least 6 dB when ORL in range 14 – 20 dB @ 1550 nm
Loss Accuracy	±1.0 dB for loss in range 0 to 6 dB
Loss Resolution	0.1 dB
Measurement Units	Loss in dB; ORL in dB
GENERAL	
Size (in boot)	14.0 x 8.1 x 3.8 cm (5.5 x 3.2 x 1.5 in)
Weight	≤0.3 kg (≤0.7 lb)
Operating Temperature	-10 °C to +50 °C, 0 to 95% RH (non-condensing)
Storage Temperature	-30 °C to +60 °C, 0 to 95% RH (non-condensing, batteries installed)
Battery Power	2 x AA alkaline batteries; user-replaceable
AC Power	Optional external AC power supply (100-240 VAC, 50-60 Hz; 5VDC @2A)
Battery life	Typical 120 hrs, minimum 75 hrs (continuous operation, backlight off)
Display	Backlit monochrome LCD
Shock and vibration	Drop test, 1 m, 6 planes
Optical port	Fiber-coupled, 2.5 mm ceramic ferrule plus SC/APC connector adapter
Dust Cap	Captive dust cap mounts over SC/APC connector adapter

Notes:

- a. All specifications valid at 25°C unless otherwise specified.
- b. FDA 21 CFR 1040.10 and 1040.11; IEC 60825-1:2014

FlowScout® SE100 Single-Ended Test Set

Ordering Information

FlowScout SE100 kits include the FlowScout SE100 test set, SC/APC to SC/APC patch cord to connect to network under test, reference 1430 nm Wavelength Optical Reflector, wrist strap, and Quick Reference Guide in a convenient soft carry case.


DESCRIPTION	AFL NO.
FlowScout SE100 Single-Ended Test Set	SE100-00-0901PR

Accessories

DESCRIPTION	AFL NO.
ACCESSORIES INCLUDED WITH SE100-00-0901PR KIT	
1430 nm Wavelength Optical Reflector, SC/APC, female-to-male, plug type	8700-03-1430MZ
Universal flip-top dust cap for UCI outputs	8800-00-0072PR
Single-mode test jumper, SC/APC to SC/APC, 2 m, 3 mm jacketed	8700-00-0218MR
Wrist atrap	1400-05-0230PZ
Soft carry case with strap	1400-01-0107MZ
ADDITIONAL OPTIONAL ACCESSORIES	
SC/APC adapter for optical port	2900-50-0011MR


DESCRIPTION	AFL NO.
USB – Micro-B cable, 5 pin, 6 ft	6000-00-0031MR
AC Adapter (shipped with one power plug of customer choice; select one from plugs listed below!)	4050-00-0034MR
<ul style="list-style-type: none"> 4050-00-0030EUMR EU Power Plug for AC charger 4050-00-0030USMR US power plug for AC charger 4050-00-0030SAAMR CN/AUS power plug for AC charger 4050-00-0030UKMR UK power plug for AC charger 	
FlowScout SE100-facing APC female to APC male field-replaceable Port Saver SMF	2900-58-0001MR
One-Click Cleaner Mini 500 SC, ST, FC; 500+ Cleans	8500-05-0009MZ

Recommended Products




FOCIS Flex Connector Inspection

- Self-contained, tether-free, hand-held inspection solution
- Auto-focus and auto-centering for fast, easy inspection
- IEC, IPC and user-defined pass/fail analysis



One-Click® Cleaners

- Patented single-action
- Variety of sizes and types
- Low cost per clean



VF14 Visual Fault Identifier

- Eye-safe Class 3R visible red laser source, 650 nm
- Output power of ≤ 5.0 μW with 10 km range
- Universal connector interface for quick connection

Qualifications

CATEGORY	REGULATION/STANDARD	QUALIFICATION
CE Marking	EU	Compliant to relevant EU Directives on health, safety, and environmental protection, and certified with CE marking
UKCA Marking	UK	Compliant to relevant UK Directives on health, safety, and environmental protection, and certified with the UKCA marking
Safety/EMC/EMI	IEC	Compliant to IEC 61010-1 for safety requirements for electrical equipment
	EN	Compliant to EN 61010-1 for safety requirements for electrical equipment
	IEC	Compliant to IEC 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 61326-1 for EMC requirements for electrical equipment
	EN	Compliant to EN 55011 for EMC requirements for industrial, scientific and medical equipment
	FDA	Compliant to code of federal regulations FDA 21 CFR 1040.10 and 1040.11 on laser products
RoHS	IEC	Compliant to IEC 60825-1 for safety of laser products
RoHS	EU	Compliant to EU regulations Directive 2011/65/EU (RoHS 2) and Directive 2015/863 (RoHS 3)
Generic Requirement	IEC	Compliant to IEC 61315 for requirements on calibration of fibre-optic power meters

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