

SPEEDWOLF

Palm OTDR Series Handheld OTDR

Most Compact High-Performance OTDR

SP-OTDR16



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Overview

The compact Palm OTDR SP-OTDR16 now offers even more testing capacities, flexibility and value with combination of 850/1300/1310/1490/1550/1625/1650nm (Mono/double/triple wavelength) OTDR, 1310/1490/1550nm PON Power Meter, Stabilized Laser Source and VFL. The OTDR wavelengths cover the applications of regular end-to-end fiber characterization (1310/1550nm), premise/enterprise LAN testing (850/1300nm), FTTx fiber link construction verification (1490nm) and PON live fiber troubleshooting (1625/1650nm with filter). The integrated PON Power Meter can perform in-service testing of all PON signals (1310/1490/1550nm) on any spot of the network featuring pass-through design and burst mode support. SP-OTDR16 is your ultimate solution to meet various testing requirements of entire fiber network.

Product Features

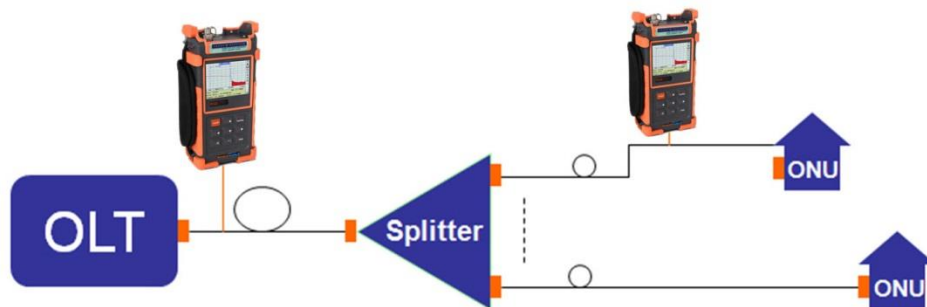
- Comprehensive fiber applications, ideal for LAN/WAN/FTTx certification & trouble-shooting:
 - ◆ SM: 1310/1490/1550, 1625/1650nm (with filter), up to 50dB
 - ◆ MM: 850/1300nm, 21/24dB
- Fault locating, fiber length/loss measurement, connector/ splice/ splitter/ macro bend/fiber-end detection
- Built-in PON Power Meter for Triple-play live measurement
- Optional Stabilized Laser Source, SM/MM Power Meter and VFL
- FTTx in-service testing/ Testing through splitter: (1625/1650nm with filter)
- Splitter & fiber-end identifiable
- Auto/Manual(2-point/5-point)/Averaging/Real-time test
- Pass/Fail assessment and ORL test function
- Quick start: <5 seconds
- Perfect user interface, handheld & lightweight (1kg)
- Hotkeys: Easiest operation in the world, push-and-test
- 1000 test records storage
- Bellcore file format (.sor)
- PC software for batch data processing
- USB data interface, driver-free



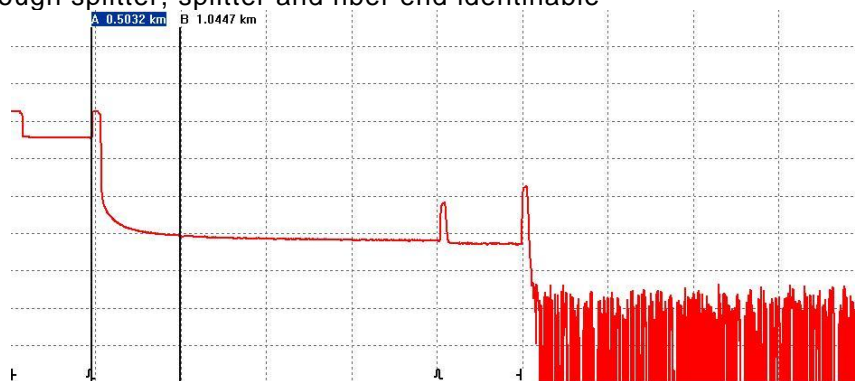
- Multiple languages: EN/DE/IT/FR/ES/PT/RU/KR/VN/CN etc.
- 8 hrs continuous operation/20 hrs standby
- Dust-shock proof (2m drop test)
- CE, FCC, FDA certificates

In-Service Testing (Through Splitter)

- ◆ In-service testing (1625nm with filter)



- ◆ Testing through splitter, splitter and fiber end identifiable



Live Optical Signal Check

When SP-OTDR16 tests with 1310/1490/1550nm wavelength, the live signals transmitting in the tested fiber may not only affect OTDR measurements but also damage the equipments connected to the network (SDH/WDM/PON) and OTDR receiver. SP-OTDR16 series avoids the problem by starting in-service communication check before testing with message warning and auto termination functions to effectively protect test instruments and communications equipments.

1. Connect the fiber to OTDR port.
 2. Press 'Run/Stop' to start.
 3. **Possible live signal!** (Warning message box with 'Quit' button)
 Avoid DIRECT Eye Exposure !

--km/Div	--dB/Div	Event
No.: 0/0	Location: --.--km	
Ref1: --.--dB	Ins.L.: --.--dB	
Attn.: --.--dB	Cum.L.: --.--dB	

Built-in PON Power Meter

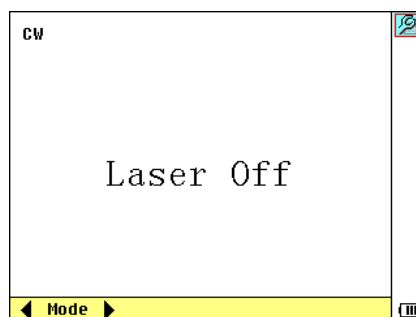
The integration of PON Power Meter into such a small unit of SP-OTDR16 makes FTTx certification and troubleshooting an exciting experience and efficient work. The PON Power Meter module can perform in-service testing of all PON signals (1310/1490/1550nm) on any spot of the network featuring pass-through design, burst mode and Pass/Warning/Fail assessment function, which can greatly help you evaluate PON signals transmission quality.

Threshold			
Threshold Name: thres_name_01			
	1310nm	1490nm	1550nm
FAIL	3.00	-2.50	8.50
PASS	-1.50	-21.00	-9.50
WRNG	-2.50	-24.00	-12.50
FAIL			



Extended Stabilized Laser Source

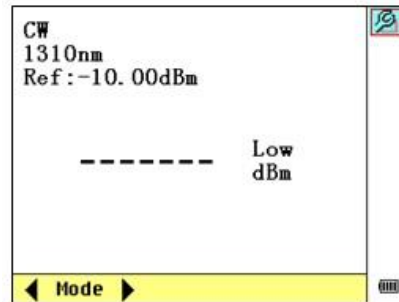
Stabilized Laser Source shares SP-OTDR16 optical port and work on the same working wavelength of SP-OTDR16.



Extended Optical Power Meter

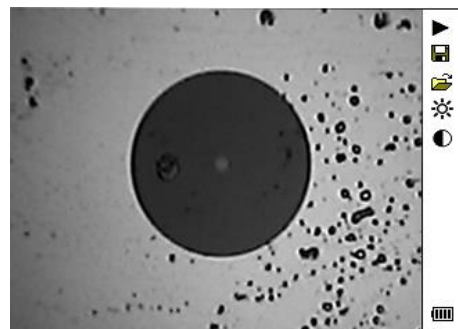
- ◆ No warm-up
- ◆ Absolute power value and power loss measurement

- ◆ High accuracy, zero shift
- ◆ Power monitoring, high-low limit setting
- ◆ Reference setting



Extended Optical Connector Inspector Module (MCI100 module)

- ◆ Focusing knob for fast focus
- ◆ Eye-safe and clear video viewing
- ◆ Interchangeable connector tips(male and female, PC and APC, 1.25mm and 2.5mm etc.)

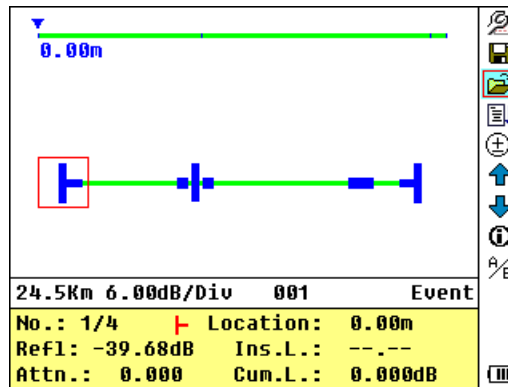


Optimized Interface design

- ◆ Graphical User Interface
- ◆ Color and High Resolution



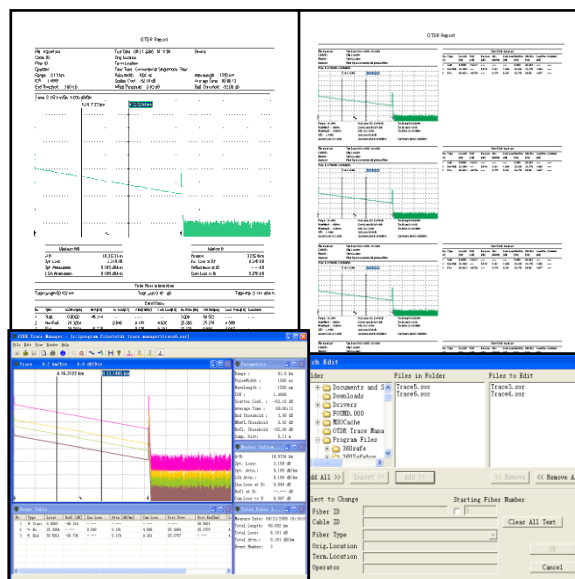
OTDR LinkImage Software



OTDR Trace Manager Software

TraceManager software can display, analyze and edit trace files, generate and print comprehensive test and analysis reports in various forms.

- ◆ Trace viewing, events analysis
- ◆ Batch editing and flexible printing
- ◆ Trace viewing, events analysis
- ◆ Multi traces comparison
- ◆ Batch editing and flexible printing
- ◆ Bidirectional testing (Optional)
- ◆ CSV/ASCII report formats



Technical Parameters

Model ⁽¹⁾		Wavelength (±20nm)	Dynamic Range ⁽²⁾	EDZ (m) ⁽³⁾	ADZ (m) ⁽³⁾
Basic	Advanced				
SP-OTDR16-MAE	SP-OTDR16-MAE-VPSI	850/1300	21/24dB	1.5	5
SP-OTDR16-SAE	SP-OTDR16-SAE-VPSI	1310/1550	32/30dB	1.8	5
SP-OTDR16-SBE	SP-OTDR16-SBE-VPSI	1310/1550	35/34dB	1.5	5
SP-OTDR16-SC/N	SP-OTDR16-SC/N-VPSI	1310/1550	40/38dB	0.8	4.5
SP-OTDR16-SD/N	SP-OTDR16-SD/N-VPSI	1310/1550	45/43dB	0.8	4.5
SP-OTDR16-SF	SP-OTDR16-SF-VPSI	1310/1550	50/48dB	0.8	4.5
SP-OTDR16-SC/P	SP-OTDR16-SC/P-VPSI	1310/1490/1550	38/37/37dB	0.8	4.5
SP-OTDR16-SC/X	SP-OTDR16-SC/X-VPSI	1310/1550/1625 ⁽⁴⁾	38/37/37dB	0.8	4.5
SP-OTDR16-P1C	SP-OTDR16-P1C -SI	1625 ⁽⁴⁾	37dB	0.8	4.5
SP-OTDR16-P3C	SP-OTDR16-P3C-SI	1310/1550/1625 ⁽⁴⁾	38/37/37dB	0.8	4.5
Selectable Range (Km)	0.1,0.3,0.5,1.3,2.5,5,10@850nm; 0.1,0.3,0.5,1.3,2.5,5,10,20,40,80@1300nm; 0.3,1.3,2.5,5,10,20,40,80,120,160,240@others				
Pulse Width	10ns,30ns,100ns,300ns,1µs@850nm; 10ns,30ns,100ns,300ns,1µs,2.5µs@1300nm; 5ns,10ns, 30ns,100ns, 300ns,1µs,2.5µs,10µs,20µs@others				
Averaging Time	Quick, 15s, 30s, 1min, 2min, 3min				
Distance Measure Accuracy	±(1m + 5×10 ⁻⁵ ×distance + sampling space)				
Attenuation Detect Accuracy	±0.05 dB/ dB				
Reflection Detect Accuracy	±4 dB				
Data Storage	1000 records				
Connectivity	USB				
Connector	FC/PC(Interchangeable SC, ST)				
Power Supply	NiMH Battery / AC Adapter				
Battery Life	8 hrs continuous operation, 20 hrs standby (on one charge); recharging time < 4 hrs				
Operating Temperature	-20°C ~ 50°C				

Storage Temperature	-40°C ~ 70°C
Relative Humidity	0~95% (non-condensing)
Weight	1kg (2.2 lbs)
Dimensions (H×W×T)	220×110×70mm (8.7×4.3×2.7 inch)

Functional Module Specifications

Visible Fault Locator Module ⁽³⁾			
Wavelength (±20nm)	650nm		
Output Power (dBm)	≥-3		
Max Measurement Range	5 Km		
Stabilized Laser Source Module ⁽⁵⁾			
Wavelength (±20nm)	Same as OTDR working wavelength ⁽⁵⁾		
Output Power (dBm)	≥-7		
Optical Power Meter Module ⁽⁵⁾			
Calibrated Wavelength (nm)	850,1300,1310,1490,1550,1625		
Power Range (dBm)	-70 ~ +6 (-60 ~ +6 @ 850nm)		
Detector Type	InGaAs		
Display Resolution	0.01dB		
Accuracy	± 5% ± 0.01nW (±0.5dB@850nm)		
MOD Identification	1K, 2K Hz		
PON Power Meter Module ⁽⁶⁾			
Calibrated Wavelength	1310nm	1490nm	1550nm
Measurement Range (dBm)	-40 ~ +8	-40 ~ +8	-40 ~ +20
Spectral Passband (nm)	1310±40	1490±10	1550±10
Power Uncertainty (dB)	≤ 0.5		
Display Resolution (dB)	0.01		
Insertion Loss (dB)	≤ 1.5		
Threshold	60 user-definable threshold sets		

Data Storage	1200 records
MCI100 Optical Connector Inspector Module	
Zoom	250X
Resolution	0.75µm
Focus	Manual
Adpator	Standard : 25-U-M: FC/SC/ST/E2000 UPC male; 125-U-M : LC/MU UPC male; 25-U-F : FC/SC/ST/E2000 UPC female; LC-U-F : LC UPC female; Optional: 125-A-M : LC/MU APC male; 25-A-M : FC/SC/ST/E2000 APC male; SC-A-F : SC APC female; FC-A-F : FC APC female; LC-A-F : LC APC female;
Weight / Size	150g/ 165x38x35mm

*** Specifications subject to change without notice**

Notes:

- 1) Specifications describe the instrument's warranted performance, measured with typical PC-type connectors. Uncertainties due to the refractive index of fiber are not considered.
- 2) The dynamic range is measured at maximum pulse width and averaging time of 3 minutes.
- 3) Conditions for dead zone measurement: Reflection event is at 0.6Km, reflection intensity is less than -45dB, event dead zone is measured with pulse width of 10ns; attenuation dead zone is measured with pulse width of 10ns.
- 4) 1625nm can be replaced by 1650nm.
- 5) Visible fault locator module, Stabilized laser source module and Optical power meter module is standard on -VPSI models. Stabilized laser source shares SP-OTDR16 optical port and work on the same working wavelength of SP-OTDR16.
- 6) PON power meter module is standard on SP-OTDR16-P1C, and SP-OTDR16-P3C.

Standard Package

No	Name	Qty
1	OTDR(SP-OTDR16)	1 set
2	FC/PC connector	1 pc
3	NiMH battery	1 pc
4	TraceManager software CD	1 pc
5	USB Data cable	1 pc
6	AC adaptor	1 pc

7	Soft carrying case	1 pair
8	Warranty card	1 pc
9	Quick reference guide	1 pc

Options

- ◆ SP-OTDR16-VPSI: Visible Fault Locator module , Optical Power Meter module, Stabilized Laser Source module and Optical Connector Inspector Module for SP-OTDR16
- ◆ MCI100 Module: Optical Connector Inspector
- ◆ LM100 Function: LinkImage software

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by SPEEDWOLF before they become applicable to any particular order or contract. In accordance with the SPEEDWOLF policy of continuous improvement specifications may change without notice.

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