

NOYES®

C850 Compact QUAD OTDR with QUAD OLS and OPM



C850 Compact QUAD OTDR



C850 OTDR with DFS1 Digital FiberScope

Features

- OTDR dynamic range: 22 dB (MM), 26 dB (SM)
- Inspection capable with the DFS1 Digital FiberScope
- Integrated OPM, OLS, and VFL (650 nm)
- Full Auto, Expert, Real-Time OTDR test modes
- Touch and Test™ user interface
- Automatic Pass/Fail analysis (TIA/ISO/EN)
- Bellcore (GR-196) .SOR file format
- Internal (1000s tests) and USB storage
- Wave ID detect if used with NOYES Wave ID series light sources
- >8 hours battery life or AC power
- USB host and function ports
- TRM™ reporting software

The NOYES C850 Certification OTDR from AFL combines ease of use (Touch and Test™) and multiple functionality in a hand-held test set designed for testing and inspecting multimode and single-mode fibers. The C850 integrates an OTDR with Optical Light Sources (OLS), an Optical Power Meter (OPM), Visible Fault Locator (VFL) and inspection capability for testing and troubleshooting enterprise networks. OTDR Auto modes, OPM Wave ID, and pass/fail thresholds simplify the user experience, reduce training time and testing errors enabling even novice users to get the job done quickly and accurately.

The C850 OTDR combines ease of use and functionality for performing OTDR and loss testing of optical fibers in enterprise networks (campus and buildings). OTDR and OPM test results for the same fibers are stored in logical job folders by cables allowing for easy review, selection, maintenance, and report generation using supplied Windows® compatible software. The C850 OTDR can be used in pairs or with a C840 to perform Tier 1 dual-wavelength, two fiber bi-directional tests. Loss and length can be measured and compared to ISO/TIA/EN or User standards or applications to provide pass/fail feedback regarding the fibers ability to meet the acceptance criteria to be certified.

The C850 supports visual inspection per IEC 61300-3-35 using the DFS1 Digital FiberScope allowing users the ability to view and document connector end-face images with their OTDR traces and loss results.

Thousands of OTDR test results may be saved as standard .SOR files, which can be stored internally or on the supplied USB drive. Test results are transferable via a USB cable or USB drive to a computer for viewing, printing, and analyzing with the supplied Windows® compatible software - TRM™ (Test Results Manager). Acceptance reports generated using TRM™ can include OTDR traces with summary and event information with or without pass/fail indication, Event maps, and end-face images.

Applications

- Tier 1 and Tier 2 testing of premise networks
- Bi-directionally measure loss and length of fiber links
- Perform Pass/Fail Event and Link measurements
- Certify fibers using Pass/Fail criteria of industry standards, applications and user-defined limits
- Create professional certification reports



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Specifications ^a

OTDR	MULTIMODE	SINGLE-MODE
Emitter Type	Laser	
Safety Class	Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03	
Center Wavelengths	850/1300 nm	1310/1550 nm
Wavelength Tolerance	±20/30 nm	±20/30 nm
Dynamic Range (SNR = 1)	22 dB	26 dB
Event Dead Zone ^b	1.5 m	
Attenuation Dead Zone ^c	9 m	
Pulse Widths	10, 30, 100, 300 ns; 1, 3, 10 µs	
Range Settings	250 m to 64 km	250 m to 208 km
Sampling Points	Up to 16,000	
Minimum Data Point Spacing	0.25 m	
Group Index of Refraction (GIR)	1.4000 to 1.6000	
Distance Uncertainty (m) ^d	±(1 + 0.005 % x distance + data point spacing)	
Linearity ^e	±0.05 dB/dB	
Loss Threshold	0.05 dB	
Loss Resolution	0.01 dB	
Reflectance Accuracy ^f	±2 dB	

VISUAL FAULT LOCATOR	
Emitter Type	Laser
Safety Class	Class II FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03
Wavelength	650 nm ±20 nm
Output Power (nominal)	0.8 mW

LIGHT SOURCE	MM PORT	SM PORT
Available Wavelengths (nominal)	850/1300 nm	1310/1550 nm
Emitter Type	LED	Laser
Safety Class	Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03	
Output Power	>-20 dBm, 62.5 µm MM ^g	0 dBm, 9 µm SM
Stability (after 15 minutes warm up)	±0.1 dB over 1 hour	±0.07 dB over 1 hour ±0.15 dB over 8 hours
Wave ID Transmit	Yes	
Tone Generation	270 Hz, 330 Hz, 1 kHz, 2 kHz	

POWER METER	
Calibrated Wavelengths	850, 1300 1310, 1490, 1550, 1625 nm
Detector Type	InGaAs 2 mm
Measurement Range	+6 to -60 dBm
Accuracy ^h	±0.25
Measurement Units	dB, dBm, mW
Wavelength ID ⁱ	Yes (to -47 dBm)
Set Reference	Yes
Data Storage	Yes
Tone Detection	Yes (to -47 dBm)

GENERAL	
Test Modes	OTDR (Full Auto, Expert, Real-Time), Auto Test, OPM, OLS, VFL, DFS
Trace File Format	SR-4731 (GR-196-CORE Appendix A, B; SR-4731)
Length Measurement Range	5 km (MM); 200 km (SM)
Data Storage	Internal flash memory USB flash drive (2.0) Downloadable from unit directly to PC
Data Storage Capacity	Internal >1000 fibers
Data Transfer to PC	USB
Tool Free Adapters	Modular cleanable SC/ST/LC
Size	27.4 x 19.3 x 7.1 cm (10.8 x 7.6 x 2.8 in)
Weight	2.3 kg (5 lb)
Operating Temperature	-10 °C to +50 °C, 0 to 90 % RH (non-condensing)
Storage Temperature	-20 °C to +60 °C, 0 to 90 % RH (non-condensing)
Power	Rechargeable Li-Ion or AC power adapter
Battery Life ^{k, m}	>8 hours continuous testing
Recharge Time ^{l, m}	4 hours
Display	16.51 cm (6.5 in), color, transfective

Notes:

- All specifications valid at 25 °C unless otherwise specified.
- Typical distance between the two points 1.5 dB down each side of a reflective spike caused by a -45 dB event using 10 ns pulse width.
- Typical distance from event location to point where trace is within 0.5 dB of backscatter caused by a -45 dB event using 10 ns pulse width.
- Does not include GIR uncertainty.
- Typical.
- For a non-saturated event.

- Output power will be approximately 3 dB less if a 50 µm mandrel-wrapped jumper is used instead of a 62.5 µm mandrel-wrapped jumper.
- Accuracy measured at -10 dBm per N.I.S.T. standards.
- Automatic wavelength identification and switching when used with NOYES Wave ID Series Light Sources.
- Typical, depending on display brightness.
- Typical, from fully discharged to fully charged state, unit may be operating.
- External battery charger available.

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C850 Compact QUAD OTDR with QUAD OLS and OPM



Ordering Information

The C850 OTDR kits and options allow users to buy the test equipment functionality needed today and grow to meet the demands of certification testing.

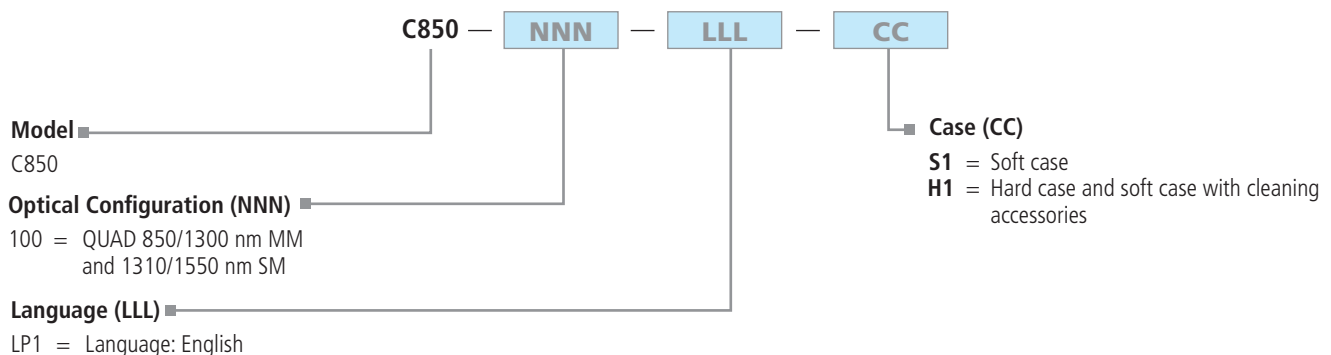
The C850 combined with an OLS optical light source will allow users to test and generate detailed reports with both OTDR and Loss results shown for each fiber and in charts by cable.

Users can add a C840 or another C850 to perform Certification testing. Two C850s or a C840 Tester and C850 can be used together to perform Tier 1 dual wavelength MM (850/1300 nm) and SM (1310/1550 nm) auto tests of one or two fibers in one or both directions as well as measure both loss and length of the fibers and compare to industry standards (TIA/ISO/EN), applications and user-defined threshold values to certify the fibers.

The C850 OTDR and C840 Certification Tester work with the DFS1 Digital FiberScope.

When placing an order, select options as follows: Model, Optical Configuration, Language, and Case.

Example: C850 — 100 — LP1 — H2



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Ordering Information (continued)

Each C850 kit includes the C850 QUAD OTDR with integrated OLS, OPM, VFI, USB Flash drive, PC software for OTDR trace analysis and certification or OPM loss reporting, AC adapter, switchable test ports adapters and accessories (see table below). The C850 hard carry case kit has room for up to 6 Fiber Rings, jumpers in a jumper carry case, and the DFS1 Digital FiberScope kit (accessory items must be ordered separately).

KIT MODEL NUMBER	CARRY CASE AND ACCESSORIES	CLEANING PRODUCTS	ADAPTERS		
			OTDR/OLS	OPM	VFI
C850-100-LP1-S1	Soft case	One-Click Cleaner SC/ST/FC, 2.5 mm	SC, ST, LC	SC, 2.5 mm, 1.25 mm	2.5 mm 1.25 mm
C850-100-LP1-H1	Soft and hard cases	One-Click Cleaner SC/ST/FC, 2.5 mm One-Click Cleaner LC, 1.25 mm Cletop - SB white tape	SC, ST, LC	SC, 2.5 mm, 1.25 mm	2.5 mm 1.25 mm

C850—100—LP1—H1 Kit Contents

ITEM	DESCRIPTION
C850	QUAD OTDR/Auto Test Certification Tester
Adapters	OTDR and OLS ports — SC, ST, LC OPM port — SC, 1.25 and 2.5 mm Universal VFI port — 1.25 and 2.5 mm Universal
Miscellaneous Accessories	Mandrel — 62.5 μm, 3 mm jacket and 50 μm, 3 mm jacket
	Stylus pen for touch screen
	USB thumb drive, 1G; USB to mini-USB cable
	Small plastic parts box (2) to store adapter caps and mandrels
	AC adapter (1), specify country of use
Cleaning Accessories	One-Click Cleaner SC/ST/FC, 2.5 mm
	One-Click Cleaner LC/MU, 1.25 mm
	Cletop SB white tape
Cases	Hard transit case — holds C850, and above accessories
	Soft case for C850
Report Software	PC software

OTDR, Inspection, and Cleaning Accessories

MODEL	DESCRIPTION
DFS1-00-04XU	DFS1 Digital FiberScope PC/UPC Inspection Kit
DFS1-00-04XA	DFS1 Digital FiberScope APC Inspection Kit
DFS1-00-04XN	DFS1 USB Digital Fiber Inspection Kit without Adapters
FR1-M5-150-x1-x2 ^a	Fiber Ring, 1 fiber, 50/125 μm multimode, 150 m
FR1-L5-150-x1-x2 ^a	Fiber Ring, 1 fiber, Laser Optimized, 50 μm multimode, 150 m
FR1-M6-150-x1-x2 ^a	Fiber Ring, 1 fiber, 62.5/125 μm multimode, 150 m
FR1-SM-150-y1-y2 ^a	Fiber Ring, 1 fiber, single-mode, 150 m
8500-20-0900	Wet Cleaning Kit (shown) for SC/FC/ST/LC connectors.
8500-20-0901	Dry Cleaning Kit
8500-05-0001MZ	One-Click Cleaner SC, ST, FC (500+ cleans)
8500-05-0002MZ	One-Click Cleaner LC/MU (500+ cleans)
8500-05-0005MZ	One-Click Mini-100 SC, ST, FC (100+ cleans)
8500-05-0006MZ	One-Click Mini-100 LC/MU (100+ cleans)
8500-05-0007MZ	One-Click Cleaner Ultra 2.5 SC, ST, FC (enlarged cleaning)
1400-01-0086PZ	Zippered Jumper Carry Case

Notes:

a. When ordering Fiber Rings, specify connector types (x1, x2, y1,y2).

Authorized Channel Partner



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