

C860 QUAD OTDR and Certification Test Kit



C850 QUAD OTDR

- Full Auto, Expert and Real-Time OTDR test modes
- Large transfective (indoor/outdoor) touch screen display

C850 QUAD OTDR and C840 Certification Tester

- Complete test kit for Tier 1 and Tier 2 certification testing
- Bi-directional two fibers and single fiber test capable
- Create professional certification reports
- Perform Pass/Fail Event and Link measurements
- Find faults using integrated Visual Fault Locator
- Test to industry standards, applications and user-defined thresholds



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The Noyes C860 QUAD Certification and OTDR Test Kit from AFL Telecommunications includes one handheld C840 QUAD OLTS Tester and one C850 QUAD OTDR/OLTS with built-in auto test functionality. With this kit, technicians can troubleshoot and perform both Tier 1 and Tier 2 certification tests of MM and SM fiber networks, store results and create professional test reports.

The C850 is both a QUAD Certification Tester and full-featured QUAD OTDR in a compact case with a large transfective touch screen display suitable for both indoor and outdoor operation. The C850 features MM and SM OTDR capabilities, both single-mode and multimode Optical Light Sources (OLS), Visual Fault Locator (VFL, 650 nm), and an Optical Power Meter (OPM). As an OTDR, the C850 supports Full Auto, Expert (manual) and Real-Time test modes, simultaneous dual and single wavelength testing, and Event and Pass/Fail analysis based on default or user-defined thresholds.

The Noyes C840 QUAD Certification Tester includes VFL, OPM, and both single-mode (Laser 1310/1550 nm) and multimode (LED 850/1300 nm) OLS. The C840 may be used alone as a traditional power meter and light source to measure fiber loss or as a visual fault locator to find fiber breaks.

The C840 and C850 can be used together to perform Tier 1 dual wavelength MM (850/1300 nm) and SM (1310/1550 nm) auto loss tests of one or two fibers in one or both directions; and measure both loss and length of the fibers and compare to industry standards (TIA/ISO/EN), applications and user-defined thresholds values to certify the fibers. Either unit can be identified as the Main or Remote. The user may test two fibers at two wavelengths bi-directionally and store the results into the main unit. Featuring rich file naming, the Job setup wizard allows the user to define both the cable and fiber end locations, creating easily identifiable trace files, which are managed into Job and Cable folders.

Features

- 22 dB (MM), 26 dB (SM) dynamic range (OTDR)
- LED 850/1300 nm and Laser 1310/1550 nm sources (OLS)
- Integrated OPM and VFL (650 nm)
- Transfective (indoor/outdoor) touch screen display
- Tool-free, switchable adapters
- Rechargeable Li-Ion battery (> 8 hours) or AC power
- USB host and function ports
- Bellcore (GR-196) .SOR file format
- Internal (1000s test results) and USB storage
- Wave ID detect if used with Noyes Wave ID series light sources
- Windows® compatible software

Applications

- Tier 1 and Tier 2 testing of premise networks
- Fast fault location
- Splice verification
- Network documentation
- Measure loss and length of fiber links
- Certify fibers using Pass/Fail criteria of industry standards, applications and user-defined limits



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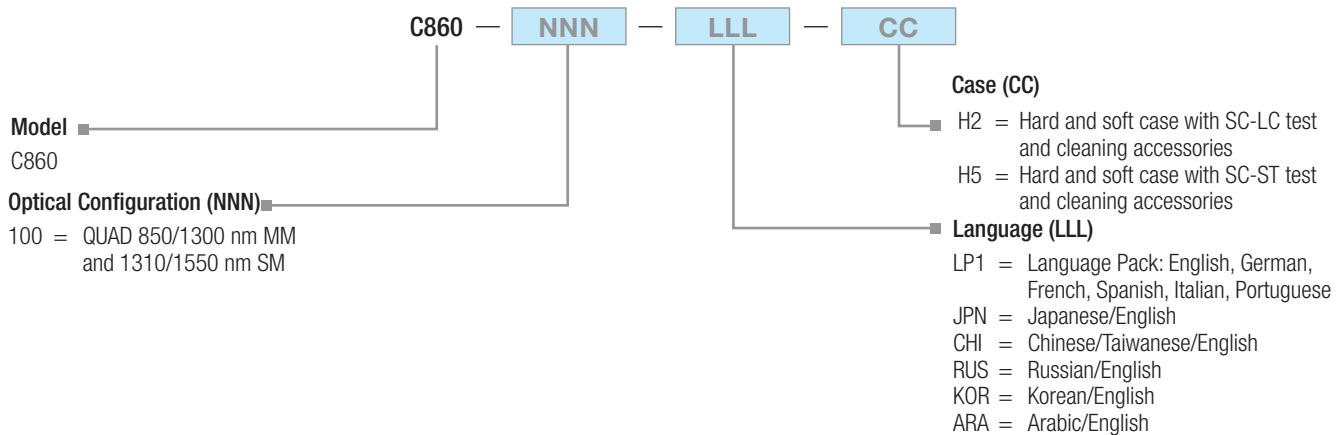
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C860 QUAD OTDR and Certification Test Kit

Ordering Information

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

Example: C860 — 100 — LP1 — H5



C860—100—LP1—H2 (or H5) Kit Contents

ITEM	DESCRIPTION
C850	QUAD OTDR/Auto Test Certification Tester
C840	QUAD Auto Test Certification Tester
Adapters	OTDR and OLS ports — SC, ST, LC OPM ports — SC, 1.25 and 2.5mm Universal VFI ports — 1.25 and 2.5mm Universal
Fiber Rings (6)	150 m (62.5µm, 50µm, SM)
Jumpers (12)	2 m (62.5µm, 50µm, SM)
Miscellaneous Accessories	Mandrels (2) — 62.5µm, 3mm jacket
	Mandrels (2) — 50µm, 3mm jacket
	Stylus pens 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 (2), specify country of use
Cleaning Accessories	(2) One-Click Cleaner SC/ST/FC, 2.5mm
	One-Click Cleaner LC/MU, 1.25mm (H2 kit only)
	Cletop SB white tape
Cases	Hard transit case — holds C850, C840, and above accessories
	Soft case for C850
Documentation	User guides and quick reference guides
Report Software	PC software and user guide

Optional OTDR and Cleaning Accessories

MODEL NUMBER	DESCRIPTION
FR1-SM-150-SC-FC	Fiber ring, single-mode, SC/FC, 150 m
FR1-SM-150-SC-LC	Fiber ring, single-mode, SC/LC, 150 m
FR1-M6-150-SC-ST	Fiber ring, multimode, 62.5µm, SC/ST, 150 m
FR1-M6-150-SC-LC	Fiber ring, multimode, 62.5µm, SC/LC, 150 m
FR1-M5-150-SC-ST	Fiber ring, multimode, 50µm, SC/ST, 150 m
FR1-M5-150-SC-LC	Fiber ring, multimode, 50µm, SC/LC, 150 m
FR1-L5-150-SC-LC	Fiber ring, laser optimized, multimode, 50µm, SC/LC, 150 m
FR1-L5-150-SC-SC	Fiber ring, laser optimized, multimode, 50µm, SC/SC, 150 m
FR1-SM-500-SC-LC	Fiber ring, single-mode, SC/LC, 500 m
FR1-SM-500-SC-SC	Fiber ring, single-mode, SC/SC, 500 m
FR1-SM-500-SC-FC	Fiber ring, single-mode, SC/FC, 500 m
8500-20-0900	Wet Cleaning Kit for SC/FC/ST/LC Connectors
8500-05-0001MZ	One-Click Cleaner SC/ST/FC
8500-05-0002MZ	One-Click Cleaner LC/MU
8500-10-0017MZ	Replacement tape for Cletop (white)

Note: 1000 m single-mode fiber rings are also available.



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C860 QUAD OTDR and Certification Test Kit

Specifications (All specifications valid at 25°C unless otherwise specified)

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 ¹	1.5 m	
Attenuation Dead Zone ²	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
Distance Sampling Points	Up to 16,000	
Data Point Spacing	0.25 m (range ≤ 4 km), Range/16000 (range ≥ 8 km)	
Group Index of Refraction (GIR)	1.4000 to 1.6000	
Distance Uncertainty (m) ³	± (1 + 0.005% x distance + data point spacing)	
Loss Measurement Accuracy (linearity)	± 0.05 dB/dB	

- 1 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.
- 2 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.
- 3 Does not include GIR uncertainty.

LIGHT SOURCE	MULTIMODE PORT	SINGLE-MODE PORT
Available Wavelengths	850/1300 nm (nominal)	1310/1550 nm (nominal)
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, 62.5µm MM ¹	0 dBm, 9µm 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	

- 1 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.

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
Output Power (nominal)	0.8 mW



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POWER METER	
Calibrated Wavelengths	850, 1300 1310, 1490, 1550, 1625 nm
Detector Type	InGaAs 2mm
Measurement Range	+6 to -60 dBm
Accuracy ¹	±0.25
Measurement Units	dB, dBm, mW
Wavelength ID ²	Yes (to -47 dBm)
Set Reference	Yes
Data Storage	Yes
Tone Detection	Yes (to -47 dBm)

- 1 Accuracy measured at 25°C and -10 dBm per N.I.S.T. standards.
- 2 Automatic wavelength identification and switching when used with Noyes Wave ID Series Light Sources.

GENERAL	C850 OTDR	C840 TESTER
Test Modes	OTDR (Full Auto, Expert, Real-Time), Auto Test, OPM, OLS, VFL	Auto Test, OPM, OLS, VFL
Trace File Format	SR-4731 (GR-196-CORE Appendix A, B; SR-4731)	N/A
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)	23 x 11 x 7 cm (8.8 x 4.3 x 2.8 in)
Weight	2.3 kg (5 lb)	0.9 kg (2 lb)
Operating Temperature	-10 to +50°C, 0 to 90% RH (non-condensing)	
Storage Temperature	-20 to +60°C, 0 to 90% RH (non-condensing)	
Power	Rechargeable Li-Ion or AC power adapter	
Battery Life ¹	> 8 hours continuous testing	
Recharge Time ²	4 hours	
Display	16.51 cm (6.5 in), color, transfective	9.65 cm (3.8 in), color, transfective

- 1 Typical, depending on display brightness.
- 2 Typical, from fully discharged to fully charged state, unit may be operating. External battery charger available.