M100 Handheld OTDR

The Noyes M100 OTDR is a handheld, single-mode and multimode, four-wavelength Optical Time Domain Reflectometer with integrated VFL (visual fault locator). Using “PDA” technology the M100 reaches a new level of value and portability. By combining a simple user interface with the features of a mini-OTDR in a “micro” package, the M100 is ideal for premises network Tier 2 fiber link certification and fault-location measurements including: connection loss and reflectance, splice loss, and fiber loss slope (attenuation rate). The M100 is also suited for broadband service providers looking for a highly portable OTDR to document and trouble-shoot fiber links in their access and FTTx (fiber to the home/curb/office) networks.

Both the Multimode and Single-mode OTDR ports are equipped with tool-free, switchable adapter mounts. Switchable adapters are provided. The VFL port is equipped with a universal adapter that accepts any standard 2.5 mm connector. Saved test results can be transferred to a PC for archiving, printing, and analyzing with the supplied trace analysis software. Test results are stored in [*.sor] format.

Features

- Hand-held size and < 2.7 lb (1.2 kg)
- 850/1300/1310/1550 nm
- Integrated Visual Fault Locator (650 nm)
- Tool-free, switchable adapters (ST/SC/FC)
- Bellcore (GR-196) file format
- Compact Flash™ memory card
- Free PC software for trace analysis and printing
- TFT color display

Applications

- Premises network “Tier 2” certification
- Broadband/access network testing
- Baseline tracing
- Fault-location
- Connection loss and reflectance
- Splice verification

Ordering Information

Model Number	Description	Includes
M100-K-QUAD	850/1300 nm multimode and 1310/1550 nm single-mode OTDR	M100 OTDR, 16 MB CompactFlash™ memory card and card reader, trace analisys software, 110/220 VAC AC power adapter, user’s guide, carry case, (2) ST, (2) SC, and (1) FC OTDR port switchable adapters.
M100-K-MM	850/1300 nm multimode OTDR	M100 OTDR, 16 MB CompactFlash™ memory card and card reader, trace analisys software, 110/220 VAC AC power adapter, user’s guide, carry case, (1) ST and (1) SC OTDR port switchable adapters.
M100-K-SM	1310/1550 nm single-mode OTDR	M100 OTDR, 16 MB CompactFlash™ memory card and card reader,trace analisys software, 110/220 VAC AC power adapter, user’s guide, carry case, (1) SC and (1) FC OTDR port switchable switchable adapters

NOYES
Test & Inspection

M100 Multimode/Single-mode OTDR

Specifications

OTDR	Multimode	Single-mode
Emitter type	Laser	
Safety class	Class I FDA 21 CFR 1040.10 & 1040.11	
Center wavelengths	850/1300 nm	1310/1550 nm
Wavelength tolerance	± 20 / ± 30 nm	± 30 / ± 30 nm
Dynamic range (SNR = 1)	21/23 dB @ 1 µs, 3 min. test	26/ 26 dB @ 10 µs, 3 min. test
Event dead zone [1]	6 m	6 m
Attenuation dead zone [2]	20 m	20 m
Pulse width	30 ns, 100 ns, 300 ns, 1 µs	30 ns, 100 ns, 300 ns, 1 µs, 3 µs, 10 µs
Distance ranges	300 m to 20 km at 850 nm 300 m to 40 km at 1300 nm	300 m to 160 km
Group Index of Refraction adjustment range	1.4000 to 1.6000	
Trace file format	Bellcore GR-196, Version 1.1	
Trace file storage medium	CompactFlash™ Type 1 memory card	
Trace file storage capacity	> 200 per 16 MB CF memory card	
Distance accuracy	$\Delta L = \pm (dl + L \cdot \Delta n / n + 5 \cdot 10^{-5} L)$, where: dl = 3 m at the 20 km range, 6 m at 40 and 80 km, and 12 m at 160 km L = length of fiber under test in meters n = fiber group index of refraction (GIR) Δ n = GIR setting error	

Visual Fault Locator

Emitter type	Laser
Safety class	Class II FDA 21 CFR 1040.10 & 1040.11; IEC 825-1: 1993, EN60825-1: 1994
Wavelength	650 nm
Output power (nominal)	0.8 mW into 9/125 µm Single-mode or multimode optical fiber

General

Size (H x W x D)	190 x 100 x 70 mm (7.5 x 4 x 2.75 inches)
Weight	1.2 kg (2.7 lb)
Operating temperature	0 °C to + 40 °C
Storage temperature	-10 °C to + 60 °C
Relative humidity	0 to 95% RH (non-condensing)
Power	Rechargeable NiMH or 110/220 VAC adapter
Battery life	> 2 hours

[1] 1.5 dB down from each side of the peak, -40 dB reflective event, 30 ns pulse width

[2] To within 0.5 dB of backscatter, -40 dB reflective event, 30 ns pulse width

NOYES Test & Inspection