



# Noyes Networks Test & Measurement Equipment

## M100 Multimode/Singlemode OTDR

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The new Noyes M100 OTDR is the world's first hand-held, singlemode and multimode, four-wavelength Optical Time Domain Reflectometer with integrated VFL (visual fault locator). Based on the latest "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 fibre link certification and fault-location measurements including: connection loss and reflectance, splice loss, and fibre loss slope (attenuation rate). The M100 is also suited for broadband service providers looking for a highly portable OTDR to document and trouble-shoot fibre links in their access and FTTx (fibre to the home/curb/office) networks. Both the multimode and singlemode OTDR ports are equipped with modular ports that accept ST, SC, or FC connector adapters. The VFL port is equipped with a universal adapter that accepts standard 2.5 mm connectors.



### Features

- Hand-held size and < 2.7 lb (1.2 kg)
- 850/1300/1310/1550 nm
- Integrated Visual Fault Locator (650 nm)
- OTDR port adapters (ST/SC/FC)
- Bellcore (GR-196) file format
- Compact Flash? memory card
- PC software for trace analysis and printing
- Active-matrix colour display

### Applications

- Premises network "Tier 2" certification
- Broadband/access network testing
- Baseline tracing
- Fault-location
- Connection loss and reflectance
- Splice verification CATV and DWDM networks

### Specifications

OTDR	Multimode	Singlemode
Emitter type	Laser	Laser
Safety class	Class I FDA 21 CFR 1040.10 & 1040.11	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)	26 /26 dB @ 1 ?s, 3 min.	26/26 dB @ 10 ?s, 3 min
Event dead zone 1	5 m	5 m

Attenuation dead zone <sub>2</sub>	20 m	20 m
Pulse width	30, 100 ns	30, 100, 300, 1000, 10,000 ns
Distance ranges	2, 6, 40 km	2, 6, 40, 80, 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	> 400 per 16 MB CF memory card	
Distance accuracy	$\Delta L = ?(dl+L?Ln/n+5?10^{-5} L)$ , where: $dl = 3\text{m}$ at the 20km range, 6m at 40 and 80km, and 12m at 160km $L =$ length of fiber under test in meters $n =$ fiber group index of refraction (GIR) $\Delta n =$ GIR setting error	

## Visual Fault Locator

Emitter type	Laser
Safety class:	Class II FDA 21 CFR 1040.10 & 1040.11
	0IEC 825- 1: 1993, EN60825- 1: 1994
Wavelength	650 nm
Output power (nominal)	1 mW into 9/125 ?m singlemode 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%, non-condensing
Power	Internal rechargeable NiMH or 110/220 VAC adapter
Battery life	4 hours