FTT-1000
Mini OTDR Solution

Data Sheet

The FTT OTDR is a member of the Field Test Toolkit (FTT) product platform, the next generation of portable, field test solutions from Sunrise Telecom. Designed with field use in mind, the FTT-1000 is a rugged, splash proof device with no fans that is suitable for outdoor use. The touch screen and navigation keys allow operators to configure the unit and take measurements quickly and easily. Its optional super bright color LCD screen makes it easy to read both indoors and outdoors. The FTT features a WinCE™ operating system, has available USB and 10Base-T ports for data transfer, and includes PCMCIA and CF slots for additional storage memory.

The FTT-1000 offers a number of advanced features including noise filtering, 4pt least squares approximation (LSA) for splice loss measurement, automatic and manual mode configuration, and standard Bellcore GR-196 format for storage. The test system is available in two, three, and four wavelengths with excellent dynamic range and small event and attenuation dead zones, ensuring customers can select the best solution for their specific application.

FEATURES

- OTDR with up to 4 wavelengths
- Up to 42 dB dynamic range
- Field changeable optical adapters (SC or FC)
- Real-time and average modes
- Automatic and manual configuration
- Automatic event table generation
- Standardized .sor file output
- 6.4" LCD with touch screen
- Super bright LCD
- Win CE™ operating system

HIGHLIGHTS

- Provides full test functions of a benchtop OTDR
- Easy-to-use OTDR tester with intuitive user interface
- Measure and view multiple wavelength traces on high-resolution color display
- R_Viewer PC software for comprehensive OTDR analysis

BENEFITS

- One-button configuration and measurement simplifies and shortens testing time
- Full OTDR measurement and analysis capabilities in a compact system
- Rugged, portable design for easy site-to-site transport
- Splash proof design
- Expandable platform: USB, PCMCIA, and Compact Flash I/O ports allow the addition of memory, wireless cards, etc.
- Low power design allows over 8 continuous operational hours on a single charge

PHYSICAL LAYER APPLICATIONS

- SONET/SDH
- 1 Gbps and 10 Gbps Ethernet
- FTTx, PONS
- Campus and Fibre channel

SPECIFICATIONS

OTDR[1]

Wavelength
   1310 ± 20 nm, 1383 ± 3 nm, 1550 nm ± 20 nm, 1625 ± 20 nm
Dynamic Range[2]
   Dual wavelength 1310/1550 nm: 40/38 dB
   Tri wavelength 1310/1550/1625 nm: 41/42/40 dB
   Quad wavelength 1310/1383/1550/1625 nm: 41/32/42/40 dB[3]
Event Dead Zone[4]
   3 m
Attenuation Dead Zone[4]
   10 m
Pulse Width
   10, 30, 100, 300, 1000, 3000, 10000, 20000 ns
Distance Range
   5, 10, 20, 40, 80, 120, 160, 240 km
Linearity
   0.05 dB/dB
Sampling Resolution
   0.32 to 3.8 m, depending upon selected distance range
Sampling Points
   64000
Distance of Uncertainty
   $\Delta L = 0.3$ m + sampling resolution + $5 \times 10^{-5} \times L$
Measurement Time
   User defined: 5 sec to 30 min, continuous for live mode
Group Refraction Index
   1.00000 to 2.00000 @ 0.00001/step

Optical Power Meter (Preliminary)
Wavelength Range: 800 to 1700 nm
Calibrated Wavelengths: 1310, 1383, 1550, 1625 nm
Measuring Range: +10 to −70 dBm
Resolution: 0.01 dB
Relative Accuracy at 20°C at −20 dBm: ± 0.15 dB
Detector: InGaAs
Total Accuracy: ± 0.2 dB
Modulation Frequency Detection: Up to 10 kHz
Wavelength Sensitivity over 30 nm: 0.1 dB
Damage Level: 20 dBm
Polarization Sensitivity: < 0.05 dB

Laser Source (Preliminary)
Output Power: -2.5 to -10 dBm
Wavelength Tolerance: ± 20 nm
Stability over Time: 0.15 dB
Stability over Temperature: 0.5 dB (0°C to 40°C)
Modulation Frequency: 270 Hz, 1 kHz, 2 kHz (± 1%, square wave)
Spectral Width (FWHM): < 2.5 nm

Visual Fault Locator (Preliminary)
Wavelength: 650 nm
Spectral Width at 20°C: 3 nm
Output Power: 1 mW
Modulation: CW, 2 Hz

PRODUCT DESCRIPTION

6.4" TFT LCD with touch panel
Size (WxDxH): 250 x 90 x 180 mm
Weight: 2.2 kg
Win CE operating system
USB, 10Base-T ports, PCMCIA and CF slots
Operating Temperature: -5˚ to 40˚C
Storage Temperature: -20˚ to 60˚C
Humidity: 0% to 90% noncondensing
Battery Operating Time: > 8 hours continuous

ORDERING INFORMATION

FTT-1002-FC Dual wavelength, 1310/1550 nm, 40 dB DR with FC-PC panel adaptor
FTT-1002-SC Dual wavelength, 1310/1550 nm, 40 dB DR with SC-PC panel adaptor
FTT-1003-FC Tri wavelength, 1310/1550/1625 nm, 42 dB DR with FC-PC panel adaptor
FTT-1003-SC Tri wavelength, 1310/1550/1625 nm, 42 dB DR with SC-PC panel adaptor
FTT-1004-FC Quad wavelength, 1310/1383/1550/1625 nm, 42 dB DR with FC-PC panel adaptor[5]
FTT-1004-SC Quad wavelength, 1310/1383/1550/1625 nm, 42 dB DR with SC-PC panel adaptor[5]

Option
FTT-11xx-xx with OPM, LS and VFL[5]

Optical Accessories
SA501	Optical Patch Cord, SMF, FCUPC to FCUPC, 2 m
SA502	Optical Patch Cord, SMF, FCUPC to SCUPC, 2 m
SA503	Optical Patch Cord, SMF, FCUPC to STUPC, 2 m
SA504	Optical Patch Cord, SMF, FCUPC to STUPC, 2 m
SA508	Optical Patch Cord, SMF, LCUPC to SCUPC, 2 m
SA509	Optical Patch Cord, SMF, LCUPC to FCUPC, 2 m
SA511	Optical Patch Cord, SMF, SCUPC to SCUPC, 2 m
SA512	Optical Patch Cord, SMF, SCUPC to STUPC, 2 m
SA513	Optical Jumper, SMF, FCUPC to FCUPC, 1 ft
SA514	Optical Jumper, SMF, SCUPC to SCUPC, 1 ft
SA519	Optical Patch Cord, SMF, SCUPC to FCAPC, 2 m
SA520	Optical Patch Cord, SMF, FCAPC to FCAPC, 2 m
SA525	Optical Patch Cord, SMF, SCAPC to SCUPC, 2 m
SA526	Optical Patch Cord, SMF, SCAPC to SCAPC, 2 m
SA527	Extra FC panel adaptor
SA528	Extra SC panel adaptor
SA595	OTDR Launch Box, 30 m, SC/UPC adapters
SA596	OTDR Launch Box, 30 m, FC/UPC adapters
FTT-1000-CASE	Soft Carrying Case

Notes
[1]All specifications measured at 25°C, unless otherwise specified
[2]At 3 min average time at SNR=1, 20 μs pulse
[3]Preliminary specification
[4]At pulse width 10 ns, with 0.32 m resolution and -45 dB reflection
[5]Contact sales for availability

For more information or a directory of sales offices: **info@sunrisetelecom.com** | **www.sunrisetelecom.com**