

AXS-110 All-Fiber OTDR

FTTx PON AND LAN/WAN INSTALLATION AND TROUBLESHOOTING UNIT



SPEC SHEET

A powerful handheld OTDR unit designed for splitter characterization in FTTx networks; can be configured as a quad unit with both singlemode and multimode wavelengths.

KEY FEATURES

Event dead zone: 0.8 m

Wavelengths: 850/1300/1310/1490/1550/1625 nm

Dynamic range: up to 37 dB

Battery autonomy: 8 hours

APPLICATIONS

FTTx/MDU PON network testing

LAN/WAN testing

Private network testing

COMPLEMENTARY PRODUCTS AND OPTIONS



Fiber Inspector Probe
FIP-400



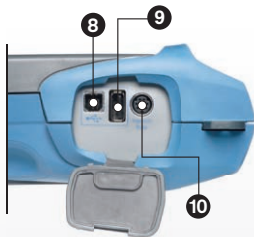
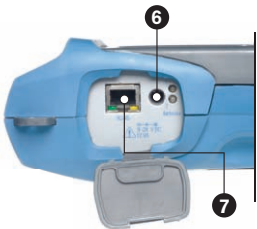
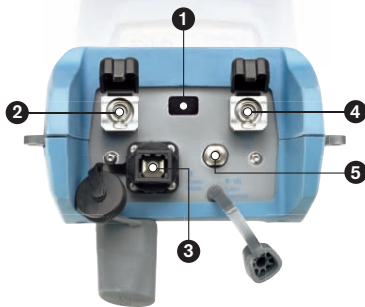
Data Post-Processing
Software
FastReporter



Soft Pulse Suppressor Bag
SPSB



Assessing
Next-Gen Networks



- 1 Infrared Printer Interface
- 2 OTDR Port | Multimode testing.
- 3 Power Meter Detector Port | Compatible with almost every connector on the market. Manually and efficiently perform power and loss testing. Accurately measure power up to 26 dBm.
- 4 OTDR Port | Singlemode testing.
- 5 VFL Port | Built-in 650 nm visual fault location on a universal 2.5 mm connector.
- 6 AC Adapter
- 7 RJ-45 | TCP/IP testing.
- 8 USB B | Data transfer using ActiveSync or remote control.
- 9 USB A | Data transfer using memory stick.
- 10 Fiber Inspection Probe Port

TECHNICAL SPECIFICATIONS^a

Wavelengths (nm)	850/1300/1310/1490/1550/1625
Dynamic range ^b (dB)	24/25/37/33/35/37
Pulse width (ns)	Multimode: 5, 10, 30, 100, 275, 1000 Singlemode: 5, 10, 30, 100, 275, 1000, 2500, 10 000
Event dead zone ^c (m)	0.8
Attenuation dead zone ^c (m)	3.5/4.5/4/4.5/4.5/4.5
Linearity (dB/dB)	±0.03
Loss threshold (dB)	0.01
Loss resolution (dB)	0.01
Sampling resolution (m)	Multimode: 0.08 to 2.5; singlemode: 0.08 to 5.0
Sampling points	Up to 64 000
Distance uncertainty ^d (m)	±(0.75 + 0.0025 % x distance + sampling resolution)
Distance range (km)	Multimode: 0.1 to 40; singlemode: 0.65 to 260
Typical real-time refresh (Hz)	4
Memory capacity	500 traces
Measurement time	User-defined
Stable source output power ^e (dBm)	Multimode: -1.5; singlemode: -7.5
Visual fault locator (optional)	Laser, 650 nm ± 10 nm CW typical P _{out} of 1.4 mW open beam

OPTIONAL POWER METER^f

Calibrated wavelengths (nm)	850, 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625
Power range (dBm)	26 to -64 (GeX 2 mm)
Uncertainty	±5 % ± 0.4 nW (up to 5 dBm)
Display resolution (dB)	0.01 (-54 dBm to P _{max}) 0.1 (-54 dBm to -64 dBm) 1 (-64 dBm to min)
Automatic offset nulling range ^g	Maximum power to -38 dBm
Tone detection (Hz)	270/1000/2000

GENERAL SPECIFICATIONS

Size (H x W x D)	250 mm x 125 mm x 75 mm (9 7/8 in x 4 15/16 in x 3 in)
Weight	1 kg (2.2 lb)
Temperature	operating -18 °C to 50 °C (14 °F to 122 °F) storage -40 °C to 70 °C (-40 °F to 158 °F)
Relative humidity	0 % to 95 % non-condensing
Power	Li-ion batteries; 8 hours of continuous operation as per Bellcore TR-NWT-001138
Warranty (years)	1

LASER SAFETY



21 CFR 1040.10 AND IEC 60825-1:2007
CLASS 1M WITHOUT VFL OPTION
CLASS 3R WITH VFL OPTION

Notes

- a. All specifications valid at 23 °C ± 2 °C (73.4 °F ± 3.6 °F) with an FC/PC connector, unless otherwise specified.
- b. Typical dynamic range with longest pulse and three-minute averaging at SNR = 1. Multimode dynamic range is specified for 62.5 μm fiber; a 3 dB reduction is seen when testing 50 μm fiber. AXS-11-12CD-23B is 24/25/32/30.
- c. Typical dead zone for multimode reflectance below -35 dB and singlemode reflectance below -45 dB, using shortest pulse.
- d. Does not include uncertainty due to fiber index.
- e. Typical output power is given at 1300 nm for multimode output and 1550 nm for singlemode output.
- f. At 23 °C ± 1 °C, 1550 nm and with FC connector. With OTDR in idle mode, battery operated.
- g. For ±0.05 dB, from 18 °C to 28 °C.

ORDERING INFORMATION

AXS-110-XX-XX-XX-XX-XX-XX-XX

Model

- AXS-110-023B = Dual-wavelength SM OTDR 1310/1550 nm (9/125 μm)
- AXS-110-12CD = Dual-wavelength MM OTDR 850/1300 nm (50/125 μm, 62.5/125 μm)
- AXS-110-12CD-23B = Four-wavelength MM/SM all-fiber OTDR 850/1300 nm (50/125 μm, 62.5/125 μm) and 1310/1550 nm (9/125 μm)
- AXS-110-023B-04B = Tri-wavelength SM and SM live OTDR 1310/1550 nm and 1625 nm live port (9/125 μm)
- AXS-110-000-04B = Single wavelength SM live OTDR 1625 live port (9/125 μm)
- AXS-110-236B = Tri-wavelength SM OTDR 1310/1490/1550 nm (9/125 μm)

Connector^a

- EA-EUI-28 = APC/DIN 47256^b
- EA-EUI-89 = APC/FC, narrow key^b
- EA-EUI-91 = APC/SC^b
- EA-EUI-95 = APC/E-2000^b
- EA-EUI-98 = APC/LC^b
- EI-EUI-28 = UPC/DIN 47256
- EI-EUI-76 = UPC/HMS-10/AG
- EI-EUI-89 = UPC/FC, narrow key
- EI-EUI-90 = UPC/ST
- EI-EUI-91 = UPC/SC
- EI-EUI-95 = UPC/E-2000
- EI-EUI-98 = UPC/LC^c

Power meter

- 00 = Without power meter
- PM2X = With GeX power meter

Software summary kit

- SK1 = SmartKit including macrobending detection, pass/fail and fault finder
- SK2 = IP testing
- SK3 = Fiber inspection probe software^d

Probe option

- 00 = Without probe
- FP4S = Inspection probe (400x)
- FP4D = Inspection probe (200x/400x)

VFL

- 00 = Without visual fault locator
- VFL = With visual fault locator

Connector adapter

- FOA-12 = Biconic
- FOA-14 = D4, D4/PC
- FOA-16 = SMA/906
- FOA-22 = FC, FC (PC/SPC/UPC/APC), NEC-D3
- FOA-28 = DIN 47256 (LSA); DIN 47256 (PC/APC)
- FOA-32 = ST, ST (PC/SPC/UPC)
- FOA-54 = SC (PC/SPC/UPC/APC)
- FOA-78 = Radial EC
- FOA-96B = E-2000/APC
- FOA-98 = LC
- FOA-99 = MU

Example: AXS-110-12CD-23B-EA-EUI-89-EI-EUI-95-PM2X-FOA-22-VFL-FP4S-SK1-SK2-SK3

Notes

- a. Refer to the example. First select the singlemode connector, and then the multimode connector or the live port connector.
- b. Singlemode only.
- c. Multimode only.
- d. Mandatory with FP4S or FP4D.

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