

AV6418 high performance & multifunction Optical Time Domain Reflectometer.



Product Summaries:

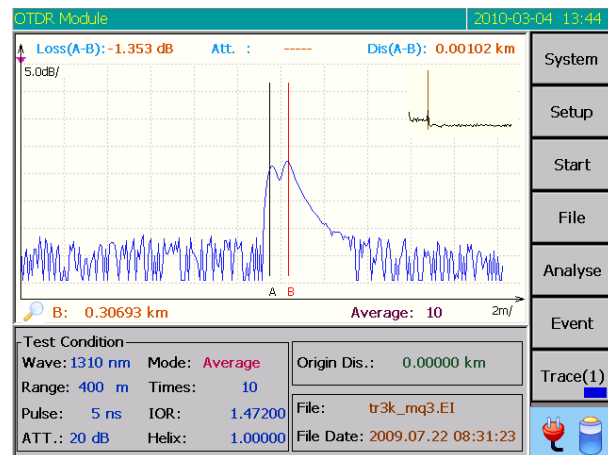
AV6418 OTDR is a high performance measuring instrument with multifunction designed for testing FTTx network. It's mainly used to measure the physical characteristics of optical fiber under test, such as length, transmission and splice loss etc... It can also locate the faults or breaks of optical fiber. It's widely applied in the manufacture, construction and maintenance in optical fiber communication systems.

Mainly features:

- Handheld, lightweight and convenience for carrying
- 45 dB high dynamic range
- $\leq 1\text{m}$ extra-short event dead zone
- 0.05m high distance resolution, 128k sampling points
- Fast auto measurement, one-button operating
- Test up to three wavelengths with a single unit
- Communication Light Check : automatic "fiber on use" alarm
- Remote function via Ethernet
- Double USB interfaces, supporting USB stick and printer and direct cable download to PC via ActiveSync
- Supporting Bellcore GR196 file format in writing or reading
- Built-in lithium battery with high capacity for over 8 hours of measurements
- Visible fault locating (VFL) and optical power meter
- Universal FC/PC, FC/SC, FC/ST connector type, it's convenient for surface cleaning
- Unique function of updating application software on-line, returning to factory is unnecessary

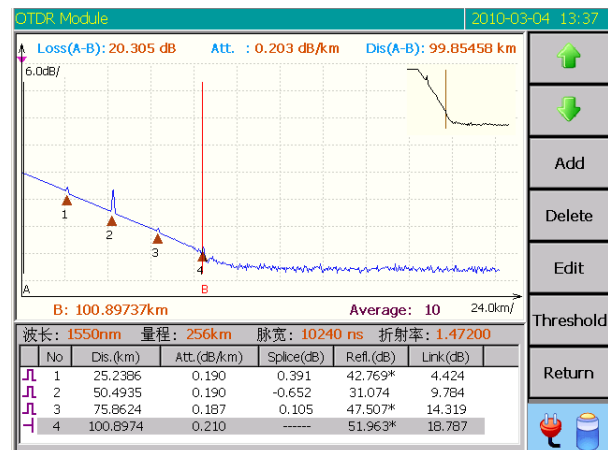
● Extra-short event dead zone

Due to its high resolution, AV6418 OTDR has 1m extra-short event dead zone, which is suitable for testing short optical fiber and pigtail optical fiber.



● High-speed auto analysis

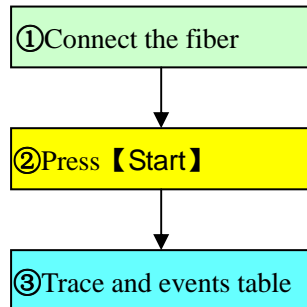
AV6418 can quickly determine and locate the events and faults in trace precisely, and then lists all events in a table, so it's very useful to maintainers by improving efficiency and it's unnecessary to know about the relative background knowledge.



Trace analyzing and event table

● High-speed auto measurement

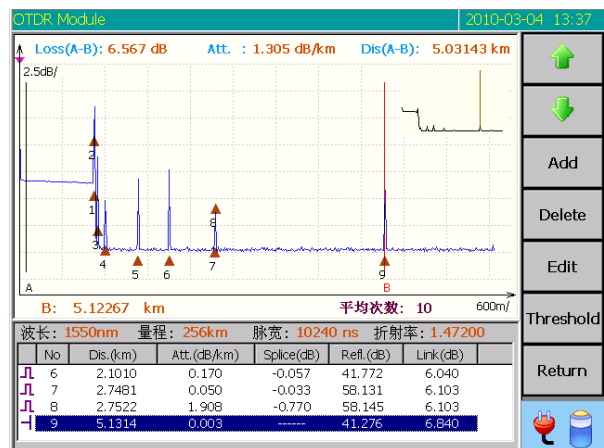
The function of auto measurement of AV6418 OTDR makes it unnecessary for the operator to know about the further details of operating. The operation becomes very simple: after connecting the fiber, only press **【Start】**, then the measured trace is displayed and the events are listed on the screen within a few seconds.



● Unique PON testing capability

AV6418 is ideal for access and FTTH network testing; it enables you to test through 1x32 and even 1x64 splitters for PON (passive optical network) testing.

AV6418 offers an exceptional 1 m event dead zone and 0.05m high distance resolution, with which you can characterize all events between the transmitter and the central office's fiber distribution panel.



● Convenient VFL function

The built-in 650nm visual fault locator (VFL) is ideal for identifying bad splice, bad connector, break or macro bend easily. The standard VFL with more than 2 mW output power is factory installed in AV6418.

● Communication Light Check

When measuring a fiber in service, the measurement results of an OTDR are not accurate, and there is a potential risk of permanent damage to the internal photoelectric of the OTDR receiver. To prevent these problems, the AV6418 OTDR can detect automatically and silently if communication light is present in the fiber under test: if light is detected, a warning message will be displayed and internal OTDR protection will be activated instantly.

● Multiple Wavelengths and Models

AV6418 OTDR can provide any of single mode wavelength, up to three wavelengths in a single unit, between 1310, 1550 and 1625 nm, with which AV6418 can be used widely from long range to FTTx, CATV, LAN, Access and Metro networks.

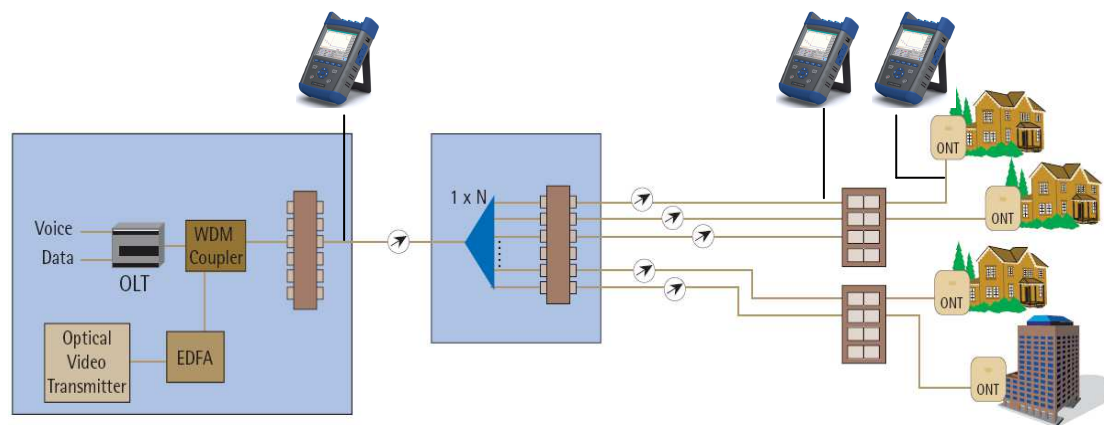
● Abundant external interface

AV6418 has abundant external interface, such as USB, Min-USB, Ethernet, earphone and SD, and thus can provide the following functions:

- Training via multimedia for operators enables you to become a measuring expert within short time.
- Implementing remote controlling through Ethernet, giving access to troubleshooting from long distance.
- Printing trace and event table
- Updating application software on-line



Typical applications:



AV6418 OTDR is mainly used to measure FTTx network, it provides multifunctions in one unit. AV6418 offers three measuring modes: manual mode (including real time mode and average mode), auto mode and dead zone mode.

Manual measurement mode: manual mode is suitable for skilled operator, familiar with the instrument. In this measurement mode, in order to get more accurate results, real-time mode or average mode can be selected if necessary.

In real-time mode, the dynamic changes of fiber chain can be detected timely, which is very useful when you need to observe the effect and process of fiber being spliced or connected.

In average measurement mode, the noise can be suppressed in the trace, and the SNR (signal to noise ratio) is improved, therefore, the result is more accurate. In fact, the longer average is executed, the more noise is suppressed, and the longer time is spent for signal processing. In practice, the average times should be set properly according to necessity.

Auto measurement mode: the optimized measurement conditions are set automatically, it's unnecessary for the operator to know about the complicated background knowledge and the further details of operating. In this mode, the more accurate results can be gained when proper average times are set, but it will increase the time of signal processing.

Dead zone mode: this mode is suitable for testing optical fiber with short distance and the optimized settings of distance range, pulse width and attenuator can be executed automatically. To get the best result, the terminal return loss should be guaranteed less than -40dB.

General Specifications:

Dynamic range	Please refer to “OTDR modules specifications ”
Distance uncertainty	$\pm (0.75\text{m} + \text{sample space} + \text{measurement distance} \times 0.0025\%)^1$
Sampling resolution	0.05、0.1、0.2、0.5、1、2、4、8、16m
Distance range	0.4、0.8、1.6、3.2、6.4、16、32、64、128、256、512km
Pulse width	5、10、30、80、160、320、640、1280、5120、10240、20480ns
Loss threshold	0.01dB
Sampling points	Up to128k
Linearity	0.05dB/dB
Loss resolution	0.001dB
Memory capacity	≥ 800 traces(build-in), ≥ 65500 traces(2GB SD storage)
Group refractive index setting	1.00000 to 2.00000 (0.00001 steps)
Distance unit	km、m、kft、ft
Display	640×480, 6.5 inch TFT-LCD (touch screen)
Interface	USB, Min-USB, Ethernet, earphone, SD
Optical connector	FC/SC/ST (universal connector)
VFL	650nm \pm 10nm, 2mW (typical); CW/1Hz
Optical Power Meter	Wavelength range: 1200nm to 1650nm Measurement range: -60 to 0 dBm Measurement accuracy: 5% (-10dBm, CW)
Power supply	AC adapter 100 to 240V, 50/60Hz, 1.5A DC:19V \pm 2V (2A) Built-in Lithium battery: 4400mAh, operating time ≥ 8 hours ²
Language	User selectable: simplified Chinese, English, Russian, Korean etc.. (please contact CETC 41st for others)
Environment	Operating temperature : -5 to 50 °C (charging: 5 to 40°C) Storage temperature : -40 to 70°C (Battery : -20 to 60°C) Relative humidity : 5% to 95%, non-condensing
Dimensions	295×186×75(mm)
Weight	2.5 kg Approx.

Note1: Does not include uncertainty due to fiber index

Note2: Low brightness, exclude measuring.

●Specify base unit

Ordering NO.	Description
AV6418-SS	AV6418 base unit with standard display brightness
AV6418-HS	AV6418 base unit with enhanced display brightness

Note: the standard OTDR interface type is FC/UPC, type of FC/APC is optional.

●Standard accessories

NO.	Name	quantity
1	Power line	1
2	AC/DC adapter	1
3	Quality certification	1
4	User manual	1
5	Trace analyzing software (CD)	1
6	Hard Carrying case(Including gallus)	1
7	Special gallus of instrument	1

Note: the standard OTDR interface type is FC/UPC, type of FC/APC is optional.

●Options

NO.	Name	type	note
1	USB stick		Saving measuring data
2	SD		Saving measuring data
3	printer	Hp laser Jet P2015d or Hp laser Jet 1022	Printing traces
4	USB cable		Communicating with PC
5	Standby battery pack	6417LB-1192	Standby battery
6	FC/SC, FC/ST connectors		

Note: For the necessity of improvement, the material contained in this document is subject to change without notice.

● OTDR modules specifications¹

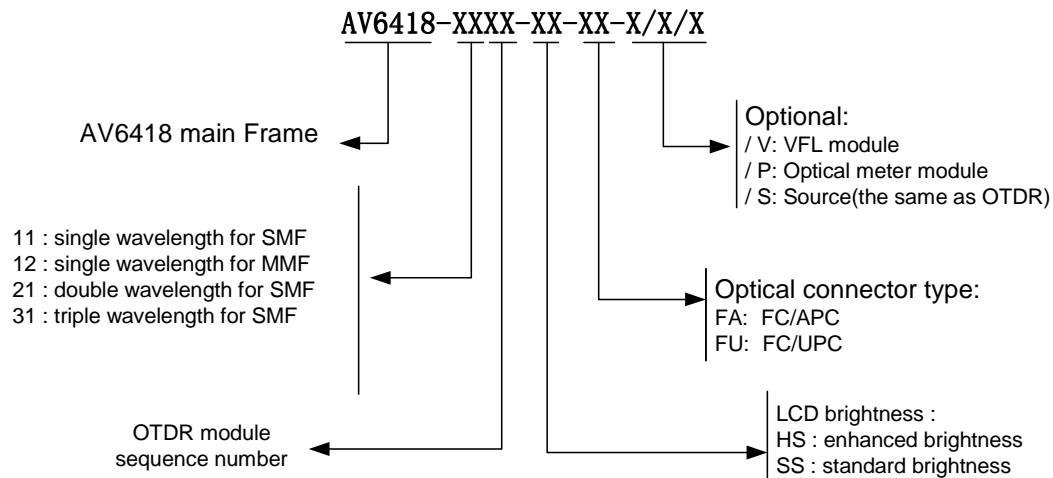
Ordering number	Operating wavelength	fiber type	Dynamic Range ² (dB)	Event Dead zone ³ (m)	Attenuation dead zone (m)
AV6418-2101	1310/1550nm	SMF	42 / 40	2/2	10/10
AV6418-2103	1310/1550nm	SMF	37 / 35	1/1	10/10
AV6418-3103	1310/1550/1625nm(build-in filter)	SMF	37/ 36 / 34	1/1/1	10/10/10

Note1: one and only one module of above must be selected.

Note2: the max. pulse width, average times \geq 300, SNR=1, 23°C \pm 2°C;

Note3: dead zone mode, distance range: \leq 3.2km, Pulse width: 5 ns, terminal reflection loss: \geq 40 dB, typical;

● Ordering information:



Example: AV6418-2101-HS-FU-V/P