6422

Optical Time-Domain Reflectometer (OTDR)

China Electronics Technology Instruments Co., Ltd

Product Overview

6422 OTDR modules could deliver single-mode wavelengths of 1310nm, 1550nm, 1490nm, 1625nm, 1650nm and 1383nm, multi-mode wavelengths of 850nm and 1300nm. It provides multiple optional modules, such as single wavelength, multi-wavelength and online test. With the maximum dynamic range of up to 46dB, the device can be used for remote multi-branch communication network test. It's designed with a minimum event dead zone of 0.8m which makes the near connection easy to be supervised, and the lowest sampling resolution of 2.5cm which enables it to locate the event point accurately. Additionally, the device is also designed with multiple convenient functional options, such as stable **light source**, **optical power meter**, **visible red light source** and **fiber end face inspection tester**.

Main Characteristics

- A maximum dynamic range of 46 dB, and up to 256k data sampling points;
- Online test of PON network;
- Integrated single-mode and multi-mode test;
- Automatic monitoring of optical communication signals;
- File formats of Bellcore GR196 and SR-4731 supported.

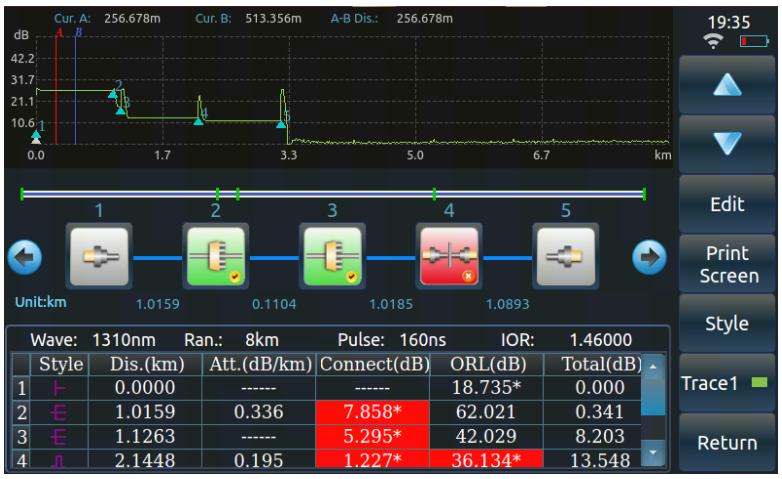
Rapid automatic test

Due to the automatic test function of 6422, it's not necessary for the user to know more about its operation. Connect the optical fiber and press the [Test] button. Then, the device will set the optimum test conditions automatically, and finally output accurate test results, such as the test curve and the list of events.

Unique PON network test

As a test instrument for fiber access networks and FTTx, 6422 is provided built-in PON

network test function, can penetrate an optical splitter of up to 1:128, and can be used to test each branch of the PON network accurately.



Automatic monitoring and alarm of incoming optical signals

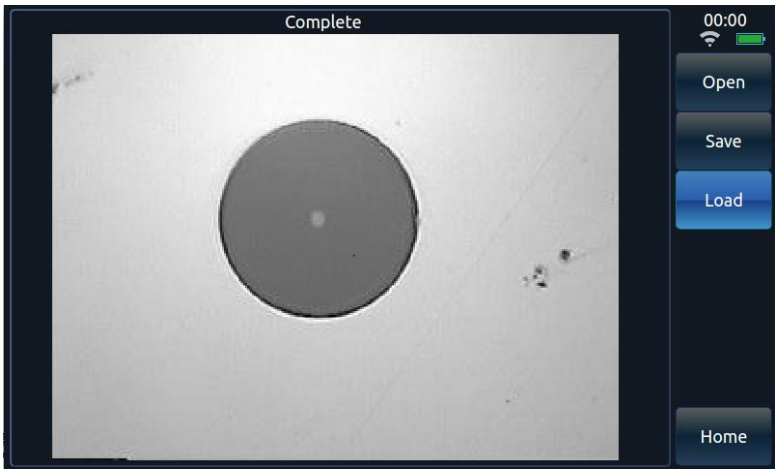
When the OTDR is testing the optical fiber line, the optical communication signal in the optical fiber, if any, will lead to inaccurate test results and even unrecoverable damages to the detectors in the device. 6422 can monitor the optical communication signal in the optical fiber under test automatically. As long as the optical fiber under test is connected to the optical interface of 6422, the device can automatically sense and monitor whether there is optical communication signal in it. Once an optical signal is monitored, it will prompt an alarm in time, so as to provide the quickest and the timeliest protection for the device.

Fiber link event intelligent graphic display function

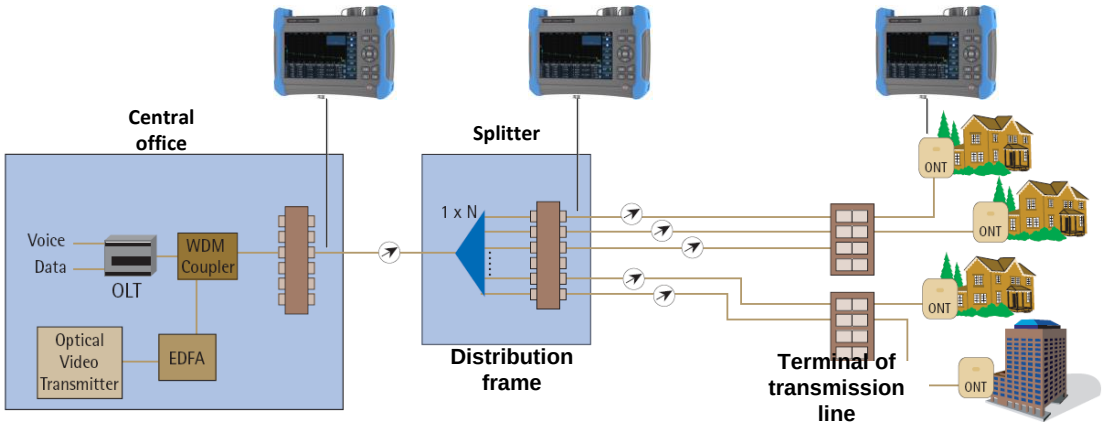
Switch analysis mode to perform graphical analysis on the current trajectory curve and display the graphical analysis interface.

Optical fiber end face inspection function

Click the 【FIP】button to enter the operation interface.



Typical Applications



Technical Specifications

Maximum dynamic range	See the "**Technical specifications for each standard module of 6422 OTDR**" for details.
Ranging accuracy	±(0.75 + sample interval + 0.0025% × range)(excluding the refractivity placement error) (m)
Ranging resolution	0.05, 0.1, 0.2, 0.5, 1, 2, 4, 8, 16 and 32m
Test range	0.4, 0.8, 1.6, 3.2, 6.4, 16, 32, 64, 128, 256 and 512km (single-mode); 0.4, 0.8, 1.6, 3.2, 6.4, 16 and 32km (850nm multi-mode)
Testing PW	3, 5, 10, 30, 80, 160, 320, 640, 1280, 5120, 10240 and 20480ns 3, 5, 10, 30, 80, 160, 320, 640 and 1280ns(850nm multi-mode)
Maximum number of sampling points	256k
Linearity	0.03dB/dB
Loss resolution	0.001dB
Refractivity setting range	1.00000 ~ 1.99999(step: 0.00001)
Range unit	km, m, thousand feet, feet
Display	800×480, 7-inch TFT color LCD (a capacitive touch screen in the standard configuration)
Optical output interface	FC/UPC (standard configuration, with LC/UPC, SC/UPC, ST/UPC, and FC/APC optional)
External interfaces	USB, Micro-USB, 10M/100M Ethernet, earphone and Micro SD
Power supply	AC/DC adapter: AC100V~240V, 50/60Hz and 1.5A DC: 17V±3V(2A) Internal Li battery: 11.1V, 6800mAh, battery operating time: 8h
Maximum power consumption	10W
Dimensions	About 252mm(W)×180mm (H)×55mm (D)
Weight	About 1.8kg
Environmental adaptability	Operating temperature: -10℃ ~ +50℃ (battery charging: 5℃ ~ 40℃) Storage temperature: -40℃ ~ +70℃ (battery: -20℃ ~ 60℃) RH: 5% ~95%, no condensation

- **VFL (optional)**

  Operating wavelength: 650nm±20nm

  Output power: 2mW (typical)

  Operating mode: CW, 1Hz and 2Hz

- **Optical power meter (optional)**

  Wavelength range: 850nm~1650nm

  Power range: -60dBm~3dBm

  Uncertainty: ±5%(-25dBm, CW)

- **Stable light source (optional)**

  Operating wavelength: the same as OTDR (except 850nm)

  Output power: ≥-5dBm

  Operating mode: CW, 270Hz, 1kHz and 2kHz
- **Optical fiber end face test (optional)**
- **WIFI module (optional)**

  Through WIFI module, the mobile phone client can be connected with OTDR, and the mobile phone can control OTDR remotely and receive test results.
- **Technical specifications for each standard module of 6422 OTDR**

Single-wavelength

Module number	**Operating wavelength**	**Laser wave length**	**Dynamic range[1] (dB)**	**Event dead zone[2] (m)**	**ATT dead zone[3] (m)**
6422–1105	Single-mode 1625nm (built-in filter)	Single-wavelength	36	0.8	4.5
6422–1106	Single-mode 1650nm (built-in filter)		36		
6422–1201	Multi-mode 850nm		24	1	8
6422–1202	Multi-mode 1300nm		36		

Dual- wavelength

Module number	**Operating wavelength**	**Laser wave length**	**Dynamic range[1] (dB)**	**Event dead zone[2] (m)**	**ATT dead zone[3] (m)**
6422–2101	Single-mode 1310/1550nm	Dual-wavelength	37 / 35	1.5	8
6422–2102	Single-mode 1310/1550nm		42 / 40	0.8	4.5
6422–2103	Single-mode 1310/1550nm		45 / 42		
6422–2105	Single-mode 1550/1625nm (built-in filter)		36 / 36	1.5	8
6422–2107	Single-mode 1550 /1650nm (built-in filter)		36 / 36		
6422-2109	Single-mode 1310 /1550nm		46 / 46	0.8	4.5
6422–2108	Single-mode 1310/1550nm		30/ 28	1.5	8
6422–2201	Multi-mode 850nm/1300nm		26/34	1	8

Three- wavelength

Module number	Operating wavelength	Laser wave length	Dynamic range[1] (dB)	Event dead zone[2] (m)	ATT dead zone[3] (m)
6422–3101	Single-mode 1310/1490/1550nm	Three-wavelength	37/35/35	1.5	8
6422–3102	Single-mode 1310/1550/1625nm (filter, dual optical port)		37/35/35		
6422–3103	Single-mode 1310/1550/1625nm (filter, single optical port)		42/40/40	0.8	4.5
6422–3104	Single-mode 1310/1550 /1650 nm (filter, single optical port)		42/40/40		
6422–3105	Single-mode 1310/1550/1650nm (filter, dual optical port)		37/35/35	1.5	8
6422–3106	Single-mode 1310/1550/1625nm (filter, dual optical port)		30/28/28		

Four- wavelength

Module number	Operating wavelength	Laser wave length	Dynamic range[1] (dB)	Event dead zone[2] (m)	ATT dead zone[3] (m)
6422–4101	1310/1490/1550/1625nm (filter, dual optical port)	Four-wavelength	37/35/35/35	0.8	4.5
6422–4105	1310/1490/1550/1650nm (filter, dual optical port)		37/35/35/35		
6422-4001	Single-mode 1310/1550nm, multi-mode 850/1300nm		37/35/26/34	1.5	8
6422-4002	Single-mode 1310/1550nm, multi-mode 850/1300nm		30/28/24/28		

Notes: 1. Temperature: 23℃±5℃, the maximum test PW, average time＞180, SNR =1.

2. A range of 1.6km or smaller, a PW of 3ns, a fiber end face reflection loss of 40dB or above, and a typical value.

3. A range of 1.6km or smaller, a PW of 5ns or smaller, a fiber end face reflection loss of 50dB or above, and a typical value.

Order Information

● **Main unit:** 6422 OTDR

● **Standard configuration:**

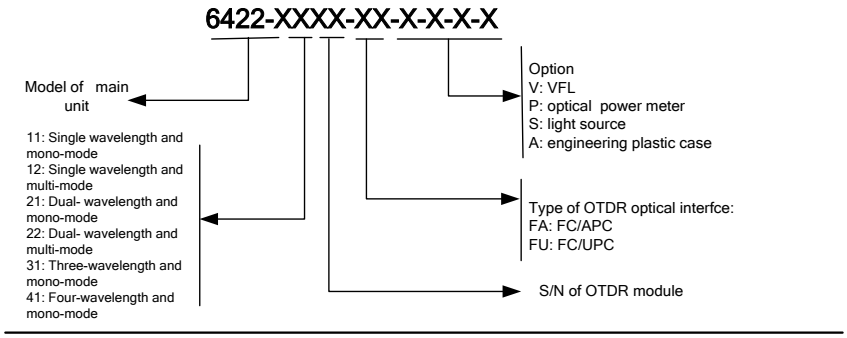
S/N	Designation	Remarks
1	Main unit	With lithium battery
2	Power line assembly	Input voltage：100~240V, 50~60Hz, 2.0A Output voltage: 15±0.5V Output current: ≥ 3A
3	User manual	-
4	Product certificate of conformity	-
5	Special portable soft bag of OTDR	

● **Options:**

No.	Designation	Remarks
6422-001	U Disk	Storage capacity ≥ 4GB
6422-002	SD card	Storage capacity ≥ 8GB
6422-003	USB data cable	Length ≥ 0.5m
6422-004	Spare battery pack	-
6422-005	LC adapter	-
6422-006	SC adapter	-
6422-007	ST adapter	-
6422-008	VFL	Working wavelength：650nm±20nm； Output power：≥2mW
6422-009	OPM	Working wavelength：850nm ~ 1650nm； Dynamic range: -60dBm ~ 3dBm
6422-010	LS	Working wavelength：same as OTDR module(except 850nm)； Output power：≥-5dBm
6422-011	Special engineering plastic case of OTDR	
6422-012	Optical fiber end face test	Magnification ≥ 200, USB interface

6422-013	WIFI module	-

● **Information for choosing:**



Notes: Due to the design improvement requirement, the contents mentioned above can be modified without notice.