User Manual

GT100

Optical Time Domain Reflectometer

Please read this manual before starting to use the equipment

Please keep this manual with the equipment

Ver.1.0

Content

Preface

Safety Symbols

In order to prevent personal injury and loss due to the misoperation of the instrument, **DBtek** uses the following safety signs to indicate relevant safety information. Before using the instrument, be sure to clearly understand the meaning of these signs.
Some or all of the signs may not be found on the instrument. In addition, safety signs of the device may not be marked in the illustrations of this manual.

Safety Signs used in the Manual

Sign	Description
Dangerous 	This sign indicates that this is a very dangerous operation, and improper operation will lead to serious injury and even death.
Warning 	This sign indicates that this is a relatively dangerous operation, and improper operation will lead to serious injury and even death.
Caution 	This sign indicates that this is a relatively dangerous operation, or has a certain harm and improper operation due to carelessness will lead to mild or serious injury and loss.

Safety Signs used in the Manual and Machine:

The following safety signs are marked in the device, near the operation position, or in the manual to provide relevant safety information and prompt the user to operate with care. Before using the instrument, be sure that you have clearly understood the meaning of these signs and take necessary precautionary measures.

Sign	Description
	This sign indicates a forbidden operation. This circle with a slash is labeled on the operation position or near it.
	This sign means that you must be careful when performing a certain operation. This circle sign is labeled on the operation position or near it.
	This sign indicates a warning and caution. Relevant content appears inside the triangle or near it.
	This sign indicates an explanation. Relevant content is listed in the box
	These signs indicate that the labeled components should be recycled.

Laser Safety Labels

Electrical Safety

In order to reduce damage to instrument and injury even death of human body, the following warnings are given:

- Do not use if the instrument or the external charger was damaged or ruptured
- Only the external power adapter provided by our company can be used. For other external power adapters, we cannot guarantee their performance and safety
- Do not use the power adapter outdoors or in humid places
- e sure that the external input voltage is within the allowable range

Precautions

⚠ Caution

Replace internal memory battery: This instrument uses a lithium battery as the power supply. If it exceeds the maximum service life and needs to be replaced, please contact specialized personnel for replacement.
External memory: This device uses USB as external memory to save data

INNO Instrument (China) Inc. is not responsible for data loss

Chapter 1 Overview

1.1 Introduction

High-performance hardware and wieldy software used in GT100 can shorten the process of installation, debugging and fiber distance maintenance. This chapter will describe the features and basic operations of GT100 OTDR test unit.

1.2 Basic function

GT100 is mainly used for fiber fault diagnosis, especially in FTTH application. Besides the basic OTDR function, optical power meter and light source function for fiber discriminating are also internally installed.In addition.

OTDR Test

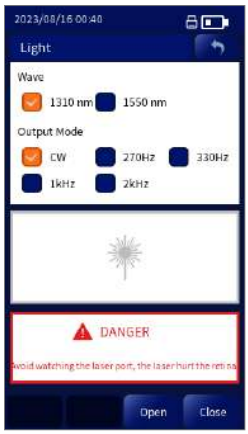
Based on Rayleigh scattering and Fresnel Reflection principle, OTDR can realize the relevant measurement on optical fiber link. It can also carry out distance measurement to fiber connection loss and fault location, thus it can determine the any point loss on the optical fiber. OTDR auto analysis function can automatically analyze measured traces to find the events on fiber, such as the reflection loss or the splicing point over loss threshold limit. Besides, the detected data can be also displayed in the event table on OTDR.

VFL/LS module

Visual fault locator which adopts 650±20nm light source or visual light source can offer visualization method for fiber fault location. The red light from visual light source can be captured by human eyes, being able to directly locate fault location in fiber test dead zone or make fiber core calibration in multi-fiber cable.

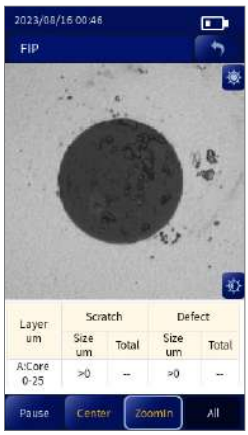
LS (Stable light source)

Light source with different wavelengths (i.e. 1310/1550nm) and multiple signal modulation modes in-built in GT100 are able to satisfy demands in actual applications, as shown in the following picture.



Fiber microscope (Fiber Inspection Probe) module

The grind quality and cleanliness of optical connector can be detected by being connected external fiber inspection device to USB port.



OPM module

The optical power meter is used to measure absolute optical power meter or relative optical power loss through a span of optical fiber. This module can measure optical power of multi-wavelength.

1.3 Standard Configuration

- Capacitive touch 4.3inch，480×272，color LCD
- AC adapter/charger, power cord
- Rechargeable lithium battery pack
- Basic menu operation
- Shoulder belt
- Operation Manual

1.4 Power supply

- AC/DC adapt：Input：100V~240V,50/60Hz,0.3A
- Input：5V,2A,lithium battery：3.7V，2500mAh

1.5 Dimensions and weight

- Size: TBD
- Weight: TBD

1.6 Environmental conditions

- Operating environment: Temperature: -10°C to 50°C, Relative humidity: 0% to 95%
- Storage environment: temperature: -40°C to 70°C, Relative humidity: 0% to 95%

Chapter 2 Installation

2.1 Safety reminder and precautionary measures

It is very important to keep in mind that GT100 is designed for fiber testing, not for any other purpose. OTDR is a high precision instrument and should be carried with great care. Therefore, please always observe the following safety rules and general specifications when using and carrying the GT100. Failure to take these safety measures or to comply with the warnings and precautions described elsewhere in this manual will violate the safety standards for the design, manufacturing and use of OTDR. Consequences due to violations of these requirements will be assumed by users!

2.2 Safety warnings for operation

① Do not operate the OTDR in a flammable or explosive environment.
② Do not disassemble or assemble any component of the OTDR without authorization except for the components stated in this manual that are allowed to be replaced by the user. Component replacement and internal adjustment can only be performed by authorized maintenance personnel.
③ Be careful when connecting the battery charging adapter cable. Do not pull the cable when removing it from the socket, but hold the plug. Be sure that the cable is in good condition to avoid the risk of fire or electric shock.
④ Do not expose the OTDR to fire, electric shock, rain, or humid environment.
⑤ When the OTDR encounters the following situations, please turn it off immediately and pull the adapter out of the power input port of OTDR. Otherwise, it may lead to serious consequences, such as the abnormal function of the OTDR or damage beyond repair.

★ Fumes, peculiar smell, or abnormal sound.
★ Liquid or foreign matters enter inside the OTDR.
★ OTDR suffers from strong vibration or impact.

Please contact the maintenance center immediately in case of the above faults. If the OTDR is in a fault state without taking timely measures, it may lead to device scrap, electric shock and fire, as well as personal injury (even death).

⑥ Please use the exclusive GT100 AC adapter only. Inappropriate AC power supply may lead to fumes, electric shock and device damage, and even fire, personal injury or even death.
⑦ Please use the exclusive AC power cord only. Do not place heavy objects on the power cord, and do not heat the power cord or change the power cord. An inappropriate or damaged power cord may lead to fumes, electric shock and device damage, and even fire, personal injury or even death.

2.3 Transportation and storage

① When the OTDR is transported to a warm environment from a cold environment, try to adopt the gradual heating mode, otherwise condensation will be produced inside the instrument, leading to adverse effects on the instrument.
② Please pack the device properly when OTDR is not in use.
③ Keep the OTDR clean and dry.
④ The OTDR has been precisely calibrated and adjusted. Place it in a carrying case to protect it from damage or pollution during transportation. A proper buffer packaging box should be added outside the carrying case during long-distance transportation.
⑤ Please avoid direct sunlight or overheated environment.
⑥ Keep the minimum humidity when stored. Relative humidity should be less than 95%.

2.4 Appearance overview

Front Panel

Description of keys	
Power	Switch (on / off)
Enter	Confirm the function
Direction keys (Up、Down、Left、Right)	Select keys shown on the screen

Port description	
SMF port (Testing port)	GT100 testing interface, applied in OTDR and light source modules of GT100.
OPM port	Optical power meter port.
VFL port	Visual light source port.
USB port	Connect USB storage device / fiber end probe.
TF Port	Data Storage

2.5 Charging method

Remaining battery capacity can be checked according to the battery status when GT100 is powered on.

2.6 Test port

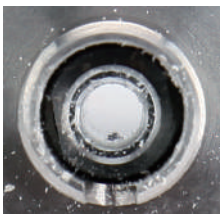
The measurement port of GT100 is located on the upper panel of the host. There will be 1 or 2 measurement ports depending on the type of GT100. The measurement port connected to optical fiber depends on the testing application and measured wavelength. The following are mixed universal connectors FC/SC used in GT100:

FC

SC

Steps for cleaning the universal connectors are as follows:

1. Open the cover of the measurement port which needs to be cleaned
2. Take down the universal connector
3. Blow compressed air toward the top of connecting bar
4. Use a special cleaning belt or dust-free belt dipped in alcohol to clean the top of connecting bar
5. Use compressed air to blow-dry the top of connecting bar
6. Options: turn off GT100, and observe the top of connecting bar by microscope or magnifying lens



Top of the contaminated connecting bar

Top of the cleaned connecting bar

2.7 Connection testing

Connect the test fiber

Measurement port is used to connect the tested fiber of OTDR/OPM/LS application.
Steps for connecting the tested fiber to the measurement port:

1. Clean the fiber jumper and connect it to the measurement port.
2. Clean the fiber to be tested
3. Connect the fiber jumper with the tested fiber.

Connect fiber inspection probe (fiber microscope)

Connect with external fiber end inspection probe from USB interface. Follows are the process to connect the visual light source:

- Open the cover of Type-C port.
- Connect fiber jumper into the connector of microscope.

Chapter 3 Basic Operation

3.1 Power on/off

Power on:

Press the power key, the name of the device will appear on GT100 screen, and then the boot screen of INNO Instrument will appear. Later the following main menu screen will appear.

Power off:

Press and hold the power key until the screen of shutdown appears (grey logo).

Note: Under any circumstance can you press and hold the power key more than ten seconds to force shutdown.

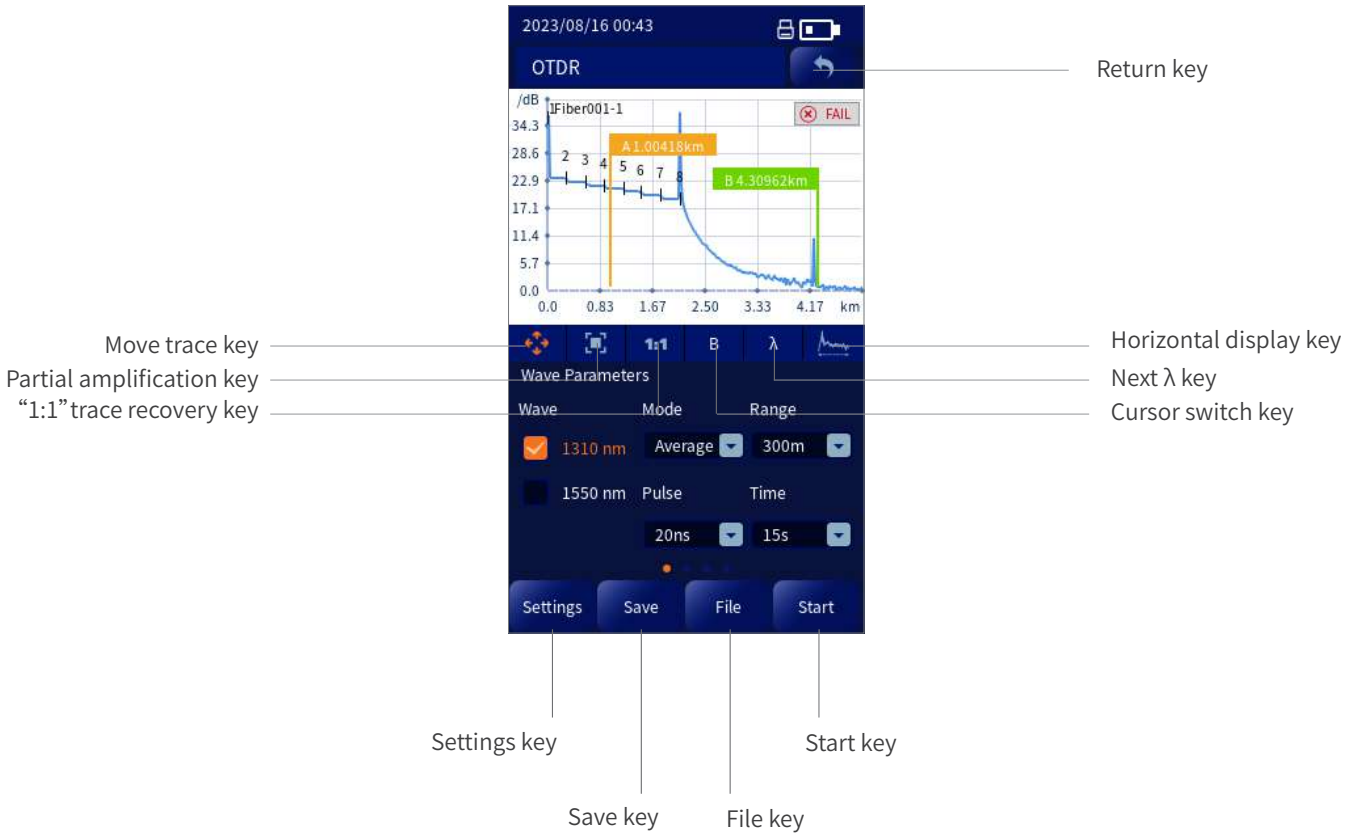
3.2 Software upgrade

Please refer to Section 10.3 for detailed information.

3.3 File operations

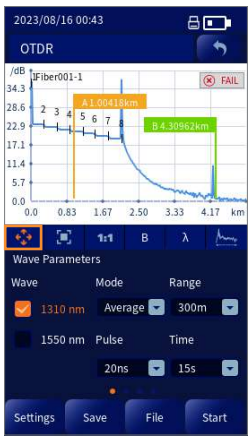
As shown in the following figure, plug in the external storage device, view the path of the external storage device in "file management", and then execute operations of "open", "delete", "rename", "Send" or the file;

Chapter 4 OTDR Module



4.1 Move trace key

Click the key for trace moving; you can move the amplified trace by touching on the screen.

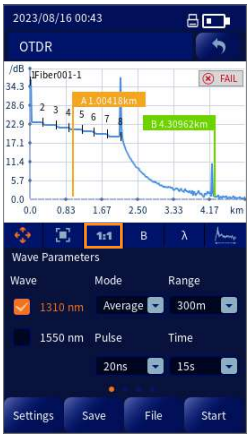


4.2 Partial amplification key

Click “partial amplification” key and then click the screen to select the area of trace displayed. This area will be amplified and displayed on “trace display small screen interface”.

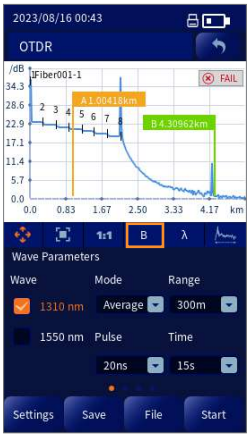
4.3“1:1” trace recovery key

As shown in the following picture, after zooming in or out the trace, click “1:1” trace recovery key to reset the trace.



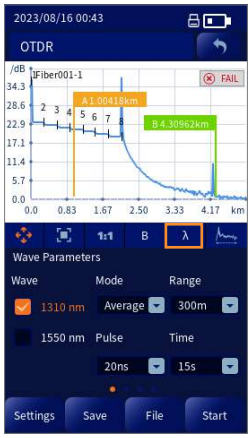
4.4 Cursor switch key

Press the button to select which cursor to move. “A” means cursor to move , “AB” means both cursor move together.



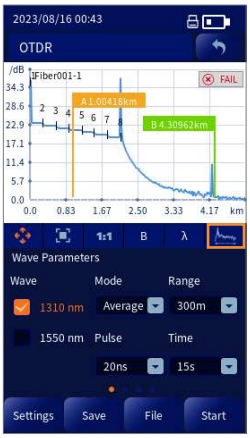
4.5 Next λ key

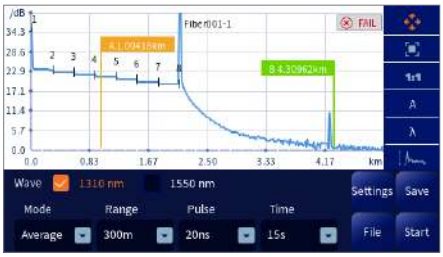
On the premise of obtaining two traces during dual-wavelength testing, as shown on the picture, you can click“λ”to switch the trace and it’ s information.



4.6 Horizontal display key

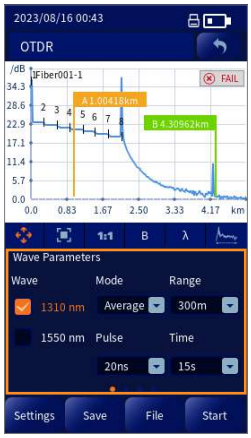
Curves and parameter configurations are displayed in landscape orientation.





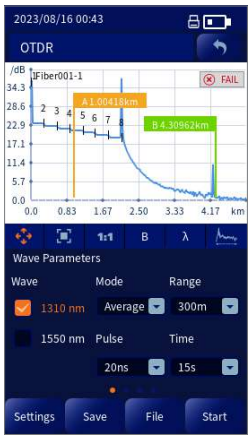
4.7 Parameter setting key

The wavelength, distance range, pulse width and average time can be set on the interface of measurement parameter setting.



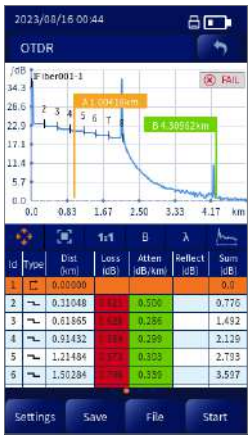
4.8 OTDR key

As shown in the picture, click“OTDR”to enter into OTDR measurement setting interface.



4.9 Event key

As shown in the picture, enter into the event interface by swipe left on the touch screen. The information of events such as Type, Number, Location, Loss, Reflectance, Attenuation and cumulative loss (Sum) can be shown.

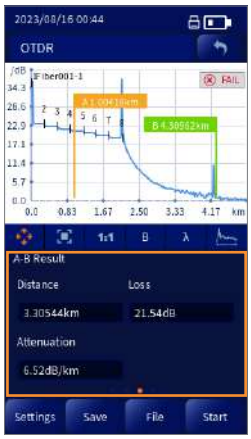


Note：Types of events are shown in the following table.

Event type	Event icon	Brief description
Start point of cross segment		Start point of fiber (generally the first event point)
End point of cross segment		End point of fiber (generally the last event point)
Continuous fiber		It indicates that no fiber end is found at the sampling end, and the sampling points are insufficient
Non-reflection event		Events such as "loss"
Reflection event		Reflection event
Gain event		Gain phenomenon appears, generally regarded as pseudo gain
Fiber span		Fiber span without any event
Echo		Echo phenomenon appears
Reflection event (possible echo)		Possible echo phenomenon

4.10 Measurement

As shown in the figure, enter the measurement interface by swipe left on the touch screen.



The distance, loss, attenuation, reflectance will be displayed, which calculate by the position of cursor A and cursor B.

Loss

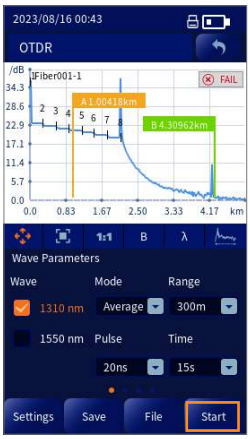
Event loss (expressed in dB) is calculated by measuring the reduced signal strength in Rayleigh backscattering (RBS) caused by this event. Both reflection and non-reflection events can cause event loss.

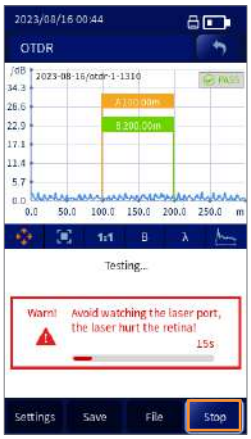
Attenuation

The attenuation measured in two points refers to the RBS attenuation given by the distance function between 2 points (as per the fiber standard, it is labeled as dB/km). Only use these 2 points to calculate but there is no need to gain average value.

4.11 Start/Stop key

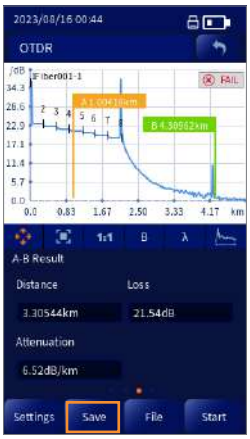
Click “START”to begin measuring in average mode and click “STOP” to terminal.





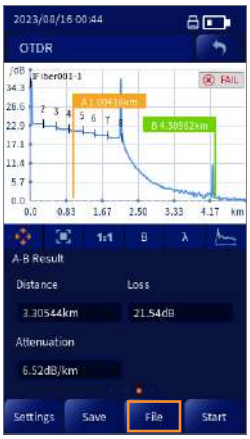
4.12 Save key

You can carry out the operation of saving the measured trace.



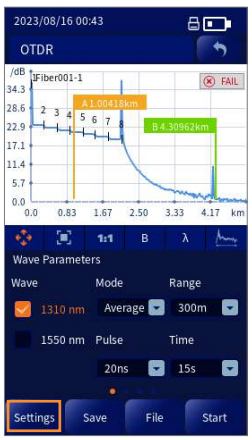
4.13 File key

You can carry out the operation of loading the selected sor file.



4.14 OTDR setting key

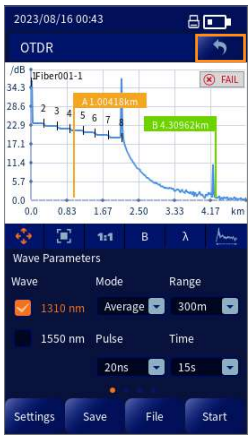
As shown in the picture, click “Settings “key to enter into OTDR config interface.



a) Splice Loss Threshold：To analyze the small non-reflective event on trance.
b) Reflectance Threshold: To analyze the small reflective event on trance.
c) End-of- Fiber Threshold：To analyze the important even loss on trance.
d) IOR: It refers to the Index of Refraction of the trace, i.e. group index. The distance of the trace will vary depending on this parameter. You can input IOR directly on this device.
e) Splice Loss Pass、Connector Loss Pass、Reflectance PASS、ORL Pass： The thresholds are set in order to judge the“event point”and the results of“pass/fail” are also dis- played.
f) Range Unit：Unit are available on GT100, i.e. km 、yd、 mile、 kft
g) Auto Save: It is used to automatically save the measuring information after checking is completed.
h) Auto Save Name: It is used to automatically generate file name which begins with the settings.

4.15 Return key

If you want to exit from the current operating interface on different operation interfaces, click“return”key to fast return to the previous operation interface.



Chapter 5 Event Map

Event Map is based on an application program of OTDR.

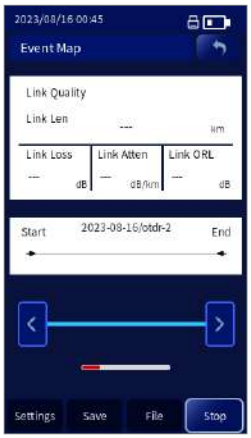
5.1 Event Map Menu

The Link Loss and Link ORL for each measurement with each wavelength on the optical fiber link will be shown on the event map interface.

Link Loss: It refers to the total loss of the fiber link measured. Link ORL：it refers to the ORL on the whole fiber link.

5.2 Start/ Stop

You can click“Start”to start measurement, or click“Stop”to stop measurement..



Chapter 6 Optical Power Meter

6.1 Overview

The optical power meter of high accuracy is used to measure absolute optical power meter or relative optical power loss through a span of optical fiber. This module can measure optical power of multi-wavelength. It can be operated easily.

6.2 OPM Operation

- Connect the light source to OPM port with a fiber jumper connector.
- Click“OPM”in home menu to enter optical power meter interface, as picture shows.

Reference value：you can set the reference value in the OPM interface. (You can set a value as a reference to calculate the current value of optical power which will be displayed at the first line in the circle.)

Chapter 7 VFL and Light Source

7.1 Overview

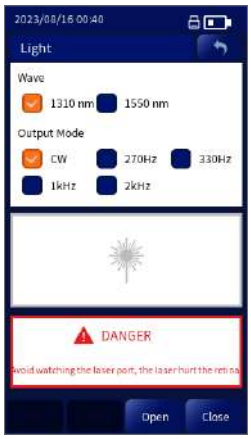
The types of source of GT100 include visual light source and light source.

Visual light source (VFL)

Visual light source equipped in GT100 can offer visualization method for fiber fault location. The red light from visual light source can be captured by human eyes, being able to identify direct fault location in fiber test dead zone or make fiber core calibration in multi-fiber cable. The visual light source in GT100 can launch two types of light source: continuous light source (CW light), 1Hz and 2Hz blink light.

Stable Light source (LS)

You can click “Light Source” to enable the light source function.



The light source module can provide invisible light source(the wavelength and power depend on the type of module selected) and the types of light include CW light, 270HZ light, 330HZ light , 1KHZ light , 2KHZlight.

7.2 Visual light source operation

· Connect the tested fiber to the port of optical source.

· Tap the light source icon from Home menu to enter into the visual light source interface, as the following picture shows.

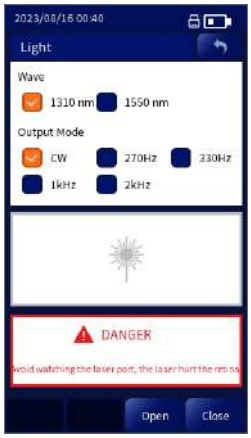
· Click "CW", "1Hz" or "2Hz" to select and switch light source. The name that displayed on the message bar of the interface are the selected light source.("CW" is the continuous light while "1Hz" and "2Hz" is blink light)

· Click "Close" to turn off the light source.

7.3 light source operation

· Connect the fiber to be tested to the light source port.

· Tap the light source icon on the main interface and then select "light source" to enter into the invisible light source interface; please refer to the following picture.



· Select wavelength of light source (1310/1550 nm) by tapping on the upper left side of the screen; select emitting light source modes (CW/270HZ/330HZ/1KHZ/2KHZ) by tapping on the lower left side of the screen; after that, tap "open" key to open the invisible light source.

· Turn off "light source": please tap on "close" key on the right side. Warning: The eyes' focusing on GT100 light source or the fiber end connected to light source is forbidden, which may cause damage to eyes.

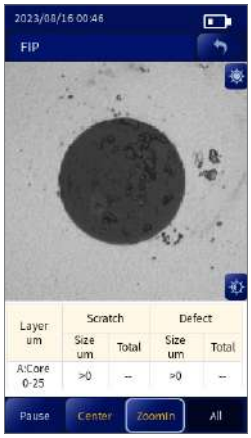
Chapter 8 Fiber Microscope

8.1 Overview

The grind quality and cleanliness of the fiber connecting end face can be inspected with the aid of the magnified surface view displayed on the screen of GT100.

8.2 Start fiber end inspection

After connecting the fiber inspection probe, click “FIP” on GT100 main interface to enter into the inspection interface. Please refer to picture

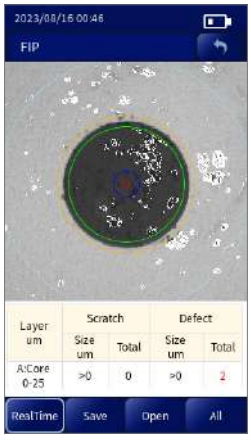


Notice: If the fiber inspection probe has not been connected successfully to the GT100, the message of “Please connect fiber inspection probe.” will appear. However, the GDM file can still be opened.

8.3 The function of fiber microscope

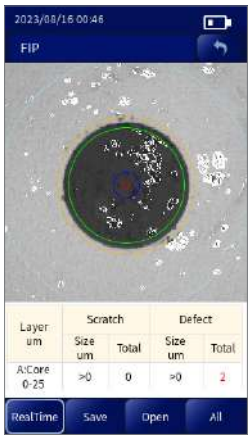
The functions of the fiber inspection probe (fiber microscope) include“Pause/ RealTime”,“save”,“open”,“Center”,“Zoom In”,“All”.

· “Pause/ RealTime”function is a premise of“save”. After connecting successfully the device, you cannot enable “save”function until“Pause/ RealTime”soft key changes to“RealTime”.

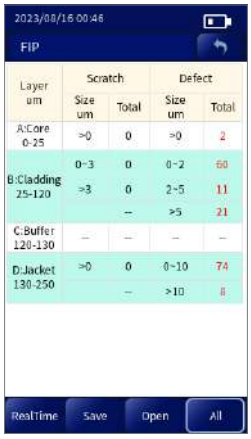


· “Open” function is used to open the files already saved.

· “Center”function is used to place the image in the middle of the screen.“ZoomIn”function is used to amplify the active displayed image.



· “All”function is used to show the active image and show the results in the form of tables.



8.4 Check the preserved image

· Click the file icon on the main interface.

· Select the image saved path (the saving path for GT100 set to be: storage\ Fiber_Microscope).

Chapter 9 File Management

9.1 Overview

"File management" is used to view the saved data and carry out operations like "copy, delete, rename, create folder". All the operations to the files should be car- ried out in directories of the internal storage and USB storage (The directories of GT100 are sdcar and usb).

9.2 Start file management

Click "File Manager" on main interface of GT100 to enter into the file menu.

9.3 "Operate"Function

There are functions of"open","delete","rename",and "Send " included in operation interface.

•DELETE key

It can delete the files or subdirectory in the directory. Operation steps:
a.Click FILE TYPE to select the file type needed to be deleted
b.Click and access to the root directory (sdcard /usb)
c.Select folder or files to execute DELETE

•RENAME key

It can rename folder, file and file format. Operating steps:
a.Click FILE TYPE to select the file type needed to be renamed.
b.Click and access to the root directory (sdcard /usb)
c.Select folder or file to click RENAME, access to the input interface to edit the name.
d.Press "ENTER"

•SEND USB

The key of Send To USB is used to send the files or folders selected to the folder.

Chapter 10 System Setting

10.1 Overview

The system setup function that GT100 has offered can let the user modify the system parameters as required.

10.2 System setting

Click “Setting” on the main interface of GT100 to enter into the “system setup” interface.

10.3 Functions of system settings

There are functions such as “Auto Off”, “Brightness”, “Sound”, “Date”, “ Time”, “Language” , “Version Infomation” , “SN” and “User Manual” in GT100.

1) “Auto Off” : Set the stand-by time and auto power-off time when using battery or adapter。
2) “Sound” : Set the measurement warning sound and key warning sound
3) “Date” “Time” : Set the date and time that is displayed on the device
4) “language” : Set the languages displayed on the screen.

System maintenance

There are two functions", which are "Reset" and "Update". Please refer to picture.

- "Update" can be used for the software upgrade and degradation. Operation steps:
- Click "Upgrade" .then it will show upgrade notice; and then click "confirm" to carry out upgrade operation.

Note: Before upgrading, ensure that battery level is more than 50%!

- "Reset" is used to restore the system parameters to the original.

Chapter 11 System Information

11.1 System information

As shown in picture, this interface displays the information about the products and manufacturer.

Attachment

1. Structure requirement

1) Display screen: 4.3inch (480 x 272)

2) Keys (3)

Names of buttons	Quantity
Power	1
Enter	1
Direction key (Up、Down、Left、Right)	1

3) Operating time>4h, charging time<3h

2. Hardware interface requirement

- DC INPUT: Power port
- USB port: Save data and connect the fiber inspection probe
- Optical interface: interchangeable port (FC, SC)
- OPM port: 2.5mm universal interface
- VFL port: 2.5mm universal interface
- TF card port: Data Storage

3. Software interface requirement

- Interface mode: button input or touch screen input
- Operating platform: Linux

4. Operating environment requirement

- Temperature requirement:
  Working temperature: -10°C ~ 50°C Storage temperature: -40°C ~ 70°C
- Humidity requirement: (general standard)
  Operating humidity: 0% ~ 45%, non -condensation
  Storage humidity: 0% ~ 95%, non -condensation

Module	Parameter	
OTDR	Fiber Type	G.652 SM
	Wave Length	1310nm±20nm/1550nm±20nm
	Max Dynamic Range	24dB(1310nm)/22dB(1550nm)
	Event Dead Zone	2.5m
	Attenuation Dead Zone	10m
	Test Range	100m/300m/500m/1.3km/2.5km/5km/10km/20km/40km/64km/96km
	Pulse Width	3ns/5ns/10ns/20ns/30ns/50ns/80ns/160ns/320ns/500ns/800ns/1us/2us/3us/5us/8us/10us/20us
	Ranging Accuracy	±(1m+Sampling Resolution+0.005%×Test Distance)
	Linearity	±0.05dB/dB
	Max Sampling Points	32000
	Sampling Resolution	0.03m~4m
	Loss Resolution	0.01dB
	Loss Threshold	0.02dB
	Distance Resolution	0.01m
	Refractive Index	1.000000~2.00000
	Format	SOR Standard File Format
	Loss Analysis Mode	TPA(2-point method)
	Laser Safety Level	Class II
	Optical Connector	SC/APC(Default),FC/APC(Optional)
Light source	Export Wavelength	Consistent with OTDR export wavelengths
	Laser Type	Consistent with OTDR type
	Export Power	⩾-5dBm
	Stability	CW,±0.5dB/15min(After15min of preheating)
	Optical Connector	SC/APC(Default),FC/APC(Optional)
	Output Mode	CW/270Hz/330Hz/1kHz/2kHz
OPM	Wavelength Range	800nm~1700nm
	Calibration Wavelength	850/980/1270/1300/1310/1490/1550/1577/1625/1650nm
	Measurement Range	-70~+6dBm(Default),-50~+26dBm(Optional)
	Identification Frequency	CW/270Hz/330Hz/1kHz/2kHz
	Resolution	0.01dB
	Uncertainty	±5%
	Optical Connector	Universal FC/SC/ST
Visual light source	Wavelength	650±20nm
	Output Power	1mW
	Operation Mode	CW/1Hz/2Hz
	Optical Connector	Universal FC/SC/ST

Common index	Display	4.3inch,480×272,IPS TFT-LCD,Multi touch capacitive touch screen
	Power Supply	AC/DC adapt:Input:100V~240V,50/60Hz,0.3A Input:5V,2A,lithium battery:3.7V,2500mAh
	Battery Life	Standby＞6h,Continuous test＞4h
	Save Data	Internal:8GB EMMC,external: Supports TF card and USB flash drive
	Charging Interface	USB Type-C
	Other Connector	USB2.0,TF
	Working Environment	-10°C~+50°C
	Storage Temperature	-40°C~+70°C
	Relative Humidity	0~95% Non Condensing
	Weight	TBD
	Size	TBD

Term list

This term list gives explanations about fiber and related devices.

B

• Backscattering: The scattered light which opposes to the previous direction of propagation.
• Bandwidth: The function size transmitted by waveguide drop 3db below the zero frequency. The lowest frequency bandwidth is the function of waveguide length, but it is not in direct proportion to the length.

C

• Coating layer: A kind of material coated on the optical fiber in wire drawing process to prevent fiber damaged from environment or improper operation.
• Cladding: Insulating materials coated on the fiber cores.
• Cable pipelines: The pipeline for cable to pave or from it the pipe can be pull.
• Cable bending radius: Cable bending radius refers to the stress load that cable suffered, free bend refers to the admissible diameter for it lies under no burdened state.
• Cable module: The kind of cable installed by connectors on one end or both ends, this kind of cable often used as the interconnection by cable system and optoelectronic devices. If there is only one end installed by the connector, we call it “tail end fiber”. If both ends installed, we call it “bridging cable or wire jumper”.

D

• Decibel (dB): Standard unit used to describe the optical power gain or loss.
• Dielectric: It belongs to nonmetal type, so it is non-conducting, glass optical fiber is deemed as a kind of dielectric. Medium cable contains no metal parts.

F

• Fiber core: The central area where light propagates through it. Fiber core ec- centricity ratio: The core center displacement measurement relative to the cladding center.

F

• Fiber core: The central area where light propagates through it. Fiber core ec- centricity ratio: The core center displacement measurement relative to the cladding center.

• Fiber core ellipticity: The deflected measurement for aspheric fiber core and perfect circle.

I

• Insertion loss: Due to the insertion of optical module (the connector or coupler in optical transmission system) that result in attenuation.

M

• Material dispersion: The dispersion resulted from material refractive index or the correlation with light speed and wavelength in this material.
• Module (1): Used to describe the terms about the independent light path which penetrate the fibers, such as multimode and single mode.
• Module (2): Scattered light wave can transmitted in optical waveguide, it is the differential equation eigenvalue featured in waveguide. There is only one module which can transmit in single mode optical fiber called “basic mode”. But there are hundreds of modules in multimode fibers; they are different in graph and propaga- tion speed, the upper limit of module quantity determined by fiber core diameter and waveguide value.

• Monochrome:Composed by single wavelength, in fact radiation is not the ideal monochrome. The best situation is to display wavelength in narrow-band range.
• Multi optical fiber and cable: The cable contains two or more pieces of optical fiber.
• Multimode fiber: A kind of optical waveguide. Through it, light can be transmited by multimode. Typical fiber core or covering size is measured in micrometers. (62.5
/ 125).

N

• Nanometer: A kind of measurement unit, equal to nm, often used to describe wavelength, such as 1300nm.

O

• OTDR: OTDR transmit impulse to fiber to measure backscattering. Through analysis the track can determine the event.
• Optical Time Domain Reflectometer (OTDR): A kind of device used to measure the optical features in optical pulse transmission, and make measurement of the back scattering light and reflected light as the time function. This device can also be used as the function relationship to estimate damping coefficient and distance, determine the flaw and other part loss.
• Optical fiber: A kind of threadlet or fiber made by any derivative light dielectric.
• Optical fiber link: Optical fiber transmission channel designed to connect either terminals or tandem with other channels.
• Optical cable: The module constituted by the materials which can protect the optical fiber and resist to machine or environment damage.

P

• Plug-in board: Network devices in the bracket, such as OTDR or the switches.
• Photoelectric device: A kind of device can response to fiber power, send or adjust optical radiation, or used in internal work. It can also be used as any device in photoelectric conversion.
• Port: Located at the port of the plug-in device to connect the wire jumper or the fiber.
• Peak wavelength: The wavelength when the source optical power meter maxi- mizing.

S

• Single mode optical fiber: The fiber with small size core diameter called “single mode optical fiber, usually it is 9um. Among them only the single mode and basic mode can transmit this kind of fiber. This kind of optical fiber is particularly applied to long-distance bandwidth transmission, for the bandwidth is only restricted by dispersion.

T

• Transmitter: A kind of driver can switch electric signal to optical signal.
• Transmission loss: Total loss in system when transmission happens.
• Telecom cabinet (TC): It is an enclosure space placed by cross-linked fiber terminal and telecom settings. Equipment cabinet is regarded ascross-link by main wiring and horizontal wiring.

W

• WDM: Transmit several signals in optical waveguide with different wavelengths at the same time.

The End

* Products models and specifications are subject to change without prior notice.

335, Sapyeong-daero, Seocho-gu, Seoul, 06543, Korea
Phone: +82 02 6956 6367
Printed in Korea
DBtek Korean Technology Inc.
support@dbtek.com

Homepage
https://dbtek.com
https://www.youtube.com/@dbtekcom
https://www.linkedin.com/company/dbtek-com
Please visit us on Facebook
https://www.facebook.com/dbtekcom