FirstFiber

USER GUIDE

HICOUD H720 OPTICAL TESTER

PREFACE

Thank you very much for buying and using H720 series optical network tester. This manual mainly contains the commonly used operating safety instructions, basic interface and operation introduction, as well as common troubleshooting guidelines and other information. In order to facilitate your use, before operating this instrument, please read the contents of this manual carefully and follow the instructions in the book correctly.
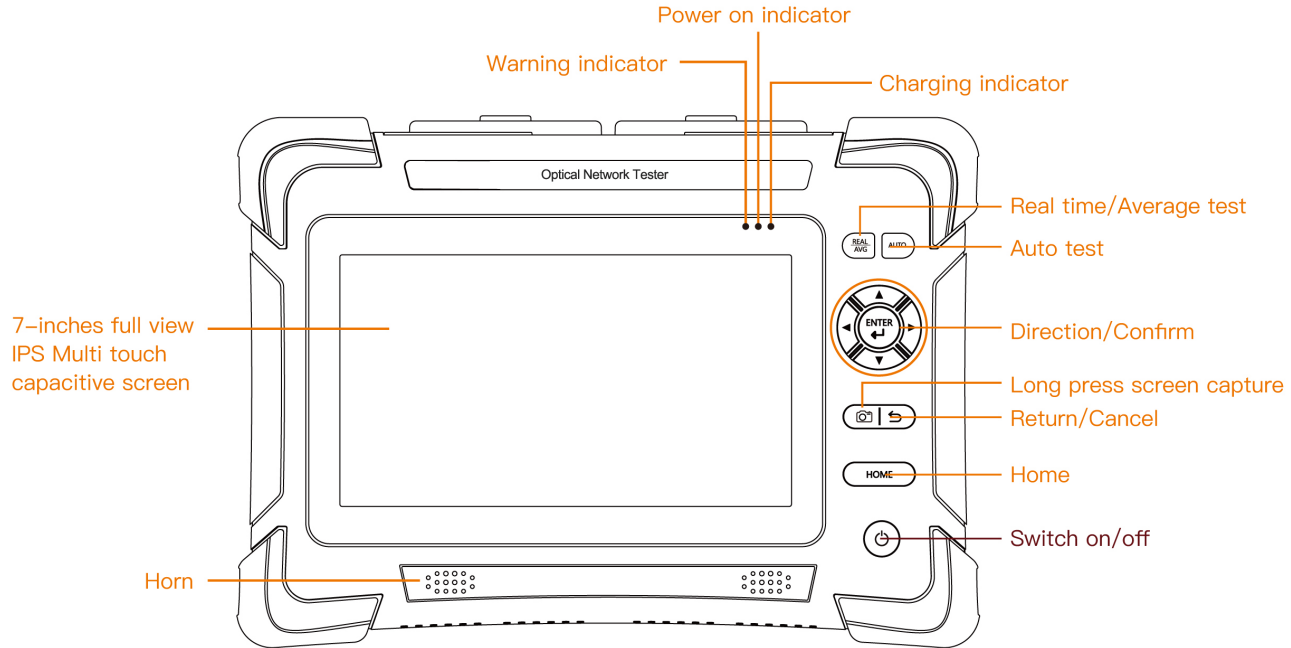
This manual is limited to use in conjunction with this instrument. No unit or individual may alter, copy or disseminate the contents of this manual for commercial purposes without the authorization of the Company.

The contents of this manual are subject to change without prior notice. If you have any questions, please call the supplier. We will do our best to provide you with the best service.
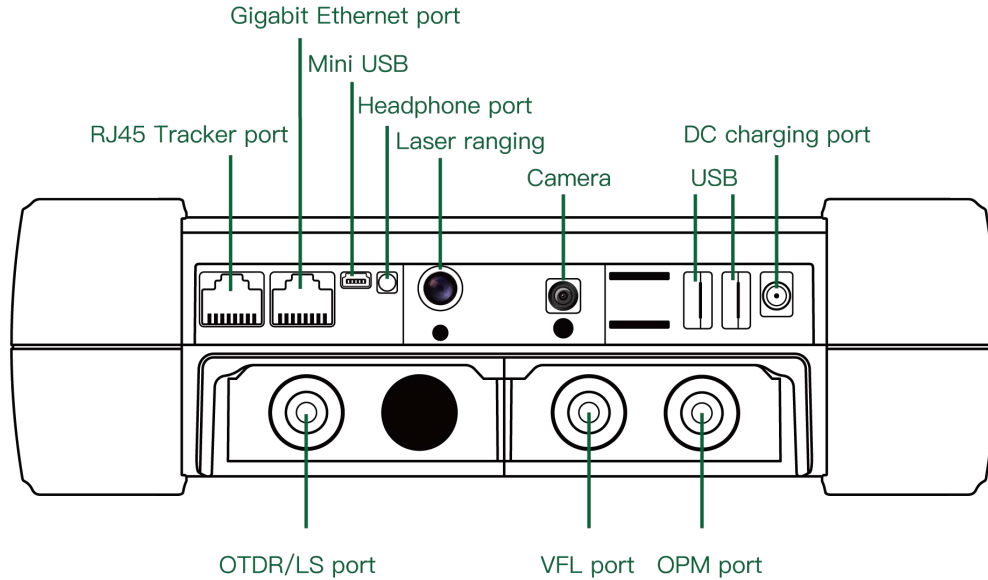
Overview

H720 series optical network tester is the first smart and high precision optical test instrument with cloud wireless transmission, intellignet cloud platform and other functions. H720 series integrates 18 standard functional modules internally, including OTDR, Intellignet optical network map iONM, LS, VFL, OPM, Optical end face detection, Multi-core measurement, Optical loss test, File management, Data wireless transmission, RJ45 cable tracker, Laser ranging, Remote assistance, One-key repair, Camera, Bluetooth, WiFi, GPS&BDS (on developing).

H720 series has 0.8m event blind zone, maximum 45dB dynamic range, 1650nm online test (50dB isolation), 8G storage which can store 200,000 curves. It adopts 7 inch capacitive touch screen, supports multi-point touch. Compared to previous versions, it supports smart cloud platform, iONM, Multi-core measurement, Bluetooth. WIFI, 4G LTE SIM and GPS (on developing), and test data can be uploaded to the cloud wirelessly. PDF reports can be generated on the device and transmit them to the mobile terminal via WiFi & Bluetooth. H720 series supports multi-tasks simultaneous operation, and VFL, OPM, LS functions can run in the background.

OTDR Interface,function introduction

Power on indicator
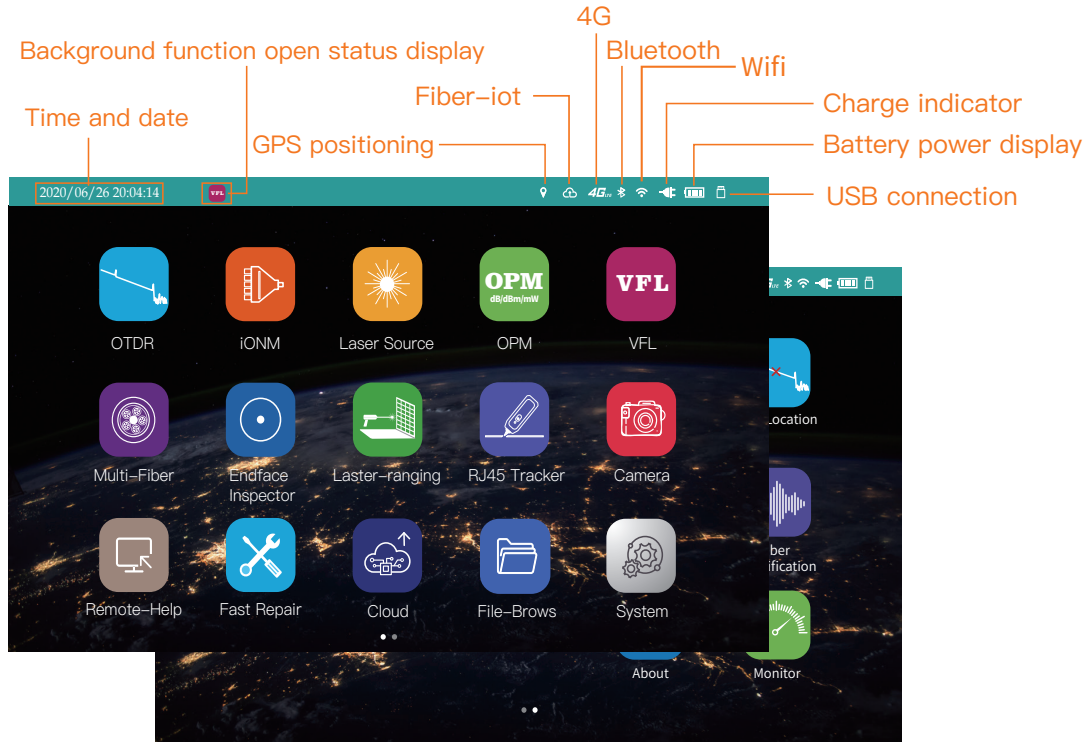
Warning indicator

Charging indicator

Optical Network Tester

Real time/Average test

Auto test

7−inches full view
IPS Multi touch
capacitive screen

Direction/Confirm

Long press screen capture

Return/Cancel

Home

Switch on/off

Horn

OTDR Interface,function introduction

Gigabit Ethernet port

Mini USB

Headphone port

RJ45 Tracker port

Laser ranging

DC charging port

Camera

USB

OTDR/LS port

VFL port   OPM port

- Mini USB connection：Connect the computer for data export, or connect the power bank to charge the device
- USB connection：Accessing USB flash disk to export data, used as a power bank function to charge other devices
- DC charging port：Charging voltage range 12V~19V

OTDR Interface,function introduction

Background function open status display

Time and date

GPS positioning

4G

Bluetooth

Wifi

Fiber-iot

Charge indicator

Battery power display

USB connection

2020/06/26 20:04:14

VFL

OTDR · iONM · Laser Source · OPM · VFL

Multi-Fiber · Endface Inspector · Laster-ranging · RJ45 Tracker · Camera

Remote-Help · Fast Repair · Cloud · File-Brows · System

Location · Fiber identification · Monitor · About

Note: the main page is a sliding page, and the second page appears on the left
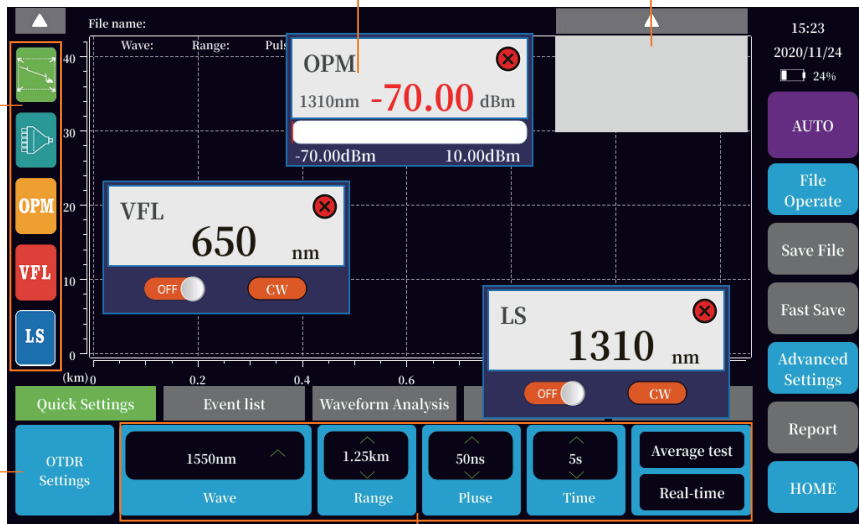
OTDR Interface, function introduction

Multi task simultaneous operation

Curve thumbnail

Multi task area
Curve full screen
Event map
OPM VFL LS

Optical fiber characteristic setting
Pass/Fail Settings
Measure Settings
Analysis/Save Settings

File name:
Wave: Range: Puls:

15:23
2020/11/24
24%

OPM
1310nm **-70.00** dBm
-70.00dBm   10.00dBm

VFL
650 nm
OFF   CW

LS
1310 nm
OFF   CW

AUTO

One button auto test

File Operate

File operation
Preview / wireless upload to cloud

Save File

File save
Support Chinese and English input

Fast Save

One click save
Convenient and quick

Advanced Settings

Advanced setting
High end setting function

Report

Generating reports
Generate PDF report on device side

HOME

Home
Return to the main interface

Quick Settings | Event list | Waveform Analysis

OTDR Settings | 1550nm / Wave | 1.25km / Range | 50ns / Pluse | 5s / Time | Average test / Real-time

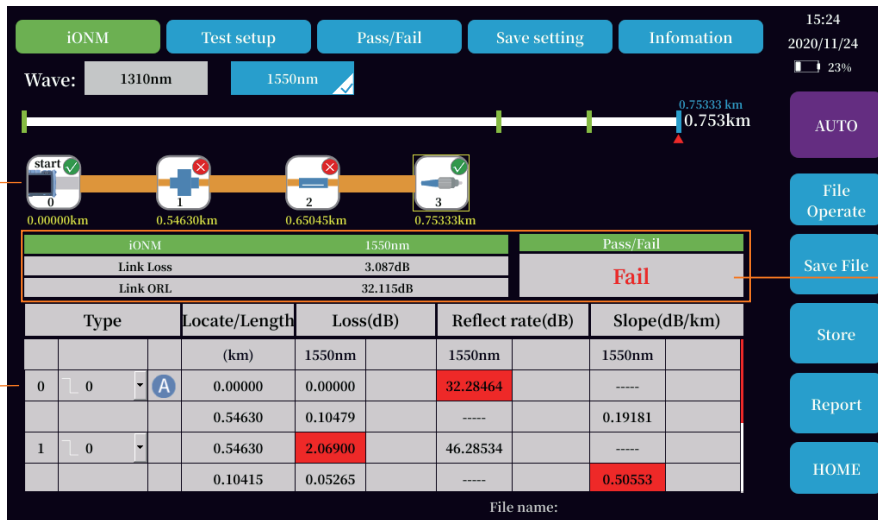(km) 0   0.2   0.4   0.6

Quick setting, no need to stop to modify conditions, convenient and fast

● Through multi wavelength and multi pulse width combination test technology, the accurate analysis of various events is realized.

Graphic display type
More intuitive and accurate
Observe event information

List display

Type

Position length

loss

Reflect

Attenuation

Pass/Fail

Link–loss

Link ORL

Multi core measurement

The purpose of multi-core measurement to help customers manage and maintain multi-core optical cable data, Through the establishment of the project, to help customers more intuitive Manage and maintain fiber optic data. From the core matrix, the state of all the cores can be seen intuitively, Including whether it has been tested, does the test pass. Each fiber core contains OTDR data, optical fiber end face data, optical power data and test field pictures

Core matrix

Measurement information

Project name:yu								17:48 2020/11/24 55%
	1	2	3	4	5	6	7	8
	9	10	11	12	13	14	15	16
pre page	17	18	19	20	21	22	23	24	next page
	25	26	27	28	29	30	31	32
	33	34	35	36	37	38	39	40

Current core:19

Wave1: 1310nm
Wave2: 1550nm

Range:1.25 km
Pulse: 50ns

850nm   -67.68dB

- New — New project
- Open — Open project
- Attribute — Project property
- Scene Picture — Pictures of the scene
- Fiber Operate — Core operation
- Open file — Open file
- HOME — Home

Waveform Preview   End face detection

Optical fiber end face detection

File list

2020-11-24_15-37-50.bmp
2020-11-24_15-37-51.bmp
2020-11-24_15-37-52.bmp

15:37
2020/11/24
21%

OFD

Save

File Management

HOME

Zone	Diameter	Spot	Count	Scratch	Count	Defect	Pass/Fail

Delete   Back
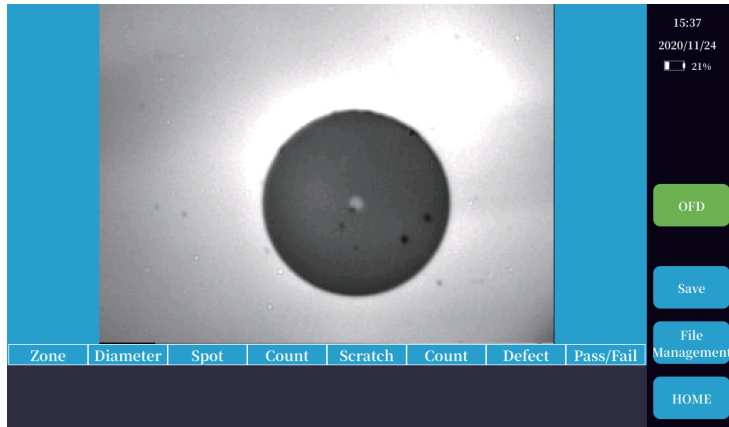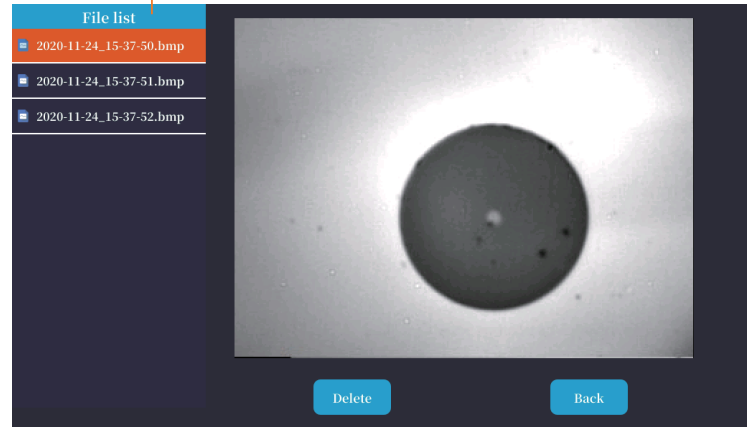
○ The core diameter of single–mode fiber is about 9um, It's thinner than human hair, If the end face is polluted, it will cause great connection loss, this leads to unstable communi–cation state. It has great influence on the confidence of OTDR test results, therefore, the end face of optical fiber is tested, and cleaning is very necessary

Laser Source

Background prompt of Laser Sourceon state

LS port location

2020/11/24 15:38:09

LS

Model — Mode switching CW/270/330/1k/2kHz

Wave ID — Auto wave recognition

On/Off

CW 1310 nm OFF

CW 1550 nm OFF

Power(+) — Increase power

Power(-) — Reduce power

HOME — Home
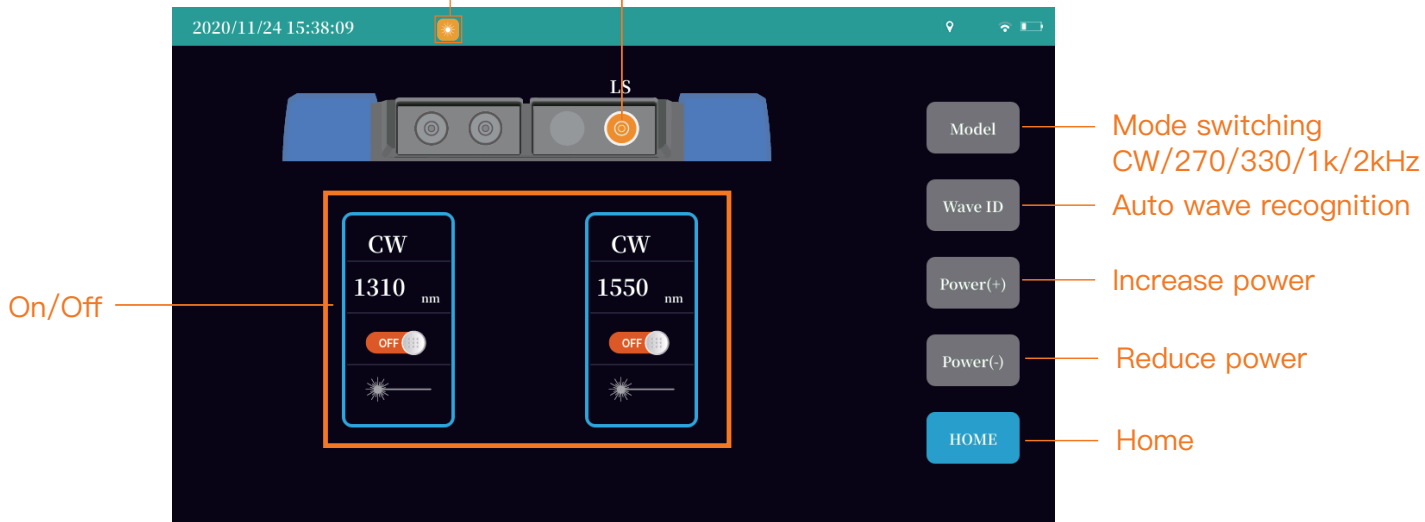
- Power adjustable stable laser source
- Output CW/270Hz/330Hz/1kHz/2kHz mode
- Support automatic wavelength recognition function, wavelength ID mode,
  Combined with optical power meter module of series equipment for automatic wavelength identification
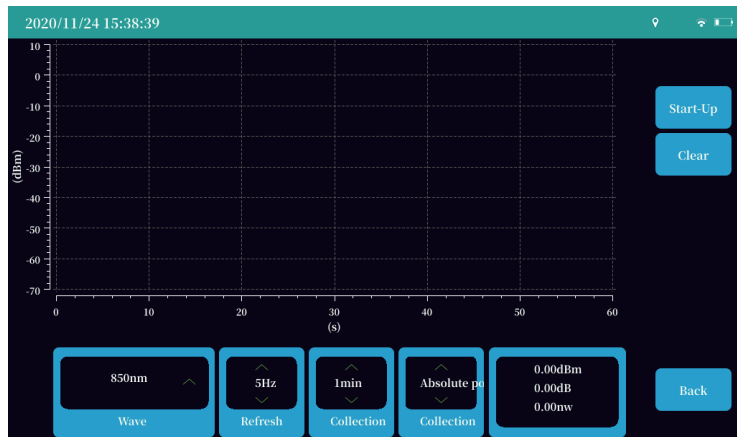
Optical power meter

OPM port location

OPM data acquisition interface

Measurement information

- Support frequency identification function
- Support pass / fail threshold setting
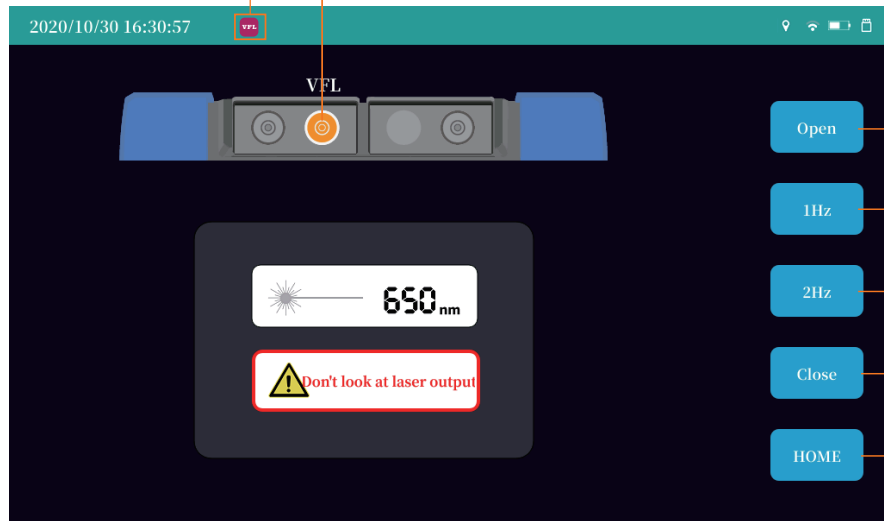- Support Tone Detect function, namely frequency identification function

- User calibration
- Data acquisition
- Automatic wavelength recognition

Visual fault location

Background prompt of VFL state

VFL port location

2020/10/30 16:30:57   VFL

VFL

650 nm

⚠ Don't look at laser output

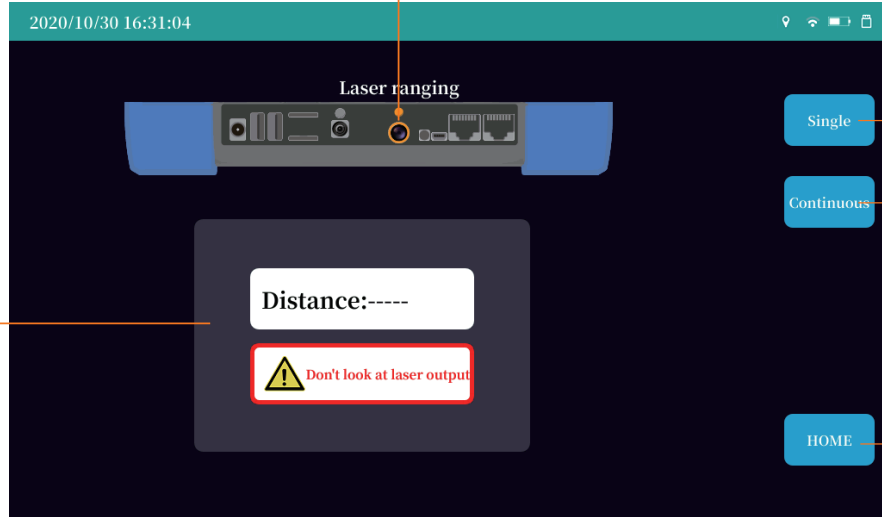| Open | — VFL always bright |
1Hz	— VFL 1Hz twinkle
2Hz	— VFL 2Hz twinkle
Close	— Close VFL
HOME	— Home

○ Fault location and identification for short distance optical fiber

Laster ranging

Laster ranging interface:

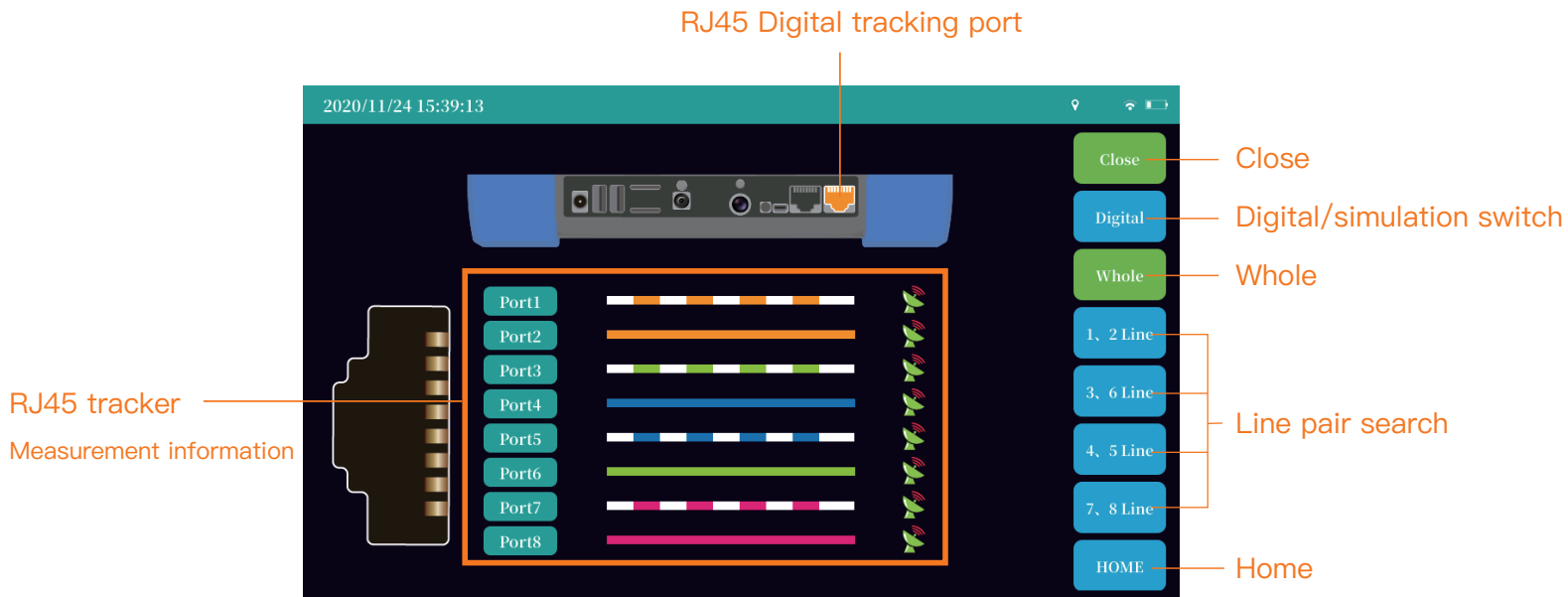Please do not look directly at the laser emission port to avoid damage

2020/10/30 16:31:04

Laster ranging

Single — Single measurement

Continuous — Continuous measurement

Distance:-----
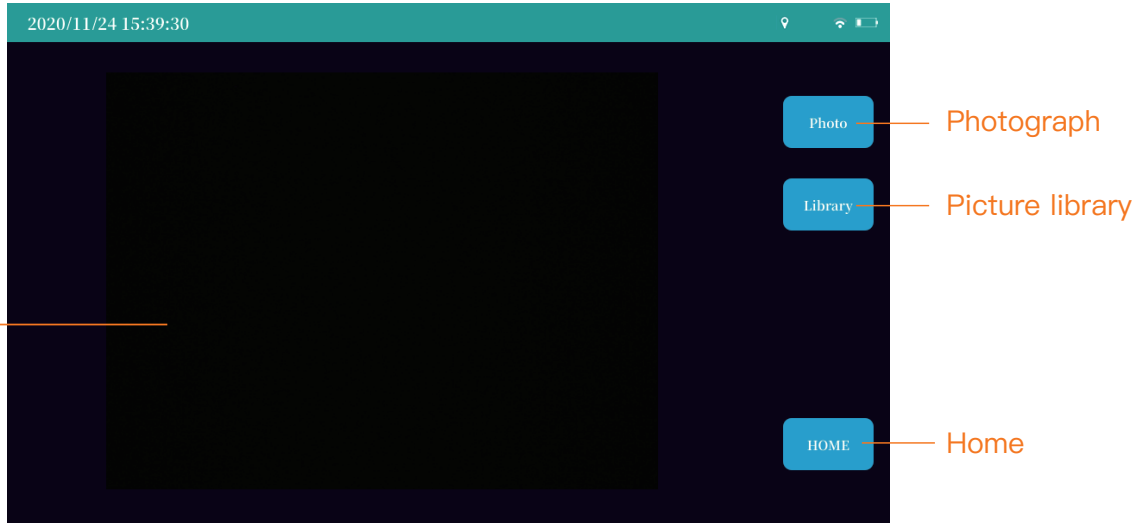
⚠ Don't look at laser output

Measurement information

HOME — Home

○ Length measurement for optical cable laying and broadband installation

RJ45 tracker

RJ45 Digital tracking port

RJ45 tracker
Measurement information

Close

Digital/simulation switch

Whole

Line pair search

Home

2020/11/24 15:39:13

Close
Digital
Whole
1, 2 Line
3, 6 Line
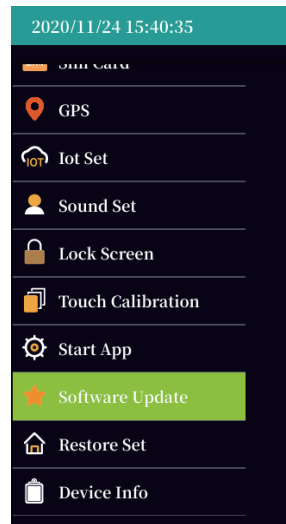4, 5 Line
7, 8 Line
HOME

Port1
Port2
Port3
Port4
Port5
Port6
Port7
Port8
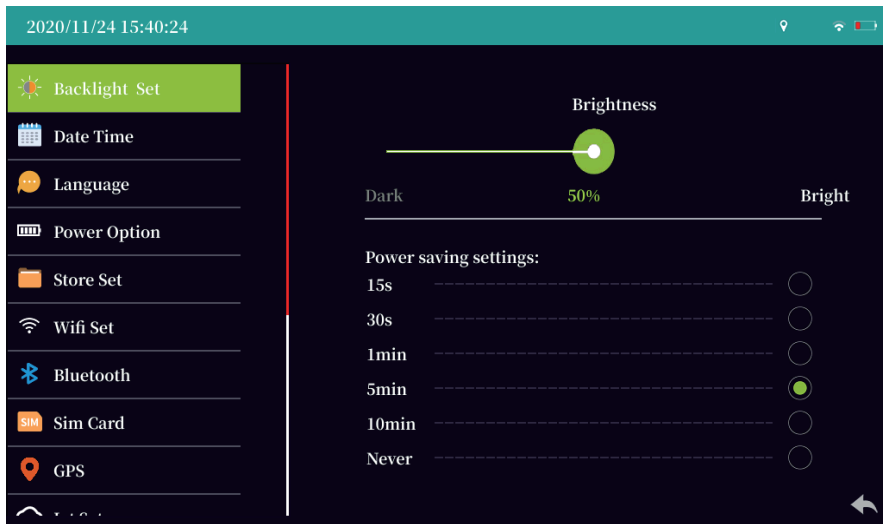
- RJ45 digital radar tracking function can be used for digital line finding of network line, telephone line and other cables

Camera

2020/11/24 15:39:30
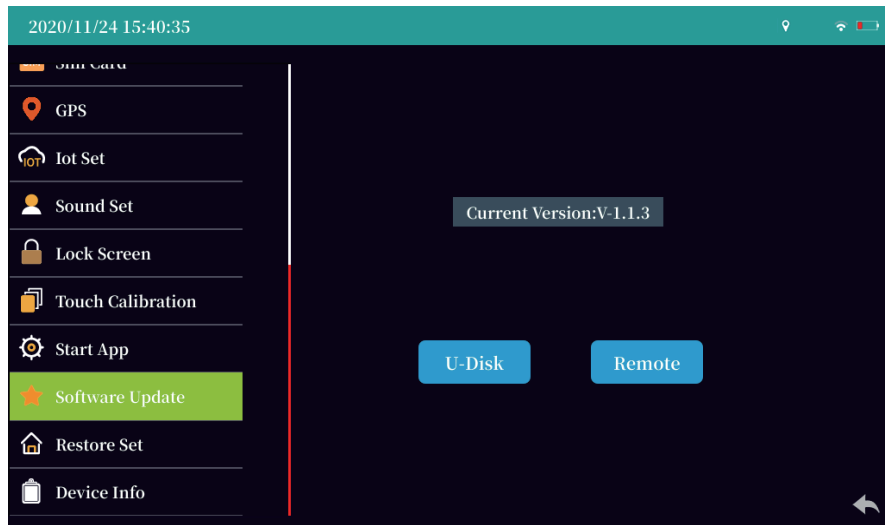
Photo — Photograph

Library — Picture library

Photo display area

HOME — Home

◎ Take pictures of the test site and link them to the OTDR test data

File brows

File information	Local (38MB/6.6GB)	File name	Size	Type	Modify date	

Back to shortcut key — Create directory — Search

	File name	Size	Type	Modify date
OTDR	2020-11-20		floder	1980-01-01 00:00
iONM	2020-11-23		floder	1980-01-01 00:00
Multi-Fiber	2020-11-24		floder	1970-01-20 01:07
End Face Dete···	default		floder	2020-11-20 17:30
Screenshot	qqqq		floder	1980-01-01 00:00
Picture				

File type

- Open — Open file
- Copy — Copy file
- Cut — Cut file
- Cancel — Cancel
- Delete — Delete
- Rename — Rename
- Deselect All — Select all files
- Upload to cloud — File upload to cloud
- Bluetooth — Bluetooth transmission
- HOME — Home

- ● Browse device files
- ● Export files through USB flash disk
- ● File add delete move rename
- ● File upload to cloud platform

System settings

2020/11/24 15:40:24

- Backlight Set
- Date Time
- Language
- Power Option
- Store Set
- Wifi Set
- Bluetooth
- Sim Card
- GPS

Brightness

Dark   50%   Bright

Power saving settings:
- 15s
- 30s
- 1min
- 5min
- 10min
- Never

2020/11/24 15:40:35

- Sim Card
- GPS
- Iot Set
- Sound Set
- Lock Screen
- Touch Calibration
- Start App
- Software Update
- Restore Set
- Device Info

- Insert the U disk of storage upgrade software to upgrade the system
- Connect WiFi remote upgrade

- OTDR data can be viewed through cloud analysis, and generate reports. Powerful OTDR data report generator using smart cloud, add event map, annotation, on–site test photos, optical fiber end face photos and other detailed information in the report

Common problems and Solutions

Fault description	Cause of failure	Solutions
OTDR cannot start normally.	The battery is dead.	Charge the battery and observe the charging indicator. If the red light is displayed, continue charging. Otherwise, contact the supplier.
OTDR cannot be charged normally.	Charging conditions are not met.	Charge the instrument at 0℃~ 50℃.
	Battery or internal circuit problem.	Contact the supplier to replace the battery.
Normal curve cannot be measured.	OTDR parameters are not set correctly.	Reset the correct test parameters.
	Fiber output end face is polluted.	Clean OTDR output end face.
	Output connector of OTDR is damaged.	Connect OTDR output connector.
	Optical output connector mismatch.	Replace the matched connector.
The noise of test curve is big and the waveform is not smooth.	The connector is not connected properly.	Re connect the appropriate output interface.
	The pulse width setting is too small.	Increase the test pulse width.
Saturation (flat top) appeared in the front of the test curve.	The pulse width is too large.	Decrease test pulse width parameter.
The reflection peak at the beginning of the test curve decreased slowly. There is a tailing phenomenon.	Fiber output end face is polluted.	Clean OTDR output end face.
	Fiber output end face is polluted.	Replace OTDR output connector.
	Optical output connector mismatch.	Replace the matched connector.
The reflection peak at the end of the fiber cannot be measured.	The test range is too small.	Increase test range value.
	The pulse width is too small.	Increase test pulse width parameter.
False positive in curve analysis.	Event threshold setting is too small.	Increase the pulse and the event threshold value.
The tested fiber length is not accurate.	OTDR parameters are not set correctly.	Reset the appropriate parameters.
	The refractive index is not set accurately.	Reset fiber index.
The slope of optical fiber is not accurate.	The front and tail of the test curve is too long.	Clean OTDR output end face.
	Improper setting of cursor position.	Reset cursor point position.