多功能网线测试仪

Multifunctional network cable tester

产品手册

Users Manuals

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Pn： 501850901

特　性

1. 多项专业功能设计、一机在手工程无忧；
2. 网线长度测量，最长达400米
3. 强大的网线分析功能：断路、短路、交叉以水晶头压接测试
4. 专业的多功能万用表，显示达60000位（仅升级款有）
5. 6dBm到-70dBm光功率计设计
6. 红色激光发射功能，光纤传输距离约达10KM
7. 数字寻线功能设计无噪音
8. 创新工程核算功能，可保留多达100条长度记录及核算网络成本
9. 默认4国语言设计更符合用户使用需求
10. 主机/寻线器可充电锂电供电更环保

简　介

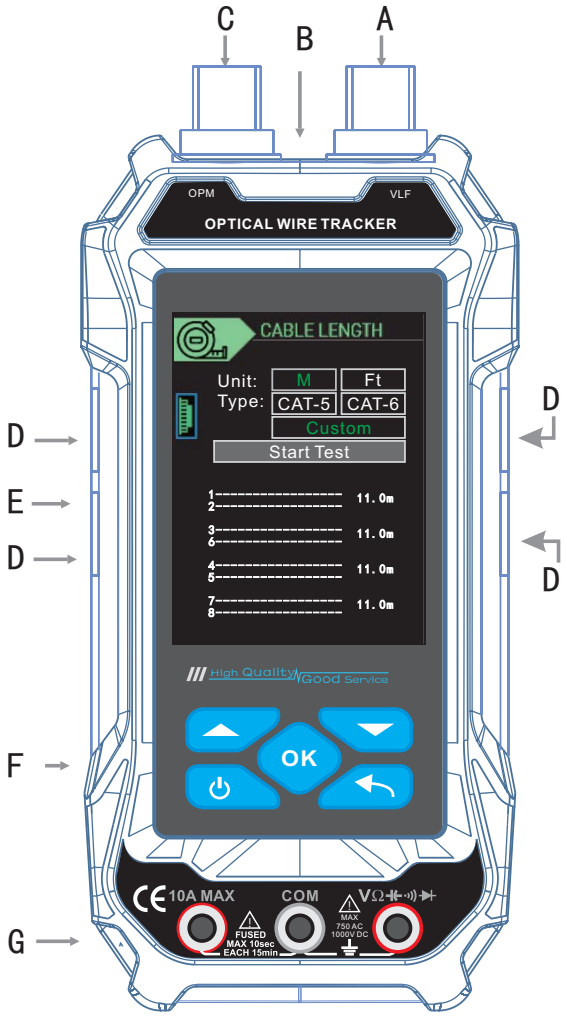
本综合测试仪表专为网络、通信布线安装及运维人员打造，依托大量一线工程实操经验研发，集成多功能网线测试仪、万用表、光功率计、VFL 红光故障定位仪于一体。设备支持线缆寻线、网线长度测量、PoE 带电检测、端口闪烁识别、水晶头压接质检等全套网线检测功能，兼顾光纤与电路测试需求。

产品采用主机发射器搭配寻线器的分体设计，配套完整测试适配线材。设备寻线距离远、信号噪音低，网线测距快速精准；升级款搭载高精度万用表，测量性能出众。可适配网线、电信通信线等各类网络线路，一站式完成布线施工、线路检修、故障排查工作，大幅提升弱电工程作业效率，是布线运维场景的高效便携工具。

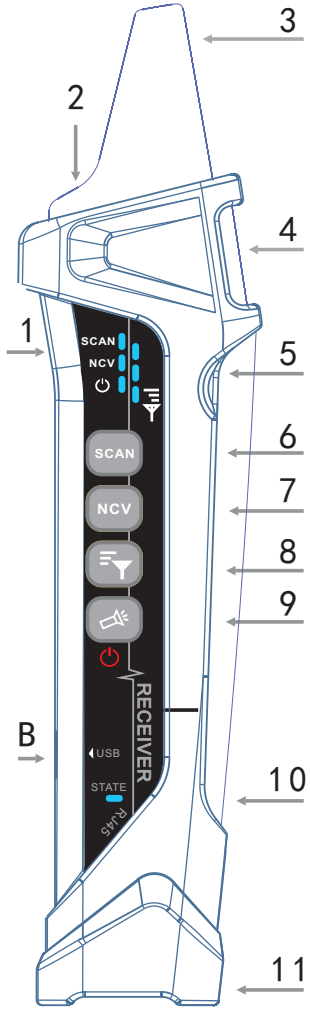
产品介绍

A:红色激光发射口(仅升级款)
B:USB充电接口
C:光功率测量接口(仅升级款)
D:测试接口
E:显示区
F:按键区
G:万用表输入孔(仅升级款)

1:功能LED
2:照明灯
3:SCAN/NCV感应区
4:信号强度指示
5:灵敏度LED
6:SCAN功能键(声音/震动)
7:NCV功能键
8:灵敏度调节
9:照明灯关/长按开关机
10:SCAN验证灯
11:对线连接口



主机



接收器

产品操作

功能选择(Function)



产品开机后将进入此窗口，窗口列出产品全部功能；

单击或长按▲/▼键选择功能，单击OK键进入功能；

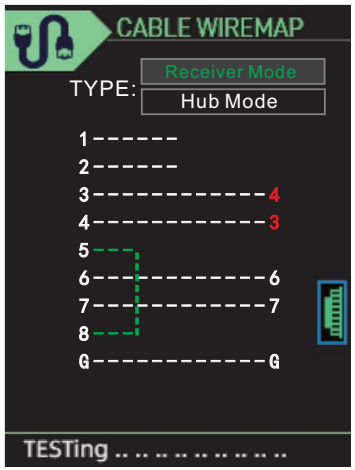
对线（WIREMAP）

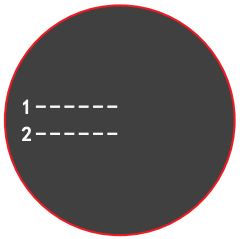
此功能可以检查网线开路、线序错误、短路、交叉等连接特性。

接收器模式:将网线插入主机，另一端插入接收器的“RJ45"插座， 主机会将测试结果如下图显示，从而判定线路的连接状态。

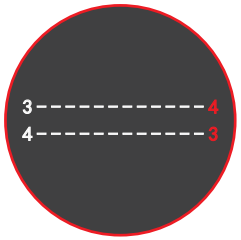
HUB模式:此模式用于连接到交换机网线的好坏检测判断；

按▲/▼键选择模式，OK键确定选择

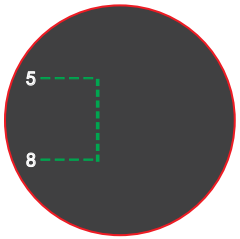




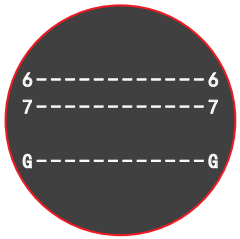
开路 (1,2)



交叉 (3, 4)



短路 (5,8)



正常（6. 7. G）

产品操作

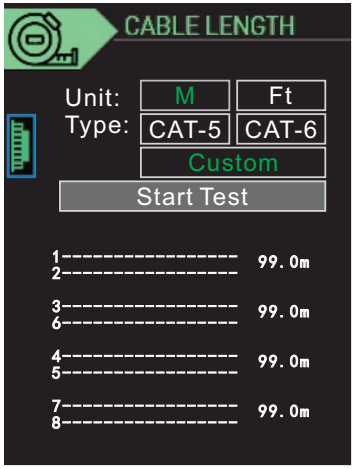
长度测量（LENGTH）

此功能可以测量网线长度，用户可设定单位：M/FT,网线类型可选择:5类线/6类线/自定义线（▲/▼键选择，OK键确定），测量时网线的另一端不要连接设备；

用户选择START TEST后，按OK开始长度测量，每次测量约用时7秒钟

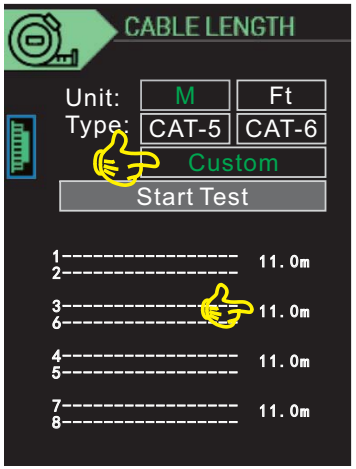
非标准网线用户自定义校准测量:

校准方法:测量一条已知长度网线，然后选择自定义，按OK键后，用户按▲/▼键调整，使得测量结果与实际结果一致，后续测量同类线即为准确长度结果。



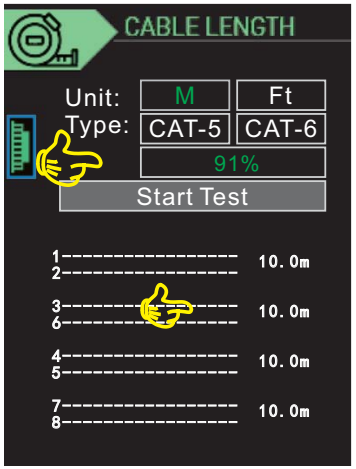
步骤1：

测量一条已经知长度网线，实际10米，测出结果为11米



步骤2：

选择Custom,按下OK键后，▲/▼键调整，使得测量结果与实际结果一致，完成校准



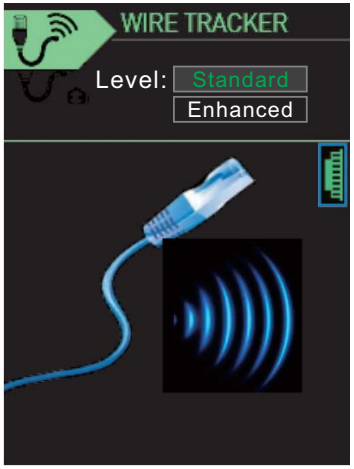
产品功能

寻线(SCAN)

寻线功能可以在众多网线中快速定位出目标线路。将待测线路的一端连接发射器，接收器选择SCAN功能，在待测线中的另一端周围侦听，接收器声音最连续，最响的网线即为目标线路（靠近目标线路，产品头部绿灯会连续快速闪烁）。确定目标后，也要通过可将目标网线连接到接收器的RJ45接口，STATE 灯亮进一步确定。

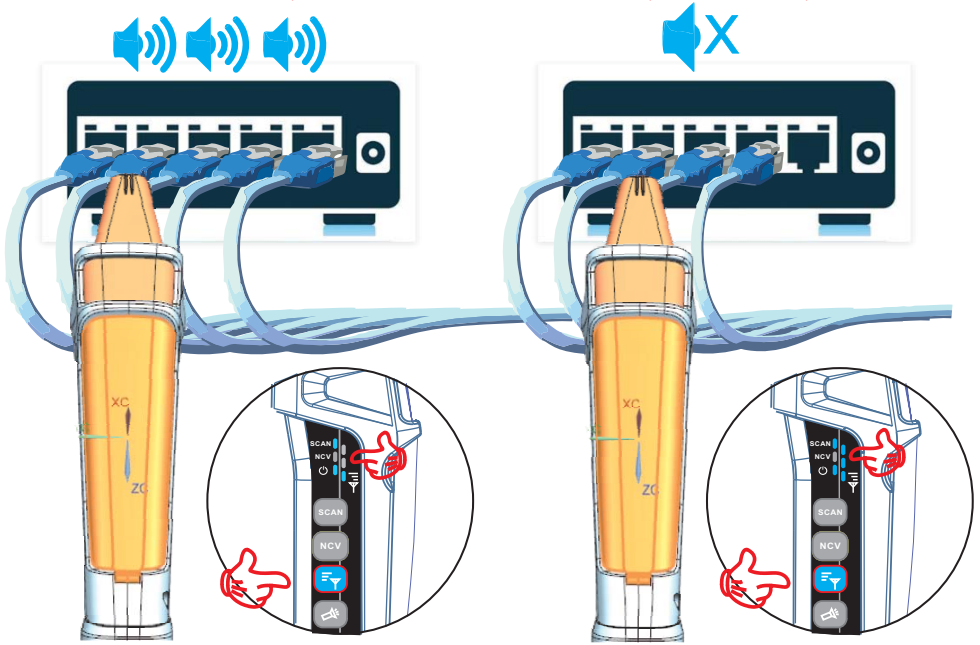
为更准确判断目标网线，可调节接收器上 键可选择不同灵敏度(右边三个LED灯代表灵敏度)；多条网线同时发出连续声音时，将灵敏度调低(LED一格)，反之，则将灵敏度调高。

发射器上有标准/增强模式可选择。

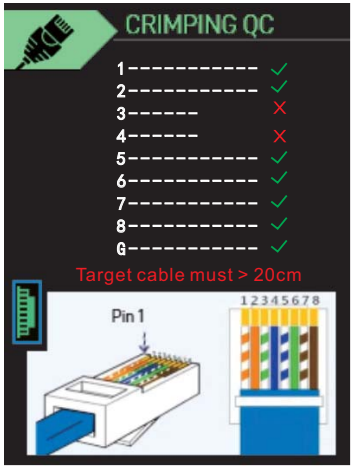


A:多条线蜂鸣
调低灵敏度到一格

B:找不到目标
调高灵敏度到三格



水晶头单端压接（QC）



此功能检测水晶头压接质量，精准识别弹片未压紧、线芯虚接、半断、接触不良等施工常见故障，解决传统对线无法检测单头压接缺陷的问题。

进入功能后，等产品提示完成校准后线缆插入主机，√表示水晶头压接正常，X表示失败。

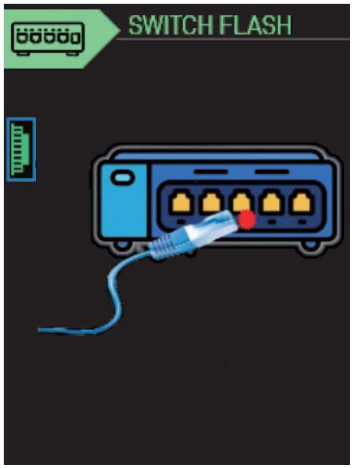
水晶头压接测试，网线长度需大于20cm，否则可能误判。

端口闪烁（FLASH）

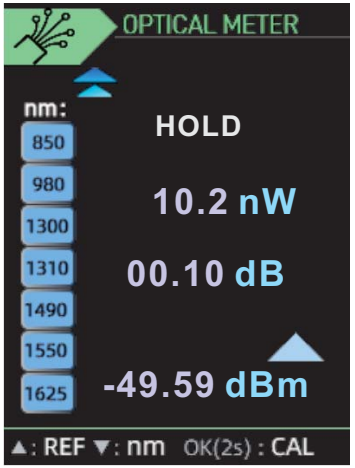
此功能可实现驱动网络交换机LED闪烁，从而确定目标线缆的具体端口；

网线两端分别插入主机和交换机端口，交换机会在本产品的信号驱动下，端口相应LED灯会间隔3s左右闪烁，用户可通过观察交换机上LED确定目标；

适用于10M/100M/1000M交换机。



光功率测量（OPM）



光功率计可测试光信号功率和衰减值。

按▼选择波长。单击▲键可打开/关闭REF功能用于测试衰减值；单击▲进入REF功能时，产品自动保存当前光功率值，然后产品开始测量REF功能，产品将上次测量结果与当前测量结果进行比较，从而了解器件测试的衰减值。

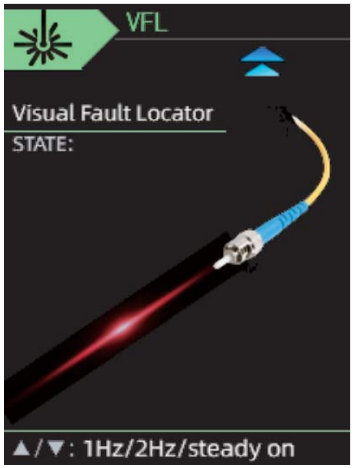
单击OK键，产品HOLD保持测量结果；

光功率校准（CAL）

光功率测量出现偏差时，用户进行可校准；

校准操作：输入标准信号（已知功率值），长按OK键2秒，显示“CAL”，即可校准光功率计。按▲/▼键调整，长按OK键2秒，保存校准结果。

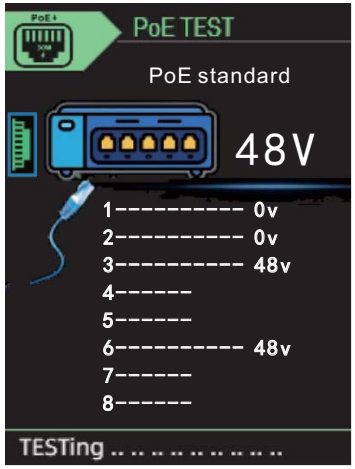
清除校准结果：开机，选择OPM功能，长按OK键2秒，不做任何调整。再次长按OK键2秒，OPM功能恢复出厂设置。



红光笔（VFL）

此功能可发出红色激光，将激光连接到光纤中，用户可以在光纤的另一端观察发光点，从而在众多光纤中定位目标；

单击▲/▼键可切换不同发光频率（1Hz/2Hz/长亮）

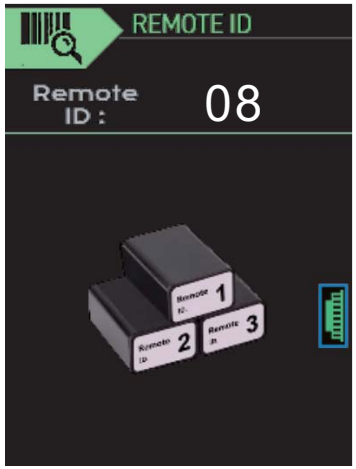


PoE测量（POE）

PoE电压测量功能，能够对PoE设备的供电进行测量分析，测试包括供电电压、供电线路的线序。

网线连接主机插座，另一端接入PoE设备，产品将进行通讯测试后将结果显示；对非标准PoE则直接测量并显示供电电压。

注意：连接PoE设备，如果30秒后没有显示结果，那么连接的设备可能不是PoE设备。POE实际输出电压会与标称有一定差异，产品显示电压以实测值。



远端对线（ID）

选择远端对线（ID）识别功能；网线一端连接ID标识器（选配件），另一端连接到主机，主机将测试并显示相应的ID号，从而准确判断远端网线的序号；

* 远端对线（ID）为选配功能；

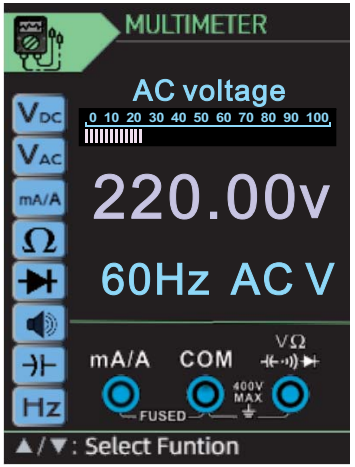
万用表（DMM）

产品万用表具有多功能和60000位读数特点，功能和精度都可媲美专业万用表。 产品具有交流电压、直流电压、电流电流、直流电流、通断蜂鸣、二极管、电阻、电容、频率功能；

产品会自动检测直流电流和交流电流，用户无需选择。

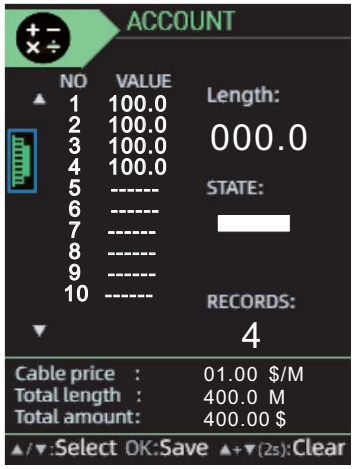
NCV电压感应功能是通过寻线器实现；

*此功能仅升级款有



⚠ Warning

请按照此提示正确插入测试表笔，否则将会损坏设备。



核算（ACCOUNT）

产品核算功能是专为网络布线功能造价核算创新开发的；

产品可以记录最多100条网线长度及根据单价计算出相应的总造价；

单击OK键保存数据，▲或▼键选择数据；同时按上键和下键保持3秒则清除数据；

单击电源键选择单价和单位调整，选择调整位后，▲/▼键调整相应的参数。

产品功能

设置（SETUP）

产品SETUP功能，用户可选择语言、屏幕亮度、自动关机时间、打开/关闭声音和恢复出厂设置；

▲/▼键选择设置项目，OK键切换设置内容；



安全须知

1.本机支持60V PoE带电网线测试，作业时禁止触碰网线金属弹片、裸露导体，避免触电、仪器击穿损坏。

2.VFL红光为650nm激光光源，严禁直射人眼、近距离照射皮肤，长期直视会造成永久性视力损伤。

3.雷雨、大风、潮湿环境，禁止户外高空、线缆井内作业，防止雷击、进水短路。

4.整机属于精密仪器，禁止摔砸,浸水,暴晒,强磁场环境使用。

5.设备长期闲置，每2~3个月充电一　，防止锂电池亏电鼓包报废。

6.万用表测量规范

① 测量前核对档位、量程，严禁超额定电压/电流测量；测量高压需使用带防护帽的合格表笔，手指置于表笔防护区后方，勿触碰金属探针。

② 表笔绝缘开裂、金属外露时禁止使用；接线遵循先接公共端、后接带电端，拆线顺序相反。

③ 电流测量必须串联回路，禁止并联直测电源，防止短路炸表；不得用电流档判断线路是否断电。

④ 禁止在易燃易爆、高湿高危场景测量；30V交流有效值、60V直流以上电压存在触电风险，需佩戴绝缘防护用具。

⑤ 仪器外壳开裂、功能异常时立即停用送检，不可带病测量；仅使用原厂同规格保险丝替换。

技术指标

基本功能	基础款	升级款
长度测量	√	√
	<20M ±1.6M,20M~100M ±2.4M,>100M ±3.2M	
数字寻线	数字	数字/震动
对　　线	正常/短路/断线/交叉	
水晶头压线	√	√
光 功 率	mW/uW/nW/-70.00~6.00 dBm	
红光功能	10mW(约10kM)，长开/闪烁(1Hz/2Hz)/关	
交换机端闪	10M/100M/1000M	
POE设备测试	标准/非标POE、电压值/极性	
ID对线功能	可选配1~15	
工程核算	存储记录100/单价/金额	
万用表功能		(60000位显示)
直流电压		6.0000V~1000V(±0.5%+0.3)
交流电压		6.0000V~750V(±0.8%+0.5)
直流电流		600.00mA~10A(±1%+0.4)
交流电流		600.00mA~10A(±1%+0.5)
电　　阻		600.00Ω~60 MΩ(±1%+0.6)
电　　容		6.0000nF~60 MF(±2%+0.6)
频　　率		6.0000Hz~6 MHZ(±1%+0.1)
通断蜂鸣		< 50Ω蜂鸣/610Ω以上显0L
二 极 管		0.0000~3.3000v,3.3v以上显0L
保险丝规格		2410/10A/300V
其　他	3.2寸240*320点阵屏彩屏、双锂电池供电、长度自校准功能 白光手电筒功能、NCV电场感应、 数字寻线灵敏度可调、低电压检测	
包　装	彩盒/说明书/工具包/RJ45线/鳄鱼夹/充电线/表笔(仅升级款有) 主机187*86*34mm/寻线器197*47*36mm	
电源规格	主机1500mA.H/寻线器800mA.H/可充电锂电(带保护电路) 需要采用5V/2A/10W或以上充电器充电(不标配)	

*ID为选配功能件　*上述指标是功能最佳指标



Multifunctional network cable tester

Users Manuals

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Made in China.
Pn： 501850902

Characteristic

1. Integrated multiple professional functions, ideal all-in-one tool for engineering work
2. Network cable length measurement up to 400 meters
3. Comprehensive cable test: open circuit, short circuit, crossover and crystal head crimp check
4. 60,000-count professional multimeter (upgraded model only)
5. Optical power meter ranging from 6dBm to -70dBm
6. Built-in red laser, applicable for fiber inspection up to 10km
7. Noise-free digital cable tracing function
8. Unique engineering cost calculation, stores up to 100 cable length records
9. Preloaded with 4 languages to meet diverse user needs
10. Rechargeable lithium batteries for main unit and tracer, eco-friendly

Introduction

This all-in-one tester is specially developed for technicians engaged in network and communication wiring installation & maintenance, based on abundant on-site engineering experience. It integrates a multi-function cable tester, multimeter, optical power meter and VFL red light fault locator into one unit.

The device supports full cable testing functions including wire tracing, cable length measurement, live PoE detection, port flashing identification and crystal crimp quality inspection, covering both fiber and circuit testing requirements.

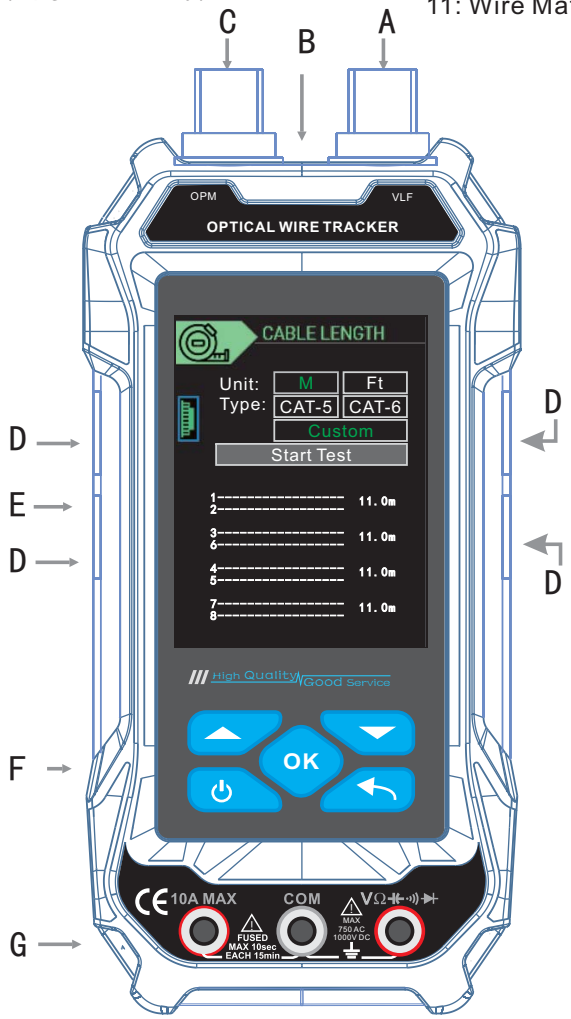
It adopts a split design consisting of a main transmitter and a wire tracer, with complete matching test cables supplied. It features long tracing distance and low signal noise, delivering fast and accurate cable length measurement. The upgraded version is equipped with a high-precision multimeter for superior measuring performance.

Compatible with Ethernet cables, telecom lines and other network wires, it fulfills wiring construction, circuit maintenance and fault troubleshooting in one go, greatly boosting work efficiency for weak current engineering. It is a portable and efficient tool for wiring and maintenance work.

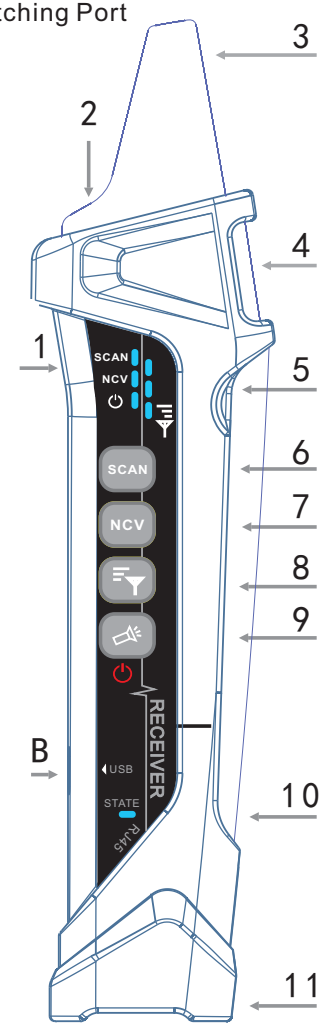
Product Introduction

A: Red Laser Port
(Upgraded Only)
B: USB Charging Port
C: Optical Power Test Port
(Upgraded Only)
D: Test Port
E: Display Area
F: Button Area
G: Multimeter Input Jacks
(Upgraded Only)

1: Function LED
2: Flashlight
3: SCAN/NCV Induction Area
4: Signal Strength Indicator
5: Sensitivity LED
6: SCAN Key (Sound/Vibration Switch)
7: NCV Key
8: Sensitivity Adjustment
9: Flashlight Off /Press 2s for Power On/Off
10: SCAN Verification LED
11: Wire Matching Port



MAIN



RECEIVER

Product Operation

Function selection(Function)



Turn on the product.,the interface displays all the functions of the product.

Press or long-press the ▲/▼ key to select a function, and click the OK key to enter the function;

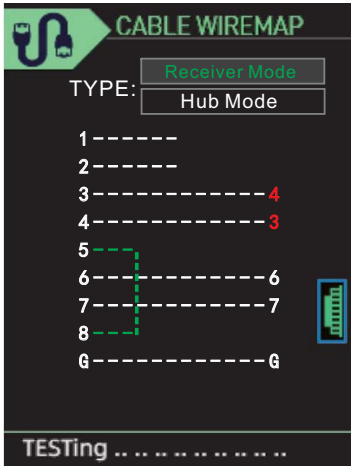
CABLE WIREMAP

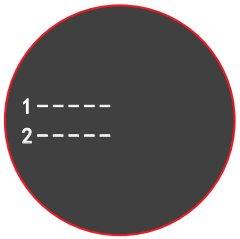
This function detects cable connection conditions including open circuits, incorrect wiring sequence, short circuits, and crossed pairs.

Receiver Mode: Insert one end of the network cable into the main unit and the other end into the RJ45 socket of the receiver. The main unit displays test results as shown in the figure to determine the connection status of the cable.

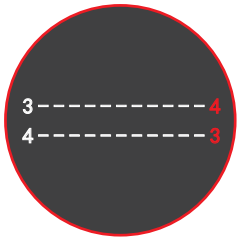
HUB Mode: This mode is used to test the quality of network cables connected to switches.

Press the ▲/▼ keys to select the mode, and press the OK key to confirm the selection.

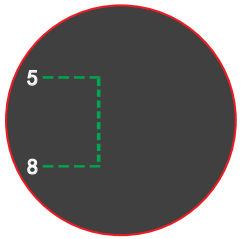




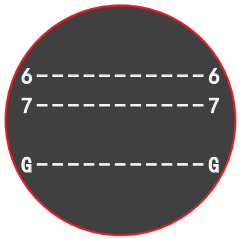
Open circuit
(1,2)



Crossover
(3, 4)



Short circuit
(5,8)



Normal
(6.7.G)

LENGTH

This function measures the length of network cables. Users can set the unit: M/ft, and select cable type: Cat5 / Cat6 / Custom Cable. (Press ▲/▼ keys to select, press OK key to confirm.)

Do not connect the other end of the network cable to any device during measurement.

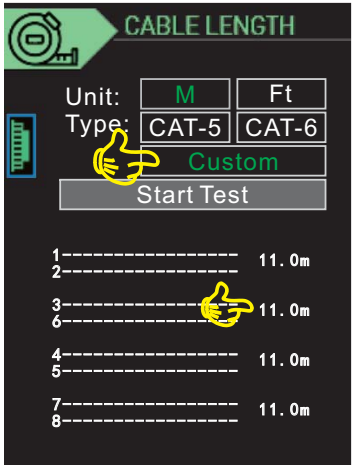
After selecting Start Test, press OK to initiate length measurement. Each measurement takes approximately 7 seconds.

Custom Calibration for Non-standard Network Cables:

Calibration Method: Measure a network cable of known length, then select Custom and press the OK key. Adjust the reading with the ▲/▼ keys until the measured value matches the actual length. Subsequent measurements of cables of the same type will show accurate length results.

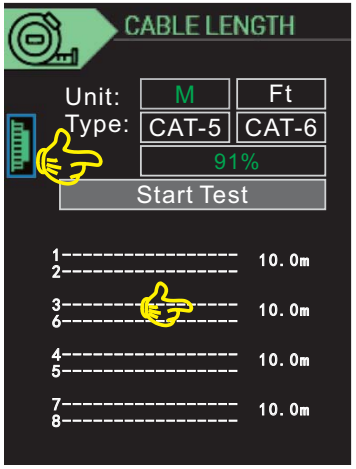
Step 1:

Measure a network cable of known length.Actual length: 10M, measured reading: 11M.Select Custom mode and press the OK key. Use the ▲/▼ keys to adjust the displayed value to 10 M. After confirmation, measurements of cables of the same type will show accurate results.



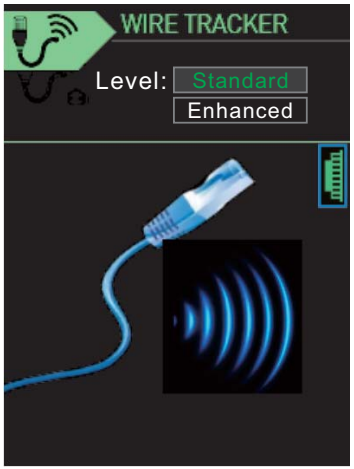
Step 2:

Select Custom and press the OK key. Use the ▲/▼ keys to adjust the reading until the measured value matches the actual length within ±0.5m to finish calibration.



SCAN

This function quickly locates the target cable among numerous wires. Connect one end of the test cable to the transmitter, switch the receiver to SCAN mode, and scan around the other end of all cables. The cable that produces the loudest and most steady tone on the receiver is the target line. The green LED on the front of the unit will flash rapidly when close to the target wire.



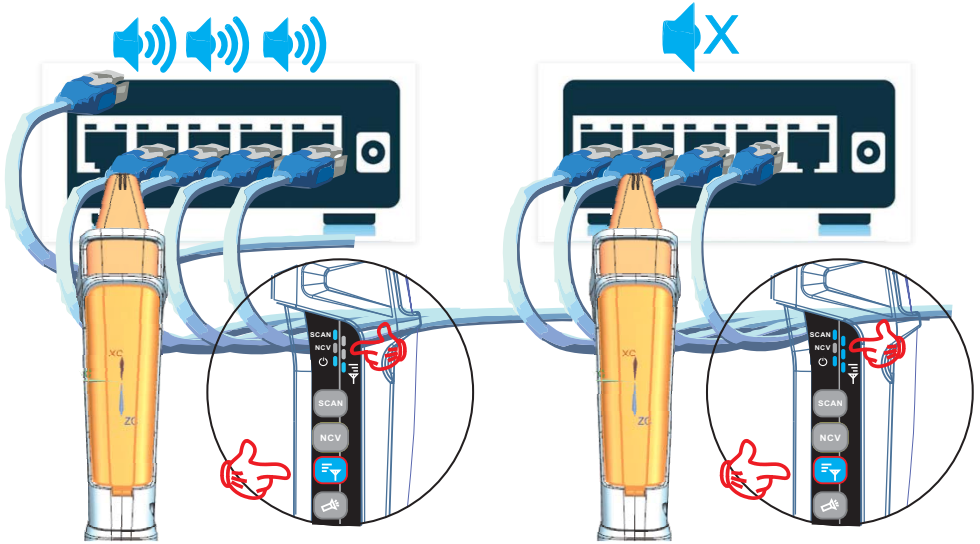
After preliminary identification, plug the target cable into the RJ45 port of the receiver for secondary confirmation; the STATE indicator will light up to verify the line.

Adjust the sensitivity via the control key on the receiver, with three LED indicators on the right showing current sensitivity levels. If multiple cables emit continuous tones simultaneously, reduce the sensitivity (one LED lit). Raise the sensitivity if signals are weak.

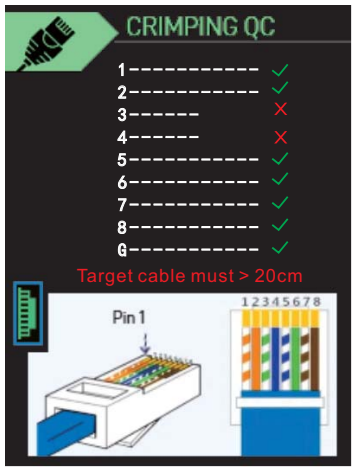
The transmitter supports Standard and Enhanced modes for selection.

A: Beep for multiple wire pairs,Turn down sensitivity to 1 bar

B: Target not found Turn up sensitivity to 3 bars



Crystal plug crimping (QC)



This function tests the crimp quality of crystal heads, accurately detecting common construction defects such as loose terminals, poor wire core contact, partial breakage and bad connection. It solves the limitation of traditional wire sequence testers that fail to identify single-end crimp faults.

After entering this function, wait for the device to finish calibration, then plug the cable into the main unit. A √ mark indicates good crimping, while a cross X mark means defective crimping.

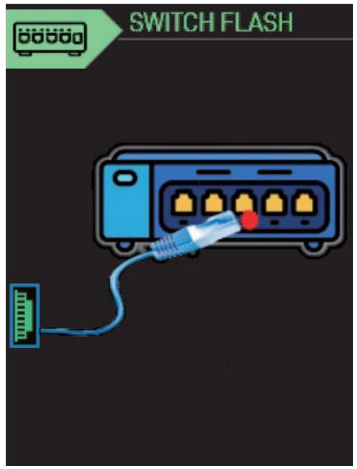
Note: The cable shall be longer than 20cm for crystal crimp test; otherwise misjudgment may occur

Port flash (FLASH)

This function triggers the LED lights of network switches to blink, enabling users to identify the exact port of the target cable.

Connect one end of the network cable to the main unit and the other end to a switch port. Driven by signals from this device, the corresponding port LED on the switch will blink at approximately 3-second intervals. Users can locate the target by observing the LEDs on the switch.

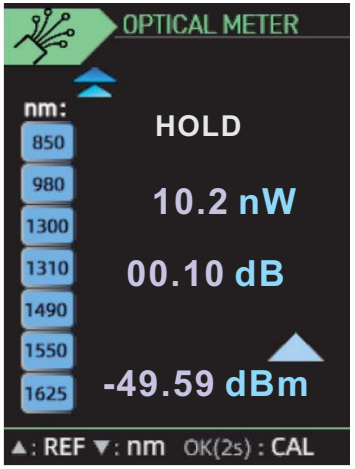
Compatible with 10M/100M/1000M switches.



Optical Power Measurement (OPM)

The optical power meter measures optical signal power and attenuation.

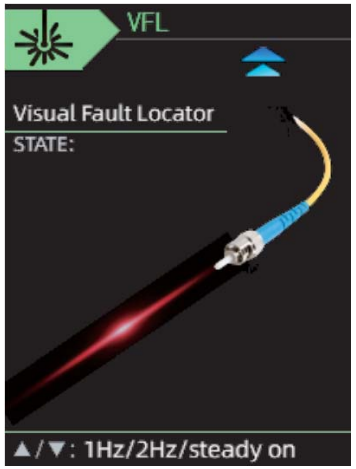
Press ▼ to select wavelength. Short press ▲ to enable/disable the REF function for attenuation measurement. When entering the REF function by pressing ▲, the unit automatically stores the current optical power value. The device then starts REF measurement and compares the previously stored reading with the current measured value to obtain the attenuation of the component under test. Short press the OK key to activate HOLD and freeze the measurement result.



Optical Power Calibration

Calibration is available when deviations occur in optical power measurements. Calibration Procedure: Input a standard signal with known power value. Press and hold the OK key for 2 seconds. When "CAL" is displayed, the optical power meter enters calibration mode. Adjust the value with the ▲/▼ keys, then press and hold the OK key for 2 seconds to save the calibration result.

Clear Calibration Data: Power on the device and select the OPM function. Press and hold the OK key for 2 seconds without making any adjustments. Press and hold the OK key for 2 seconds again, and the OPM function will restore factory settings.

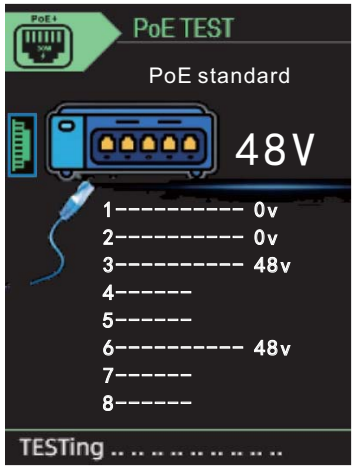


Red light pen (VFL)

This function emits red laser light. Connect the laser port to the fiber. Users can observe the light spot at the other end of the fiber to locate the target fiber among multiple cables.

Short press ▲/▼ keys to switch between different light output modes (1Hz / 2Hz / steady on).

POE Device Detection



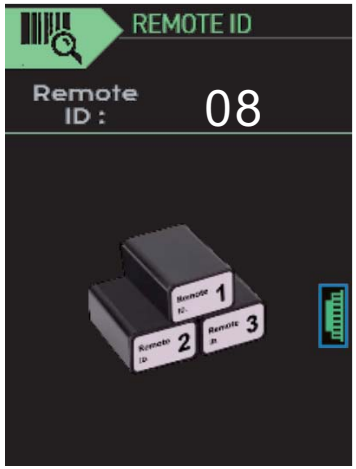
PoE voltage measurement function can measure and analyze power supply of PoE devices. The test items include supply voltage and power pair wiring sequence.

Connect one end of the network cable to the main unit socket and the other end to the PoE device. The tester will perform communication test and display the results afterwards. For non-standard PoE, the unit directly measures and displays the supply voltage.

Note: If no result is displayed 30 seconds after connecting to a PoE device, the connected device may not be a PoE device.

The actual PoE output voltage may differ slightly from the nominal value. The voltage shown on the unit is based on actual measurement.

Remote ID



Select the Remote Wire Mapping (ID) function. Connect one end of the network cable to the ID identifier (optional accessory) and the other end to the main unit. The main unit conducts testing and displays the corresponding ID number to accurately identify the serial number of the remote network cable.

**Remote ID is an optional function.

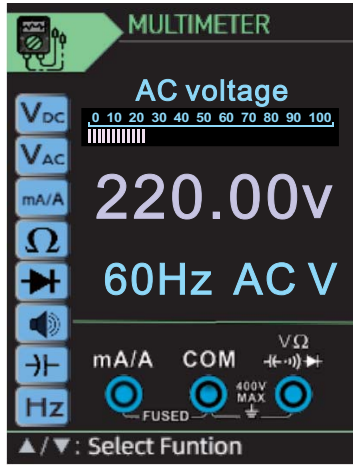
Multimeter (DMM)

The product multimeter has multi-functions and 60,000 Count, and its functions and accuracy are comparable to professional multimeters.

The product has functions of ACV/DCV/ACA/DCA/Continuity/Diode/Resistance/Capacitance/Frequency; The product will automatically detect DC current and AC current, and the user does not need to select.

The NCV voltage sensing function is achieved through the line finder;

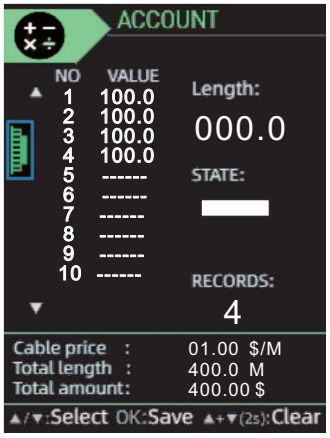
*This feature is only available on upgraded models



⚠ Warning

Please insert the test leads correctly according to this prompt, otherwise the device will be damaged.

Accounting (ACCOUNT)



The product accounting function is innovation developed for cost accounting of network cabling functions; The product can record the length of up to 100 network cables and calculate the corresponding total cost based on the unit price; Click OK to save data, press ▲ or ▼ to select data; press the up and down keys simultaneously for 2 seconds to clear data; Click the power button to select the unit price and unit adjustment. After selecting the adjustment position, use the ▲/▼ keys to adjust the corresponding parameters.

Product Operation



SETUP

The SETUP function enables users to select language, adjust screen brightness, set auto power-off time, turn sound on/off, and restore factory settings.

Use the ▲/▼ keys to select setting items, and press the OK key to switch parameters.

Safety Instructions

1. Supports 60V PoE cable test. Do not touch metal contacts/exposed conductors to avoid electric shock and device damage.
2. VFL adopts 650nm laser. Do not shine into eyes or skin; permanent eye damage may occur.
3. No outdoor high-altitude or cable shaft work in thunderstorm, windy and humid weather to prevent lightning and water-caused short circuit.
4. Precision instrument. Avoid dropping, impact, water immersion, direct sunlight and strong magnetic field.
5. Charge every 2–3 months during long-term storage to prevent lithium battery over-discharge bulging

Multimeter Specifications

① Check function/range before testing. No over-rated voltage/current measurement. Use capped probes for high voltage; keep fingers behind guards.

② Discard probes with cracked insulation. Connect common terminal first, then live terminal; reverse for removal.

③ Measure current in series. Never parallel to power supply to avoid burnout. Do not use current range to check power off status.

④ Prohibited in flammable, explosive and humid hazardous areas. Voltages over 30V AC RMS / 60V DC pose shock hazard; wear insulation protection.

⑤ Stop use and service if casing cracks or malfunctions. Replace fuse only with original equivalent type.

SPECIFICATIONS

Functions	Basic	Upgrade
Cable Length	√	√
	<20M ±1.6M,20M~100M ±2.4M,>100M ±3.2M	
Digital Tracing	Digital	Digital / Vibration
Cable Mapping	Normal/Open/Short/Cross	
QC.crimping	√	√
OPM	mW/uW/nW/-70.00~6.00 dBm	
VFL	10mW(about 10kM),ON/1Hz/2Hz/OFF	
FLASH	10M/100M/1000M	
POE TEST	Voltage/polarity	
Remote ID	Optional functions ID1~15	
ACCOUNT	Storage record 100/unit price/amount	
DMM	/	√ (60000COUNT)
DCV	/	6.0000V~1000V(±0.5%+0.3)
ACV	/	6.0000V~750V(±0.8%+0.5)
DCA	/	600.00mA~10A(±1%+0.4)
ACA	/	600.00mA~10A(±1%+0.5)
R	/	600.00Ω~60 MΩ(±1%+0.6)
CAP	/	6.0000nF~60mF(±2%+0.6)
Hz	/	6.0000Hz~6 MHZ(±1%+0.1)
Continulty	/	< 50Ω buzzing / >610Ω:OL
Diode	/	0.0000~3.3000v,>3.3v:OL
FLUSE	/	2410/10A/300V
OTHER	3.2-inch 240*320 dot matrix color screen, dual lithium battery, power supply, length self-calibration function, flashlight, NCV, adjustable sensitivity, low voltage detection	
Package	Color box/manual/tool kit/RJ45 cable/USB cable alligator clip cable/test lead (only for Upgrade)	
Power	1500mA.H(host)/800mA.H(receiver)/ rechargeable lithium battery,(with protection circuit) Charging requires a 5V/2A/10W charger or above (not included) Host: Charging time is about 2 hours, and the battery is fully charged and works for about 4 to 6 hours	

*Indicators are the best indicators of function

QC PASS
QUALIFICATION CERTIFICATE