

Wire Locator & Optical Fiber Tester

User Manual



Your excellent helper in cable test!





Please read the manual carefully before operating this unit.

- ⚠ Both Transmitter and Receiver were powered by Lithium Battery.
- ⚠ Don't put the device in dusty, wet or hot (above 40 °C) place.
- ⚠ Don't disassemble、maintenance the device without profession knowledge.
- ⚠ Pls don't use the device for telecommunication in thunderstorm to keep safe.

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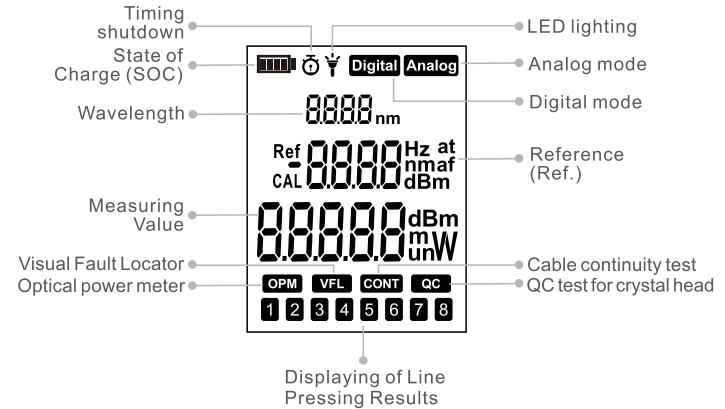
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Product Buttons and Interfaces

NF-918S Wire Loactor & Optical Fiber Meter, used for network cable maintenance and repair in home or public facilities. Its transmitter has the functions of cable scan and continuity test, QC testing for crystal head, optical power meter, VFL and so on. Its receiver has the functions of cable scan with Digital/Analog mode, NCV, lighting, POE test and so on.





Interface description



Product Instructions

1. Switch On / Off


Transmitter:

Long-press the "  " button for 2 seconds to start the transmitter. After starting, enter Digital mode by default. Likewise, Long-press the "  " button for 2 seconds to switch the transmitter off.

Receiver:

- ① Turn the receiver knob clockwise, the receiver is switched on when hearing a "click".
- ② Turn the receiver knob counterclockwise, the receiver is switched off when hearing a "click".


2. Cable scan

Short-press the " " to enter the dual mode of digital mode /cable continuity test by default (that is, after scanning, just insert the cable into the receiver to directly test the cable continuity).

- ① After selecting the mode, connect the network cable to be tested to the "SCAN/CONT" interface at the top of the transmitter.
- ② Turn the receiver knob clockwise to start the receiver, and adjust the sensitivity of the received signal to the maximum, and let the receiver probe to get close to the cable. When receiving the signal, the receiver sends out a "beep" sound, and the line sequence lamps of the receiver light up to indicate the signal intensity. The stronger the received signal, the louder the sound and the more lamps are lit up. By this way, quickly locate the approximate bearing of the cable.
- ③ After determining the approximate location of the cable, lower the sensitivity of the signal received by the receiver to accurately locate the target line.
- ④ After cable scanning is finished, can directly insert the target cable into RJ45 interface at the bottom of the receiver to test the cable continuity, and no switching on the transmitter is needed.

Note: If the receiver carries out the function of cable continuity test, the line sequence lamps are lit up green to indicate the result of cable continuity, and red to indicate the intensity of the received signal.


Switching between Analog mode and Digital mode (Analog is normal scanning mode, Digital mode is anti-jamming scanning mode):


Transmitter: Short-press the " " button in the scan testing mode to make switching between Digital mode and Analog mode. (When the " **Digital** **Analog** " is displayed, it is indicated that the transmitter is currently in the digital mode, and when the " **Analog** " is only displayed, it is indicated that the transmitter is currently in the analog mode).


Receiver: By default, the receiver is in the digital mode after switching on. The mode switching is carried out by short-pressing. When the button indicator lights up in a constant manner, it is indicated that the receiver is in the digital mode; when button indicator lights up in a flickering manner, it is indicated that that the receiver is in the analog mode.

Note: If the transmitter and the receiver are not in the same mode, there will be no noise at the time of line tracing.

3. Continuity test

Short-press the " " button to enter the cable continuity test mode by default.

Fast/Slow switching: short-press the " " button can switch the Fast/Slow mode. The CONT icon displayed on the screen will also change.

The continuity test is mainly used to detect the line sequence, short circuit, open circuit and crossing of the network cable, and the results are displayed through the line sequence lamp. Insert one end of the network cable to be tested into the " " interface and the other end into the receiver RJ45 interface, and judge the cable situation through the line sequence lamps:

- ① **Good connection:** The line sequence lamps of the transmitter and the receiver flash correspondingly in green one by one.

Transmitter:1-2-3-4-5-6-7-8

Receiver:1-2-3-4-5-6-7-8

- ② **Short circuit:** Take the short circuit of lamps 2 and 5 as an example. When the line sequence lamps 2 and 5 light up, the receiver lamps 2 and 5 light up at the same time but its brightness is darker.

Transmitter:1-2-3-4-5-6-7-8

Transmitter:1-2-3-4-5-6-7-8

Receiver:1-2-3-4-5-6-7-8

Receiver:1-2-3-4-5-6-7-8

- ③ **Open circuit:** Take the open circuit of lamp 2 as an example. When the line sequence lamp 2 lights up, neither the transmitter nor the receiver lights up.

Transmitter:1-X-3-4-5-6-7-8

Receiver:1-X-3-4-5-6-7-8

- ④ **Crossing:** Take the crossing of lamps 2 and 5 as an example. When the line sequence lamp 2 lights up, the receiver lamp 5 lights up.

Transmitter:1-2-3-4-5-6-7-8

Receiver:1-5-3-4-2-6-7-8

Cable continuity test for the switch router:

It is mainly used to detect the connection and disconnection of the network cables. Insert one end of the network cable into the CONT /SCAN interface at the top of the transmitter, and the other end into the switch or router. If the tested 8-line network cable or the pin port of the equipment is in normal condition, the indicator lamps 1-2-3-4-5-6-7-8 will light up one by one. If the 2nd line of the network cable is broken, the indicator lamps 1-3-4-5-6-7-8 will light up.

Note: This method can also be applicable to test the cable continuity on POE switch. But it is not suitable for this test method for non standard POE.

4. POE test

One end of the network cable is inserted into the RJ45 interface at the bottom of the receiver and the other end into the working POE switch. The test results are as follows:


※ If lamps 1/2 or 3/6 in the test light up, it is indicated that the power supply mode of this POE switch is the terminal bridging connection. (1/2- or 3/6-lines power supply)

※ If lamps 4/5 or 7/8 in the test light up, it is indicated that the power supply mode of this POE switch is the intermediate bridging connection. (4/5 or 7/8 lines power supply)

※ If lamps 1/2 or 3/6+4/5 or 7/8 in the test light up, it is indicated that the power supply mode of this POE switch is 8-line power supply.


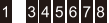
Note: In the above description, the pin line with a lamp lighting up is positive.

5. QC test for crystal head

Short-press the "  " to enter the QC test mode." At the moment, the QC icon on the screen lights up. Insert one end of the network cable or telephone wire into the QC interface on the side of the receiver, and the other end is not connected to anything. The testing result will display on the screen with the numbers (1~8) at the bottom, show that: the pressure connecting of the lines corresponding to the numbers displayed is good and normal, and the pressure connecting of the lines corresponding to the numbers not displayed is abnormal.

For example:

Network cable:


- ① **Good condition:** the result of line pressing on the display screen of the transmitter is shown as: 
- ② If line 2 is not pressed well, the test results are as follows: 



Telephone line:












- ① 6P6C is in good condition: 
- ② 6P4C is in good condition:  6P2C is in good condition: 

Note: The QC test function is mainly used to detect whether the connection of the network cable connector is normal, but it cannot judge whether the line sequence is correct. If it is necessary to test the line sequence, apply the continuity test function for the testing.

6. Optical power meter

Short-press " " to enter the optical power test. In the optical power mode, the optical power and optical attenuation can be tested.

- ① **Wavelength selection:** In this mode, short-press " " to switch the wavelengths back and forth: 850/1300/1310/1490/1550/1625nm. The device has the wavelength memory function, and the last selected wavelength is the default when starting up the device.
- ② **Unit switching:** In the optical power test mode, long-press " " for unit switching.

- ③ **Optical power calibration:** in the power-off state, press down " "+ " " for about 5 seconds to enter the optical power calibration interface, then release the button. Short-press " " to select the optical power value under the wavelength you need to calibrate, and insert the optical fiber cable with signal into place. After pressing " " or " " to adjust the values you need, short-press " " to save it, and at the moment, CAL will flash on the screen to signify successful saving. Long-press " " for about 3 seconds to turn off and then restart the device.
- ④ **Restore the factory setting of optical power:** in the power-off state, press down " "+ " " at the same time for about 5 seconds to enter the interface to restore the factory setting, then release the button, and at that time, " " is displayed on the screen. Long-press " " for 3 seconds to shut down, and restart the device.
- ⑤ **REF switching:** REF is used to test the attenuation value of light (that is, the relative power (loss) test). This mode is mainly applied to the test of relative power or insertion loss. In the REF mode, by subtracting the reference value from the measured power value, the optical power meter will show the insertion loss of the component tested or the loss of the optical fiber link.



Notes:

Reference value must be set separately for each wave. Under this option, insert it in the port at the non-attenuation end, long-press to save the current non-attenuation optical power (i.e. the reference value) and display the value in the numerical area of the second line, and then insert the test end into the interface of the attenuated end, so as to measure the insertion loss of the component tested or the loss of the optical fiber link. In this mode, click the optical power /REF button to switch the values shown as the attenuation value (that is, the relative power value) or the normal optical power in the third line.

——In the attenuation test mode, the previously saved optical power without attenuation is displayed in the numerical area of the second line, and the real-time attenuation data is displayed in the third line. At this time, the unit is forced to be dB, and switching to other units is impossible.

——In the non-attenuation mode, the numerical area of the second line is blank, and normal optical power data is displayed in the numerical area of the third line.


7. VFL (Visual fault locator)

Short-press " " to open this function. short-press " " again to switch the modes : constant illuminating, fast flashing and slow flashing.




8. Backlight On and Off

The backlight is turned on by default at the time of starting, which can be turned on or off by long-pressing " ".


9. LED lighting

When the transmitter is in any mode, long-press " " to turn on and off the top light for illuminating.

10. Switch off automatically


In any mode, press " "+" " " for over 2 seconds at the same time to switch on and off the automatic shutdown function. When the " " icon is displayed on the screen, it is indicated that the automatic shutdown is started, and the duration of automatic shutdown is 30 minutes.

11. NCV

Short-press the " " button of the receiver and indicator lights up. When the receiver probe gets close to the cable or socket or other probed parts. If 40V AC is found, the receiver will send out the "beep" sound.

Note: The chargers usually belong to the switching power supply through voltage transforming and frequency converting, the recharging line is coupled with high-frequency AC voltage signal, so it is normal that the AC voltage can be detected at the time! In addition, it is normal that the buzzer gives an alarming when the probe is approaching the power transformers, induction cookers, etc.

12. Lighting

Short-press the " " button to turn on the LED flashlight of the receiver, and short-press it again to turn the flashlight off.

13. Headphone

Function of the headphone: when testing in noisy environment, put the headphone on for operating to avoid external interference.

14. Low battery prompting and recharging

- ① Low battery prompting function: when the battery power is low, the power supply indicator of the receiver flashes for prompting (or it will send out a "click" sound all the time after being turned on); and the power supply indicator of the transmitter flashes. When the above phenomena occur, please recharge it in time.
- ② **Indicating the status of the Type-C USB recharging function:** when recharging, the power supply indicator of the receiver lights up, and after fully recharging, the indicator goes out. The status of fully recharging is indicated through the battery icon on the transmitter.

Product Parameters

Model of Product	NF-918S		
Voltage protection	60V		
Charging mode	Type-C recharging		
Transmitter	CONT	Cable type	RJ45
		CONT on PoE Switcher	Yes
		Short, open, cross	Yes
		STP/UTP	Yes
		Short circuit prompting	Yes
	SCAN	Analog/Digital mode	
	VFL	10mw	
	Wavelength	850/1300/1310/1490/1550/1625	
	Optical power range	-70~10dbm	
	QC test	RJ45-8P /RJ11, the shortest length $\geq 10\text{cm}$	
	Low voltage prompting function	Power supply indicator flashes $< 3.5\text{V} \pm 0.1\text{V}$	
	Power supply	3.7V 1500mAh lithium battery	
	Auto power-off	30 minutes (can be turned off)	
	Size	133x69x32mm	
Receiver	Sensitivity adjustable	Yes	
	NCV	Yes	
	LED lighting	Yes	
	Low voltage prompting	Yes	
	Power Supply	3.7V 1400mAh lithium battery	
	Size	198x50x32mm	

Application Field of Products

1. Objects to which the product is applied

Weak current projects and lines maintenance relating to telecommunications bureaus/Internet cafes/telecom engineering companies, network engineering companies/electric power units, and other departments with the need of metal wire.

2. Product application field

Telecommunication network line engineering and routine maintenance work; computer network line engineering; Other metal conductor line engineering and maintenance work.



设计	品名	样式	印刷要求
CZG	NF-918S说明书骑马订英文-V2 20230906	骑马订	彩色
日期	品号	页码	
2023.09.06		16P	
样品	尺寸	材质	
	210×145mm	128g铜版纸	
变更记录	V2较V1版本,修改了按键颜色		