



# *User's Guide to the OFS-1/OFF-1*

## — — Optical Fiber Finder

Version 1.1  
2014-7-11

**Please keep this manual in a safe place in order to check in time.**

## Foreword

Thank you for purchasing OFS-1/OFF-1(Optical Fiber Finder), please read this manual carefully before use, specially in Warnings and cautionary information, so as not to result in injury or instrument damage to user caused by misuse. This manual contains correct operation and necessary information of maintaining OFS-1/OFF-1, and every information about troubleshooting guide and technical support and service.

The OFS-1/OFF-1 Optical Fiber Finder is a small size with light weight, rugged, portable, compact instrument with simple operation, stable and reliable performance which is self-innovation. OFS-1/OFF-1 is R&D and manufactured with patience and carefulness, subject to stringent mechanical, electronic and optical testing, quality assurance on ex-factory. OFS-1/OFF-1 uses innovative optical Online low frequency signal generation technology, which can accurately find the particular fiber without interrupting service online and effectively settle the optical online business identify, this will save more time and energy than that the Operation and maintenance personnel put in optical fiber searching. This instrument is designed for searching particular load signal fiber in complex fiber environment.

## Features

- Innovate optical Online low frequency signal generation technology, which can accurately find the particular fiber without interrupting service online
- 1Hz low-frequency signal generation and identifier, no affection to the online signal transmission in the fiber
- IL is low: <1dB, no affection to the online signal transmission in the fiber
- Support 0.9, 1.6, 2, 3 mm diameter optical fiber
- Automatically determine, identify the test signal and beep tips
- With one button calibration function, adapt to different environment and natural light intensities for accurate measurement
- With Bluetooth function, remote control device wireless
- Convenient for use and study
- Simple and clear LED lights
- AA battery, small size with light weight, portable

## Technical Parameters

<b>OFS-1 Online Signal Generator</b>	
Generated Signal Type	1Hz low-frequency signal
Generated Signal Way	mechnism
IL	< 1dB@1310nm
Applicable Fiber Type	G652D、G655、G657A1、G657A2
Applicable Fiber Outside diameter	0.9/1.6/2/3mm
<b>OFF-1Optical Fiber Identifier</b>	
Identification Wavelength Range	900~1650nm
Identification Signal Type	CW、270HZ±5%、1kHz±5%、2kHz±5%、1Hz
Detector Type	Φ1mm InGaAs 2pcs
Adapter Type	RB0.25、RB0.9、RB2.0、RB3.0
Detection Sensitivity	lowest-50dBm (depend on the different bare fiber or pitails IL)
Loss Sensitivity on Fixture Removal@1310nm	RB0.25 approximately -20dBm, RB0.9 approximately -20dBm, RB3.0 approximately -20dBm
Loss Sensitivity on Fixture Removal@1550nm	RB0.25 approximately -30dBm, RB0.9 approximately -30dBm, RB3.0 approximately -30dBm
Metering Light Strength	1310nm: +10dBm~ -20dBm, 1550nm: +10dBm~-30dBm
<b>Other Specifications</b>	
Power	2 AA alkaline batteries (work for 38 hours continuous)
Operate Temperature	-10℃~+50℃
Restore Temperature	-20℃~+70℃
Size/Weight	202L×62W×38H(mm) / 300g

## Statement

Don't copy this manual or part of it without GRANDWAY's permission.

We try to ensure the accuracy of the manual,If you find any problems or errors in using,please contact GRANDWAY or the distributor.

## Copyright Guarantee

- There is a change without a previous notice in this manual.
- We don't guarantee this manual,including not implied to the particular warranties and fitness.
- For the error or incidental and consequential loss caused by this manual or its practicality,we don't assume any responsibilities.

## Safety Guides

Please read the safety guides before operating,showing and maitaining.If these guides are not complied,it will likely result in alerts or warnings,GRANDWAY will not assume any responsibilities for the problem caused by not complying the guides in this manual.

Before initializating and operating the unit:

- Please check weather there is damage on tne surface,and read the manual carfully
- Please install the devicet in accordance with the guides in this manual
- Please make sure the device and power cord connect to the instrument are earthed

## WARNING



To avoid the risk of injury or death, always observe the following precautions before initializing the unit:

- To prevent hazardous radiation exposure, use only the controls or adjustments and perform only procedures specified for the laser source.
- If using a voltage-reducing autotransformer to power the unit, ensure that the common terminal connects to the earthed pole of the power source
- Use only the type of power cord supplied with the unit.
- Willfully interrupting the protective earth connection is prohibited.
- Never look into the end of an optical cable connected to an optical output device that is operating. Laser radiation is invisible, and direct exposure can severely injure the human eye. For more information, see the user's manual of the laser source in use.
- Do not use the unit outdoors.
- To prevent potential fire or shock hazard, do not expose the unit to any source of excessive moisture.
- Do not operate the unit outdoors
- Do not interrupt the protective earth grounding. Any such action can lead to a potential shock hazard that can result in serious personal injury
- To prevent potential fire or shock hazard, do not expose the unit to any source of excessive moisture.
- Unless absolutely necessary, do not attempt to adjust or perform any maintenance or repair procedure when the unit is open and connected to a power source.
- Repairs are to be carried out only by a qualified technician.
- Do not attempt any adjustment, maintenance, or repair procedure to the unit's internal mechanism if immediate first aid is not accessible
- Disconnect the power cord from the unit before adding or removing any components.
- Operating the unit in the presence of flammable gases or fumes is extremely hazardous
- Do not perform any operating or maintenance procedure that is not described in the user's manual

## Label Instruction

Label	Instruction
	Consult the user manual for detailed guide to operate instrument safely,this symbol appears on the instruments which needed to be specially introduced or operated, the same symbol also appear in the manual that corresponded to the instruction.
	Laser may result in while using the instrument,consult the user manual for detailed guide to operate instrument safely.
<b>Caution</b>	If not following the safety guide in the operation manual,the operator may suffer serious injury or even death.Make sure that the operating environment meets the requirments before operation.
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## Standard Configuration

OFS-1 Online Signal Generator,OFF-1Optical Fiber Identifier,RB0.25、 RB0.9、 RB2.0、 RB3.0 Adapter,Carrying Case,Instructions

<b>WARNING</b> 	Standard components and optional components of the equipment are subject to change without a previous notice. For more information, please call the service number(see last page for details)
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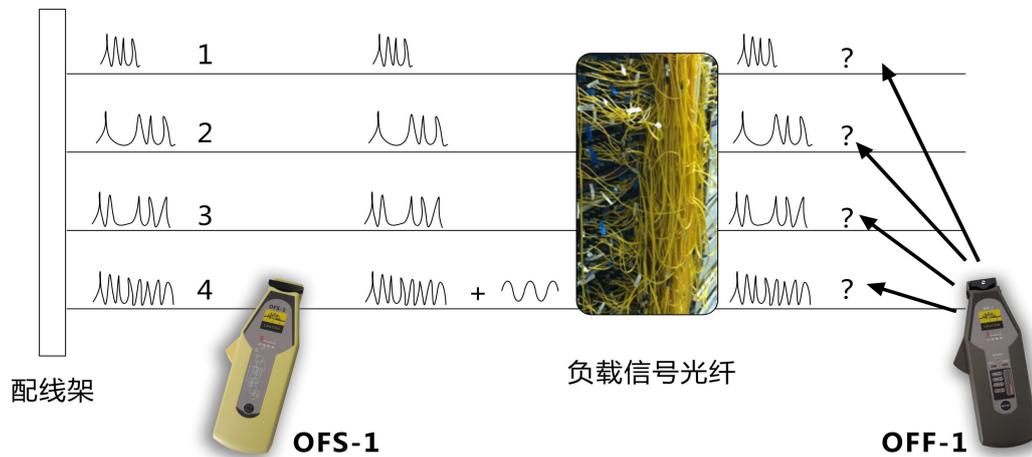
# Operational Instruction

## 1.Power

This instruments use two AA alkaline batteries which can work for 38 hours continuous. Turn off power while not using OFS-1 Online Signal Generator.

Remove the battery when not using the instrumens for long.

## 2.Operational Principle



OFS-1/OFF-1 Optical Fiber Searcher field test schematic

OFS-1 is a non-interference,non-interruption clamping low-frequency signal generator, which can meet the test need and ensure loss at a low level while working in with OFF-1.OFS-1 is installed in which the transmitter locates,it applies gentle low-frequency modulation to the fiber and adds 1Hz modulation signal to the load signal,and then OFF-1can automatic identify the low-frequency signal that OFS-1 transmittes.Few seconds later,OFF-1 can detect the low-frequency signal on the other side,after detecting the corresponding fiber,the LED lights in OFF-1 will not only flash regularly,but also the OFF-1 will beep.Operator can judge whether the corresponding fiber is found according to the beeps.

### 3.Usage Method

①Installing OFS-1at which the transmitter locates,turn on OFS-1 while pressing the “ON/OFF”button,and then applying gentle low-frequency modulation to the fiber and adds 1Hz modulation signal to the load signal.

②Installing OFF-1at the end side of the fiber,hold the lever and press the “ADJUST” button,then the “NO-SIGN”light flash quickly,after hearing 4 times continuous two beeps release the button,and entering the testing procedure.

③Few seconds later,the signal strength indicator of OFF-1 flashes 3 times continuously, “NO-SIGN”light flashes regularly,OFF-1 beeps,meaning the corresponding fiber is founded.Otherwise not,and detecting the other fiber according to the same method untill finding the corresponding fiber.

### 4.Precautions

①Different fiber should use different adapter,otherwise the testing performance will decrease and the the testing result will be inaccurate.

②Don't bend the fiber excessively which may break the fiber,or making the testing result inaccurate.

③Battery is recommended to use alkaline batteries,using rechargeable battery may show low battery.Please remove the battery when not using the instrumens for long,so as not to making the instrument permanent damage caused by battery rot.Please replace the battery while showing low battery, or affecting the testing result.

## 5.Maintenance

Fault Name	Cause	Solution	Remark
Can't Boot	Not installing battery correctly	Installing battery correctly	Settle by ourself
	Battery exhaust	Replace battery	Settle by ourself
Don't Work after Boot	Not installing battery correctly	Installing battery correctly	Settle by ourself
	Battery exhaust	Replace battery	Settle by ourself
	Damage on internal parts	Check the line,replace internal parts	Return to the manufacture
Shutdown Soon after Boot	Low battery	Replace battery	Settle by ourself
Show Wrong Message	High air humidity	Reuse untill humidity decrease	Settle by ourself
	Near strong electromagnetic fields	Keep away from electromagnetic fields	Settle by ourself
	Lots of metal dust in the air	Damage of the line, replace the board	Return to the manufacture
	Incrrect fiber holding position	Hold the fiber tightly and correctly again	Settle by ourself

## 6.Warranty

### 6.1General Information

All GRANDWAY products are warranted against detective material and workmanship for a year of time from the data of shipment to the original customer. GRANDWAY also guarantee that the instruments agree the standard while using. During the warranty period, GRANDWAY is entitled to repair, replace or grant warranty card to all compromised products. This warranty is also suitable for the products which needs to be repaired to test and adjust for free, or test and adjust the original wrong calibration product again. If the instrument is sent back to calibrate accuracy during the warranty period, and find that it meets all published specifications, GRANDWAY will charge standard calibration cost.

<p><b>WARNING</b></p> 	<p><b>If the following situations occur,the warranty will be void:</b></p> <ul style="list-style-type: none"><li>➤ <b>The instrument is overhauled and treated by unauthorized personnel or non-technical personnel of GRANDWAY. Warranty label is torn.</b></li><li>➤ <b>The screw in the instrument is removed that is not referred to in this manual.</b></li><li>➤ <b>Open the instrument without following this manual.</b></li><li>➤ <b>Instrument serial number was once modified,erased or moving.</b></li><li>➤ <b>Improper using the instrument and being damaged by negligence or accident.</b></li></ul>
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## 6.2Responsibility

This warranty will replace all the other clearly expressed, implied or statutory warranty before,that are not implied to the particular and fitness warranties.In no case will GRANDWAY undertake the responsibility which caused by special incidents,accidents or the various resulting damages.

## 6.3Disclaimer

Grandway reserves the rights to modify the design and installation structure of all products at any time,and not undertaking the obligation to modify the product which is purchased. Various accessories are not covered by the warranty,including but not limited to the fuse,indicator,battery and common interface&.If the following situations occur,the warranty will be void:incorrect using or installation,normal wear and tear,accidents,Illegal operations,negligence,fire,flooding,thunder or other natural accidents,other reasons or the reasons out of control.

## 6.4 Service and Commitment

GRANDWAY guarantee the instrument meet its specifications while being shipped from factory.

GRANDWAY promises:from the date of purchase,GRANDWAY provides 1 year of product service and repair.

Send any instrument for technical service or maintenance:

1.Please contact one of our authorized customer service center.Service personnel will determine whether your instruments need technology services, maintenance calibration or not.

2.If the instrments must be sent back to GRANDWAY or authorized customer service center,service personnel provide a rework address.

3.If possible,backup your data before sending the rework instrument.

4.Please use the original packaging materials to pack the instruments.Please be sure to attach a instruction or report,specifying the error and the situation observed.

5.Please pay the fare according to the address provided.Make sure to sign the serial number in the list.

<p><b>CAUTION</b></p> 	<p><b>If the rework instruments meet all technical index after testing,all testing costs will be paid by the user.</b></p>
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If the instrument is not covered by the warranty,user should pay the repairing fare. If covered,GRANDWAY will pay the homewad fare.User pay the transportation insurance. Regular recalibration are not covered by any warranty plan.Please contact the authorized customer service center.