



User's Manual

SUN-VOA100 Series

Handheld Attenuator

English



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1. Overview

Application

SUN-VOA100 series handheld attenuators are designed to continuously and variably attenuate the optical signal.

The main application of this unit is for the laser system online test, so it is applicable for the PDH, SDH which include the communication instrument, and CATV system.

Function and Features

With built-in neutral density filter, VOA attenuate the optical signal through the rotating dial on the keypad .The attenuation range is from 2.5-60dB.

2. Specification

Model	SUN-VOA100-H	SUN-VOA100-HB
Calibration Wavelength (nm)	1310/1490/1550/1625	850/1300
Fiber Type	9/125um SM	62.5/125 (50/125 is option)
Connector	FC/PC (SC/FC/ST interchangeable port is optional)	
Attenuation Range	2.5~60dB	
Resolution	0.05dB	
Min Insertion Loss	<2.5dB	
Linearity	± 0.5 dB	
Repeatability	± 0.2 dB	
Overall Attenuation Accuracy	± 0.8 dB	



Back Refletion	> 35 dB (typical value :40 dB)
Max Acceptable Input	+20 dBm
Rechargeable Battery	7.4V
Power Adapter	7~8.5V
Working Temperature	0~40°C
Storage Temperature	-10~60°C
Humidity	0~85%
Weight	450g


3. Standard Accessories

- 1. Main Unit-----1
- 2. Manual-----1
- 3. Rechargeable Battery -----1
- 4. Power Adapter -----1
- 5. Recharger-----1
- 6. Cotton Swab-----1

4. Function





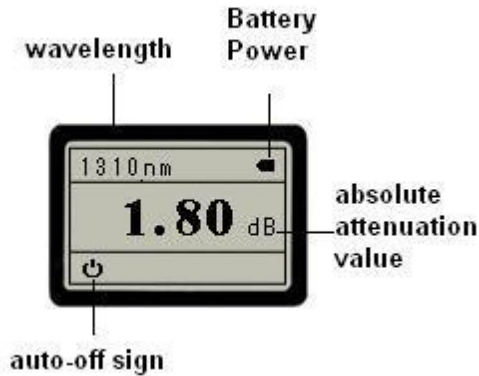
4.1 Keypad

- ① “” key: Press this key for 2 seconds to turn on/off the unit. Press it shorter time to activate or deactivate the auto-off function.
- ② “MENU/ENTER” Key: Menu/confirm。
- ③ “▲”Key: Select the function or value increase。
- ④ “▼”Key: Select the function or value decrease。
- ⑤ “CANCEL”Key: Exit/cancel。
- ⑥ “λ” Key: Switch the wavelength。

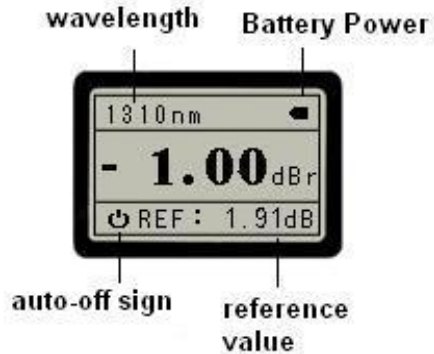
⑦“Rotating Dial”Key: Rotate it clockwise to increase attenuation value, otherwise decrease the value. The attenuation step is 0.5dB.

4. 2 Function

4.2.1 Press “”key, to turn on the unit. It displays the absolute or relative attenuation value. Press “”key shorter, then the auto-off function is activated. The unit will auto-shut down after 10 minutes idle time.



Draft1



Draft2

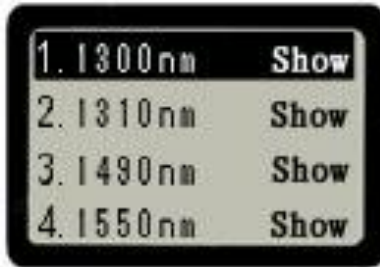
4.2.2 Press **"MENU/ENTER"** key, it displays all the settings, press **"▲"** **"▼"** to select the item to be revised ,press **"CANCEL"** to revert to the previous menu.



Draft3

① **Edit the wavelength**

Under the option of "edit the wavelength" ,press **"MENU/ENTER"** key to display the status of wavelength :1300/1310/1490/1550/1625nm.



Draft4-1



Draft4-2

Press **"MENU/ENTER"** again, change the status of the wavelength. It doesn't show the hidden wavelength when switching the wavelength.



Draft5

② Set “REF”

Under this option, press “**MENU/ENTER**” key to set reference value.



Draft6

Select the option 1, set the current attenuation value as the reference value.

Press “**MENU/ENTER**” back to draft 2

Select the option 2, edit the value as the reference value.

Press “▲” “▼” to increase or decrease the value. Press “**MENU/ENTER**” to choose the value to be revised. It is back to the draft 2 interface after you edit.



Draft 7

③ Display the relative /absolute value



Draft 8

Choose to display the absolute value, it is back to draft 1 interface; choose to display the relative value, it is back to draft 2 interface.

④ LCD backlight adjustment




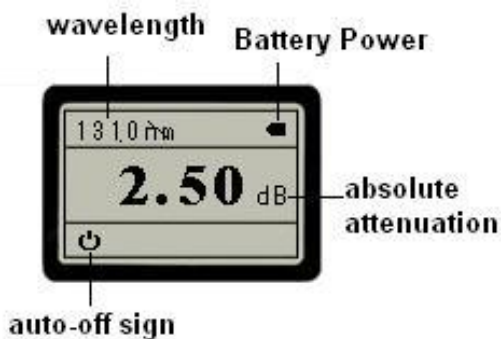
Draft 9

Press “▲”“▼”to adjust the lightness of LCD screen. (draft 9)。



5. Operation

5. 1 First, please correctly put the battery in unit.

Press “” to turn on the unit, it will show the absolute or relative attenuation value interface (draft 10)。



Draft10

When the battery is low or empty “”, please take out and charge it on time. When the battery is not work, you could also insert the power supply to power the whole unit. This icon “” means the external power is under use. The auto-shut down function is invalid if using the external power.

5. 2 Connect it to the light source。

5.2.1 Take out the dust-proof cap and connect the light source。

5.2.2 Press “” key to select the wavelength。

5.2.3 Set 2.5dB in draft 10 as the reference value。

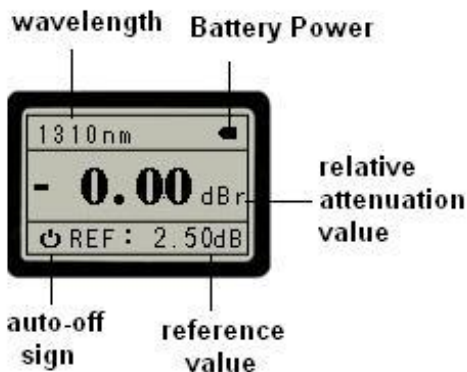
Press “**MENU/ENTER**” to enter menu, Select “REF” via “” key, then

press“**MENU/ENTER**”to confirm and enter the “REF value set/edit menu” (draft 6)。

- ① Select “1.set REF value” option (draft 11) , REF value is 2.50dB, press “**MENU/ENTER**”to confirm and return to interface draft 12。 Press“**CANCEL**”to cancel the operation。



Draft11



Draft12

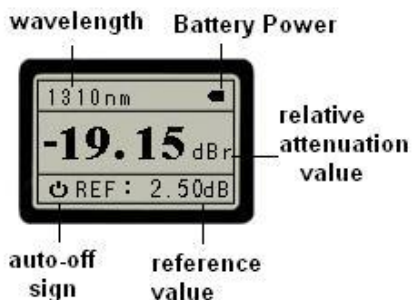
- ② Press“**▼**”key to select“2.set REF value”option, user could define the

REF value. Press “MENU/ENTER” to edit it(draft 13) 。Press“▲”“▼”to revise change the value and press“MENU/ENTER”to choose the digits to be revised and press it again to save. Press“CANCEL” key to exit or cancel.



Draft13

5.2.4 After setting REF value as 2.5dB (draft 12), please clockwise rotate the “rotating dial”, the attenuation step is 0.5dB.If you continuously rotate it to attenuation value -19.15dBr (draft 14),it means this optical link relatively attenuates -19.15dBr.

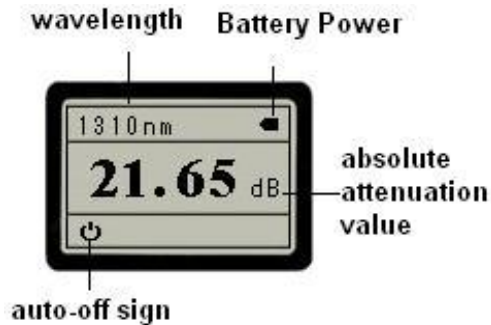


Draft14

5.2.5 Check the absolute attenuation value of relative value -19.15dBm


Press “**MENU/ENTER**” to enter the menu , press“**▼**”to select“display absolute/relative value”option 选, Press “**MENU/ENTER**”key again to enter the absolute/relative value menu (draft 8)。

Select “1.display absolute power”, press “**MENU/ENTER**” to confirm and back to interface draft 15.Absolute attenuation value is 21.65dB。 It is calculated by formula “relative power=absolute power-reference power”。



Draft15

Use the same method to check the relative attenuation value.

5.2.6 After your test, press“”to turn off the unit and cover back the dust-proof cap。

6. Maintenance

1. It is important to keep all optical connectors and surfaces free from oil,



dirt or other contamination to ensure proper operation.

2. Keep using one type of adapter to avoid excess loss from different connectors.
3. Please turn off the unit and cover dust proof cap after your test.
4. Please use the power adapter within regulated voltage when using external power
5. Please take out the battery when it is not in use for a period of time.

7. Troubleshooting

Description	Possible Reason	Method
No display after turning on the unit	Battery is weak/Others Fail to turn on the unit	Turn on the unit again/Charge battery
Wrong test result	Dirty connector or bad connection	Clean the connector Re-connect the fiber

8. Notices

- 8.1 Before the test, please ensure the connector is clean.
- 8.2 Cover well the dust-proof cap when not in use
- 8.3 Use the original charger to charge the battery. Otherwise, it will lead to serious damages.



9. Warranty

Caution: Repair it in the field is NOT recommended.

Sun Telecom warrants that SUN-VOA100 series Variable Optical Attenuators will be free from defects in material and workmanship for a period of 18 months. This warranty covers the original user only and is not transferable. Should the device fail at any time during this warranty period, **Sun Telecom** will, at its sole discretion, replace, repair or refund the purchase price of the product.

This warranty is limited to defects in workmanship and materials and does not cover damage from accident, acts of God, neglect, contamination, misuse or abnormal conditions of operation or handling.

To establish original ownership and provide date of purchase, please complete and return the registration card to **Sun Telecom**. This warranty will not go into effect until we have received the warranty registration.

A warranty registration card is included with the original shipment of equipment. Please take a few moments to fill out the card and mail or fax it to us to ensure proper initiation of your warranty term.

Warranty Registration Card

Serial Number: _____

Model Number: _____

Date of Purchase: _____

Company Name: _____

Company Address: _____

TEL: _____ FAX: _____

E-mail: _____

Note: Please fax this note within one month from the date of receiving units.

YOUR OPINION:

Do you have any comments on the quality of this product or the service from us?

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