

SK300X Smart Optical Multi Meter

User Manual

➤ Overview

The SK300X series products are mainly used for optical signal power measurement, stable laser light source output, insert loss test, return loss test, etc., and are controlled by a low-power single-chip microprocessor with complete functions. Widely used in fiber optic cable construction and maintenance, fiber optic communications, fiber optic sensing, optical CATV and other fields. The body design is in line with ergonomic requirements, using advanced cold molding technology, beautiful and durable. The optical power meter uses a built-in detector to protect it. With a compact form factor, it can choose between backlight display and auto power off function, with an ultra-wide optical power test range.

Note: The version of the manual is subject to change without notice.

Product Features

- Support linear mW, nonlinear index dBm, reference dBm and relative indicator dB simultaneously
- Integrated OPM, stable laser source and VFL function
- Automatic identification of wavelength
- Support automatic frequency identification
- Support threshold setting
- Support storage of 1000 data, USB connection to PC, PC software export data table
- Support backlight 4 level dimming
- Support user self-calibration
- Support FC, SC, ST interface
- Working hours are higher than 12 hours
- Support USB power supply function

➤ Key Description

1. On/Off

Short press within one second to start; long press this button to shut down. Press this button in the power-on state to switch the status of the auto power on/off.

2. △/REF

Optical power meter interface: Short press this button to set the current band REF reference value.

Light source interface: Short press the button to set the dBm value -1.

View interface: Short press this button to increase the data record being viewed.

Setting interface: Short press this button to select the up-regulated item. When the item is confirmed, you can switch the status of the item to be set and the control is set to increase.

User calibration interface: Short press this button to increase the calibration value by 0.05dBm.

3. ▽/LOAD

Optical power meter interface: Short press this button to enter the storage viewing interface. Press

and hold the button for 2 seconds on the main interface to save the current wavelength, dBm value, linear power mW value, relative power and REF value.

Light source interface: short press to switch output mode, CW, 270Hz, 330Hz, 1kHz, 2kHz.

View interface: Short press this button to decrease the data record being viewed.

Setting interface: Short press this button to select the down setting item. When the selected item is confirmed, you can switch the status of the set item and control the set number minus.

User calibration interface: Short press this button to decrease the calibration value by 0.05dBm.

4.

Optical power meter interface: Short press this button to switch the backlight brightness step by step, a total of 4 levels.

Optical power meter red light machine: long press this button to turn on red light; after turning on red light, short press this button to realize red light flashing function (1Hz and 2Hz frequency flashing), press this button again to turn off red light.

User calibration interface: Short press this button to save all current band calibration values and exit to the optical power meter interface.

5.

Optical power meter interface: Press this button to switch to the light source mode. Press and hold this button to enter the setting interface.

Light source interface: Press this button to switch back to the optical power meter mode. Press and hold this button to enter the setting interface.

View interface: Short press to return to the optical power meter interface. In the case of the DEL? or DEL ALL? character display, short press the button to cancel the delete operation. Press and hold this button to enter the setting interface.

Setting interface: Short press to exit the current selected option editing state or save the current setting and return to the optical power meter interface.

User calibration interface: Short press this button to save the calibration value and return to the optical power meter interface.

6.

Optical power meter interface: Short press to switch 8 different test wavelengths (850nm, 980nm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm, 1650nm).

Light source interface: Short press to switch between 2 output wavelengths (1310nm, 1550nm).

Setting interface: Short press to enter the currently selected option editing state.

View interface: When the current item is the last one, press this button to display the "DEL?" character. Press again to delete the current item. The "DEL ALL?" character is displayed when the current entry is not the last one, and short press again to delete all saved entries.

User calibration interface: Short press to switch the selected wavelength.

➤ **Optical interface description**

The measured power values are displayed in the form of dB, dBm, mW, uW, nW; the display wavelength is 8 types.

The current band and reference power REF value are displayed.

When the measured light is not modulated light, CW is displayed, and when the measured light is

modulated light, the corresponding frequency is displayed.

The measured dBm value is displayed in the corresponding position on the progress bar. When the threshold switch is on, the progress bar displays two red lines. When the measured power is less than or greater than the red line range, the progress bar displays red. When the range is green, the progress bar displays green.

➤ **Setting interface description**

Threshold switch: On/Off (Set threshold function on or off).

Upper threshold: 5.00 (The upper threshold can be set, not less than the lower threshold).

Lower threshold: -25.00 (The lower threshold can be set, not greater than the upper threshold).

Buzzer: On/Off (Set button sound on or off).

Auto power off: On/Off (Auto power off or on can be set).

Frequency identification: On/Off (Set frequency identification function on or off).

Help: (The help interface can be popped up, with a brief description of each function and button description).

Factory reset: (Recover user calibration data to factory default).

➤ **Calibration function description**

1. In the power meter interface, press and hold “△/REF” at the same time and then press “▽

/LOAD” to enter the user calibration mode. Press the key  to switch the wavelength, press ▽/REFkey to add 0.05dB once; press ▽/LOAD to decrease 0.05dB. This is used to calibrate the measurement error. After adjusting, press  once to save the calibration value and exit the user calibration mode).

2. Enter the setting interface and select the “Restore factory settings” option. Press  to enter the “Yes/No” mode. Press the “△/REF”+ “▽/LOAD” button to select Yes or No. Select “Yes” to press  again to clear the user saved calibration values.

➤ **Relative power and absolute power measurements**

1. Absolute power

Set the test wavelength and access the measured optical signal. The current value displayed on the screen contains the linear value (dBm) and nonlinear value (mW) of the absolute optical power.

2. Relative power

Set the test wavelength. In the optical power mode, access the reference light signal and measure the optical power value. Press the △/REF button again to save the current display power value, and the upper right corner displays REF=****dBm. Then, the measured optical signal is accessed, and the absolute power value (dBm) and the relative power value, that is, the insertion loss (dB) of the currently measured optical signal are displayed.

➤ **Problem and resolution**

Problem	Reason	Resolution
LCD display weak	Low power	Change batteries
No display	Low power or other	Restart or change the batteries
LCD display abnormal	Dirty connector	Clean the connector and try again

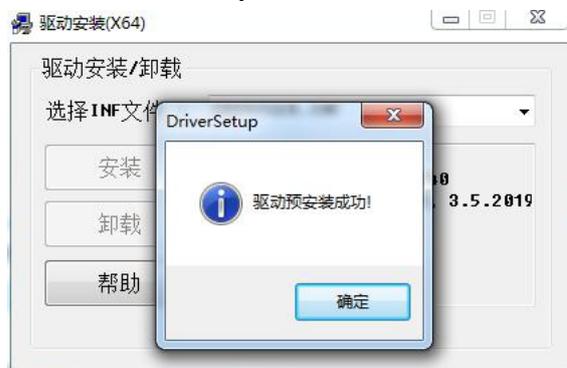
➤ PC software introduction

Software and driver installation steps:

1. Unzip the downloaded zip file and open the extracted folder.
2. Open the “SK300X Series Serial Port Driver” folder and double-click the CH341SER application.



3. Click the Install button. If the pre-installation of the pop-up driver is successful, the driver has been successfully installed.

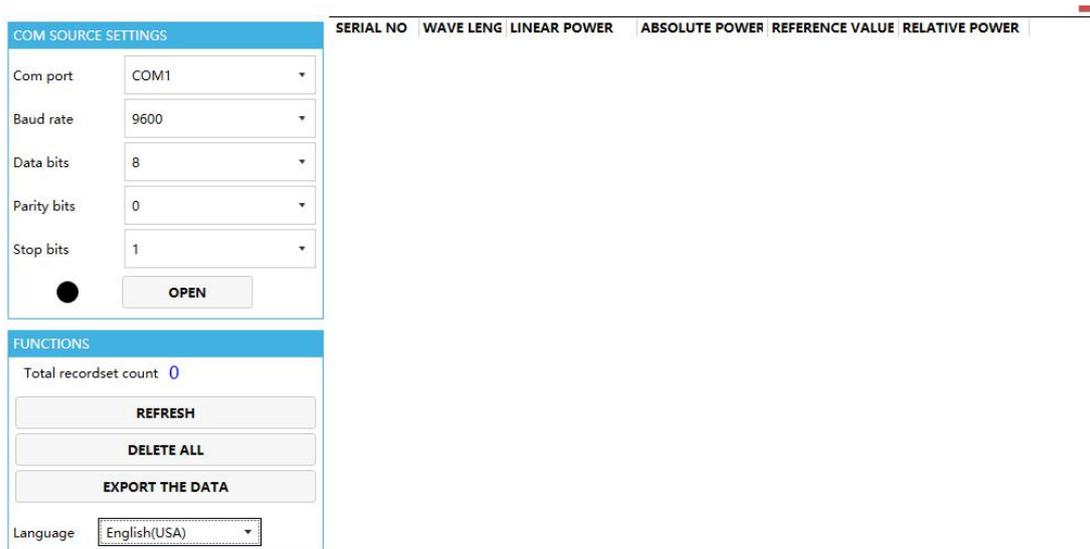


4. Open "SK300X host computer software", right click on "LcdOpmApp", send to desktop shortcut, double click to open the shortcut generated on the desktop to open the software.



➤ Software instructions

1. First connect the SK300X optical power meter to the computer with a USB cable (make sure the driver in the previous step has been installed correctly), and then double-click the installed program.



2. Right-click "My Computer - Properties - Device Manager" on the desktop, and select the COM port in the COM source setting in the above figure according to the displayed COM port channel number. For example, the device manager is COM3, then from the drop-down menu. Select COM3. (If the COM port channel number displayed in the device manager cannot find the corresponding COM channel number in the drop-down menu, you need to right click on the identified driver in the device manager - Properties - Port Settings - Advanced, select in the pop-up interface Select the free COM port number in the COM port number, click OK and return to the program and select the port number you just set.



3. Other settings remain the same, click to open the serial port.

COM SOURCE SETTINGS

Com port:

Baud rate:

Data bits:

Parity bits:

Stop bits:

●

SERIAL NO	WAVE LENG	LINEAR POWER	ABSOLUTE POWER	REFERENCE VALUE	RELATIVE POWER
1	1550(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
2	1550(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
3	1490(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
4	1625(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
5	1650(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
6	850(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
7	1300(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
8	980(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
9	1310(nm)	0.1(nW)	-70(dBm)	-70(dBm)	0(dB)
10	1550(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
11	1490(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
12	1490(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
13	1490(nm)	0.65(nW)	-61.873(dBm)	0(dBm)	-70(dB)
14	1490(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)
15	1490(nm)	0.1(nW)	-70(dBm)	0(dBm)	-70(dB)

FUNCTIONS

Total recordset count 15

Language:

Click "Refresh" to instantly refresh the data in all the stores. Click "Delete All" to delete all the data. Click "Export Data". In the pop-up dialog box, enter the file name and select the save location. Click Save to save the current Export all data to the specified .xls file.

4. Click to close the serial port when you exit, and then click  to exit the software.