CarScope VISO

Getting started manual

Please read this manual before operating your
oscilloscope, and keep it for future reference.

Table of contents

1. CarScope VISO overview of connectors, LEDs and multifunctional button

Battery compartment behind the red protective rubber

USB connector

"OK" LED

Channel B input

Channel A input

Charging adapter 5V/2A DC 5.5x2.1mm

"Charging" LED

Multifunctional button

2. Installing and replacing the battery

CarScope VISO uses a rechargeable Li-ion battery 18650 type, 2600mAh capacity. To install the battery do the following:

- remove the red protective rubber on the left side of the CarScope VISO device

- put the battery into the battery compartment taking into account the polarity.

Note: After installing or replacing the battery you should set actual date/time by going to: Home screen>Settings>Date & Time

3. Charging the battery

A suitable charger is included with the device for charging the battery from any standard outlet. You can use any 5V DC charging adapter with output current no less than 1.5A. Adapter charging connector should be DC power plug 2.1mm x 5.5mm, center pin positive (+).

Important note:
Don't use CarScope VISO device for measurements when battery is being charged!!! Don't connect measurement probes to both channel inputs when battery is charging!!!

Note: Charging may take up to 4 hours when the battery is completely discharged.

Note: Do not wait until your battery is completely depleted before charging your device. Repeating this process of a complete discharge and recharge can over time reduce the storage capacity of any battery!

4. Multifunctional button description

Multifunctional button has the following functions explained below:
1. Press and hold down the "multifunctional button" for about 4 seconds to switch on the device.
2. Press and hold down the "multifunctional button" for approximately 10 seconds to make an emergency power off.
3. Press the "multifunction button" briefly to get back to the previous screen.
4. Double press the "multifunctional button" to go directly to the home screen.

5. Switching the device ON and OFF

To turn the device on:
Press and hold the "multifunctional button" for approximately 4 seconds until the device switches on and then release the button.

Important note: You'll have to wait for at least 10 seconds after installing the battery before switching on the CarScope VISO device for the first time!

To turn the device off:

From home screen, tap "Turn off button" ⑪ to power off CarScope VISO.

Emergency power off:
Press and hold down the "multifunctional button" for approximately 10 seconds to make an emergency power off.

6. LEDs description

CarScope VISO device has two LEDs which have the following functions:

"OK" LED (green) – initial self-test status:
-when device is turned successfully on, "OK" LED lights continuously;
-when device is in sleep mode, "OK" LED lights briefly in 2 seconds interval;
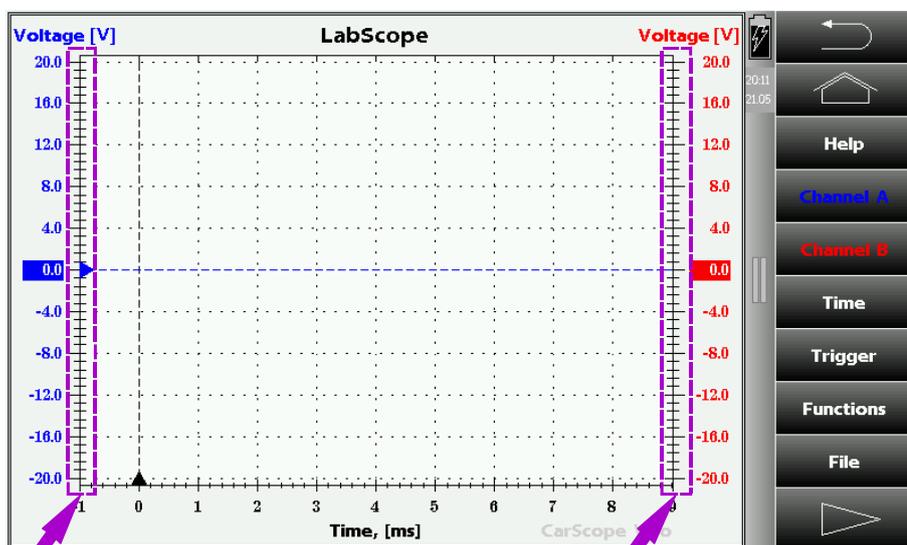-when device is turned off, "OK" LED is not active.

"Charging" LED (red) lights when the battery is being charged.

7. Title bar description:

The title bar provides information about the battery status, real time clock and allows you to turn off CarScope VISO.

Battery status   Real time clock   Turn off button

8. Vertical axis for Channel A/B

Vertical scale for Channel A   Vertical scale for Channel B

The unit and values of the vertical axis for Channel A/B depend on Input probe and Range selected.
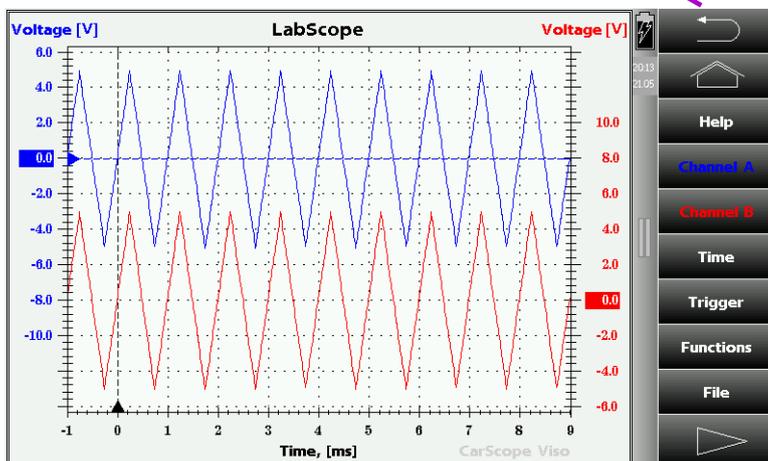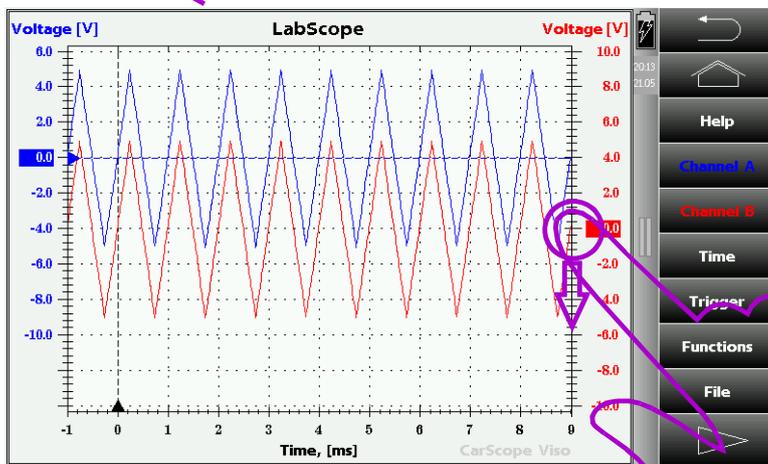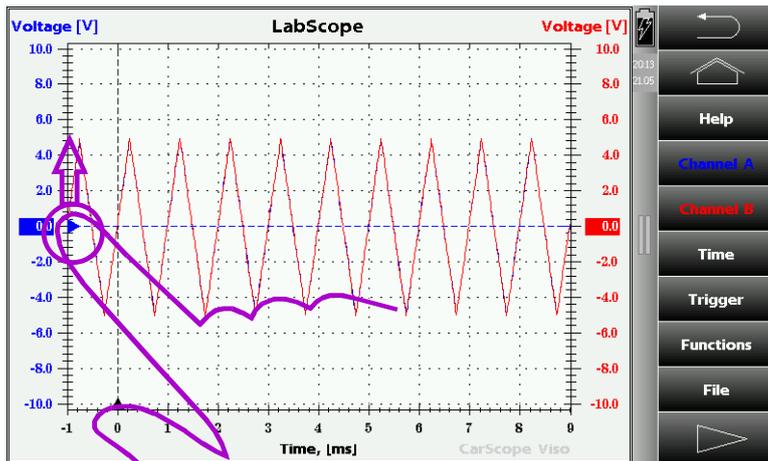You can change them using Channel A/B setup menu.

Vertical position controlling

Slide over the vertical scale in vertical direction to move the position of vertical axis for Channel A /B (together with the displayed signals).

Note: The movement is only on whole divisions.
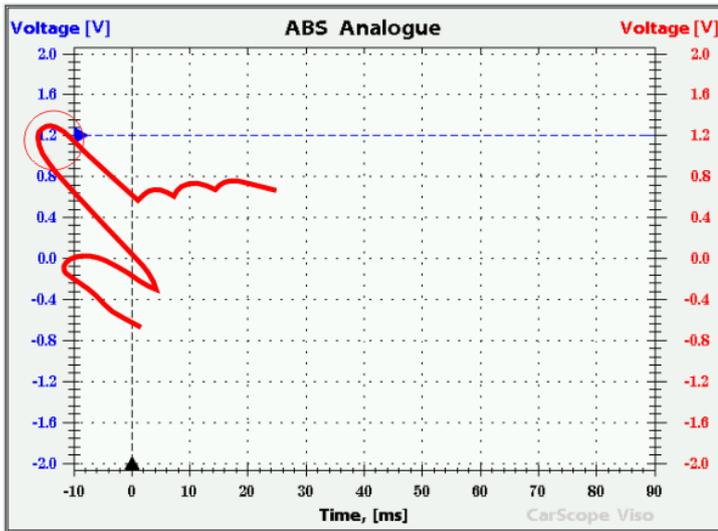
Example:

9. Trigger level

Trigger level is part of Trigger setup and determines the height of the signal that must be met to trigger and display the acquired signal.

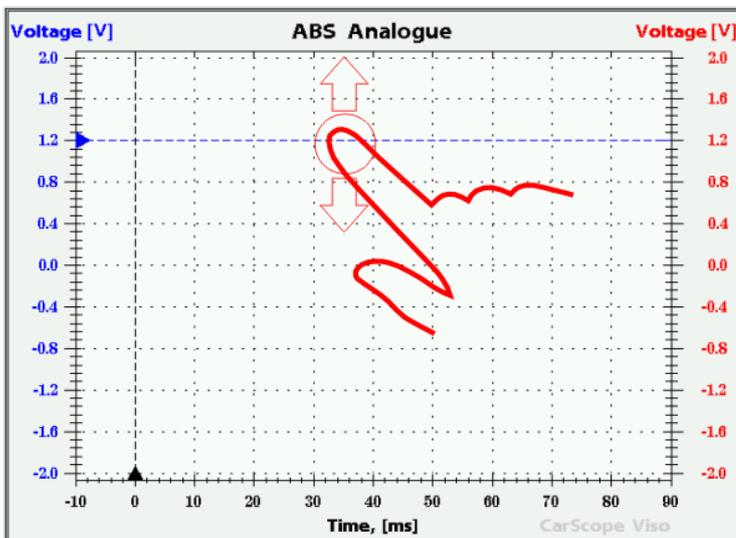**Trigger level control and adjustment**
In case Channel A is selected for trigger source channel tap over Vertical axis for Channel A.

In case Channel B is selected for trigger source channel tap over Vertical axis for Channel B.
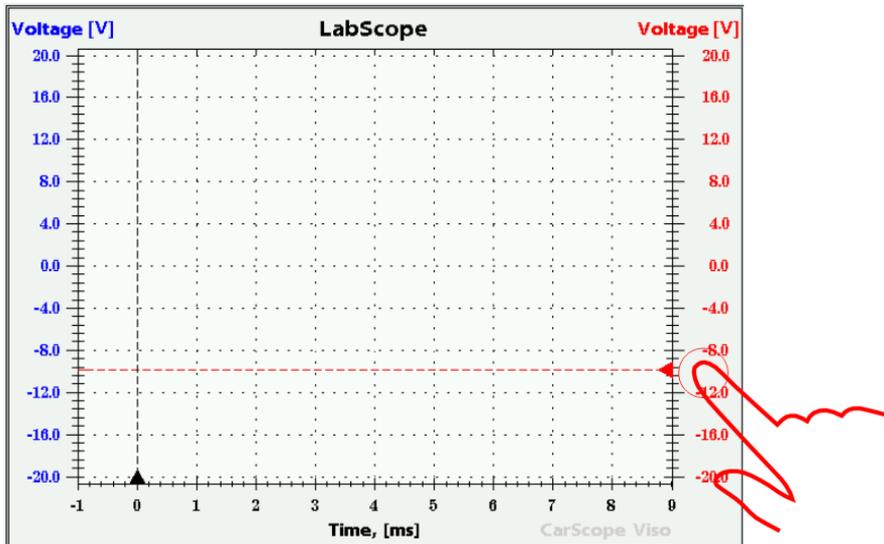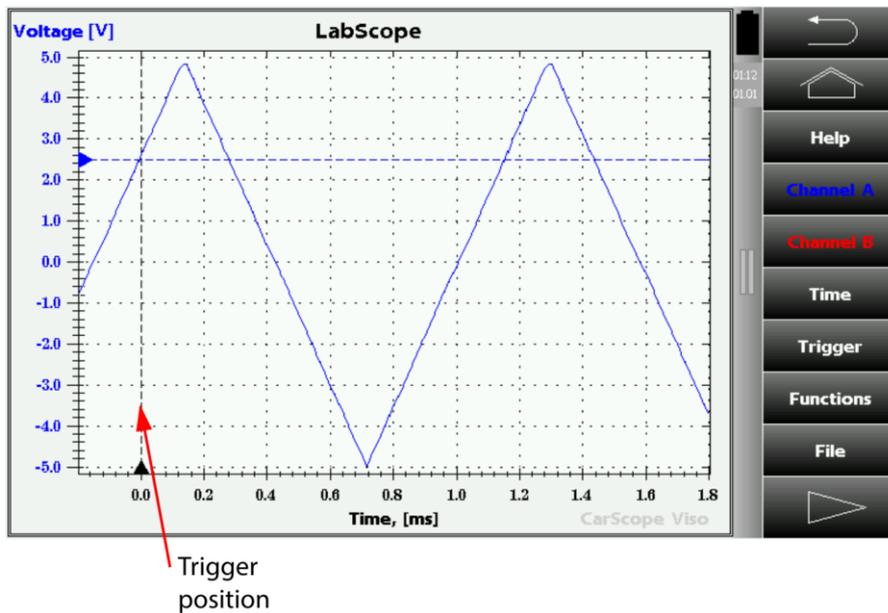

Slide over the touch screen in vertical direction for fine adjustment of the Trigger level.
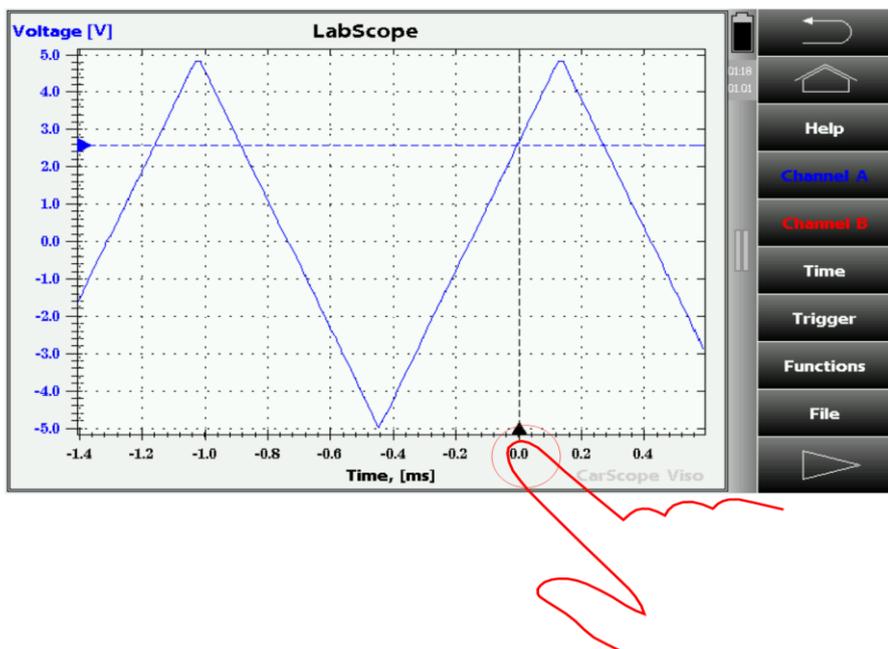
10. Trigger position

Trigger position is the horizontal position where the trigger event is displayed on the screen. Moving the trigger position in horizontal direction allows you to capture what a signal did before a trigger event (called pre-trigger viewing). In other words it determines the length of viewable signal both preceding and following a trigger point.

Trigger position

Tap over the Time scale to determine new Trigger position.

After the measurement is done you can move whole waveform together with Time scale and Trigger position sliding over touch screen in horizontal direction.
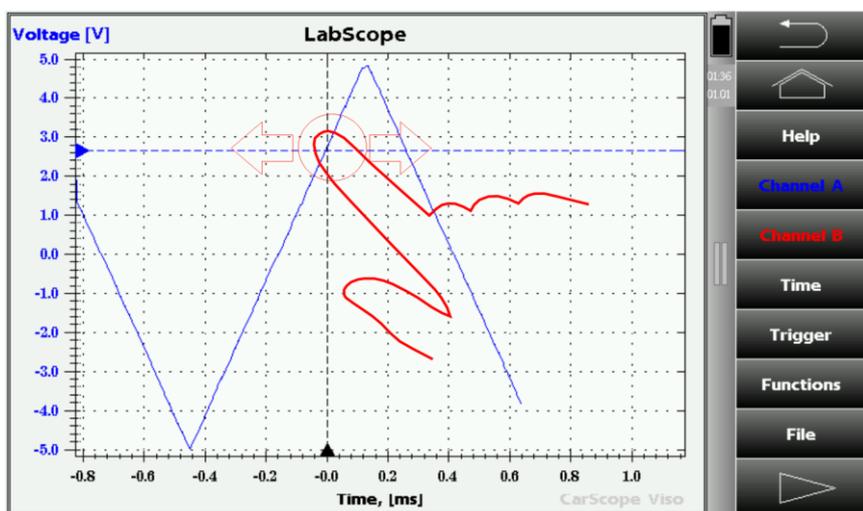
11. Power saver panel

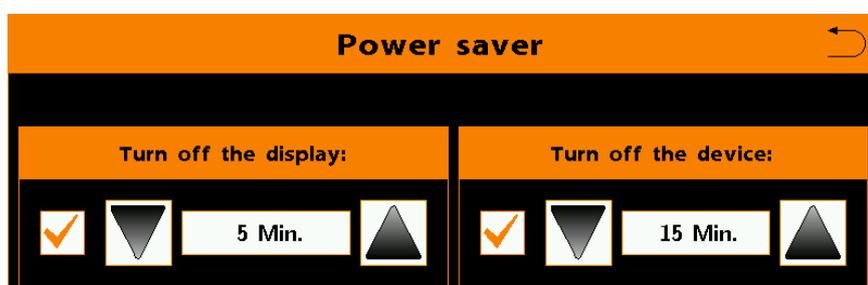You can access the power saver panel from: **Home screen > Settings > Power saver**

The power saver system allows you to save battery power and has two options:

- Turn off the display option specifies the time after the display will be turned off when no activity is detected.
  Note: To wake up device when it's in sleep mode and display is off, just tap anywhere on the screen.

- Turn off the device option specifies the time after the device will be turned off when no activity is detected.
  Note: If the device is switched off, you can switch it on again by pressing and holding the "multifunctional button" for approximately 4 seconds!

Each of these two parameters can be enabled or disabled.

12. USB connector function

This mode allows you to transfer files between CarScope VISO and a computer using a USB cable.
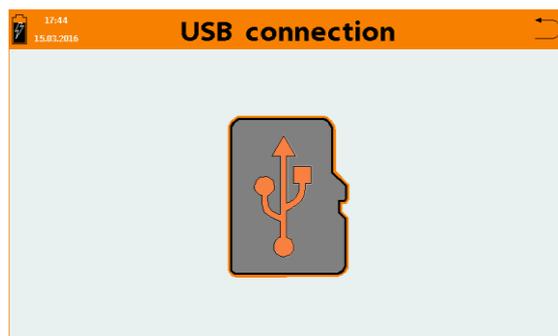
You need a USB 2.0 cable type A male to type B male. This is the most common A to B Male/Male type peripheral cable, the kind that's usually used for printers.

1. Connect CarScope VISO and the computer using the USB cable.
2. Select **Data Management** from CarScope VISO home screen.
3. Wait the computer to recognize CarScope VISO as a removable disk.
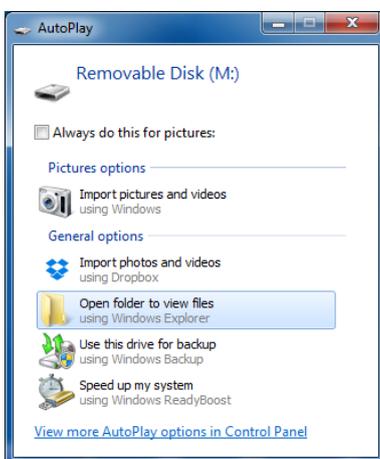
4. Select "Open folder to view files" option
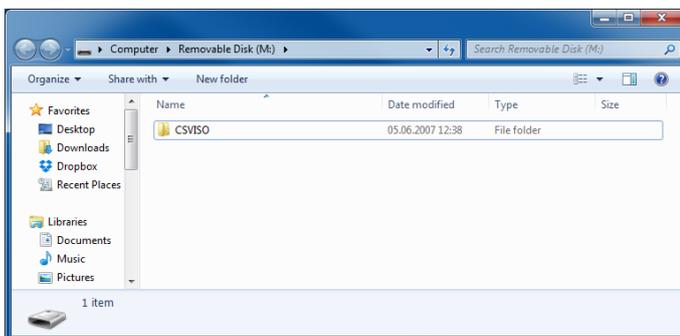
5. Open CSVISO folder

This is CarScope VISO device folder and you can copy files and folders from/to the computer.

BMPFILES   folder contains stored BMP files.

FWUPDATE   folder is intended for firmware update files.

HELP   folder contains files in subfolders with help information.

SYSTEM   folder contains CarScope VISO system files and folders.

VWFFILES folder contains user's custom stored waveform (VWF) files.

Important:
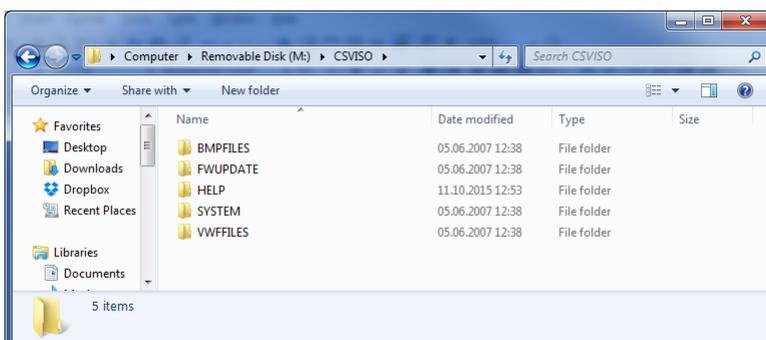Do not change the folder names described above because they are used from CarScope VISO as working folders. Do not delete, rename or move files and folders from the HELP folder because this will cause improper work of the help system. All files are saved in an internal micro SD memory card.

13. CarScope VISO firmware's update procedure

1. Connect powered CarScope VISO to the computer with a USB cable.

2. Choose "Data Management" from the home screen. CarScope VISO display shows "Connect to PC". Wait about 10-20 seconds (or more) until the computer recognizes CarScope VISO as a removable disk.

3. Copy the firmware file (for example CSViso88.SUF) with new firmware from the computer to X:\CSVISO\FWUPDATE\CSViso88.SUF on CarScope VISO. "X" is the drive letter of the removable device.

4. Go back to the home screen with the "Back" button.

5. Choose "Settings" from the home screen and then choose "Firmware Update".

6. A message "Checking for firmware updates" and a progress bar are showed.

7. After a successful search for firmware update files, the following message appears: "Select firmware update file".

8. Choose the desired firmware update file (for example CSViso88.SUF) and an attention message appears. At this moment CarScope VISO waits for firmware update confirmation.

9. Next series of messages about the stages and the progress of the firmware update procedure will be shown.

10. After a successful firmware update, the following message appears:
     "Firmware has been successfully updated to version: CarScope Viso V0.88"

Note: All details related to the firmware update process are recorded in a LOG file and are available to the user for analysis of a possible problems encountered by the manufacturer. This LOG file can be found in X:\CSVISO\FWUPDATE\FWUPDATE.LOG. "X" is the driver letter of the removable device.

14. CarScope VISO troubleshooter

Problem description	Possible reasons	Solution
Device cannot be switched on and display is black (inactive) green "OK" LED is not active	No battery is installed	Install a 2600mAh 18650 Li-Ion battery
	Battery is not installed properly	Check the battery polarity
	Battery is completely discharged	Charge the battery and try again
	Power on button is not pressed for at least 4-5 seconds.	Press the power on button for at least 3-5 seconds to turn on the device.
	Power on button is pressed immediately after the battery is installed.	You'll have to wait for at least 10 seconds after installing the battery before pressing the power on button.
	Other not listed reason	Contact us to solve the problem
Device switches on and immediately switches off	Battery is discharged	Charge the battery and try again
	Battery poor connection	Check battery connection
	Other not listed reason	Contact us to solve the problem
Device cannot be switched off	Your fingers are greasy or moist	Try tapping several times until the device switches off.
	Touch screen display problem or other hardware problem	Hold the power button for at least 10 seconds to turn off the device and try again. If the problem persists again than contact us.
	Other not listed reason	Remove the battery and insert it again.
Cannot update the firmware File system error Error code:1 ?	There is no firmware file in the FWUPDATE directory on the micro SD card	Put a firmware file in the FWUPDATE directory on the micro SD card and select Firmware Update again
File system error Error code:3	Internal micro SD memory card is faulty or not installed properly	Remove the red protective rubber on the right side of the device and open the plastic panel to the right. Check the micro SD card and replace it if needed.
SD card is not ready	Internal micro SD memory card is faulty or not installed properly	Remove the red protective rubber on the right side of the device and open the plastic panel to the right. Check the micro SD card and replace it if needed.
No USB connection to the computer	Data management is not selected from the home screen	Select Data management from the home screen
	USB cable is faulty	Replace the USB cable
	Computer USB port is faulty	Connect to another USB port or other computer
	CarScope device is not switched on	Switch on the device
No or partially missing help files	There are missing help files from the micro SD memory card	Ask us for the needed files.

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