RELIANEERING
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SES-LOGGER

Instruction Manual

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EN

Instruction manual

The SES Logger is a compact handheld single-channel vibration data collector. It can be used together with the app ReSES Communicator installed on a mobile device, tablet or telephone, with Android and iOS.

The app ReSES Communicator transfers the collected data to the cloud based platform ReSES.net and presents information from **ReSES.net** to the user.

It is important to read and understand this instruction manual before using the SES Logger. Incorrect use might cause personal harm and/or damage to the SES

*Relianeering reserves the right to correct any errors in text or images and to make any necessary changes to or update the technical data without prior notice. If you have any questions regarding technical problems, please contact our support team at **suppor@relianeering.com**.*

Safety instructions

- The SES Logger must only be used with an accelerometer (IEPE) 100 mV/g and connected to the logger with a BNC connector.
- The SES Logger must only be charged with a 5V DC USB charger using a Micro USB cable.
- The SES Logger must not be disassembled.
- The SES Logger must not be used or stored in hot/humid, explosive or flammable environments or close to strong magnetic fields.
- The SES-logger must not be disassembled. No guarantee is valid if the logger has been disassembled.
- Relianeering AB take no responsibility for any other use than described in this manual.

Package content

SES Logger: HW-SES-KIT01

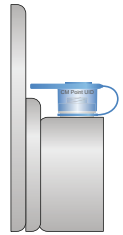
- 1 pc HW-SES Logger, SES Logger instrument
- 1 pc HW-SES-SEN, IEPE Accelerometer 100 mV/g
- 1 pc HW-SES-SEN-MTB, MIL to BNC cable
- 1 pc HW-SES-Z-ADP, Adapter sensor to stud
- 1 pc HW-SES-Z-USB, Micro USB cable for charging
- 1 pc HW-SES-Z-CASE, Plastic case for the kit
- 1 pc Instruction manual

1. SES Logger button
2. LED ring
3. Battery level indicator (10')
4. WiFi and pending file transfer (11')
5. RFID Tag indicator (12')
6. BNC connector
7. Settling indicator (1')
8. System indicator (2')
9. Micro USB port (for charging only)

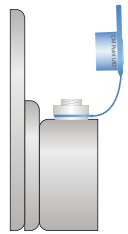
The SES Logger is a data recorder that records 3 sec vibration data. The logger is designed for IEPE sensors (ICP®) with 100 mV/g sensitivity. The LED-ring indicates operations and statuses and the logger vibrates for haptic feedback.

When measurements are stored in the logger, it automatically search for a mobile device every 2 minutes to transfer the files. When all files are transferred, the logger empty its memory.

Data Collection

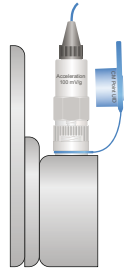


Go to the machine equipped with CM Points UID.

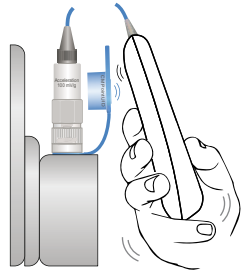


Open all caps of Machine CM points. Connect the sensor to the logger BNC connector.

Turn on the logger. Press and hold the button for few seconds until vibration feedback and all LEDs become white.



Attach the accelerometer sensor with adapter to the stud.
Quarter of turn should be sufficient.



Scan the CM Point UID (RFID TAG)
The distance between logger reader and the CM Point cap should be less 50 mm. Once the UID is scanned successfully the user will feel vibrations and 12' LED (TAG) will become green.

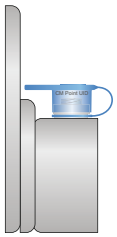
Initiate measurement
To initiate measurement press the button.
NOTE: The 12' LED (TAG) must be green.
If it is not, scan the cap again.

Measurement
1' LED becomes blue for 5 seconds.

Wait another 3 seconds to complete the measurement. The rest LEDs become blue.

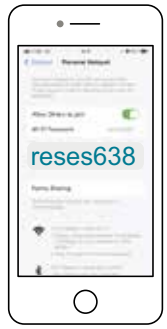
Note: If 2' is red, check connection between the logger and sensor. Most likely the sensor is not connected properly

Completing the measurement
When the measurement is completed the logger will vibrate and all LEDs will flash in green.



Detach the sensor.
Close the cap.
Move to next CM point.

Data transfer



Turn on the hotspot on your mobile device.

The hotspot password MUST be «**reses638**»

Note: The hotspot must be configured to use 2.4 GHz (for Android and Apple devices). The logger does not support 5 GHz.

Start ReSES Communicator app

Note: If the app has been already launched before to activate the hotspot, we recommend to «kill» it and re-launch it again.

Start SES Logger

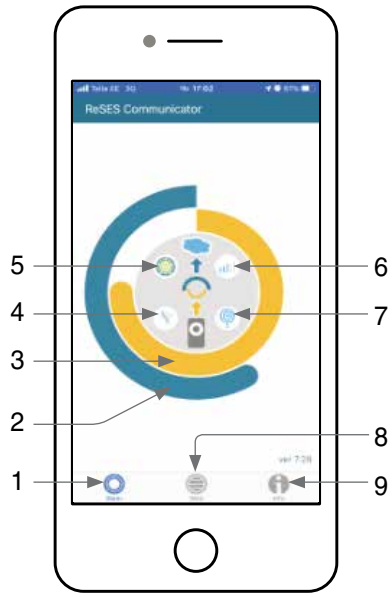
The logger will after two minutes automatically connect the hotspot and the ReSES communicator app to transfer collected data. To immediately initiate data transfer, press the logger button twice in a «double click» manner. During data transfer the 11' LED lights in blue

Note: 11' LED in green-yellow indicates that data are on the logger memory.

Data transfer notes:

- The logger and phone should be close to each other to keep a good connection.
- Yellow circle rotation on the app main screen indicates data transfer between logger and the mobile device.
- Dark blue circle rotation on the app main screen indicates data transfer to ReSES.net cloud.
- When the logger is empty, 11' LED will be white.
- The green flashing dot on the app home screen will disappear when there is no more data to be transferred to the cloud.
- When you launch the app on the mobile device, it will immediately initiate data transfer, if there are still not transferred data on the mobile device.
- The app automatically checks for new data and start transferring it on every 5th minute.

ReSES Communicator



1. Dashboard (main window)
2. Blue progress bar (sending data, mobile device to cloud)
3. Yellow progress bar (receiving data from SES logger to mobile device)
4. WiFi indicator for mobile device (OFF when the hotspot is ON)
5. Time indicator for sending data to ReSES.net (one segment is one minute, 5 min total). Green flashing dot indicates availability of data that are not transferred yet.
6. ReSES access indicator (quality of the speed to reses.net)
7. Hotspot indicator for mobile device (needs to be ON for communication between logger and mobile device)
8. ReSES.net access (login, sites, machines, measurement point overview etc.)
9. Communication log (data transfer log between logger, mobile device and cloud)

Setup your mobile device

1. Download and install the app ReSES communicator (free) on your mobile device
2. Enable the hotspot on your mobile device.
3. Setup and activate a wireless hotspot on your mobile device as described in the device's documentation and set the mobile hotspot network password to: **reses638**
   The name of the network can be of your own choosing.
   For some of Android and Apple devices make sure that the hotspot band is 2.4 GHz.

ReSES.net access from ReSES Communicator

The app ReSES Communicator allow the user to get information about the measured points once the data is transferred to the cloud. The information available in the ReSES Communicator is:

- General status of the site/s
- Measurement points in alarm and in overdue
- A mimic of the machine (Functional Location) with the drive train
- General status of the machines (Functional Locations)
- Vibration level of the CM Points
  (Velocity 10–1000 Hz in mm/s rms according ISO 10816)
- Trend for each CM Point
- List of machines in overdue and recently collected number per CM Points per machine.

Troubleshooting

If the logger doesn't start or if the system indicator is red this could have different causes. Check the below listed actions for trouble shooting.

Logger doesn't start:

- Make sure the logger is charged. The battery indicator should light in green, yellow or red during charge.
- Be sure that you have pressed and hold the button for few seconds.

WiFi indicator (11' LED) is red.

- 3 seconds static Red WiFi led. Access point connection problem (user should confirm active hot spot)
- 3 seconds flashing Red WiFi led. FTP server connection problem (user should confirm active ReSES Communicator)

System indicator (2' LED) is red:

- Restart the logger
- Check that the sensor cable is properly connected to the BNC connector
- Check if the cable and/or sensor is damaged

System indicator (2' LED) is blue:

- FW is updating. Wait till logger is shutdown and start the logger again

The battery does not charge in 4 hours:

- Within a few hours from starting charging 10' LED should change the colour from red to yellow and when is full charge to green.
- Check the USB cable and power supply.

The logger does not transfer data:

- Check that there is data on the logger, 11' LED should be in light green.
- Check the mobile device hotspot. Try to find it with another device. The hotspot goes off in a while, if there is no data transfer.
- Check that the hotspot is set to use 2.4GHz band. It is valid for Android and Apple devices.
- Check the hotspot password. It must be **reses638**.
- Shutdown the logger and start again. Repeat this a couple of times.
- Try to keep logger and mobile device close to each other.
- Try to connect the logger to another mobile device with ReSES Communicator.
- If you use local WiFi for data transfer check the firewall settings.

If none of the actions above help, please contact technical support for assistance (support@relianeering.com).

SES Logger LEDs status

LEDs	Colour	Description
All 	White flashing slowly	The logger is in idle mode.
12' TAG 	Green	CM Point UID (RFID) has been scanned successfully. The user has a few seconds to press the button and await measurement.
1' 	Green	**Long measurement mode.** If 12', and 1' are green, the CM Point UID has been scanned two consecutive times. The user has a few seconds to press the button and awaits 30 seconds measurement. Wait for a while to exit from the long measurement mode.
2' 	Green	**Long measurement mode.** If 12', 1', and 2' are green, the CM Point UID has been scanned three consecutive times. The user has a few seconds to press the button and await 60 seconds measurement. Wait for a while to exit from the long measurement mode.
3' 	Green	**Long measurement mode.** If 12', 1', 2', and 3' are green, the CM Point UID has been scanned four consecutive times. The user has a few seconds to press the button and await 180 seconds measurement. Wait for a while to exit from the long measurement mode.
4' 	Green	**Long measurement mode.** If 12', 1', 2', 3', and 4' are green, the CM Point UID has been scanned five consecutive times. The user has a few seconds to press the button and await 300 seconds measurement. Wait for a while to exit from the long measurement mode.
1' 	Blue	The measurement is initiated and logger is settling mode for 5 seconds.
2' до 12' 	Blue	Show the progress of measurement. First starts 2' and in 3 seconds all LEDs become blue. **NOTE:** For the Long measurement mode, it will take more time for all LEDs to become blue. After completing the measurement, all LEDs are blue and start fading until the signal is processed and stored in the logger memory.
All 	Flashing shortly in green	Data collection from the CM Point has been completed. The logger goes to idle mode.
2' 	Red	System Error. Sensor is not connected. Cable or sensor are damaged.
2' 	Blue	FW is updating. After completing the logger shut downs.
10' 	Yellow	The battery level is below 20%.
10' 	Red	Critical battery level. Recommend to charge immediately.

10’ 	Green	The battery is full charged. It appears only when the logger is connected to a charger.
11’ 	Yellow green	Data are available on the logger.
11’ 	Blue flashing	Searching for mobile device network. When the logger connects to the hotspot it vibrates.
11’ 	Red	3 seconds static red WiFi led in case of access point connection error (user should confirm active hot spot)
11’ 	Red blinking	3 seconds blinking red WiFi led in case of FTP server connection error (user should confirm active ReSES Communicator)

Disposal

This product should be disposed of in accordance with local regulations.
If you are unsure what to do, contact your local authority.

Technical Specification

- Input – BNC coupling
- ICP® accelerometer 100 mV/g
- 24-bit ADC
- Sampling rate 44.1 kHz
- Dynamic range above 105 dB
- Measurement range ± 50 g
- Sample length 3 s
- WiFi and Bluetooth®
- RFID reader
- Memory capacity, above 10000 measurements
- Li-ion battery 2000 mAh
- Li-ion backup battery for real-time clock
- Micro USB contact for charging (5 VDC)
- Operating temperature –20 to +50°C
- Storage temperature –20 to +45°C
- Size: 70×130×35 mm, Weight: 154 g
- Measurement time per point less than 10 s for the standard measurement mode.
- CE-marked
- FCC compliant

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CERTIFICATE OF CONFORMITY

with Directive
2014/53/EU (RED) and
2011/65/EU (RoHS)

Reference no:	**CE20180502**
Certificate holder:	**Relianeering AB**
Product name:	**SES Logger**
Model no:	**V7**
Type of equipment:	**Vibration Instrument**
Test report no:	**EMC20180502**
Date of Issue:	**2018-05-02**

Conformity is assessed in accordance to the following standards
SS-EN 61326-1 (IEC 61326-1:2012) Class A
ETSI EN 301 489-1 V2.1.1

Declaration
We hereby confirm that the product complies with the above European Directives and is tested according to the standards referred.

Authorized signature:

Name: Helmut Salsland

Position: Managing Director

CE

Relianeering AB
Stenbokärrsvägen 13, SE-443 72 Gråbo, Sweden
info@relianeering.com, www.relianeering.com

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Declaration of Conformity

Reference no:	**FCC20180502V7**
Certificate holder:	**Relianeering AB**
Product name:	**SES Logger**
Model no:	**V7**
Type of equipment:	**Vibration Instrument**
Test report no:	**EMC20180502**
Date of Issue:	**2018-05-02**

Conformity is assessed in accordance to the following standards
FCC Part 15, subpart B, Section 15.107a and sections 15.109
Class B

Declaration
We hereby confirm that the product complies with the FCC rules and regulations.

Authorized signature:

Name: Helmut Salsland

Position: Managing Director

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