Volume

2

ADVANCED MONITORING SOLUTIONS

LC-Track Leakage Current Recorder

LC-TRACK LEAKAGE CURRENT RECORDER

User manual & Installation Guide

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LC-Track Leakage Current Recorder

This chapter provides details of the LC-track recorder and provides an insight into the measurement methodology.

T he Leakage Current Recorder is an instrument specially designed for measuring insulator leakage currents in order to predict pollution levels on specific insulators and determining optimum maintenance cycles for specific areas. The recorded data is stored on a SD memory card (secure digital) and can be imported to a computer and then analyzed using dedicated software. The leakage currents (1 – 1000 mA) are measured at a sampling frequency of 2 kHz and the highest value over a preset time interval (default 10 minutes) is logged as the I-Highest value. These values are time stamped and stored on the SD memory card.

ICON KEY
📂 SD card non-volatile memory
🖉 Logs 60 000 samples
🖳 Low Power
📖 Excel exports

Hardware and Installation

The LC-Track has only 2 connections. The first connection (the red screw/banana type) is the input from the insulator. This connection is connected to the insulator, either via an inline fuse (Macey fuse) or direct using a minimum 1mm insulated wire. The other end of the LC-Track (bolt connector) is wired directly to the earth termination. Each site will determine the type of earth connection available.

The insulator can be prepared in various ways and are dependent on the type of

insulator as well as site conditions. Note that a conductive coating might be necessary to create a good conductive band for the leakage current to choose the path through the LC-Track rather than directly down to earth. Make sure that the connection onto the insulator provides a good conductive path all around the base.
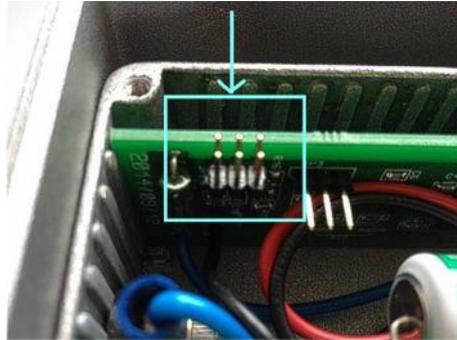

Note: Ensure that the 4 screws keeping the lid of the LC-Track in place are tight to ensure the unit is sealed properly..
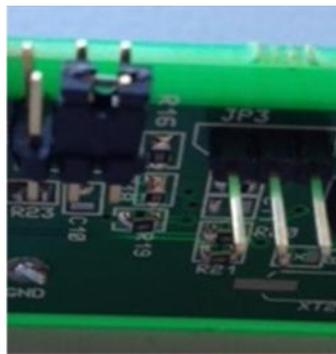
SD Card Removal

Version 1

A specific sequence needs to be followed when removing the SD card from the unit. Please make sure you strictly follow the following steps:

1] - Remove the lid

2] - Identify the connections where the short links are situated

3] - Make a note of the position of the link in order to restore to original position when done

4] - Remove the short-link from the current position and move to the next 2 legs of the connector.

5] - Once the short-link is in place the LED's will start flashing slowly, wait 5 seconds for the SD card to ready itself for removal.

6] - Push gently on the side of the SD card to eject

Inserting the SD Card

A specific sequence needs to be followed when inserting the SD card. Please make sure you strictly follow the following steps:

1] - Check that the short-link is still in place and that the LED's are flashing slowly

2] - Insert the SD card in the holder and press gently until locked

3] - Wait 5 seconds for the SD card to settle

4] - Move the short-link back to the original position

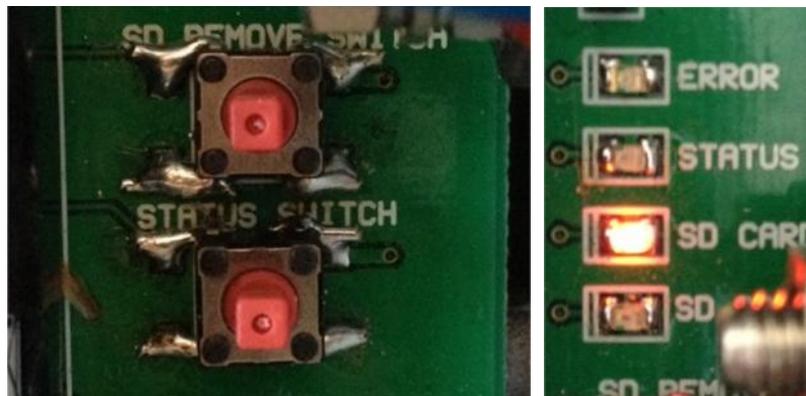5] - Wait until all the LED's are dead

6] - Replace the lid making sure that it seals tightly

Version 2

A specific sequence needs to be followed when removing the SD card from the unit. Please make sure you strictly follow the following steps:

1] - Remove the lid

2] – Press the *'Remove SD Card'* button until the '*SD Card Remove'* LED stays on. It is now safe to remove the card.

3] Move the SD Card holder bracket towards the open direction (as indicated by the arrow). The SD card holder will click open and can be lifted upwards to remove the card.

Inserting the SD Card

A specific sequence needs to be followed when inserting the SD card. Please make sure you strictly follow the following steps:

1] Insert SC Card into holder fold flat onto the PC-Board and slide the holder in the direction the arrow indicates until it clicks into place.

2] Press the '*SD Card Switch*' until the '*SD Card Remove*' LED switches off.

Status Check

To check the status of the unit, simply press and hold the '*Status Switch*'. The '*Status*' LED will start flashing if the unit is fully functional.

The '*SD Card Error*' LED will indicate that the unit cannot read the SD Card. This can be due to incorrect installation or a faulty SD Card.

The '*Error*' LED will indicate that unit is experiencing an internal error and must then be returned to the factory for repairs.

Chapter

2

LC-Track Software

This chapter provides details on the operation of the software

T he software accompanying the LC-Track is a simple application that provide the user with basic operations to import, view, analyze and export the data.
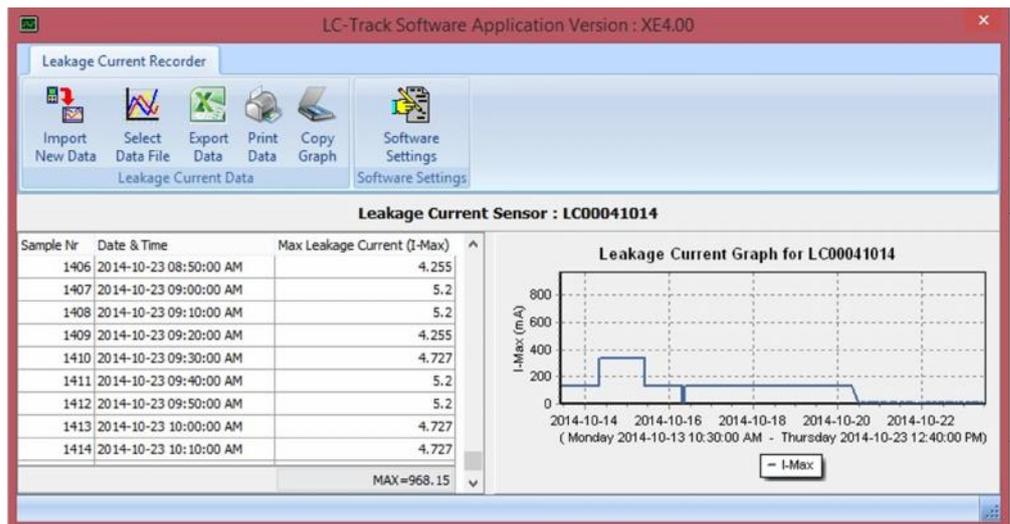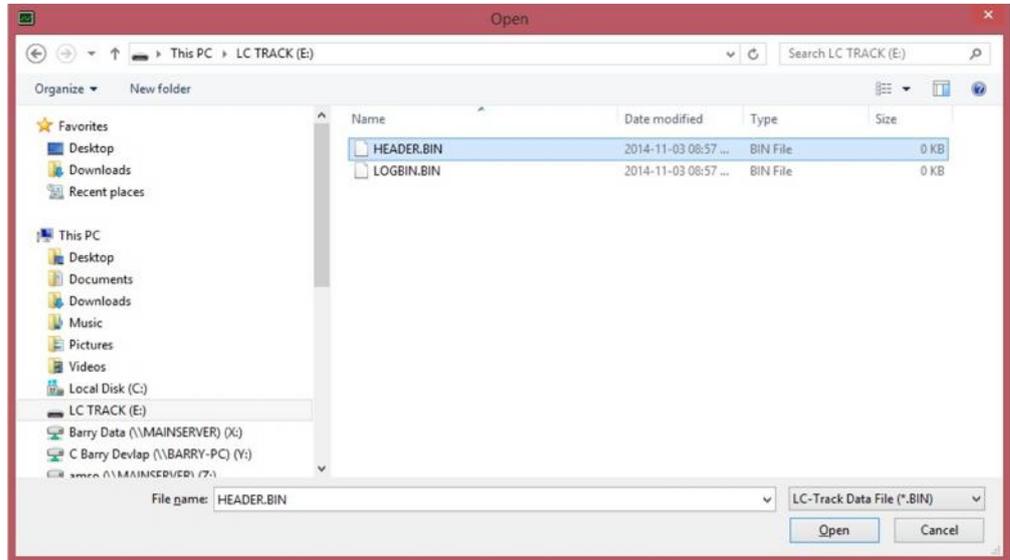

Importing New Data

Insert SD card into computer using a micro SD card adapter. The computer will recognize the SD card and display it as an external drive. Select the *Import New Data* button and use the *File Dialog Box* to navigate to the drive assigned to the LC-Track SD card

Select any one of the files and click the open button (or double click on the file name) to import the data from the SD card to the computer. The imported logged values will then be displayed.

Selecting Previously Imported Data

Select the *Select Data File* button and use the *File Dialog Box* to select previously imported data. The data file name consists of the Serial number of the LC-Track the data belongs to, together with date and time the data was imported. Note that the data file extension is *.LCT. Once a file has been selected and opened the data in that file will be displayed.

> **Note**
>
> It is good practice and advised to organize the data files in different file paths for the various LC-Track devices. It is also advised to keep a spreadsheet, linking the serial numbers to specific insulators and locations.

Exporting Data

Select the *Export Data* button and use the *File Dialog Box* to specify a file and filename where the data needs to be exported to. Note that the data is exported to and Windows Excel (*.xls) format and can be directly open using Excel.

> **Note**
>
> Note that the data is exported to and Windows Excel (*.xls) format and can be directly open using Excel.

Print Data

Select the *Print Data* button to print the data in a table format to the selected printer.
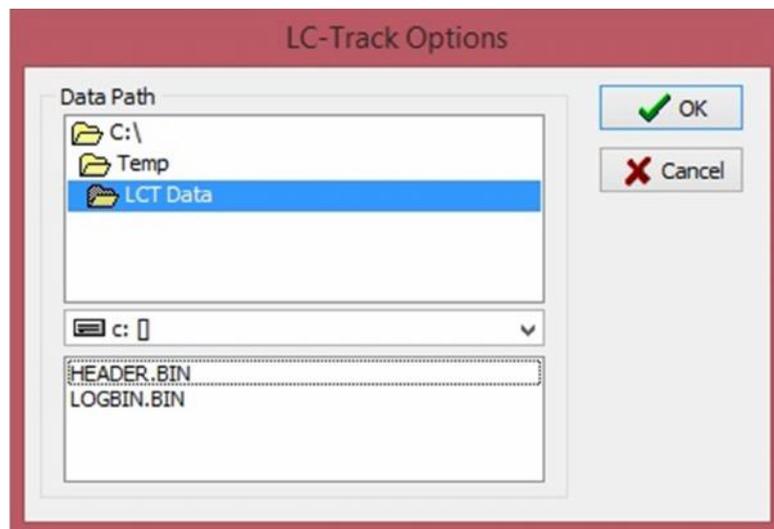
Copy Graph

Select the *Copy Graph* button to copy the graph to the Windows clipboard, from where one can paste the graph into any windows program that supports the windows clipboard functionality (Word, Excel,...).

Software Settings

Select the *Software Settings* button to open the form where the software settings can be selected.

The data path constitutes the place where the imported data will be stored. This is also the default file path used by the *File Dialog Box* as initial startup path.