1. Notice

Read this manual carefully prior commissioning and keep it for future reference. Conteg, s.r.o. shall not be held liable for any losses or lost profit caused by data loss resulting from failure or failure remedy. Without prior consent of Conteg, s.r.o. no part of the service CD may become the subject of distribution, communication, reproduction or any other kind of transmission, for any purpose whatsoever, in any form and by any means, including electronic, mechanical or other. As the policy of the manufacturer, Conteg, s.r.o., is to improve its products features on continuous basis, the manufacturer hereby reserves the right to change presented data without prior notice.

2. General Description

The device LES-RACK®M has its own IP address and can send information about its status, status of auxiliary Slave units and can be remotely monitored by means of a data network. As a standard, the device is equipped with Ethernet communication interface. Communication over data network uses one serial channel in the system, therefore only one kind of the above-mentioned communication interfaces can work at a time. An independent service data channel RS232 on the rear panel is available for service settings and event log retrieval on site. All execution codes and data are stored in the memory, which is maintenance-free and operates reliably for minimum 10 years. Data stored in the memory are checked automatically in intervals not exceeding one hour. A control device reports a system fault in case it detects memory contents loss.
3. Service CD Contents

- LES-RACK® installation and operation manual (PDF)
- LES-RACK® service software user manual (PDF)
- Ethernet module configuration software “LesRackIP”
- Service software “LesRack”

4. LES-RACK – main electronic parts:

- Main board – controls all mechanical parts and stores the device statuses and events in the memory
- Ethernet module – part for communication in the Ethernet network
- Terminal board – part for connection of external devices

5. Setting the LES-RACK Ethernet Module

Requirements for PC: Windows XP with serial interface RS-232; if the PC is not equipped with this interface, it can be replaced by the USB/RS-232 converter.

Cable type: DB 9-2 female, female (cross-wired) max. 10 m

Setting is carried out by means of the LesRackIP.exe software.

Connect the PC using the 9-pin cross-wired serial cable to the connector RS232 located in the rear panel of LES-RACK.

After the LesRackIP.exe software is launched, the following window titled IP config opens.

This software is located in folder \SW\Ethernet module\.

We recommend to copy the folder on your computer hard drive / server and run the copied program.
Serial port settings

Access the setting options by pressing the “Com setting” pushbutton; window Setup opens. Here, select the COM port number used for data transmission. Port number used in the PC may be found in the Device Manager – Ports (COM and LPT) after connecting the cable.

Port – enter the port number in the PC connected to the device. Leave other settings as predefined by the system unchanged. Settings are shown in the screenshot.

Press OK.
Pressing **OK** returns us back to the main menu. Information window shows “Memo1”. Message “Memo1” indicates that the data in fields correspond to the latest module setting. Now we need to retrieve current settings.

Click on the **“Read”** pushbutton to retrieve the data set in the LES-RACK Ethernet module. Message in the information window changes from “Memo1” to “Read OK”, which indicates that the module is connected and ready for setting the required data. Pushbutton **“Write”** becomes active (visible).

The following parameters can be set:

**Self IP** – is the IP address of given LES-RACK device. User can change this address as necessary.

**Gateway IP** – optional.

**Mask** – set as required.

**Server IP** – here we set the server IP address or the IP address of the computer in the network used to monitor the LES-RACK device.

**MAC address** – identification code of given module. It is fixed and cannot be changed.

When finished with entering required data, we need to write them by pressing the pushbutton **“Write”**.

The device is set for communication **“Read OK”**.
6. Using the LES-RACK Service Software

Service software LesRack.exe is designed to monitor running statuses in the LES-RACK device.

This software is located in folder: `\SW\LesRack`.

We recommend to copy the folder on your computer hard drive / server and run the copied program.

Prior launching this software the LES-RACK must be connected to the PC by cable. There are two ways how to connect it:

1. Using the serial cable connected to the connector on the rear panel of the device.
2. Using the Ethernet cable connected to the RJ45 connector on the front panel.

When connecting the LES-RACK with PC directly, use straight (uncrossed) cable. When connecting via router or switch, use cross-wired cable.

6.1 Tab “Master”

After the software LesRack.exe is launched, the main tab “Master” opens.

It shows all data of current statuses.

![Diagram of LesRack.exe window with various statuses and controls, including left detector voltage and current, unit ID (fixed), right detector voltage and current, emergency pushbutton voltage and current, number of events in memory, and master status left detector status and emergency pushbutton status.]
6.2 Tab “Communication”

Pushbuttons description:

**Init** – Memory dump start (starts automatically when the software is launched). If the memory dump fails, check COM port setting or IP address.

**Stop** – Memory dump stop. To restart press pushbutton Init.

**Clear** – Clears the information window.

**Address** – Not used.

**Com setting** – Selection of the PC COM port for serial communication.

**Verse Softu** – Shows firmware version in the information window.

**SetTime** – Sets time of the unit according to the PC.

**SetSlave** – Sets number of Slave units connected to the Master unit.

**Refresh** – Memory dump rate (lower number means faster dumping).
UDP – Switch between serial and Ethernet output. If the box is checked, data are transmitted via Ethernet; if blank, data are transmitted via serial port. To enable the IP address retrieval, UDP box must not be checked – serial port must be used.

IP – Retrieval of required IP address of controlled unit.

Data shown in the information window are stored as text in the Log located in the same folder. This Log is titled “ReportUdal”. After opening, the text file with the following name is stored:

First log – FK2_Udal_20110430.txt. FK2_Udal is the file name, attached is the date in “YYYYMMDD” format indicating when the log was retrieved from the unit.

It can be opened by any text editor.

1\textsuperscript{st} line – retrieval start date and time

2\textsuperscript{nd} line – event sequence number, PC time and date, unit time and date, unit ID, device number, loop, event number, event description.

3\textsuperscript{rd} line – retrieval stop date and time.

Second log – ReportData

FK2_Data_20110430.txt
It contains detailed information about the devices, all voltages and currents, times, pressures, temperatures detected in one-second interval. When the memory is full, data move upwards. This means that the oldest data are erased and replaced by new data.

**Tab “Calibration”** – not used.

### 6.3 Tab “Chart”

The chart shows graphically the status of power supply (mains) and power backup sources, including performed tests.

To compensate for possible mains power supply failure the system is equipped with backup battery. In order to ensure that the power backup source functions flawlessly, the system tests the power backup source each 6 minutes as follows: it disconnects mains power supply, loads the battery with approx. 1 A and measures the voltage drop. This voltage drop can be seen in the chart. If this drop exceeds permissible limit, the system reports fault both acoustically and visually.

The chart includes the following data:

- **red line** – power backup source voltage
- **yellow line** – voltage on loops
- **green line** – battery voltage

Automatic test of power backup source was performed