Manual user for Smart sinus Invertor
R22i / 2200VA

CONTENT:

NOTE: R22i USES LAN CARDS FROM TWO MANUFACTURERS:
- **M.M.Elektrolab (page 11-17)- this card only has a UTP input**
- **Initra doo (page 22-28)- this card has a UTP and USB input**

Use the manual depending on the type of LAN card that the Inverter has.

1.1 Description

- generate pure Sine wave 230V~ on the output, with tolerance +/- 5%, without pause and interrupts.Wide input voltage operating range between 150V~ to 300V~.
- Varnished pcb boards, alow work in the extreme conditions
- The inverter has no internal batteries, they are connected to an external 48V nominal, it has a soft start in the battery circuit (there is no spark when the batteries are connected), protection against reverse battery polarity.

Turn on UPS

- press the button „ON„- or connection ups to power supply.

Turn OFF ups

- press <u>and hold</u> button „OFF„ 5 sec

Test ups

- press the ON button, the UPS starts working on batteries and returns to mains power in 5 seconds (text on display "Test UPS" appears in the third line).

Super-charger

- adjustable digital battery charger with IU characteristic and temperature compensation, has the ability to set in Ah in the range from 9Ah to 200Ah.

Relay remote signaling

- The first relay for the "Mains failure" signal / the second relay "Alarm group" combines several alarms: Battery empty, Check battery, Overheating, Overload, Battery charging. When everything is correct, both relays have shorted contacts. The relay contacts are galvanically isolated and voltage-free

Lan card

- Integrated LAN card with SNMP and HTTP protocols

Front panel:

- displey showing all vital measurements and system statuses
- buttons for: review Event+Log alarm and settings.

Connections:

- Input 220V, C13 cable with schuko connector
- Outputs for supply load: 3 x Schuko CEE7
- Battery input SB50.
- Relay remote (connector 3pin)
- Cables are obtained with the device

Real time and calendar –memorization of alarms in real time.
  Settings:
- on the main page, press the button „up„ an arow will appear in the fourth row, now press MENU button, and make settings
- disabling settings, press button „down„ on the main page, and arow in the fourth row, will be dissapears

Energy module temperature display
- press and hold „down„ button, on the main page, displey temperature in the third row will appear

Ambient temperature display
- on the second row, showing every 2 sec

Battery self-test   enables self testing batterys

Green power
- prevents the consumption of batteries, outside of work time.

Protections of:
- short-circuit, overload, battery deep discharge, battery overcharge, interference on the input-output, overheating of energy modul or ambient, overvoltage on the input or output, from reverse polarity of the batteries, occurrence of sparks when connecting the batteries.

MENU- displey of statues and settings:

On the first two pages
- stored power supply failure (N1- N4) is displayed with the overall time of the battery work time. Reset on zero by pressing the Off / Clear key.

On the third and fourth page
- alarm statuses are displayed: overheating, overload, overchanging batteries and check batteries. Reset on zero by pressing the Off / Clear key.

On the fifth page
- there is an UPS initial activation review, the total number of main voltage drop out and a total time of battery work:
  ON: 14:57   17 / 4 / 2010   (Born date)
  TOTAL N= 54
  TOTAL WORK TIME:
   33 : 12 : 05
- All of the above positions and parameters are permanently stored on unlimited long period, in situations when UPS is switched off and without battery and power supply!

On the sixt page:
BATTERY SELF TEST:
TEST: for 90 Day 1min
00 : 12 : 05

Self test function batteries
- allows independent batteries testing every 10 days to 90 days, a from 1 to 60 minute battery working time. If the capacity is reduced (bad), UPS will save the alarm „ Check the battery,, and sends the Mail to User via software.

„Battery self test,, settings :
- When is pressed button UP, then will be activated function of self test from 1min to max 60min (battery work time), after pressed 60min-than going to turn of, displeying „TEST OFF,,
- Press button „Down,, alow to setting days from 10 to 90 days (example: if we set 20 days, when is come 20 days-start test)

Page seven : setting for battery charging:
BATTERY: 45Ah
The setting is disabled at the factory, to enable the setting of the charging current, the following procedure:
- Press the Menu key - stay on the first page where N1 and N2 are displayed
- Press and hold the ON key and then the Up key three times until the **>N1** arrow appears
- Now press the Menu key to the page: BATTERY=45Ah, set the Ah with the Up / Down keys (Minimum 9Ah / Maximum 200Ah).

Page eight: showing Model od ups and his Serial number:
MODEL: R22i
Serial number: 2468022   (example)

Page nine:
- "GREEN POWER" function, the purpose of independent shutdown of the UPS after finished work time, stop discharging battery out of work time.
Turn on (Up key) / Turn off (DOWN key)

Tenth page:
- on this page, using the UP-DOWN keys, for set the power level in VA below which the UPS should going to turn-off, when the mains voltage disappears, out of working time.

Setting method:
- turn off all equipment powered by the UPS and then look at the VA shows on the UPS display, if for example 100VA – then we set <200VA in the menu. When main supply disappear, ups looking settings of level „green power,, if we sett 200VA, and output load have only 100VA, ups will be go to shut-down for 50 seconds
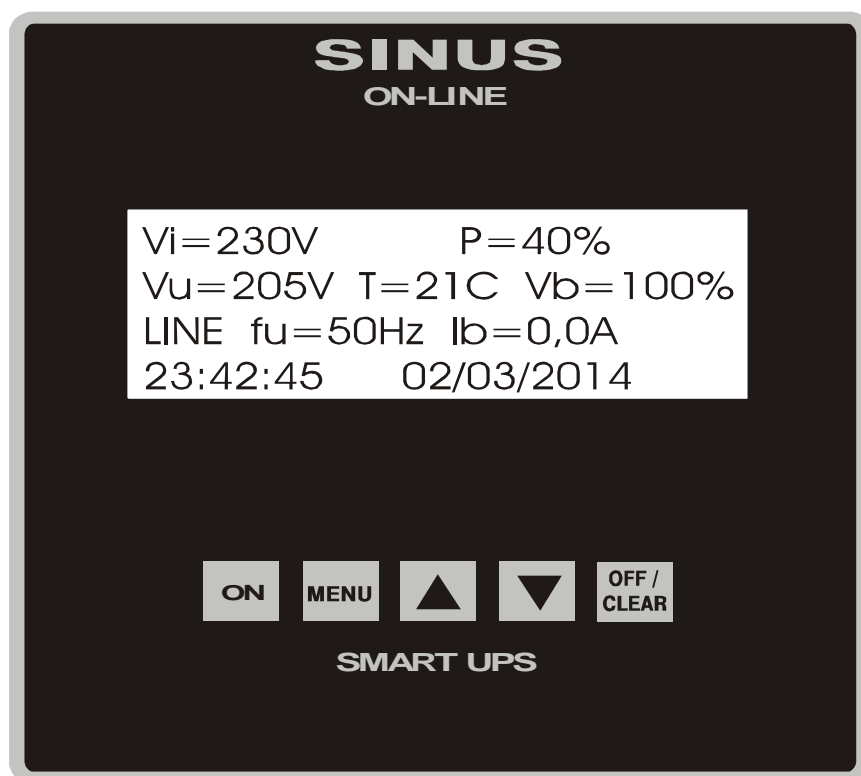
1.2 MEASUREMENT

On the front panel display showing, next parameters:

- input voltage (Vu)
- output voltage (Vi)
- output power (P) VA / %
- number of mains power supply drop-out (N)
- battery voltage / charge (Vb) V / %
- battery charge current (Ib)
- input frequency (fu)
- real time and calendar
- temperature of energy modul
- ambiental temperature

1.3 UPS STATUES:

- **„LINE„** mains power supply is in permitted borders

- **„BATTERY OPERATION„** mains power supply is out of permited bordes, or disappeared.

- **„BATTERY EMPTY„** start countdown from 120sec to 0sec, and going to „shut-down„ ups. This situations will be memorized in real time.

- **„OVERLOAD„** when is load 100% on the displey will be show attention, if load higher then 110% start countdown from 60sec to zero and ups will be turn-off, if load higher then 130% shut down wil be after 5sec. This situations will be memorized in real time.

- **„OVERCHARGING„** if charging voltage higher 5%-start countdown from 60sec to zero and turn-off, if charging voltage higher than 10% -shut down immediately. This situations will be memorized in real time.

- **„CHECK BATTERY„** after a few years, batteries get old and lose power, when voltage is below the permitted UPS limit, this situation will be memorized in real time.

- **„OVERHEAT„** High ambient temperature or defective fan, start countdown from 120sec to zero sec. This situations will be memorized in real time.
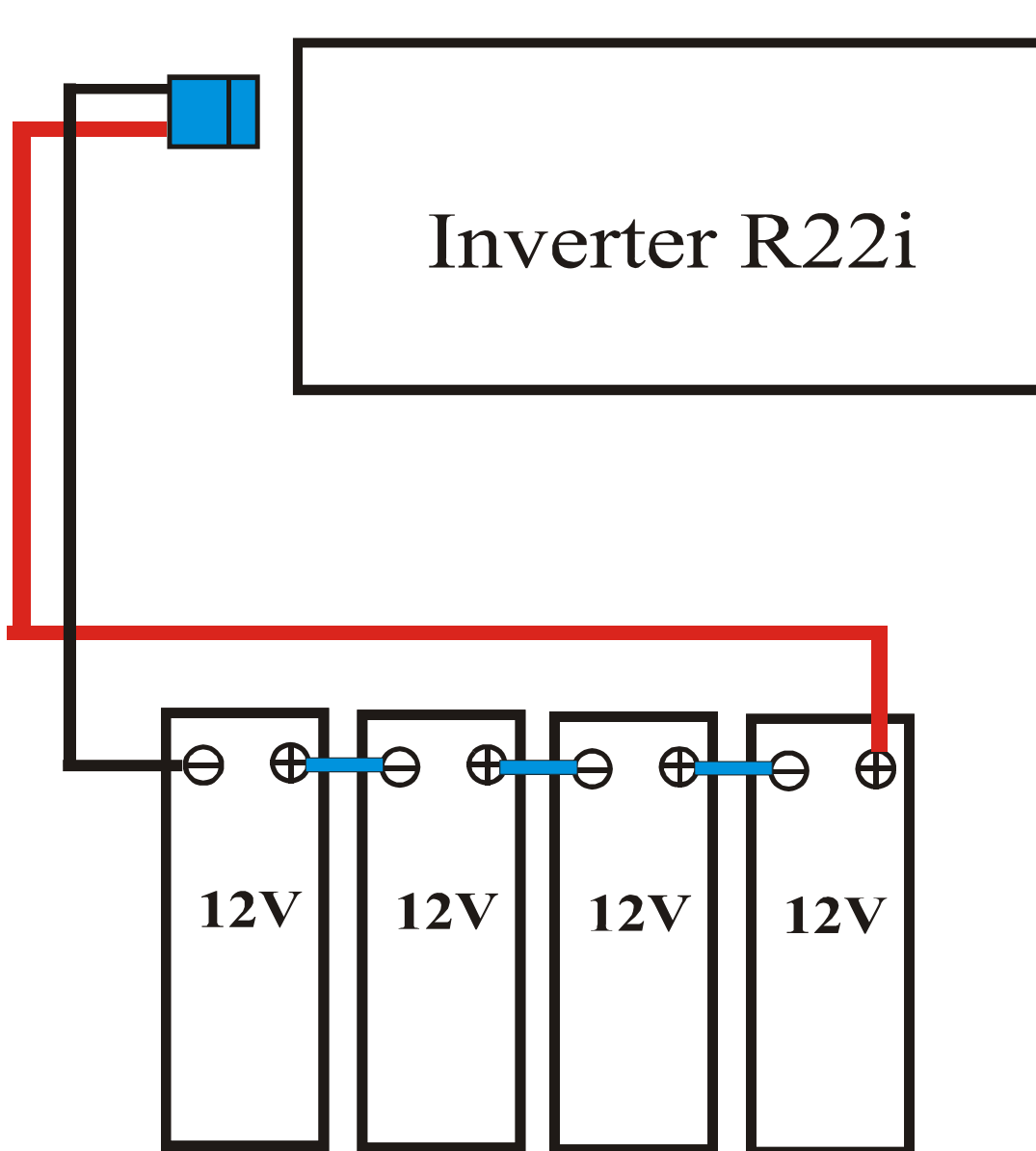
1.4 The appearance of the front panel

SINUS
ON-LINE

```
Vi=230V        P=40%
Vu=205V T=21C Vb=100%
LINE fu=50Hz Ib=0,0A
23:42:45    02/03/2014
```

ON MENU ▲ ▼ OFF /
              CLEAR

SMART UPS

1.5 TECHNICAL CHARACTERISTICS

MODEL:	R 22i
INPUT:	
Voltage:	230V (150V - 290V without degrading power)
INPUT FREQUENCY:	50Hz +/- 8 %
OUTPUT:	Schuko CEE7 x 3
Voltage:	230V +/- 5 %
Wave form:	Pure Sine wave
Output power:	2200VA / 1600W
OUTPUT Frequency:	50Hz +/- 0,01%
By-pass:	No
Transfer time:	0 msec
Efficiency:	97%
Topology:	Double conversion
Protections of:	short-circuit, overload, battery deep discharge, battery overcharge, interference on the input-output, overheating of energy modul or ambient, overvoltage on the input or output, from reverse polarity of the batteries, occurrence of sparks when connecting the batteries.
Front panel:	**Alfa-numeric display 4x20 character with back-light and measurement**:input/output voltage; input frequency; batteries voltage (V); Ambiental and heatsink temperature (C), Charging / Discharging battery % Charge / Discharge current battery (A) , Output power (VA/%), real time-calendar, ups status, Event alarm. Button on/off / settings
Batteries:	External 48V
Communication	LAN card / Relay remote card
Autonomy:	Option
Green power:	Yes
Battery self test:	Yes
Soft start in the battery circuit:	Yes
LVD confirmity :	EN / IEC 62040-1:2019 / A11:2021
EMC confirmity:	EN / IEC 62040-2:2006 / AC:2006 EN / IEC 62040-2:2018
Voltage distorsion:	$<3\%$
Operating temperature range:	Od –20C do +65C
Dimensions:	
Height: Width: Depth:	15cm 44cm 35cm
Weight:	24
IP class:	IP 20
Warranty:	3 years
Safety mark:	C E

1.6 Connecting Inverter R22i / 48V with external battery pack

CONNECTIONS:
- DO NOT CONNECT MAINS VOLTAGE AND CONSUMERS
-CONNECT THE BATTERIES AS IN THE PICTURE
-CONNECT THE POWER CONNECTOR FOR THE BATTERIES TO THE INVERTER
-ACTIVATE THE UPS ON BUTTON - IF EVERYTHING IS OK, TURN -ON MAINS VOLTAGE AND CONSUMERS AT THE END.

1.7 *Description of relay remote signaling:*

Integrated card with relay contacts for remote signaling:

- „Group of Alarms„ (Overload, Overheating, Battery empty, Charging battery, Check battery).
- „Power failure„ (when the supply voltage - disappears or is not within the permitted range)
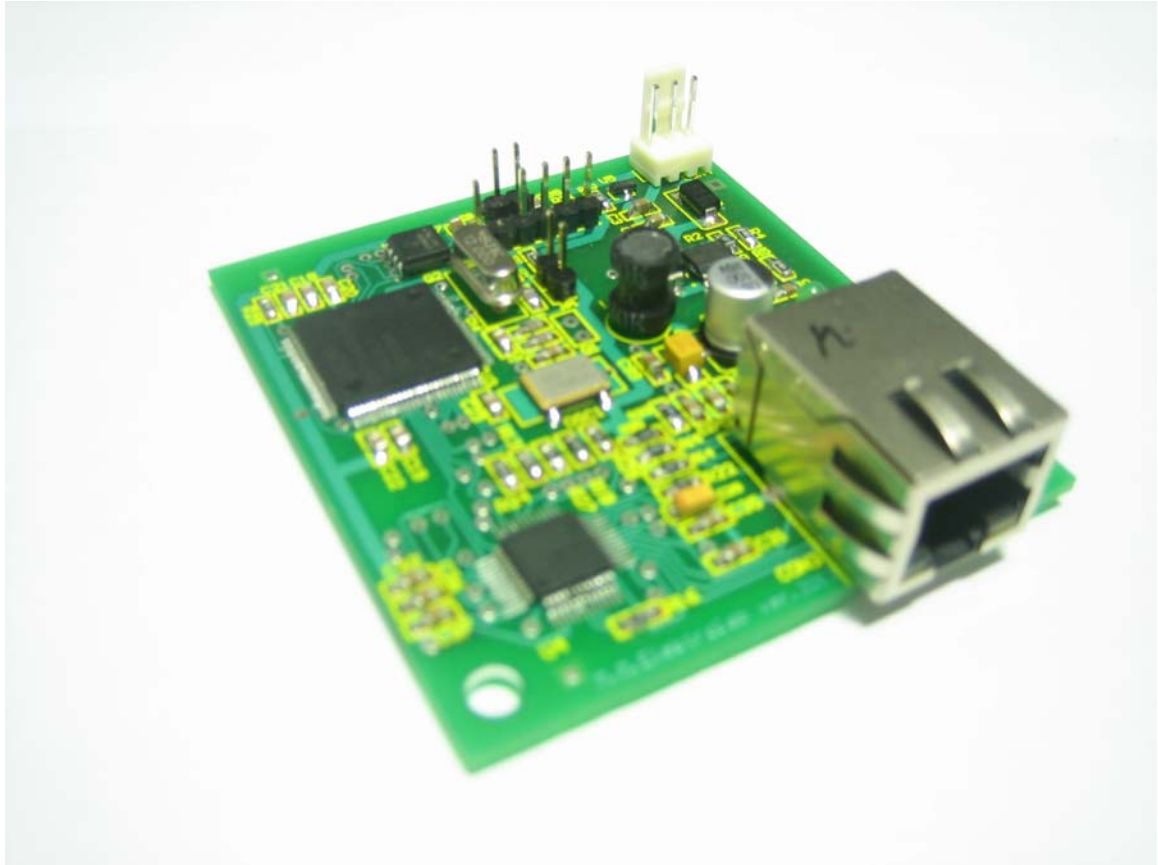
The contacts are galvanically separated:

- When everything is ok, and when the device is switched on, both relay contacts are "short-circuited", if an alarm occurs, the relay contact "opens".

1.8 *ARRANGEMENT OF POSITIONS ON THE BACK SIDE:*
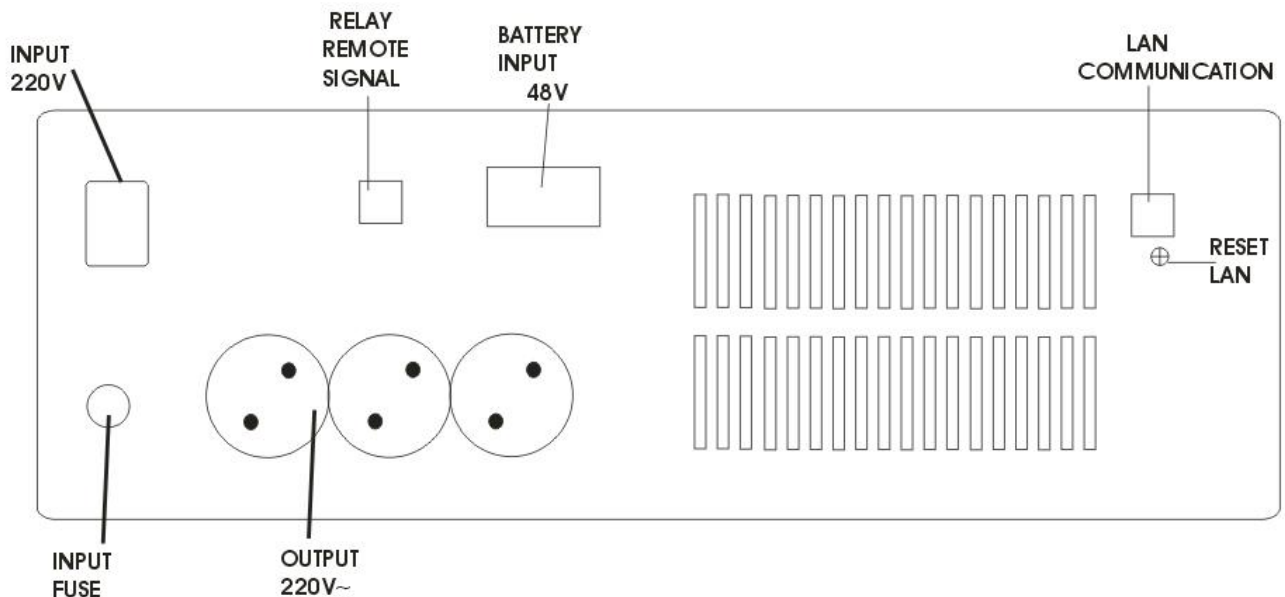
1.9 LAN COMMUNICATION CARD

- Lan card is used for communication between the UPS and the local network.

- SNMP and HTTP protocols.

- Included: MIB files, Software for setting the parameters of the LAN card in the local network

- Software work on Windows platforms, for seting various parameters such as: the choice of activating / deactivating DHCP IP address assignment, adjustment, TRAP, address, etc.

UPS is sending next bytes of data and trap:

- Vo = The output voltage of the UPS
- P = output power VA / %
- Vi = input voltage
- fi = input frequency
- Vb = battery voltage   V / %
- T = ambinetal temperature
- SN = UPS Serial Number
- Model = of UPS

Alarm (trap):

- A1= Power failure: if occure =001 / if disappeared= 000
- A2= Low battery: if occure =002 / if disappeared = 000
- A3= Check the battery: if occure =003 / if disappeared = 000
- A4= Overload: if occure =004 / if disappeared = 000
- A5= Overcharging: if occure 005 / if disappeared = 000
- A6= Overheat: if occure =006 / if disappeared = 000
- A7= By-pass: if occure =007 / if disappeared = 000

If any alarm occurs, the UPS via the LAN card and sends SNMP TRAP messages.

OID LIST

1. OID - .1.3.6.1.4.1.39385.1.1.0   Model
2. OID - .1.3.6.1.4.1.39385.1.2.0   Serial number
3. OID - .1.3.6.1.4.1.39385.1.3.0   Output voltage
4. OID - .1.3.6.1.4.1.39385.1.4.0   Output power
5. OID - .1.3.6.1.4.1.39385.1.5.0   Input voltage
6. OID - .1.3.6.1.4.1.39385.1.6.0   Input frequency
7. OID - .1.3.6.1.4.1.39385.1.7.0   Batery charge %
8. OID - .1.3.6.1.4.1.39385.1.8.0   Power failure
9. OID - .1.3.6.1.4.1.39385.1.9.0   Battery empty
10. OID - .1.3.6.1.4.1.39385.1.10.0   Check battery
11. OID - .1.3.6.1.4.1.39385.1.11.0   Overload
12. OID - .1.3.6.1.4.1.39385.1.12.0   Overcharging
13. OID - .1.3.6.1.4.1.39385.1.13.0   Overheat
14. OID - .1.3.6.1.4.1.39385.1.14.0   By-pass
15. OID - .1.3.6.1.4.1.39385.1.15.0   Temperature

16. OID - .1.3.6.1.4.1.39385.2.1.0   Sistem
17. OID - .1.3.6.1.4.1.39385.2.2.0   Time
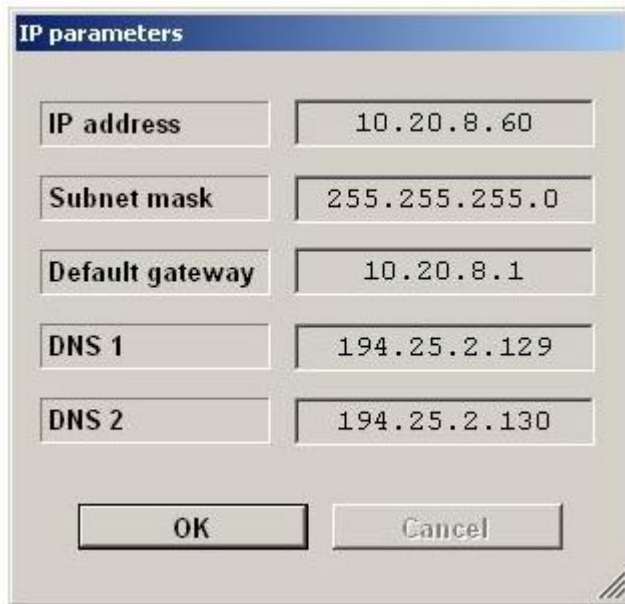18. OID - .1.3.6.1.4.1.39385.2.3.0   Contact

Setting the parameters of the SNMP card

IP adresS
DHCP
Trap IP adress

SNMP card is supplied with the following parameters entered.

IP parameters	
IP address	10.20.8.60
Subnet mask	255.255.255.0
Default gateway	10.20.8.1
DNS 1	194.25.2.129
DNS 2	194.25.2.130
OK	Cancel

DHCP - off

To make the setting SNMP card is required as parameters to the network PC (through which you set), enter:

IP address 10.20.8.1
Subnet mask 255.255.255.0

Connect the SNMP card to a network or PC.
The Setup program uses **„UPSmonitorSetup.exe„**

Enter the IP address of the SNMP card.
Then **Connect**.

Enter the IP address of the LAN card

UPISATI IP ADRESU SNMP KARTICE

Get - reads data
Set - writing data

Setting the IP parameters

The data recorded — Set data

Seting DHCP

Setting the Trap IP address

Not used

Entering the IP address

Below the IP parameters to click the mouse on the Set.
Fields (to assign an IP address tab and fill in the parameters of the network to which it connects), and enter by clicking on OK.

Enter the parameters

IP parameters	
UPISATI PARAMETRE	
IP address	10.20.8.60
Subnet mask	255.255.255.0
Default gateway	10.20.8.1
DNS 1	194.25.2.129
DNS 2	194.25.2.130
OK	Cancel

NOTE
After setting „turn-off„ UPS wait a few seconds and „turn-on„ the UPS, and then ups is now acepted the new IP address and network parameters become active.

DHCP

Below DHCP click Set.
Enable or disable DHCP.

Confirm	✕
? Enable DHCP?	
Yes	No
UKLJUČI	**ISKLjUČI**
Turn on	**Turn off**

Setting the Trap IP address

Below the trap IP address click Set.

The field enter the IP address of the computer that we want to follow traps (click on the icon, Local Area Networks, and choose, Support, and there you can see the IP address of the local computer and practically this IP Ares specify):

NOTE

After setting „turn-off„ UPS wait a few seconds and „turn-on„ the UPS, and then ups is now acepted the new IP address and network parameters become active.
Upon completion of the settings from the Setup - click **Disconnect.**
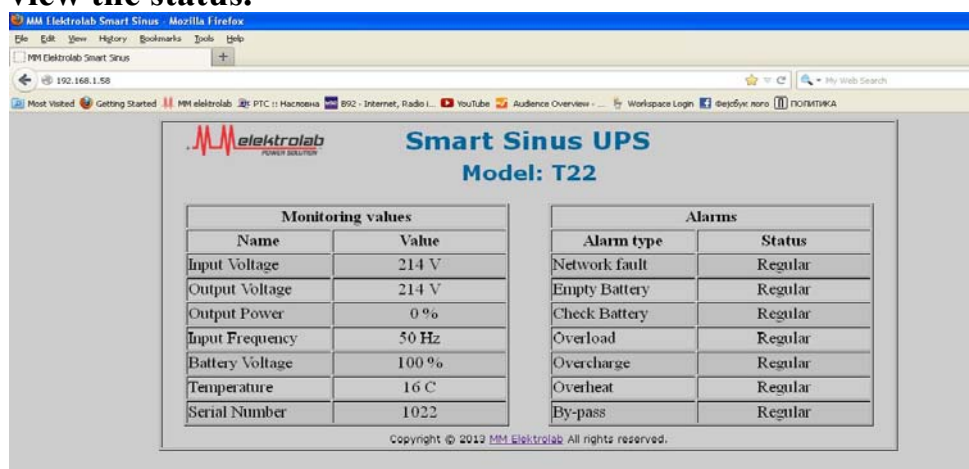
NOTE

If we have a problem with the connection, SNMP card can be reset as follows:

-PUSH THE RESET BUTTON-<u>and hold pressed</u> (button is on the left side of UTP connector) , in duration of 10s-then release reset buton, turn off the UPS, waith 5 seconds, and turn-on the UPS.

It is important to note that this situation is only possible if the user loses their records the IP address that was entered.

<u>HTTP:</u>

In the browser enter the IP address of the UPS and will appear in the window to view the status.

1.10 Installation and commissioning UPS

LOCATION

- The R22i model belongs to the class of inverters that can work in an industrial ambient environment where there is dust, moisture, condensation and large temperature changes.
- The recommended temperature of the room where the UPS is placed should not exceed 25C, batteries can work at high temperature, but their life is reduced. **In this situation, the 2-year battery warranty is not valid**

COMMISSIONING

- Connect the batteries, turn on the mains voltage and consumers
- Activating the inverter by pressing the ON button or by applying mains voltage (automatic restart).
- The UPS turn-off, by pressing the OFF / CLEAR button - <u>keep the button pressed</u> until the UPS turns-off.
- Turn-on Ups, is possible after 5 seconds of Turn-off.
- Connect the relay signaling - not mandatory
- Connect LAN communication, installation and supporting software on the manufacturer's website.

1.11 IMPORTANT NOTICE:

- **It is forbidden to cover the ventilation openings.**
- **It is forbidden to discharge the batteries and leave the UPS with empty batteries for a longer period of time than 7 days (risk of permanent damage to the batteries)!**
- **On the back of the UPS there is an automatic fuse in the mains voltage circuit.**

1.12 Battery autonomy table

| Rack Smart Sinus INVERTOR R22i / 2200VA / 1600W				
Batteries 12V x 4 EXTERNAL 100Ah (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	
0	0	1800	1800	
10	220	1200	1100	
20	440	750	600	
30	660	600	500	
40	880	400	222	
50	1100	231	205	
60	1320	205	156	
70	1540	185	117	
80	1760	132	114	
90	1980	116	105	
100	2200	114	93	
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

1.13 WARRANTY TERMS

WE GURANTUEE:
- PROPER UPS OPERATION, IN ACCORDANCE WITH CHARACHERISTICS.
- IF UPS IS USED IN ACCORDANCE WITH USER MANUAL.
- FREE REPAIR AND REPLACEMENT OF DEFECTIVE PARTS.
- AVAILABILITY OF SPARE PARTS WITHIN 5 YEARS AFTER THE EXPIRATION OF THE WARRANTY.

THE WARRANTY IS NOT VALID IN FOLLOWING CASES:
- UPS WAS NOT USED IN ACCORDANCE WITH THE MANUAL USER.
- BATTERIES DISCHARGED AND LEFT EMPTY FOR MORE THAN 10 DAYS.
- UNAUTHORIZED REPAIR.
- DAMAGES IN TRANSPORT OR IMPROPER HANDLING.
- COMPLAINTS OUTSIDE THE WARRANTY PERIOD.
- THUNDER STRIKE, FLOOD, EARTHQUAKE.
- ENVIRONMENTAL OPERATING CONDITIONS NOT APPROVED FOR THE PURCHASED MODEL.

GUARANTEE DURATION PERIOD AND CONDITIONS:
- INVERTER: 3 YEARS
- BATTERIES: 2 YEARS UNDER FOLLOWING CONDITIONS:
  - IF THE AMBIENT TEMPERATURE DOES NOT EXCEED 30C. BATTERIES CAN WORK AT RAISED TEMPERATURES, BUT THE LIFETIME IS REDUCED, THIS IS THE RECOMMENDATION OF THE MANUFACTURER OF BATTERIES.
  - DIAGRAM FROM THE BATTERY MANUFACTURER'S CATALOG SHOWS THE CORRELATION BETWEEN LIFETIME AND AMBIENT TEMPERATURE:
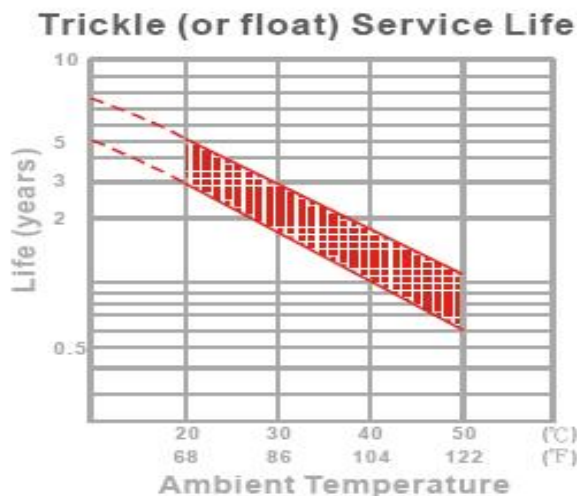
- WARRANTY PERIOD FOR BATTERIES STARTS WITH THE PRODUCTION DATE OF THE UPS, WHICH CAN BE SEEN ON THE UPS DISPLAY (MENU).

NOTES:
- UPS HAVE UNIQUE SERIAL NUMBER LOCATED ON A STICKER.
- ON THE DISPLAY (IN THE MENU) YOU CAN SEE:
  UPS SERIAL NUMBER AND DATE OF PRODUCTION.
- ON THE UPS PACKAGING, THERE IS A GUARANTEE CERTIFICATE WHICH SHOWS THE FOLLOWING INFORMATION: UPS MODEL / SERIAL NUMBER / DATE OF SALE / SELLER NAME

M.M.Elektrolab
Džona Kenedija 11, Kaluđerica, 11130 Beograd, Srbija
+381 11 34 13 442
office@mmelektrolab.com

USER MANUAL

CLC1 LAN CARD COMMUNICATION INTERFACE

SMART UPS SERIES

Made in Slovenia
EU Product

MANUAL VERSION: T1.5V-S

TABLE OF CONTENT:

COMMUNICATION INTERFACES
Smart UPS communication interfaces are designed to enable the data exchange between the UPS device and exterior devices connected either directly to the interface's USB port or via ETHERNET network.

LAN CARD ("CLC1")

The communication interface is suitable for direct integration via pre-prepared UPS card slot (fully-compatible with Smart UPS Series). This option serves as classical network communication module that enables integration of UPS device into local ethernet network. Device also supports direct USB connection that offers onsight user connection.
The device has a built-in communication interface, which enables communication with device/UPS system via Ethernet/LAN or local USB connection, enabling the user setting of individual operational parameters, defining and overview of alarm states and SNMP reporting to the system operator. CLC1 supports SNMP messaging and system statuses can additionally be implemented in the user-specific central management system.
Communication takes place via the SNMP protocol and enables simultaneous monitoring via the HTTP protocol. Built-in WEB server allows various parameters settings, such as choosing to activate / deactivate DHCP, assign IP address, set TRAP address, etc., with detailed instructions for use.
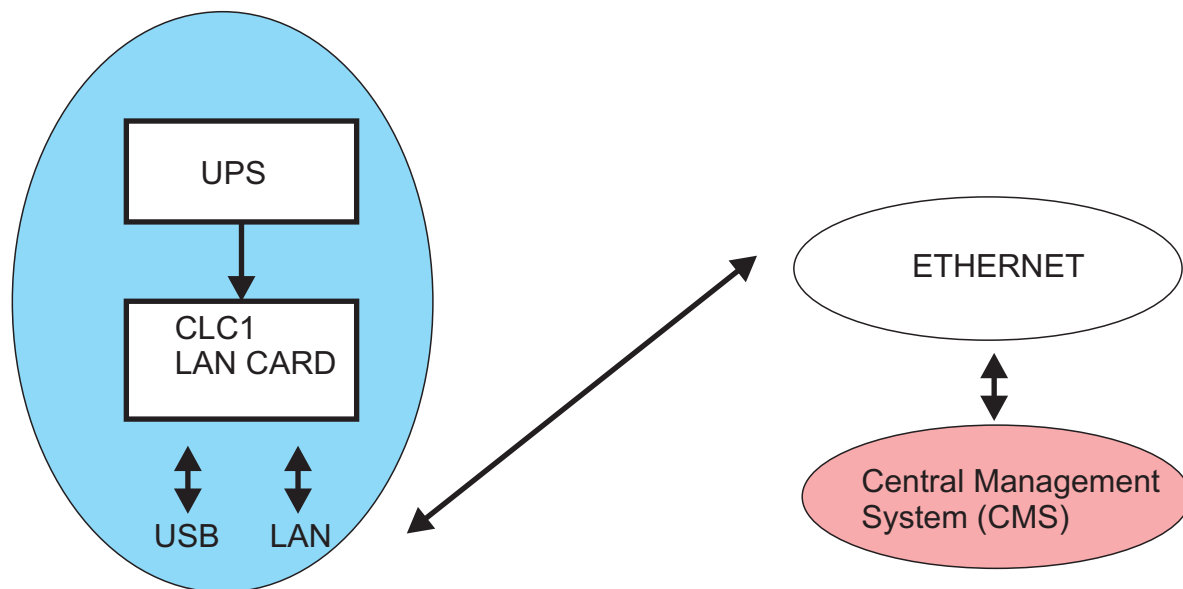
M.M.Elektrolab UPS

Operational mode: UPS

Version: 3.3

Uptime: 0 days, 0 hours, 1 minutes, 7 seconds

Basic interface data

STATUS

Voltage 1 (OUT): 48

Power output sum (%): 0

Voltage (INP): 240

Frequency (INP): 50

Battery charge (%): 100

Temperature: 24

Serial no.: 714

Product model: 15

UPS and connected battery data

ALARMS

Network failure: off

Empty battery: off

Check battery: off

Overload: off

Overflow: off

Overheating: off

By-pass: off

ALARM settings overview data

BASIC INTERFACE DATA
Contains essential product information:
- **Device name**
- **Operation mode** (based on the chosen operational mode type and installed hardware
  WEB GUI displays the according data and settings). User can choose between:
    * UPS mode: standard mode, available with integrated CLC1 LAN Card
    For additional description please refer to "Operational settings" in this manual.
- **Version** (integrated interface firmware version)
- **Uptime** (system uptime)

     SMART UPS Series

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initra

UPS AND CONNECTED BATTERY DATA STATUS
Contains real-time UPS status information:
- Voltage 1 (OUT): AC output voltage on the 220V connection
- Power output sum (%): UPS system output power in percentage
- Current (INP): UPS input current
- Frequency (INP): UPS input frequency in Hz
- Battery charge (%): displays the connected battery pack power charge percentage
- Temperature: displays UPS system temperature in °C
- Serial no.: UPS system serial number
- Product model: UPS system product series

ALARM SETTINGS OVERVIEW DATA
Contains real-time status of preset alarm limits for the UPS system. When a specific alarm state is enabled (ON) information is sent via SNMP protocol to system administrator.
For detailed information regarding alarm setting and states please refer to UPS system user manual.

SMART UPS Series

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NETWORK SETTINGS

SNMP TRAP SETTINGS
Set up the IP address to which SNMP TRAP messages will be sent.
- **IP**: Sets up the IP address to which SNMP TRAP messages will be sent
- **TRAP**: ON/OFF Choose from the drop down menu to enable (ON) or disable (OFF) SNMP TRAP
For the purpose of local CMS integration SNMP OID is **1.3.6.1.4.1.41144**.

SNMP TRAP SETTINGS:

IP: `192` `168` `123` `101` [Submit]

TRAP: OFF `OFF ˅` [Submit]

WEB ADMIN SETTINGS
Sets up the administrator **USER** name and **PASSWORD.** Default values are
USER:admin
PASSWORD:admin

WEB ADMIN SETTINGS:

USER: admin `admin` [Submit]

PASSWORD: admin `admin` [Submit]

IP SETTINGS
Sets up the connection IP address of the communication interface (CLC1), through which
UPS system communicates with LAN. System operator can choose between DHCP protocol which
automatically provides the module with LAN dedicated IP address and other related configuration
information such as subnet mask or default gateway, or manual network settings from the drop down
menu.
By default all modules are factory set to IP address **192.168.123.55**, with IP Gateway set at
192.168.123.55 and subnet mask set at **255.255.255.0**

IP SETTINGS:

DHCP: OFF `OFF ˅` [Submit]

IP: `192` `168` `123` `55` [Submit]

IP GATEWAY: `192` `168` `123` `1` [Submit]

IP SUBNET: `255` `255` `255` `0` [Submit]

initra

OPERATIONAL SETTINGS

Based on the chosen operational mode type and installed hardware WEB GUI displays the according data and settings). User can choose between:

         * UPS mode: standard mode, available with integrated CLC1 LAN Card

UPS MODE

UPS mode is available to system administrator with CLC1 LAN card communication module integrated into the UPS system. This is considered as a basic interface option where system administrator can access and change system status and networking options:

- BASIC INTERFACE DATA
- UPS AND CONNECTED BATTERY DATA STATUS
- ALARM SETTINGS OVERVIEW DATA
- SNMP TRAP SETTINGS
- WEB ADMIN SETTINGS
- IP SETTINGS
- OPERATIONAL SETTINGS

OID TABLE LIST

	OID ADDRESS LIST		ACCESS read-only
	UPS OID	FUNCTION	DESCRIPTION
Model	.1.3.6.1.4.1.41144.1.1.0	Model	Model Name
Ser_No	.1.3.6.1.4.1.41144.1.2.0	Serial No.	Serial No.
Vi 1	.1.3.6.1.4.1.41144.1.4.0	Output Voltage 1	Output Voltage on the 220V output
Pi	.1.3.6.1.4.1.41144.1.3.0	Output power	System Output power in percent (%)
Vu	.1.3.6.1.4.1.41144.1.5.0	System input	System input voltage
Fu	.1.3.6.1.4.1.41144.1.6.0	Network input frequency	Network input frequency
Vb	.1.3.6.1.4.1.41144.1.7.0	Battery voltage	Battery voltage in percent (%)
alarm1	.1.3.6.1.4.1.41144.1.8.0	Network failure	Network failure (possible values: 0/1 (alarm off / alarm on)
alarm2	.1.3.6.1.4.1.41144.1.9.0	Battery low	Low Battery (possible values: 0/2 (alarm off / alarm on)
alarm3	.1.3.6.1.4.1.41144.1.10.0	Check BAT	Check battery (possible values: 0/3 (alarm off / alarm on)
alarm4	.1.3.6.1.4.1.41144.1.11.0	Overload	System Overload (possible values: 0/4 (alarm off / alarm on)
alarm5	.1.3.6.1.4.1.41144.1.12.0	Overcharging	System Overcharging (possible values: 0/5 (alarm off / alarm on)
alarm6	.1.3.6.1.4.1.41144.1.13.0	Overheating	System Overheating (possible values: 0/6 (alarm off / alarm on)
alarm7	.1.3.6.1.4.1.41144.1.14.0	By-pass	BY-PASS (possible values: 0/7 (alarm off / alarm on)
temperature	.1.3.6.1.4.1.41144.1.15.0	Temperature	Temperature

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