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

Manual user for:
Light Sinus Ups

CE

User manual and description

Tower solution: **T15L / T22LA / T22LB / T22LC /T22LD/ T30L / T30LD / T52L / T82L**
Rack solution: **R30L / R30LD / R52L / R72L**

CONTENT:

LIGHT SINUS UPS

1.1 Description and settings:

Light Sinus Ups generate pure Sine wave 230V~ on the output, with tolerance +/- 5%, without pause and interrupts.Wide input voltage operating rande between 150V~ to 300V~.

Light Sinus Ups have an autonomy 5-10 minutes with 100% load and this models dont have the option of extending the autonomy of working on batteries, they do not have an adjustable battery charger (the "Super-charger" is only for Smart Sinus Ups model).

Smart technology enables high reliability, fully automated and independent system.

***Turn on UPS*: press the button „ON„- or connection ups to mains supply.**

***Turn OFF ups* : press and hold 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 ond display "Test UPS" appears in the third line).

USB communication:
softwares are installed on several computers and created a local network and they allows automatic simultaneous shut-down of operating systems on all computers powered by UPS.

Lan *communication*:

- Optional instalaton 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, or hard wire on the terminal block (for high power ups models)
- Out 220V~ Schuko or hard wire on the terminal block

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 charger:
It is factory set according to the capacity of the internal batteries, with IU characteristic and temperature compensation. It is not adjustable

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.

MENU- displey of statues and settings:

On the first two pages is stored time, mains supply drop-out (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 (stored in real-time): overheating, overload, overchanging batteries and check batteries. Reset on zero by pressing the Off / Clear key.

On the fifth page, is displayed production date, the total number of mains voltage drop-out and a total time of battery work:

ON: 14:57 17 / 4 / 2010 (produce date)
TOTAL N= 54
TOTAL WORK TIME:
33 : 12 : 05

All parameters are permanently stored in the unlimited long period, in situations when UPS is switched off and without battery and mains supply.

On the sixt page:

BATTERY SELF TEST:
TEST: for 90 Day 1min
00 : 12 : 05

Self test function batteries, settings for batteryes testing every 10 days to 90 days, 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, setting possibility from 1min to max 60min (work time on battery), after pressed 60min-than self test function-going to turn off, and displeying „TEST OFF„

- Press button „Down„ alow to setting days from 10 to 90 days
  (example: if we set 20 days, when is past 20 days-starting battery self test)

Page seven : setting for battery charging:
BATTERY: 12Ah
Note: factory setting - Light sinus ups, no possibility to set the charging current.

Page eight**:** showing Model of UPS and his Serial number:
MODEL: T52L (example)
Serial number: 2704052 (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 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.

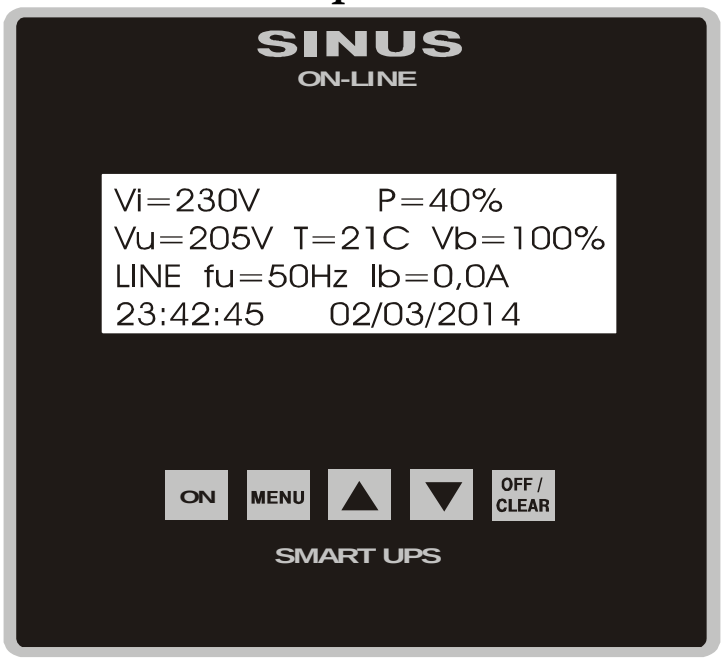
„OVERLOAD„ when is load 100% on the displey will be show attention, if load higher then 110% start countdown from 60sec to zero and ups will be turn-off, if load higher then 130% shut down wil be after 5sec. This situations will be memorized in real time.

„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



1.4a SPECIAL MODELS FOR WORK IN INDUSTRIAL CONDITIONS:

SPECIAL UPS MODELS, WHICH HAVE THE INITIAL LETTERS IN THE MARKS „TP„ / „RP„ ARE DESIGNED TO WORK IN HARD / INDUSTRIAL ENVIRONMENTAL CONDITIONS, HAVE EXACTLY THE SAME TECHNICAL CHARACTERISTICS AS THE STANDARD MODELS, BUT WHICH HAVE THE POSSIBILITY OF WORKING IN THE FOLLOWING ENVIRONMENTAL CONDITIONS:

- **PRESENCE OF MOISTURE, CONDENSATION, DUST**
- **TEMPERATURES –40C / +65C**

TP22LA / TP22LB / TP22LC / TP22LD / TP30L / TP30LD / TP52L / TP82L
RP30L / RP30LD / RP52L / RP72L

1.5 LIGHT SINUS UPS (TOWER) - TECHNICAL CHARACTERISTICS

MODEL:	**T15L**	**T22LA**	**T22LB**	**T22LC**	**T22LD**
INPUT:					
Voltage:	230V (150V - 290V without degrading power)				
INPUT FREQUENCY:	50Hz +/- 10 %				
Output connection:	Schuko CEE7 x 3				
Output voltage:	230V +/- 5 %				
Wave form:	Pure Sine wave				
Output power:	1500VA/1000W	2000VA/1400W	2000VA/1400W	2000VA/1400W	
OUTPUT Frequency:	50Hz +/- 0,01%				
Transfer time:	0 msec				
By-pass:	No				
Efficiency:	95%				
Topology:	Double conversion				
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				
Batteries:	12V/ 9Ah x 3pcs (36V)	12V/ 12Ah x 3pcs (36V)	12V/ 9Ah x 4pcs (48V)	12V/ 12Ah x 4pcs (48V)	12V/ 15Ah x 4pcs (48V)
Battery charging:	It is factory set according to the capacity of the internal batteries, with IU characteristic and temperature compensation. It is not adjustable				
Extending battery autonomy:	No				
Charging time:	6-8h				
Communication:	USB / Option LAN				
Autonomy:	5 min / 100%	5 min /100%	6 min / 100%	8 min / 100%	10min 100 %
Green power:	Yes				
Battery self test:	Yes				
LVD conformity :	EN / IEC 62040-1:2019 / A11:2021				
EMC conformity:	EN / IEC 62040-2:2006 / AC:2006 EN / IEC 62040-2:2018				
Operating temperature range:	–20C / +65C				
Dimensions:					
Height: Width: Depth:	32 cm 17 cm 54 cm				
Weight:	21 kg	26 kg	24 kg	29 kg	32kg
IP class:	IP 21				
Safety mark:	CE				
Warranty:	Ups 5 years / Batteries 2 years				

1.6 LIGHT SINUS UPS (TOWER) - TECHNICAL CHARACTERISTICS

MODEL:	**T30L**	**T30LD**	**T52L**	**T82L**
INPUT:	C13			Schuko+hard wire
Voltage:	230V (150V - 290V without degrading power)			
INPUT FREQUENCY:	50Hz +/- 10 %			
Output connection:	Schuko CEE7 x 3			Schuko+hard wire
Output voltage:	230V +/- 5 %			
Wave form:	Pure Sine wave			
Output power:	3000VA/2100W	3000VA/2100W	5000VA/3500W	8000VA/6400W
OUTPUT Frequency:	50Hz +/- 0,01%			
Transfer time:	0 msec			
By-pass:	No	Yes, automatically		
Efficiency:	97%			98%
Topology:	Double conversion			
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			
Batteries:	12V / 12Ahx 4pcs (48V)	12V / 15Ah x 4pcs (48V)	12V/9Ah x 12pcs (48V)	12V/50Ah x 4pcs (48V)
Battery charging:	It is factory set according to the capacity of the internal batteries, with IU characteristic and temperature compensation. It is not adjustable			
Extending battery autonomy:	No			
Charging time:	6-8h			
Communication:	USB / Option LAN			
Autonomy:	5 min / 100%	7 min /100%	5min / 100%	5min / 100%
Green power:	Yes			
Battery self test:	Yes			
LVD conformity :	EN / IEC 62040-1:2019 / A11:2021			
EMC conformity:	EN / IEC 62040-2:2006 / AC:2006 EN / IEC 62040-2:2018			
Operating temperature range:	–20C / +65C			
Dimensions:				
Height: Width: Depth:	37 cm 17 cm 54 cm	37 cm 17 cm 54 cm	62 cm 17 cm 54 cm	52 cm 22 cm 74 cm
Weight:	36 kg	39 kg	74 kg	112 kg
IP class:	IP 21			
Safety mark:	CE			
Warranty:	Ups 5 years / Batteries 2 years			

1.7 LIGHT SINUS UPS (Rack) - TECHNICAL CHARACTERISTICS

MODEL:	**R30L**	**R30LD**	**R52L**	**R72L**
INPUT:	C13			Schuko+hard wire
Voltage:	230V (150V - 290V without degrading power)			
INPUT FREQUENCY:	50Hz +/- 10 %			
Output connection:	Schuko CEE7 x 3			Schuko+hard wire
Output voltage:	230V +/- 5 %			
Wave form:	Pure Sine wave			
Output power:	3000VA/ 2100W	3000VA / 2100W	5000VA/ 3500W	7000VA / 5000W
OUTPUT Frequency:	50Hz +/- 0,01%			
Transfer time:	0 msec			
By-pass:	No	No	Yes, automatically	Yes, automatically
Efficiency:	97%			98%
Topology:	Double conversion			
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			
Batteries:	12V / 12Ah x 4pcs (48V)	12V / 15Ah x 4pcs (48V)	12V / 9Ah x 8pcs (48V)	12V / 9Ah x 16pcs (48V)
Battery charging:	It is factory set according to the capacity of the internal batteries, with IU characteristic and temperature compensation. It is not adjustable			
Extending battery autonomy:	No			
Charging time:	6-8h			
Communication:	USB / Option LAN			
Autonomy:	5 min / 100%	7min / 100%	5 min / 80%	5min / 100%
Green power:	Yes			
Battery self test:	Yes			
LVD conformity :	EN / IEC 62040-1:2019 / A11:2021			
EMC conformity:	EN / IEC 62040-2:2006 / AC:2006 EN / IEC 62040-2:2018			
Operating temperature range:	–20C / +65C			
Dimensions:				
Height: Width: Depth:	15 cm 44 / 48 cm 50 cm		17,5 cm 44 / 48 cm 60 cm	27 cm 44 / 48 cm 60 cm
Weight:	36kg	40 kg	60 kg	95 kg
IP class:	IP 21			
Safety mark:	CE			
Warranty:	Ups 5 years / Batteries 2 years			

3.1 DESCRIPTION AND INSTALLATION USB SOFTWARE

DESCRIPTION:

Master softver: it is installed only on the one computer or server, which is connected with a USB cable to the UPS. Displays: Measurements / alarm statuses / Data-log: saves all parameters every 10 seconds (6 months) / Event-Log: saves all alarms for one year / Sends emails to the user in the event of an alarm.

Slave softver: it is installed on all other computers powered by the UPS (except the computer where the Master software is installed). Communicates with the Master software, which sends notifications from the UPS (when an alarm occurs).

The Master and Slave softwares create their own local network between the UPS and all the computers it supply. In alarm situations, the notification "CHECK UPS STATUS" appears on the monitors of all computers.

UPS uses the software for shut-down the operating systems on all computers at the same time, before turning itself off, with this solution all data is saved.

Master software monitor layout:

The software is for Windows platforms.
Choice of two languages: Serbian and English.

The master window shows: input voltage, output voltage, output power in percent, battery charge in percent, ambient temperature, serial number and model of the UPS device.

Alarm status:

- Total of eight alarms
- Green field color - no alarm
- Red color of the field - the alarm is activated

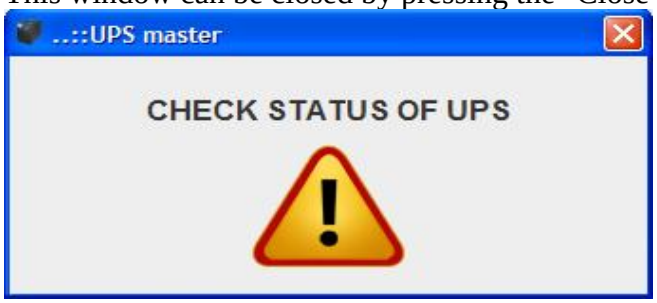
Slave software: has a UPS indicator in the down taskbar on the computer screen:

- If the letters are green - networked
- If the letters are red - it is not networked.

Notifications on monitors (Master / Slave):

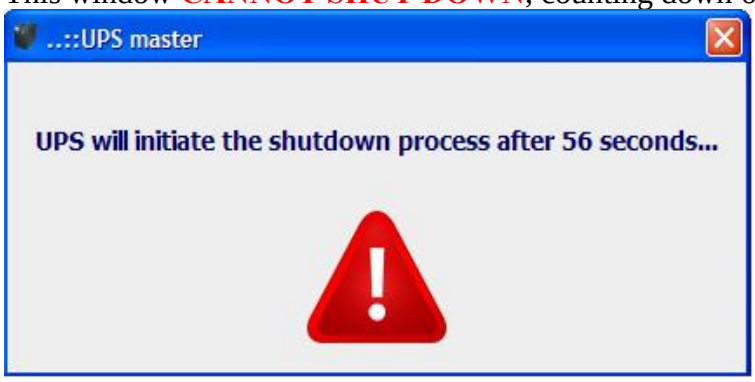
The message "CHECK UPS STATUS" appears when alarms occur:
Main power is out of range / UPS connected / UPS is going to shut-down (when is press OFF button)

This window can be closed by pressing the "Close" button.



Notification ,,UPS STARTED SHUTDOWN PROCESS FOR….,, appears when alarms occur:
Battery low / Check batteries / Overheating / Overload / Battery overcharging

This window **CANNOT SHUT DOWN**, counting down 60 seconds until the computer shuts down.



MASTER SOFTWARE INSTALLATION - read the instructions first!

- Installation of the Master software only on the one computer or server connected to the UPS.
- Connect the UPS and the computer with a USB cable
- Create a folder on the computer desktop and name it "Driver".
- Click on the "Master Setup" icon and follow the standard installation procedure.
- When the "LIB USB-win32-inf-Wizard" window appears, do the following instructions:
    1. Connect the UPS device to the computer (USB cable).
    2. Confirm ,,**NEXT,,**
    3. Choose **0x1234 USB UPS** – NEXT- write the manufacturer ,,M.M.Elektrolab,, -**NEXT.**
    4. When the window opens ,,**Save as,**, find and open the folder named ,,Driver,, which we created on the Desktop –**OK**
    5. The window opens again. **„LIB USB-win32-inf-Wizard,,** confirm (press button) ,,Instal now,, and after completion a window will appear: ,,Driver install complete / Instalation successful,, press **OK**.
    6. A new window will open ,,**Installation finished**,, LEAVE checks for the items: ,,creating a shortcut,, on the Desktop and for the shortcut in the ,,quick launch menu,, – press **OK**.

The MASTER software window opens, where we can now see the status of the UPS device and measurements.

IMPORTANT NOTES:

- The master software is automatically activated every time when we turn on the computer.

- For remove the master software window from the computer monitor **without turning off** the software, you need to press the red button in the upper right corner "CLOSE", with this way the Master software is active all the time.To reactivate the Master software window, you need to click twice time in a row on the UPS icon located in the right part of the Taskbar.

- DISCONNECTING the Master software, on the HOME page, press the "EXIT PROGRAM" button - now we have turned off the program, it will restart by itself the next time we turn on the computer again. **To restart the Master software, click on the UPS icon on the Desktop**

INSTALLATION OF SLAVE SOFTWARE

- Slave software is installed on all computers powered by UPS -except on one computer where we installed Master software.

- Click on the "Slave Setup" icon and follow the installation instructions.

- When the installation is finished in the lower Taskbar, the inscription "UPS" will appear on the right side.
  -if the letters have a green color, this means that the computer has connected to the UPS
  -if the letters have Red color-it has not connected with UPS

In more complex network systems, you must wait about ten minutes for the connection.

3.2 UNINSTALLATION (Master and Slave):

Uninstalling the Master and Slave software, as follows:

- Press the button "Start-Programs-UPS Master (or UPS Slave)"
- choose Uninstall UPS Master (or UPS Slave)
- the standard procedure for Windows platforms is started, which ends with uninstalling the installation.

3.2a WINDOWS 10- ADDITIONAL SETTINGS:

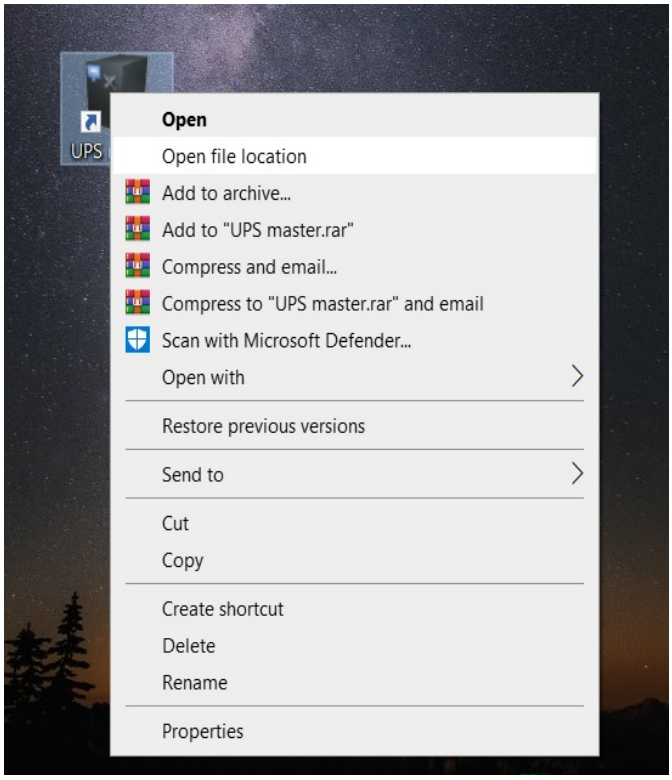
If the UPS software applications do not work properly after the standard installation, the following should be done for Windows 10:

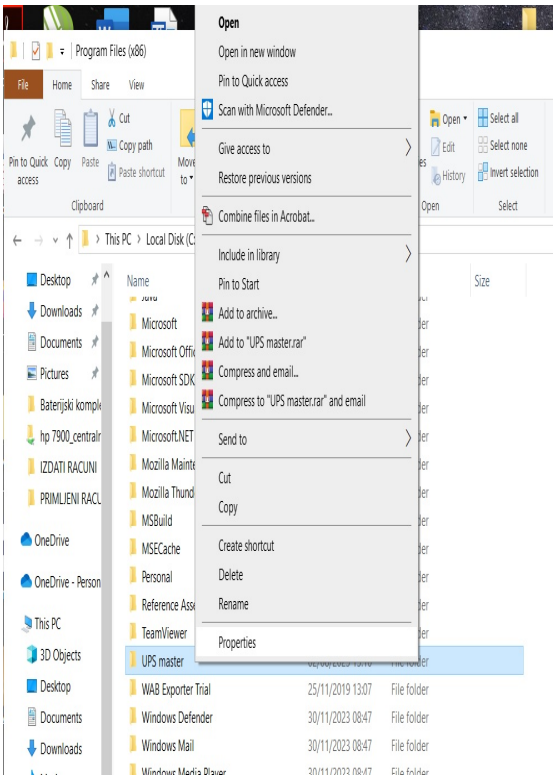
Settings for UPS Master / Ups Slave application:

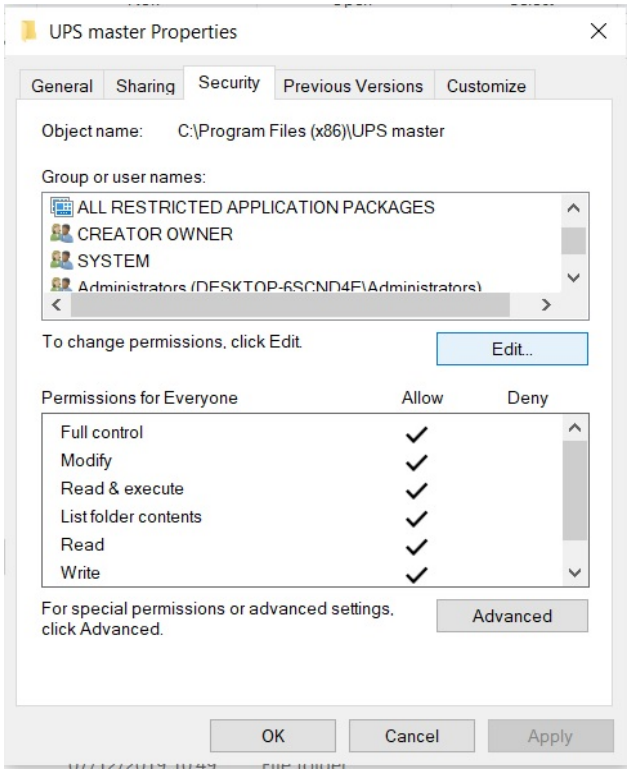
Note: the settings are the same for UPS Master and UPS Slave applications.

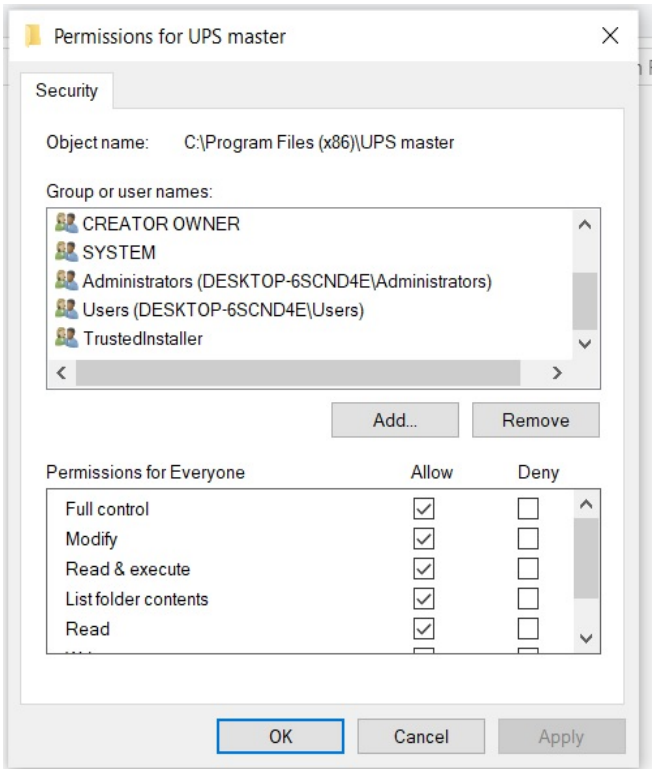
- Right click on the icon ,,UPS Master,, (or ,,Ups Slave,,) software on the Desktop –choose ,,Open file Location,,
- A window opens C:/Program files(x86) and there is ,,UPS Master,, (or ,,Ups Slave,,) folder.
- Right click on ,,UPS Master,, (or ,,Ups Slave,,) folder - choose ,,Properties,,
- Open ,,Security,, tab – click on the ,,EDIT,, - click on the ,,ADD,,
- A window opens ,,SELECT USERS OR GROUPS,, and write there: **EVERYONE**
- OK – APPLY-OK
- Put confirm on the ,,FULL CONTROL,, then confirm- OK

PICTURES OF THE SETUP„UPS MASTER„ (The same procedure is for UPS Slave) APPLICATIONS:

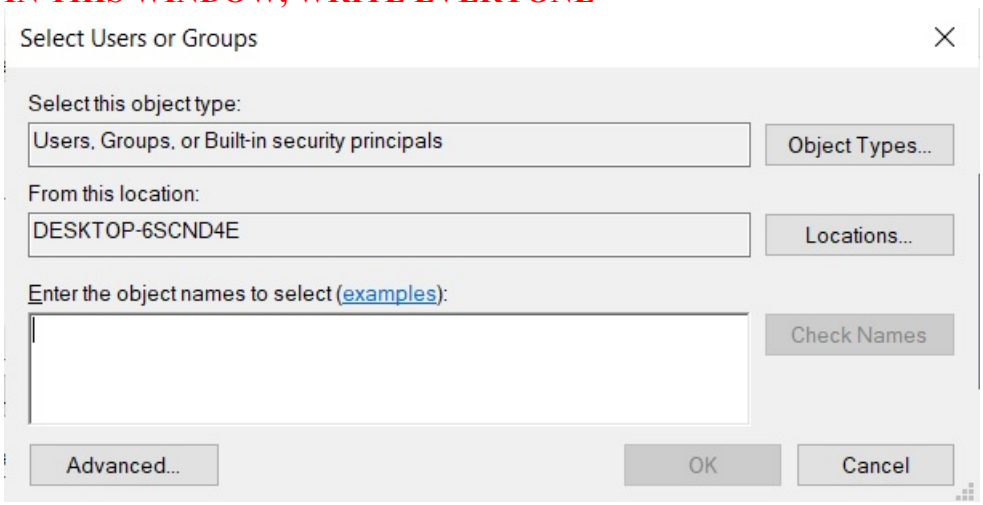






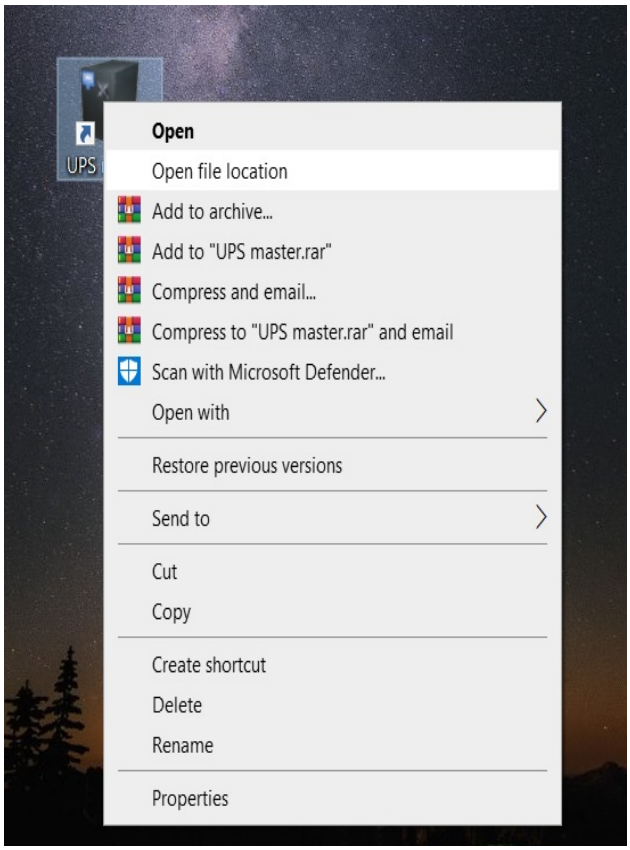


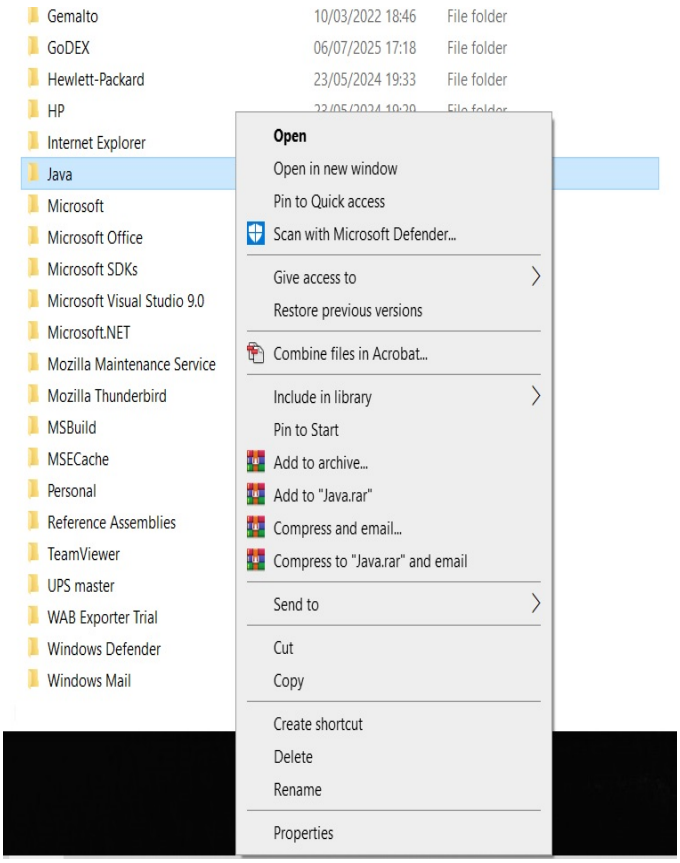
IN THIS WINDOW, WRITE EVERYONE

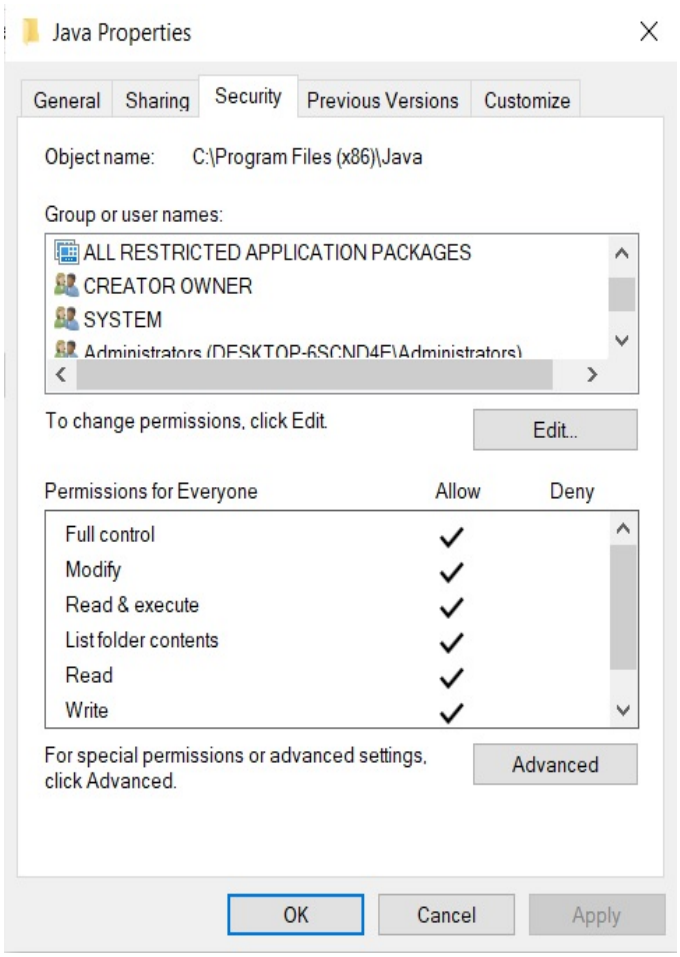


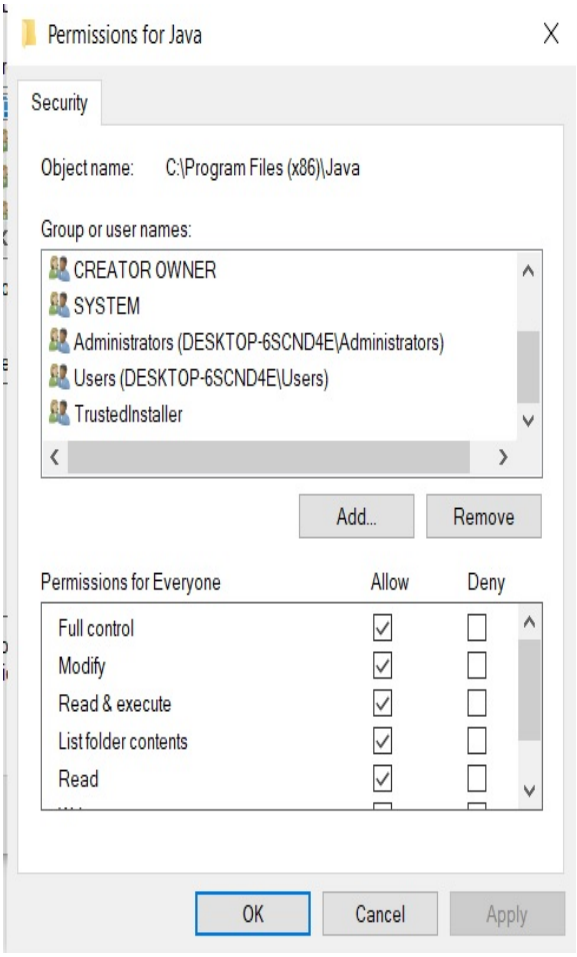
Settings for JAVA application:

- Right click on the icon ,,UPS Master,, (or ,,Ups Slave,,) software on the Desktop –choose ,,Open file Location,,
- A window opens C:/Program files(x86) and there is ,,JAVA,, folder.
- Right click on the ,,JAVA,, folder - choose ,,Properties,,
- Open ,,Security,, tab – click on the ,,EDIT,, - click on the ,,ADD,,
- Open window ,,SELECT USERS OR GROUPS,, and write there: **EVERYONE**
- OK – APPLY-OK
- Put confirm on the ,,FULL CONTROL,, then confirm- OK

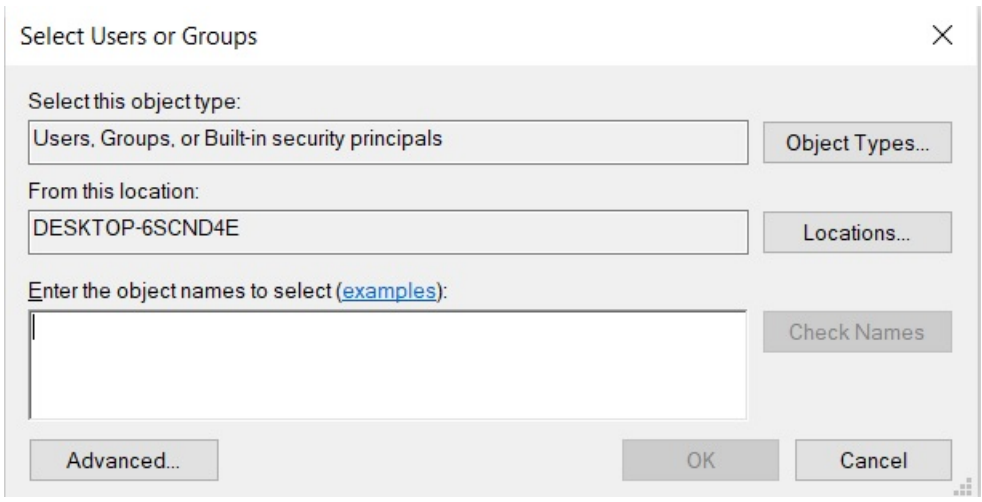






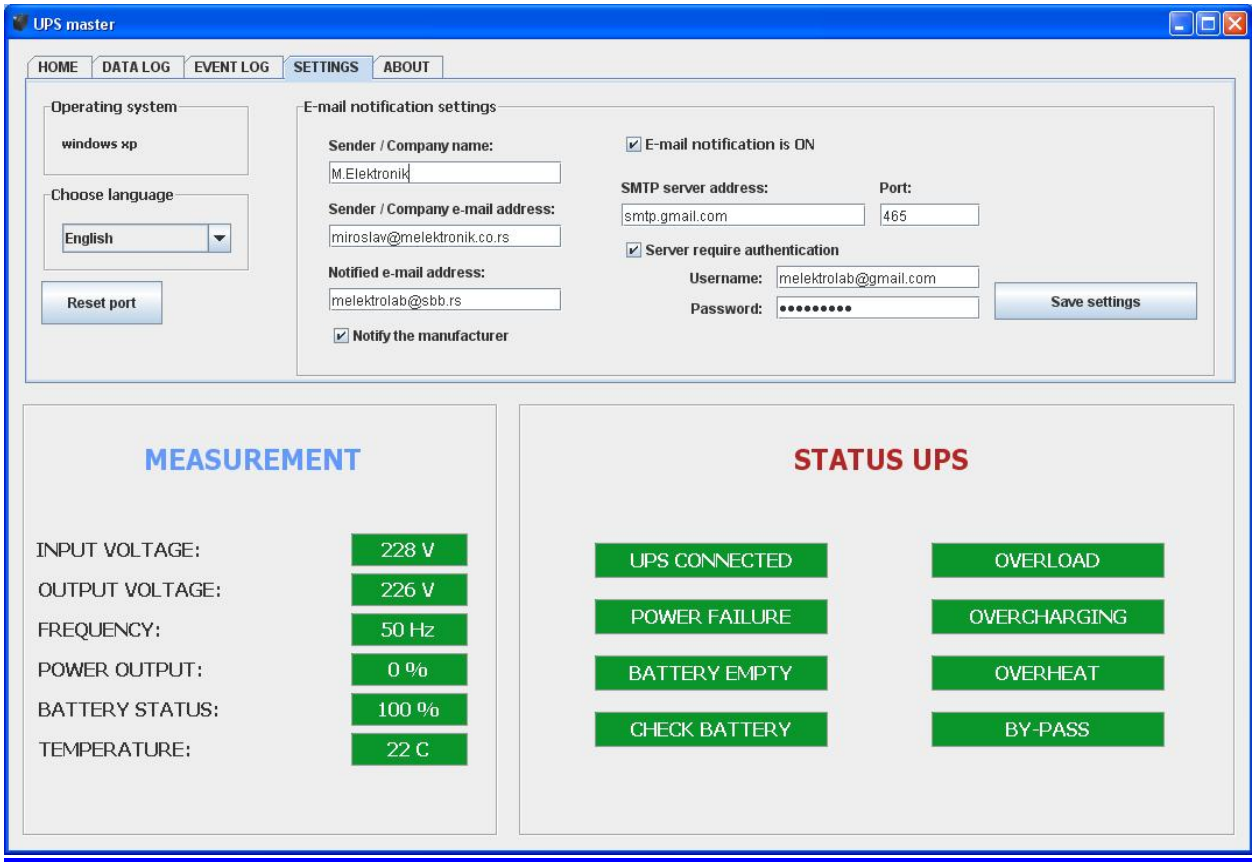


IN THIS WINDOW, WRITE EVERYONE



RESTART COMPUTER AND „UPS MASTER„ / „UPS SLAVE„ SOFTWARE SHOULD WORK NORMALLY

3.3 SETTINGS page



Choice of language: English or Serbian.

RESET port: if the Master software reports that it has lost connection - press the RESET button.
If the connection was not established, disconnect the USB cable -wait 10 seconds - connect the USB cable.

Email setup:

- Setting the mail to which the user wants to receive information.
- Activating the sending of alarm situations to the manufacturer's service email.

Enabling UPS sent information to mail, put a confirmation:

Enabling UPS sent alarms to the mail manufacturer UPS, put a confirmation (optional):

Sender's name / Company name:

- Enter the name of the company where the UPS device is installed.

E-mail address of the sender / company:

- Enter the email address of the company where the UPS is installed.

Email address for notifications:

- Enter the email to which the user receives information from UPS (alarms)

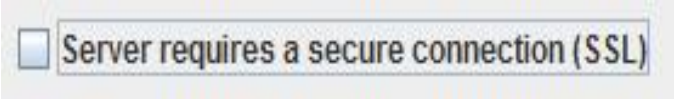
SMTP server address:

- Enter server address (Outgoing mail SMTP)
- An example of finding a server address:
  Outlook / Tool /Accounts / Propertis /Servers
- **GMAIL server: smtp.gmail.com**

Ports:

- Enter the number 25 (example)
- GMAIL 465 (example).

If we do NOT use the GMAIL server, then we remove the confirmation:

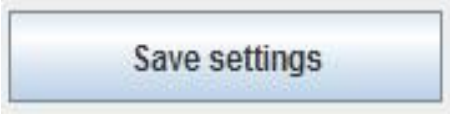


Put the confirmation:

Username:

- Enter the e-mail address of the company where the UPS is located
- Password: enter the email password.

Finally, press the button:



IMPORTANT NOTE:
If an Antivirus program is installed on the computer, enable it to send emails.
Turn off the Firewall for the local network.

3.4 TESTING SOFTWARE AND COMMUNICATION

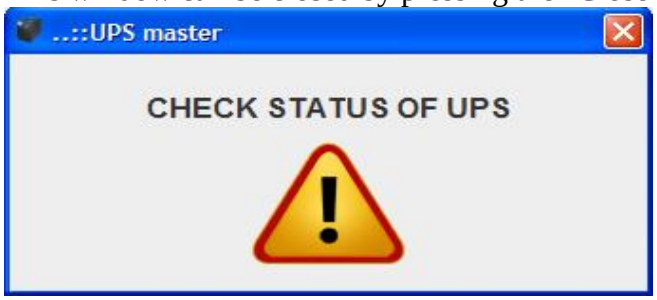
If everything is fine:

- Master software: alarm fields are green / shows measurements
- Slave software: green letters UPS in the lower taskbar

Alarm simulation:

- Press the ON button on the UPS (TEST function), the UPS start work on Batteryes:
- Master software: POWER FAILURE alarm field is red
- Slave / Master software: a window will appear notice: ,,CHECK UPS STATUS,,

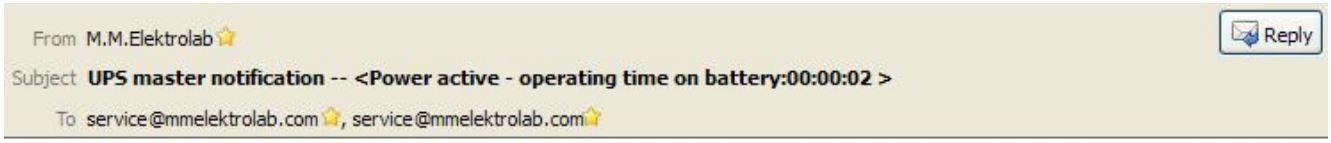
This window can be closed by pressing the "Close" button.



After 5 seconds, the UPS returns to mains power:

- Master software: POWER FAILURE - field is green
- Slave / Master software: notification window to check ups status -disappears.

When an alarm occurs, emails are sent, EXAMPLE:




```
Model UPS:   T16
Serial number:   237016

============= 2025.07.31 21:39:59 =============

============= <Power active - operating time on battery:00:00:02 >  =============
---- STATUS UPS--------------------
UPS CONNECTED = 1
POWER FAILURE = 0
BATTERY EMPTY = 0
CHECK BATTERY = 0
OVERLOAD = 0
OVERCHARGING = 0
OVERHEAT = 0
BY-PASS = 0

---- MEASUREMENT--------------------
2025.07.31 21:39:59
 - Vu=216 V
 - Vi=195V
 - Fu=48Hz
 - P =97%
 - Bat=98%
 - Temp=48 C
```

When the Alarm disappears, UPS sends mail again - Statuses of alarms and measurements.

The email notification shows the following:

- from which company is the alarm coming from
- UPS model and serial number
- which alarm was generated
- time and date of the alarm
- parameter measurements

IMPORTANT NOTES:

- IF INTERNET CONNECTION ARE DISABLED (FAILURE), THE SOFTWARE IS NOT ABLE TO SEND MAIL, IT WILL SEND AN EMAIL WHEN THE INTERNET IS BACK.

- E-MAILS WHICH HAVE NOT BEEN SENT CAN BE VIEWED ON THE EVENT LOG PAGE: ,,E-mail number to send =0,,

- IF THE USER ,,SHUT OFF,, THE ,,UPS MASTER,, SOFTWARE, THE PENDING EMAILS WILL BE DELETED.

- IF AFTER 24 HOURS THE SOFTWARE FAILS TO SEND THE E-MAILS THEY WILL BE DELETED, BUT THE INFORMATION ABOUT THE ALARMS THAT OCCURRED REMAINS IN THE EVENT LOG.

3.5 Description of Data Log / Event Log:

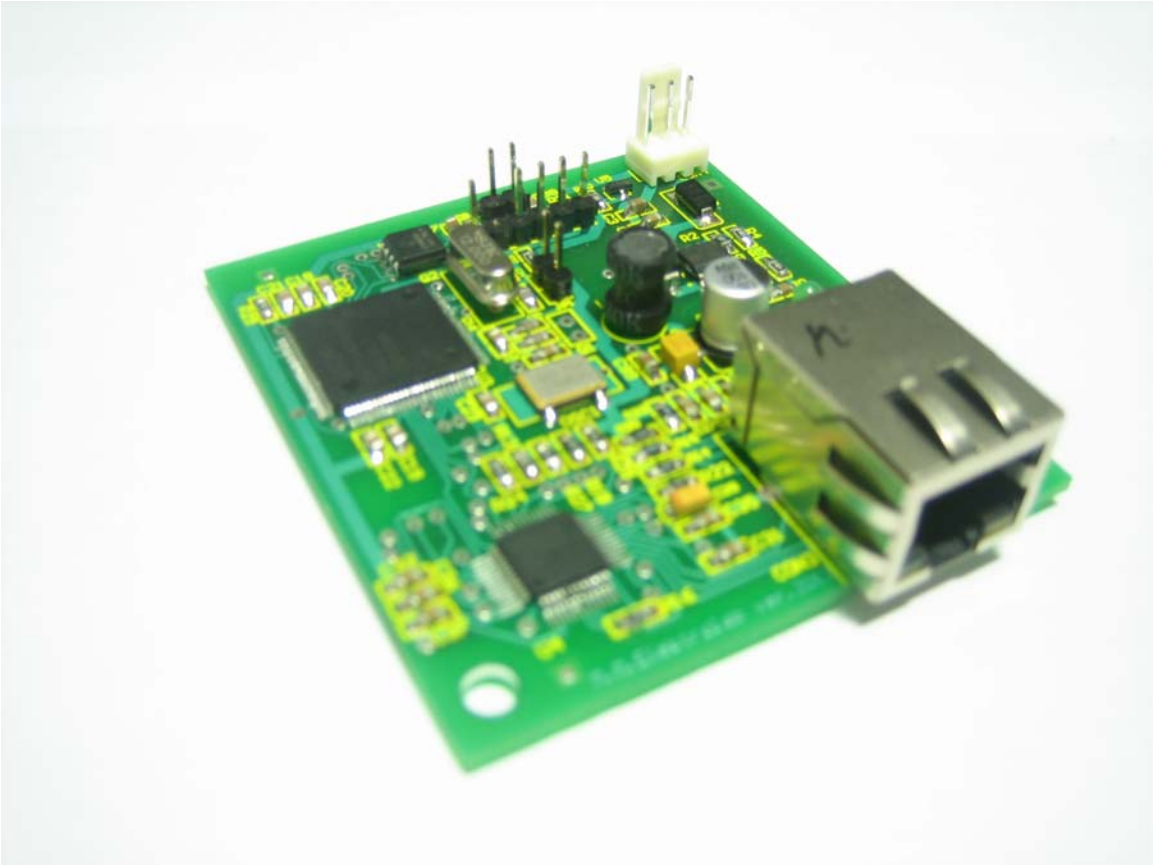
Data Log:

- Memorization of all measurements values that are important for UPS operation, every 10 seconds
- 100,000 memories
- Data can be recorded, to view data -Word Pad recommended.

Event Log

- Memorization of alarms and measured values in real time.
- 100,000 memories
- Data can be recorded, for data review -Word Pad recommended.

4.1 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

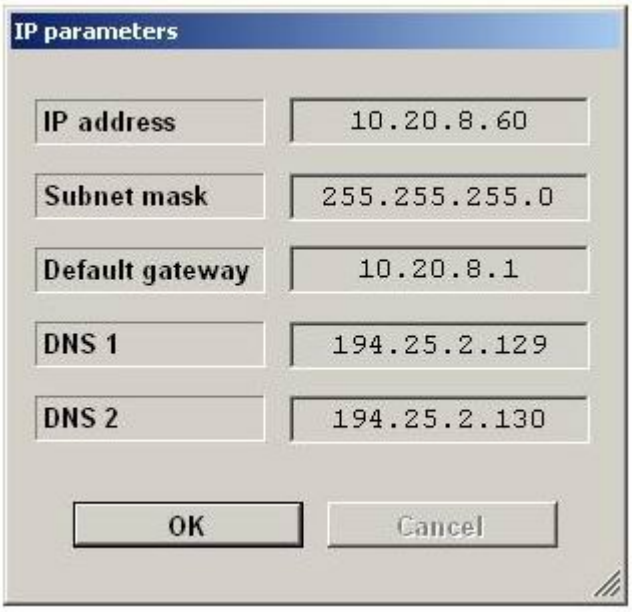
1. OID - .1.3.6.1.4.1.39385.1.1.0 Model
2. OID - .1.3.6.1.4.1.39385.1.2.0 Serial number
3. OID - .1.3.6.1.4.1.39385.1.3.0 Output voltage
4. OID - .1.3.6.1.4.1.39385.1.4.0 Output power
5. OID - .1.3.6.1.4.1.39385.1.5.0 Input voltage
6. OID - .1.3.6.1.4.1.39385.1.6.0 Input frequency
7. OID - .1.3.6.1.4.1.39385.1.7.0 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.



DHCP - off

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

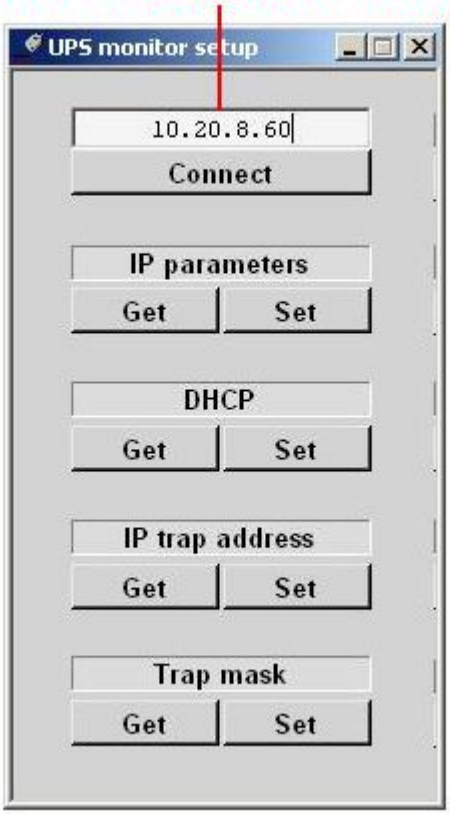
IP address 10.20.8.1
Subnet mask 255.255.255.0

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**.

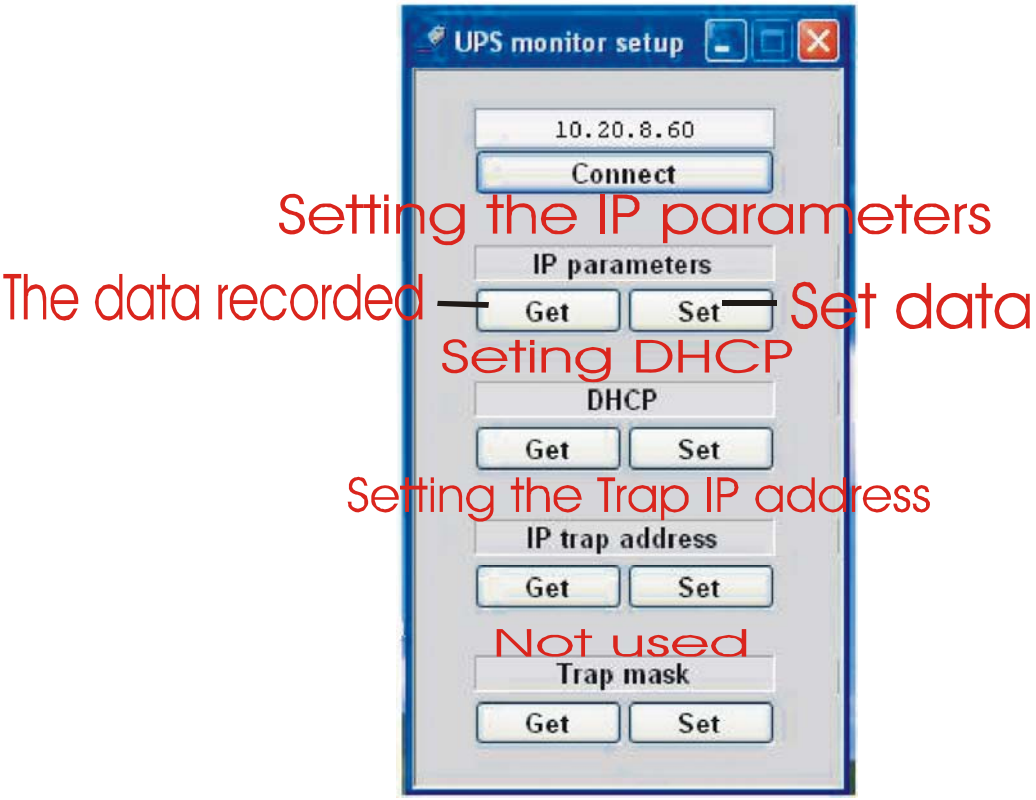
Enter the IP address of the LAN card

UPISATI IP ADRESU SNMP KARTICE



Get - reads data

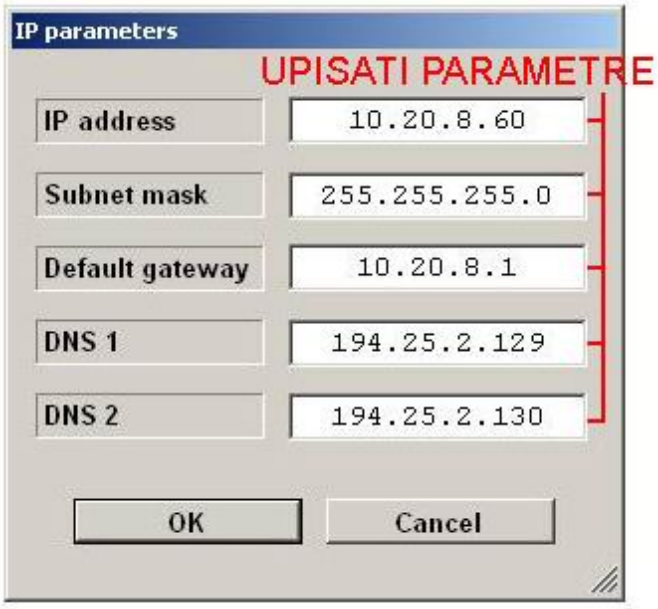
Set - writing data



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.

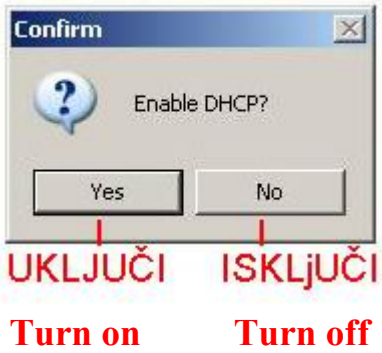
Enter the parameters



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

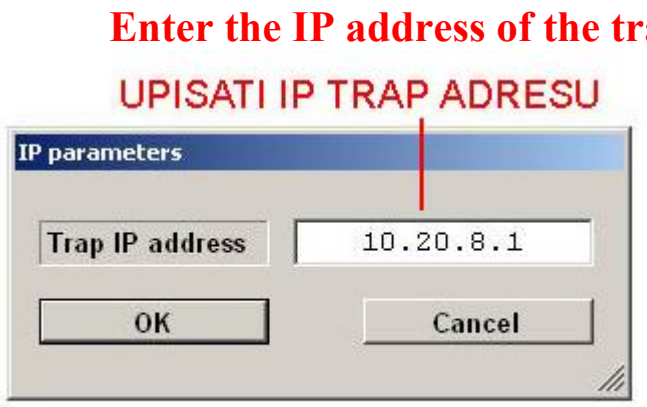
Below DHCP click Set.
Enable or disable DHCP.



Turn on **Turn off**

Setting the Trap IP address

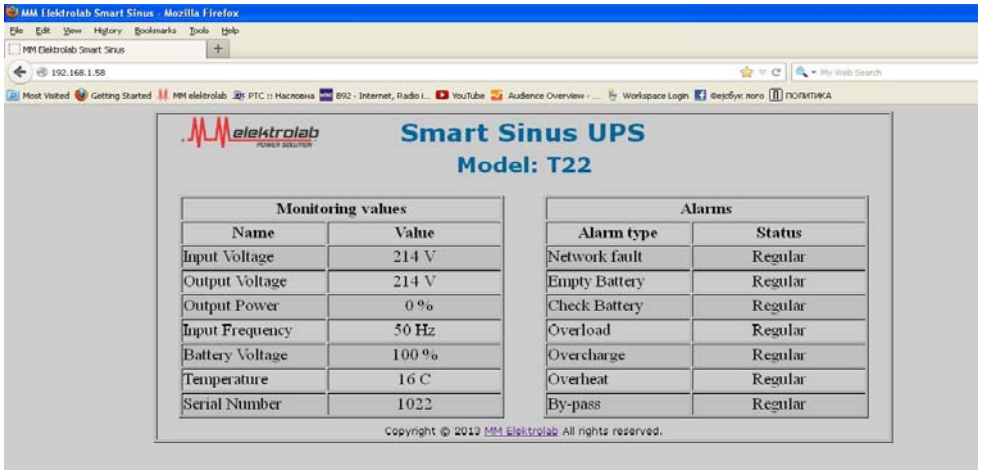
Below the trap IP address click Set.
The field enter the IP address of the computer that we want to follow traps (click on the icon, Local Area Networks, and choose, Support, and there you can see the IP address of the local computer and practically this IP Ares specify):



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-and hold pressed (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.

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



5.1 Installation and commissioning UPS

LOCATION

- The room where the device is located should be: dry, free of moisture and aggressive gases, with free air flow. Except for models with TP or RP markings, they have the possibility of working in INDUSTRIAL ambient conditions.
- 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

- Press the ON key-or turn power cable to mains supply, the UPS turns-on, runs for 5 seconds on batteryes, then connected to mains power supply.
- The UPS turn-off, by pressing the OFF / CLEAR button - keep the button pressed until the UPS turns-off.
- Turn-on Ups, is possible after 5 seconds of Turn-off.

5.2 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 side of the UPS, there is an automatic fuse in the mains supply circuit.**
- **The recommendation for the temperature in the room where the UPS is placed does not exceed 22 to 25C, if the temperature is high, the life of the batteries is reduced.**
- **If the UPS was transported or stored in rooms where the temperature was below zero degrees, when it is brought into rooms where the temperature is 20+ degrees Celsius, DO NOT TURN ON THE UPS 2-3h.**
  This does not necesery for UPS models that have TP / RP markings.

5.3 Battery autonomy table

LIGHT Sinus Ups T22LA / 2000VA / 1400W			
Batteries 12V 12Ah A x 3 (36V)			
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	500	500
10	200	100	82
20	400	40	27
30	600	23,5	20
40	800	16	12
50	1000	14	10
60	1200	12	8
70	1400	8	6,5
80	1600	6	5,5
90	1800	5,5	5
100	2000	5	4
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C			

LIGHT Sinus Ups T22LB / 2000VA / 1400W			
Batteries 12V 9Ah x 4 (48V)			
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	600	600
10	200	80	64
20	400	40	26
30	600	25	20
40	800	17	15
50	1000	14	12
60	1200	12	10
70	1400	10,5	7,5
80	1600	8	6,5
90	1800	7	5
100	2000	6	4
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C			

LIGHT Sinus Ups T22LC / 2000VA / 1400W

Batteries 12V 12Ah A x 4 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	500	500
10	200	120	108
20	400	75	45
30	600	40	28,5
40	800	27	22
50	1000	22	15
60	1200	15	13
70	1400	11	8,5
80	1600	8,5	7,4
90	1800	7,4	8
100	2000	8	6

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

LIGHT Sinus Ups T22LD / 2000VA / 1400W

Batteries 12V 15Ah x 4 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	750	750
10	200	140	120
20	400	90	58
30	600	56	47
40	800	43	30
50	1000	28	24,5
60	1200	24,5	22
70	1400	19	14
80	1600	14	11,5
90	1800	12,5	9,5
100	2000	10	8,5

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

LIGHT Sinus Ups T30L-R30L / 3000VA / 2100W

Batteries 12V 12Ah E x 4 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	400	400
10	300	82	67
20	600	35	27
30	900	23,5	18,4
40	1200	18	15
50	1500	14	11,5
60	1800	11	9
70	2100	10	7,5
80	2400	7	6,5
90	2700	5,5	5
100	3000	5	4

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

LIGHT Sinus Ups T30LD-R30LD / 3000VA / 2100W

Batteries 12V 15Ah x 4 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	500	500
10	300	90	80
20	600	54	43
30	900	34	27
40	1200	28	22
50	1500	20	15
60	1800	15	12
70	2100	12	10
80	2400	10	8
90	2700	8	7
100	3000	7	5

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

LIGHT Sinus Ups T52L / 5000VA / 3500W

Batteries 12V 9Ah x 12 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	500	500
10	500	90	88
20	1000	50	45
30	1500	30	25
40	2000	23,5	16,5
50	2500	16,5	12,5
60	3000	13	10
70	3500	11	9
80	4000	9	7
90	4500	8	6
100	5000	6,5	5

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

LIGHT Sinus Ups R52L / 5000VA / 3500W

Batteries 12V 9Ah x 8 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	300	300
10	500	70	60
20	1000	28	25
30	1500	20	14
40	2000	13	9,5
50	2500	9,5	8
60	3000	8	6
70	3500	6	5
80	4000	5	3,5
90	4500	3	2,5
100	5000	2	1,8

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

LIGHT Sinus Ups R72L / 7000VA / 4900W

Batteries 12V 9Ah x 16 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	700	700
10	700	92	80
20	1400	50	45
30	2100	29	25
40	2800	22	15
50	3500	15	12
60	4200	12	9,5
70	4900	9,7	8
80	5600	8	6,5
90	6300	6,5	5
100	7000	5	4

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

LIGHT Sinus Ups T82L / 8000VA / 6400W

Batteries 12V 50Ah x 4 (48V)

LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear
0	0	1050	1050
10	800	116	110
20	1600	64	54
30	2400	44	37
40	3200	29	25
50	4000	25	18
60	4800	18	13,5
70	5600	12	10
80	6400	9,4	8,3
90	7200	8,1	7,3
100	8000	7	6

Battery manufacturer,declare results of autonomy:
Tolerance +/- 15% when is battery new, ambient temperature 20C

5.5 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.**

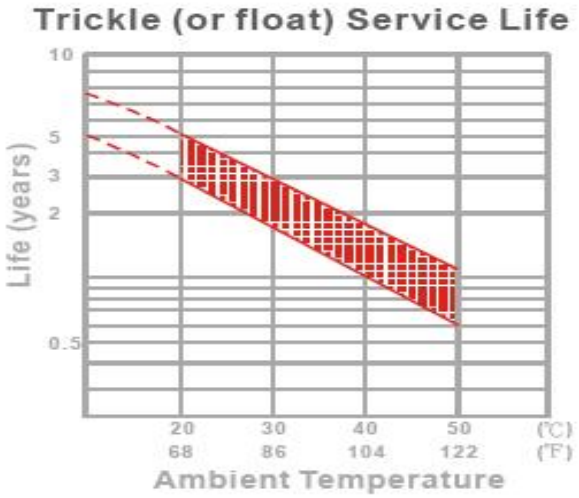
THE WARRANTY IS NOT VALID IN FOLLOWING CASES:

- **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:

- **SMART and LIGHT SINUS UPS: 5 YEARS / CATV, RP and TP MODEL UPS: 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).**
    NOTE: THE LIFETIME OF BATTERIES IN OUR UPS DEVICES IS APROX 5 YEARS.

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**

UPS MODELS WHICH CAN WORK IN HARD / INDUSTRIAL ENVIRONMENTAL CONDITIONS:
SPECIAL MODELS WHICH HAVE THE INITIAL LETTERS IN THE MARK: "TP" / "RP" / "C" CAN WORK IN THE CONDITIONS:

- **HIGH MOISTURE, CONDESATION, DUST.**
- **TEMPERATURE RANGE –40C / +65C**

C3 / C12 / C15 / C22 / C23 / C52

TP12 / TP12b / TP15 / TP22 / TP22D / TP22b / TP25 / TP30 / TP32 / TP52 / TP62 / TP82

TP22LA / TP22LB / TP22LC / TP22LD / TP30L / TP30LD / TP52L / TP82L

RP22 / RP22D / RP22i / RP30 / RP32 / RP52 / RP62

RP30L / RP30LD / RP52L / RP72L

OTHER UPS MODELS WHICH HAVE THE INITIAL LETTERS IN THE MARK: "T" OR "R" ARE NOT DESIGNED TO WORK IN CONDITIONS OF HIGH MOISTURE, TEMPERATURE RANGE -20C TO +60C.

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