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Manual user
Three phase Smart Sinus Ups

CE

Models: T112 / T122

CONTENT:

1.1 DESCRIPTION:

- **Three-phase Smart Sinus Ups** has a high quality of production, at its output it has a pure Three-phase Sine voltage 3 x230V~ (400V~).

- On the front panel of the UPS, there are three alpha-numeric displays where you can see all the measurements and statuses of the UPS, no adjustments are required.

- Integrated LAN and USB cards through which all measurements and alarms are stored and monitored in real time

Switching on - switching off is done with one button.

Manual By-pass:

- Switch on the back side of the UPS
- Switch position 1–UPS switches load to Mains voltage.

Automatic By-Pass:

- Activates in situations where the UPS is turned off or due to an alarm.

Battery charger:

- According to the IU characteristics, it charges and maintains the batteries, this principle enables a long working life of the batteries.

Connecting to UPS:

- Hardwire for input voltage 5 x 6mm2
- Hardwire for output voltage 5 x 6mm2
- DSUB 9 connector, reley remot signaling.
- USB / LAN card
- Connector for external battery pack.

Protection from:

- Incorrect sequence of connection of phases at the input of the device.
- Excessive battery discharge
- Overcharging batteries.
- Overload and short circuit protection.
- Overheat

1.2 DESCRIPTION OF FRONT PANEL:

Displey R phase

- **Vu** input voltage
- **Vi** output voltage
- **P** output power VA
- **N** the number of mains voltage outages during device operation (collectively for all three phases).
- **Fi** output frequency
- **Fu** input frequency

Statuses UPS (displey R phase)

- **ON-LINE** mains supply opearation
- **BATTERY OPERATION**- mains voltage missing or out of range.
- **BATTERY 10%** when the battery is discharged to the 10% level
- **BATTERY EMPTY** Shutdown UPS-starts the counter for 2 minutes. The operating time on the batteries is memorized.

Displey S / T phase:

- **Vu** input voltage
- **Vi** output voltage
- **P** otuput power VA

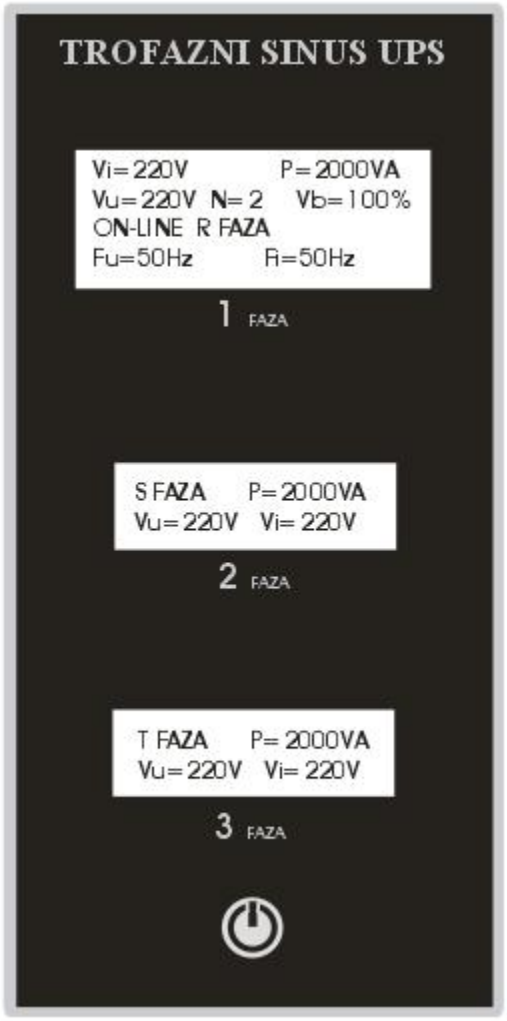
Statuses for S / T phase:

- **OVERLOAD** with showing the time until shutdown, this situation is memorized.
- Incorrectly connected Sequence of Phases

Button for START/STOP

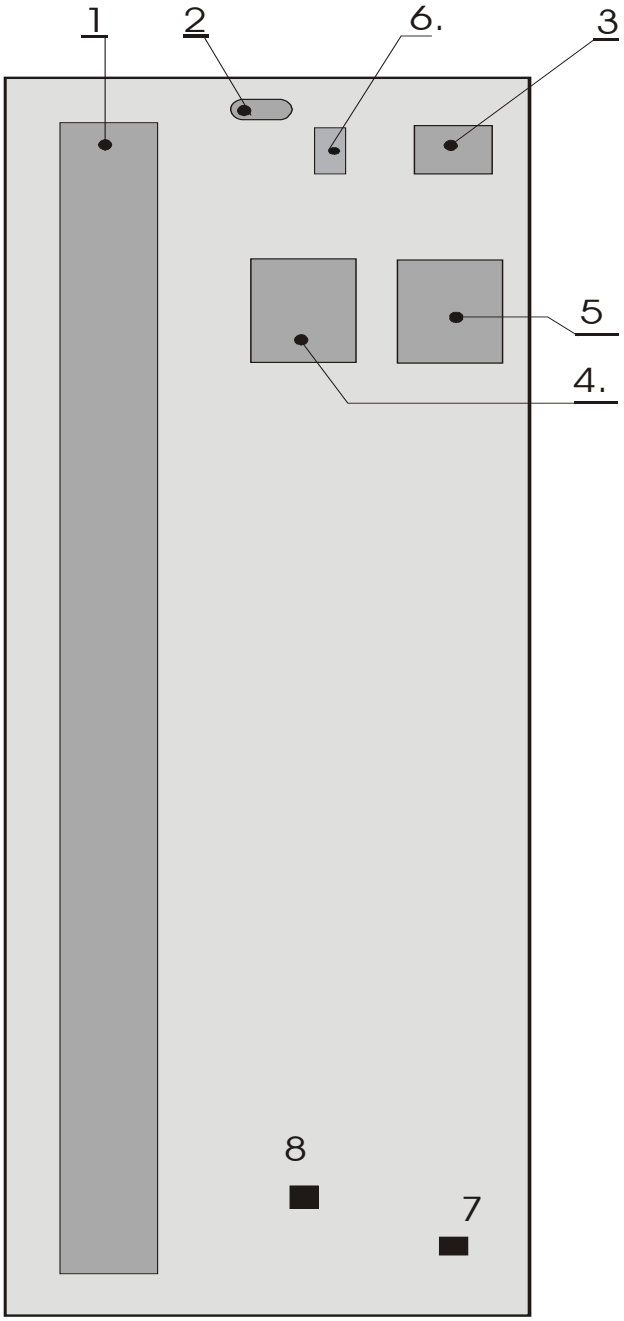
- on the front panel it has a function to activate / deactivate the UPS.

1.2a FRONT PANEL LAYOUT:



1.3 UPS BACK SIDE VIEW:

1. Device cooling hole.
2. Connector for remote signaling (relay contacts).
3. Fuses in the network voltage circuit at the input of the device.
4. Fuses in the mains voltage circuit.
5. Output terminal for consumer connection
6. Manual switch for BY-PASS
7. Connector for USB communication
8. LAN communication connector



1.4 TECHNICAL CHARACTERISTICS

MODEL:	**T112**	**T122**
INPUT:	Terminal for hardwire 5x 6mm2	
Voltage:	3 x 220V ac (175V - 265V)	
Frequency:	50Hz +/-5%	
OUTPUT:	Terminal for hardwire 5x 6mm2	
Voltage:	3 x 230V +/- 5%	
Wave form:	Pure sine wave	
Output power:	10.000VA / 8.000W (3 x 3.500VA / 2.800W)	12.000VA / 10.000W (3 x 4.000VA / 3.300W)
Ffequency:	50Hz +/- 0,01 %	
Transfer time:	0 msec	
By-pass:	Yes, automatic and manual	
Efficiency:	95% (Load 100%)	
Topology:	Double conversion	
Signalisations:	Sound / reley contacts for alarms	
Front panel:	Alpha-numeric display for showing: -input / output voltage (all three phases), input frequency, battery voltage - percentage, output power - percentage, working time on batteries, UPS status, log alarms. - Button to activate / deactivate UPS.	
Batteries:	Gel 12V / 100Ah x 4 pcs (48V)	
Extending battery autonomy:	Yes	
Charging time:	6-8h	
Communication:	USB / LAN / Reley contacts	
LVD confirmity:	EN / IEC 62040-1:2019 / A11:2021	
EMC confirmity:	EN / IEC 62040-2:2006 / AC:2006 EN / IEC 62040-2:2018	
Autonomy on battery operation:	13 min / 100%	8 min / 100%
Voltage distorsion:	<3%	
Operating temperature range:	–20C / +65C	
Dimensions:		
Height: Width: Depth:	102 cm 35 cm 69 cm	
Weight:	192 kg	202 kg
IP class:	IP21	
Safety mark:	CE	
Warranty:	Ups 5 years / Batteries 2 years	

1.5 Description and installation for USB SOFTWARE for Three phase ups

DESCRIPTION:

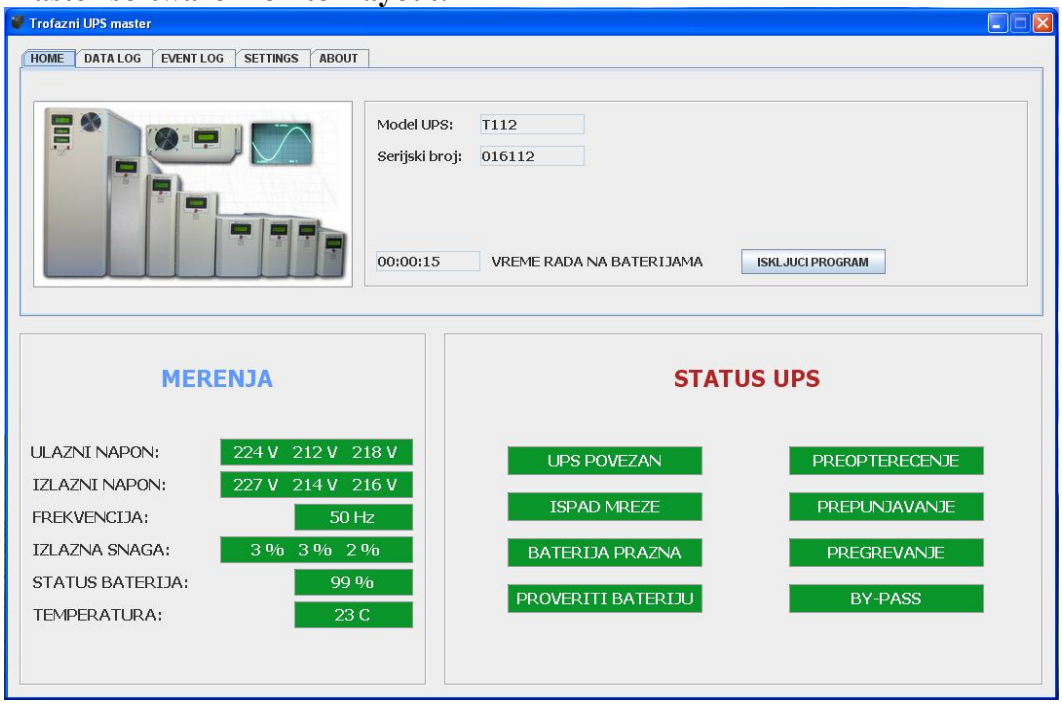
Three phase Master softver: it is installed only on the one computer or server, which is connected with a USB cable to the UPS. Displays: Measurements / alarm statuses / Data-log: saves all parameters every 10 seconds (6 months) / Event-Log: saves all alarms for one year / Sends emails to the user in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

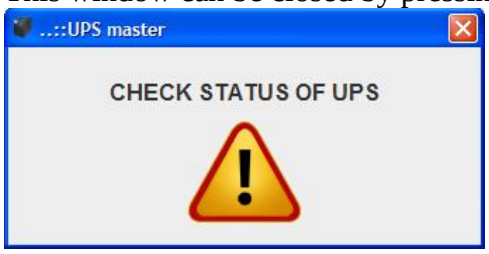
Slave software: has a UPS indicator in the down taskbar on the computer screen:

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

Notifications on monitors (Master / Slave):

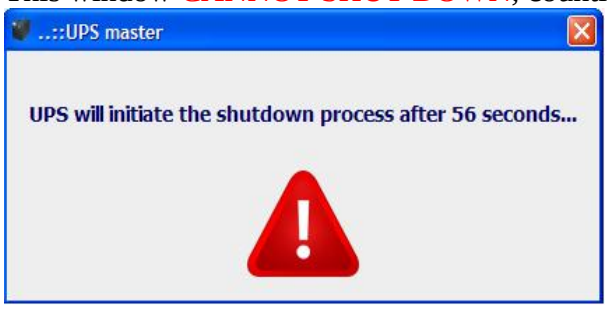
The message "CHECK UPS STATUS" appears when alarms occur:
Main power is out of range / UPS connected / UPS is going to shut-down (when is press OFF button)

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.



Three phase MASTER SOFTWARE INSTALLATION - read the instructions first!

- Installation of the 3 Phase 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 " Three phase 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.

1.6 UNINSTALLATION (Three phase Master and Slave):

Uninstalling the Three phase 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.

1.6a WINDOWS 10- ADDITIONAL SETTINGS:

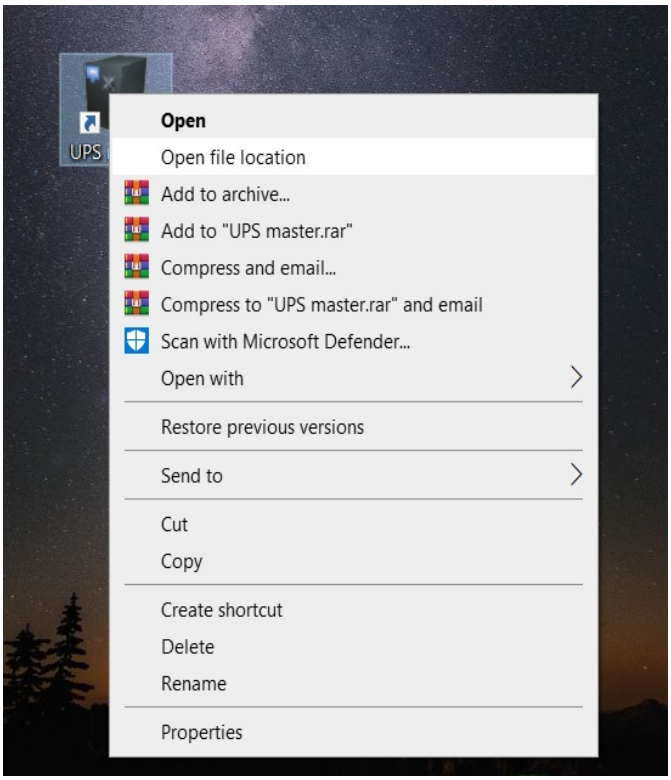
If the UPS software applications do not work properly after the standard installation, the following should be done for Windows 10:

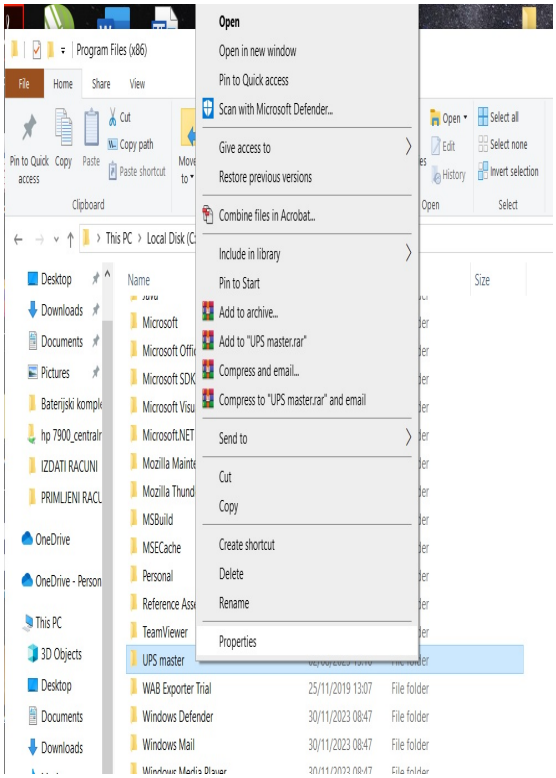
Settings for Three phase UPS Master / Ups Slave application:

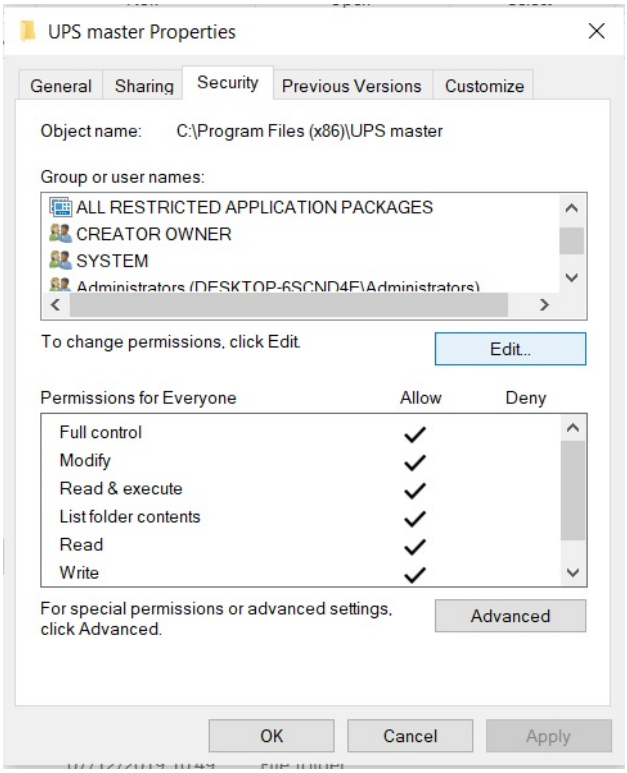
Note: the settings are the same for 3phase UPS Master and UPS Slave applications.

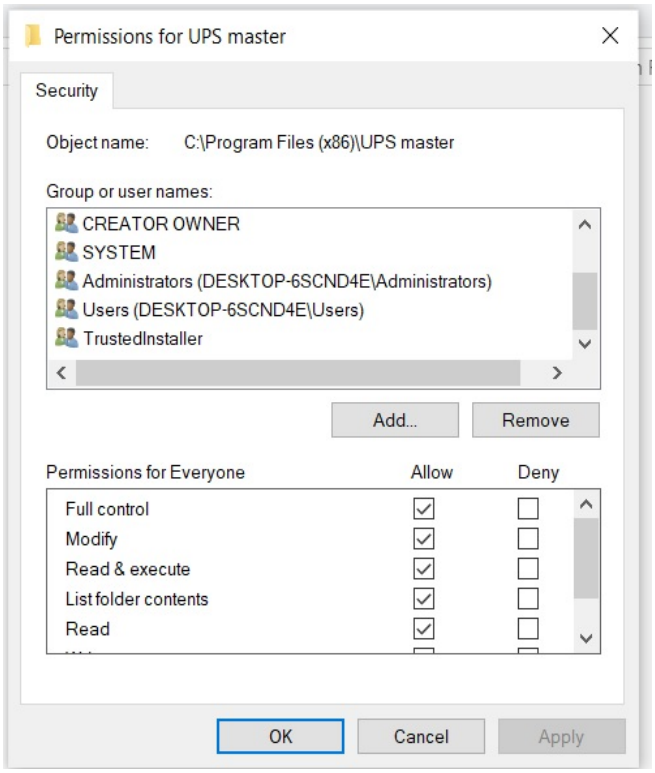
- Right click on the icon ,,Three phase UPS Master,, (or ,,Ups Slave,,) software on the Desktop – choose ,,Open file Location,,
- A window opens C:/Program files(x86) and there is ,,Three phase UPS Master,, (or ,,Ups Slave,,) folder.
- Right click on ,,Three phase UPS Master,, (or ,,Ups Slave,,) folder - 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:

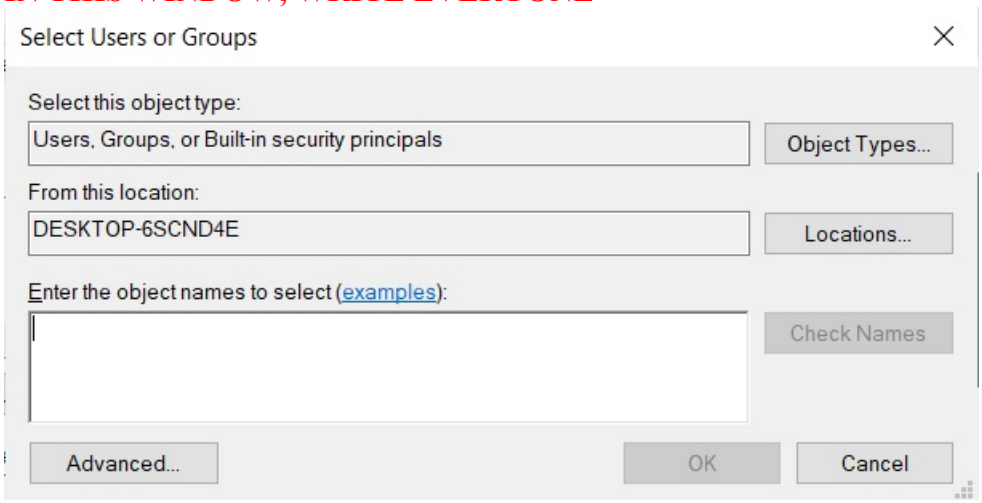






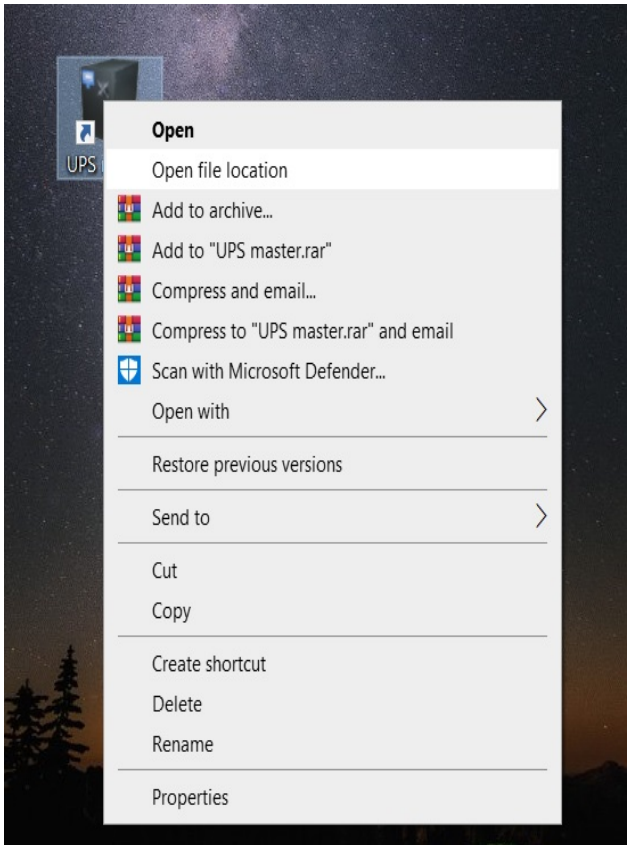


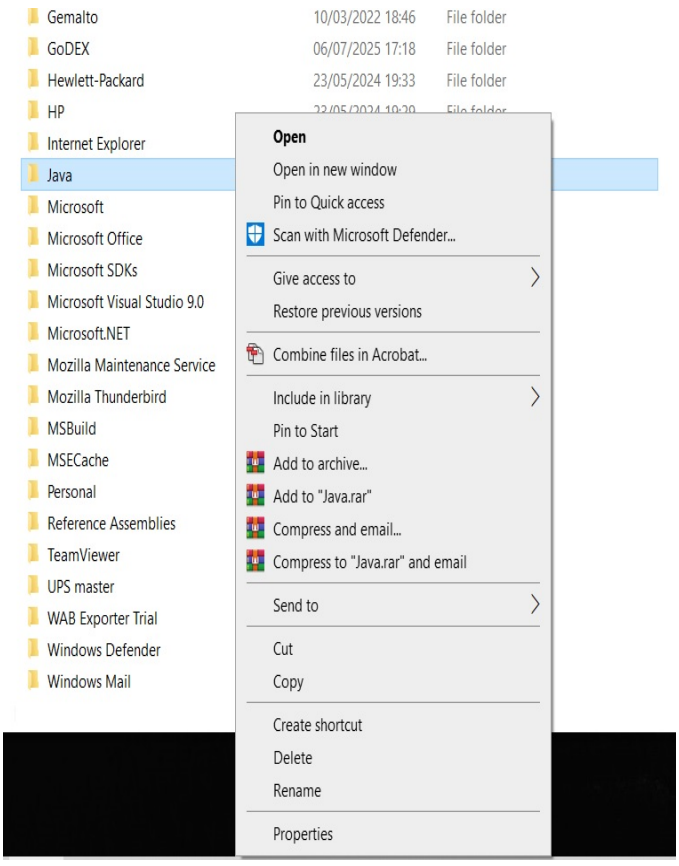
IN THIS WINDOW, WRITE EVERYONE

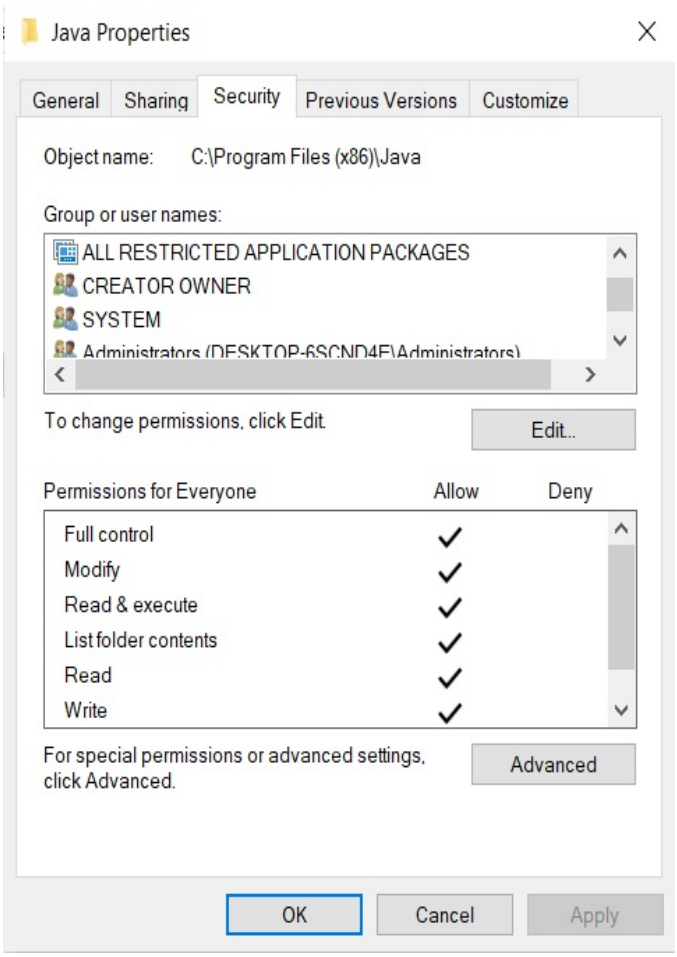


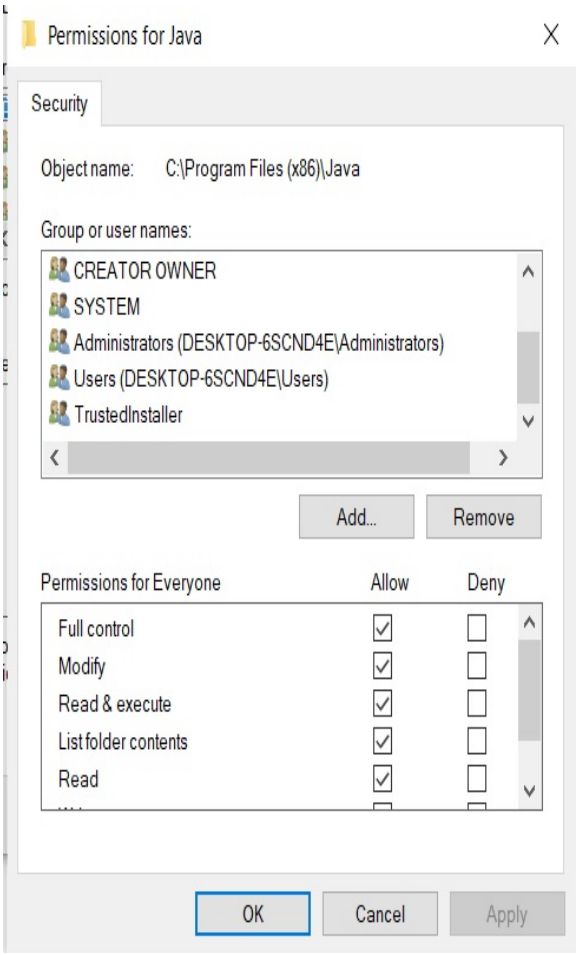
Settings for JAVA application:

- Right click on the icon ,,Three phase 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

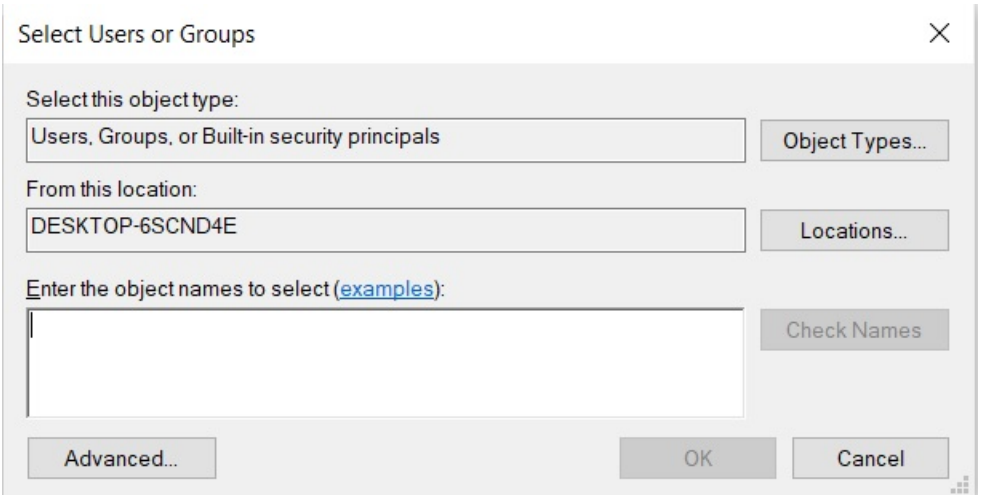






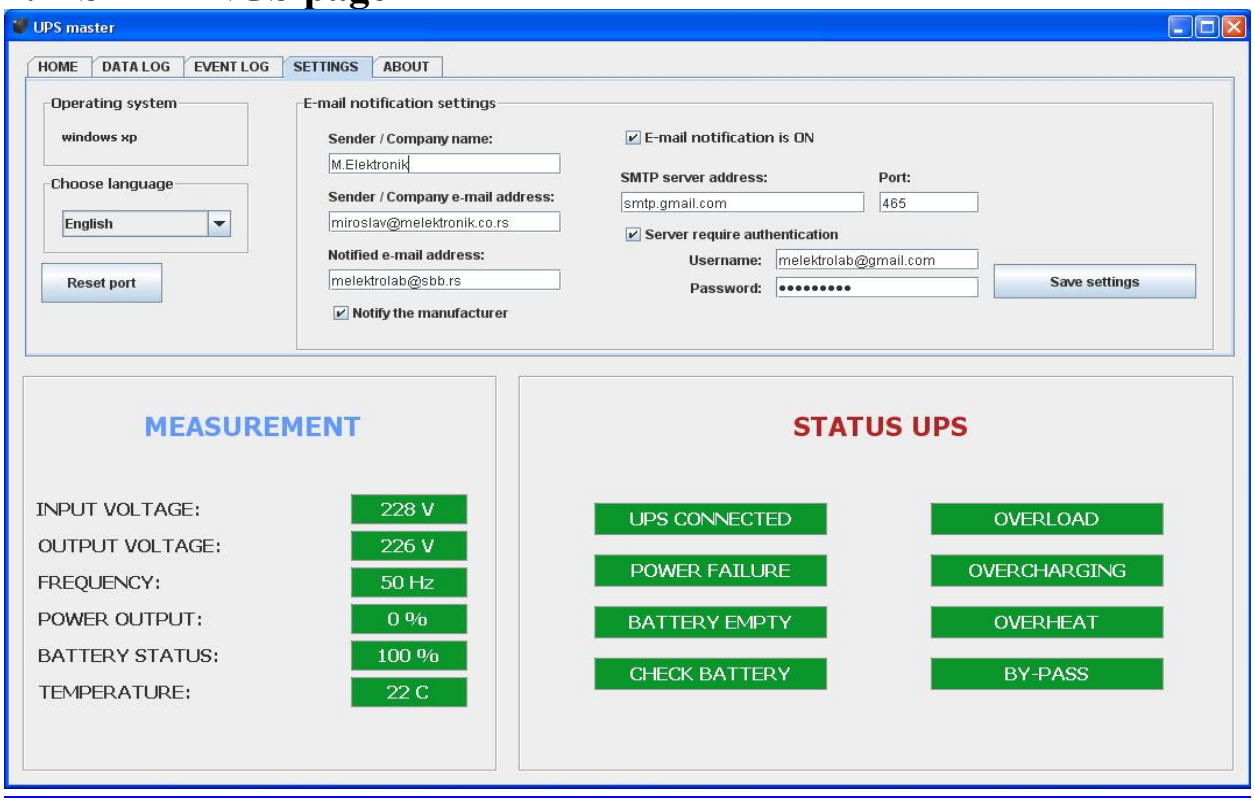


IN THIS WINDOW, WRITE EVERYONE



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

1.7 SETTINGS page



Choice of language: English or Serbian.

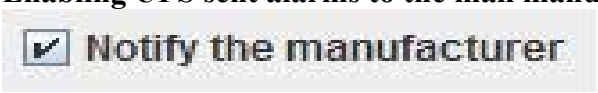
RESET port: if the Master software reports that it has lost connection - press the RESET button.
If the connection was not established, disconnect the USB cable -wait 10 seconds - connect the USB cable.

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)

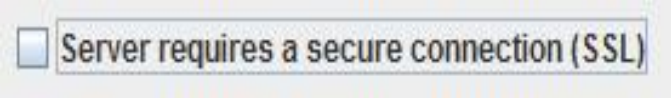
SMTP server address:

- 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.

1.8 TESTING SOFTWARE AND COMMUNICATION

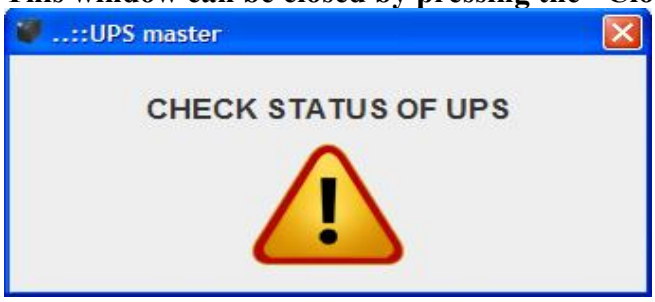
If everything is fine:

- Three phase 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:
- Three phase Master software: POWER FAILURE alarm field is red
- Slave / Master software: a window will appear notice: „CHECK UPS STATUS„

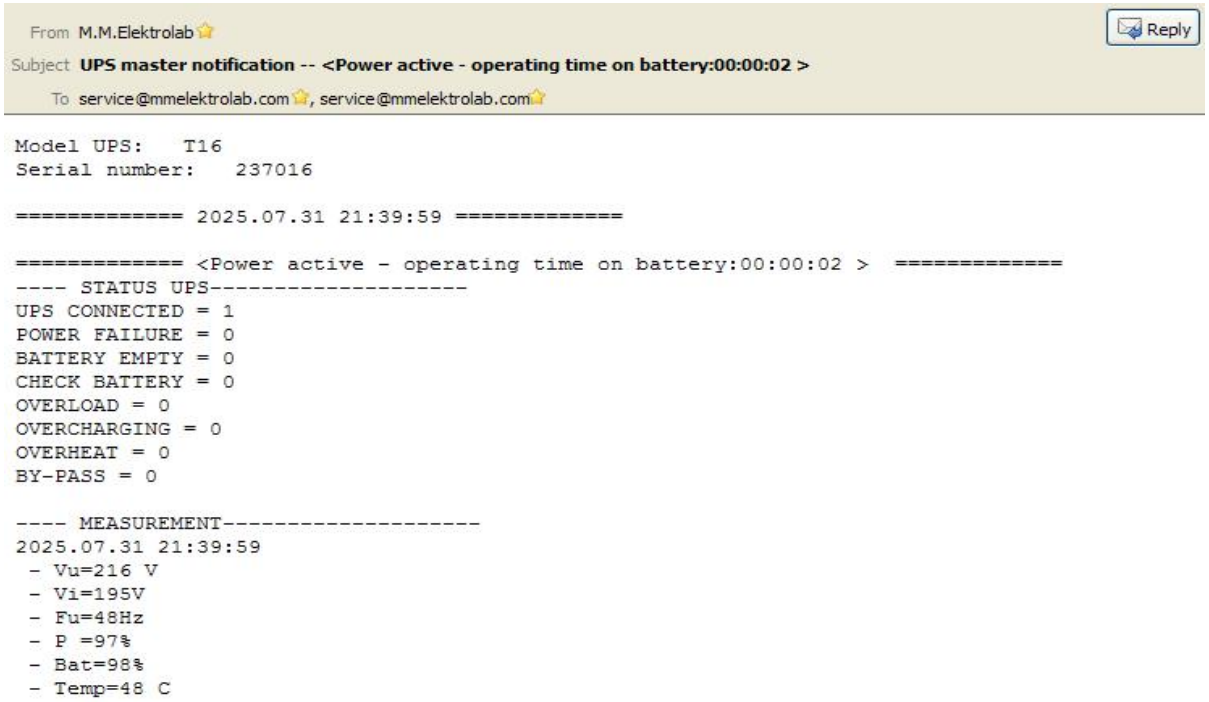
This window can be closed by pressing the "Close" button.



After 5 seconds, the UPS returns to mains power:

- Three phase 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:



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.

1.9 Description of Data Log / Event Log:

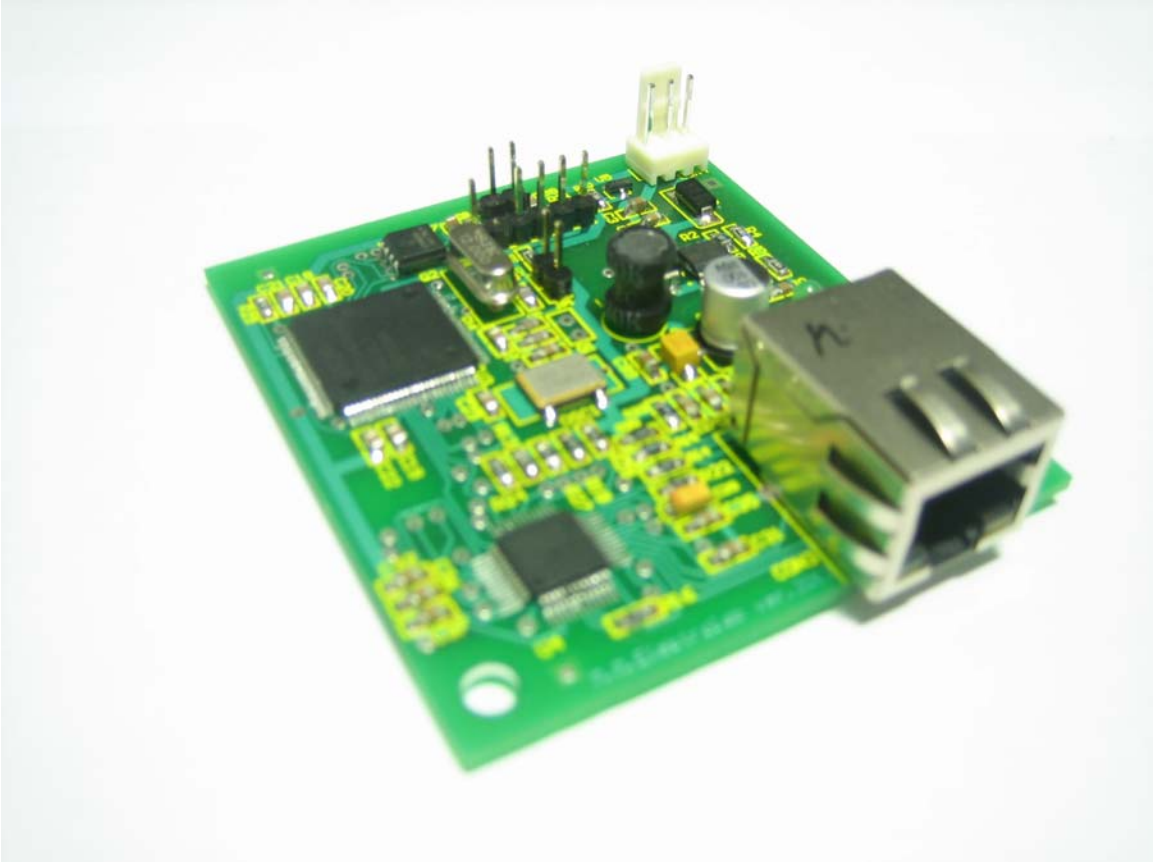
Data Log:

- 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.

1.10 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:

- V1o = The output voltage of the UPS 1 phase
- V2o = The output voltage of the UPS 2 phase
- V3o = The output voltage of the UPS 3 phase
- P1 = output power VA / % 1 phase
- P2 = output power VA / % 2 phase
- P3 = output power VA / % 3 phase
- V1i = input voltage 1 phase
- V2i = input voltage 2 phase
- V3i = input voltage 3 phase
- 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 1 phase
4. OID - .1.3.6.1.4.1.39385.1.4.0 - Output voltage 2 phase
5. OID - .1.3.6.1.4.1.39385.1.5.0 - Output voltage 3 phase
6. OID - .1.3.6.1.4.1.39385.1.6.0 - Output power 1 phase
7. OID - .1.3.6.1.4.1.39385.1.7.0 - Output power 2 phase
8. OID - .1.3.6.1.4.1.39385.1.8.0 - Output power 3 phase
9. OID - .1.3.6.1.4.1.39385.1.9.0 - Input voltage 1 phase
10. OID - .1.3.6.1.4.1.39385.1.10.0 - Input voltage 2 phase
11. OID - .1.3.6.1.4.1.39385.1.11.0 - Input voltage 3 phase
12. OID - .1.3.6.1.4.1.39385.1.12.0 - Input frequency
13. OID - .1.3.6.1.4.1.39385.1.13.0 - Batery charge %
14. OID - .1.3.6.1.4.1.39385.1.14.0 - Power failure
15. OID - .1.3.6.1.4.1.39385.1.15.0 - Battery empty
16. OID - .1.3.6.1.4.1.39385.1.16.0 - Check battery
17. OID - .1.3.6.1.4.1.39385.1.17.0 - Overload
18. OID - .1.3.6.1.4.1.39385.1.18.0 - Overcharging
19. OID - .1.3.6.1.4.1.39385.1.19.0 - Overheat
20. OID - .1.3.6.1.4.1.39385.1.20.0 - By-pass
21. OID - .1.3.6.1.4.1.39385.1.21.0 - Temperature

22. OID - .1.3.6.1.4.1.39385.2.1.0 – Sistem
23. OID - .1.3.6.1.4.1.39385.2.2.0 – Time
24. 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:

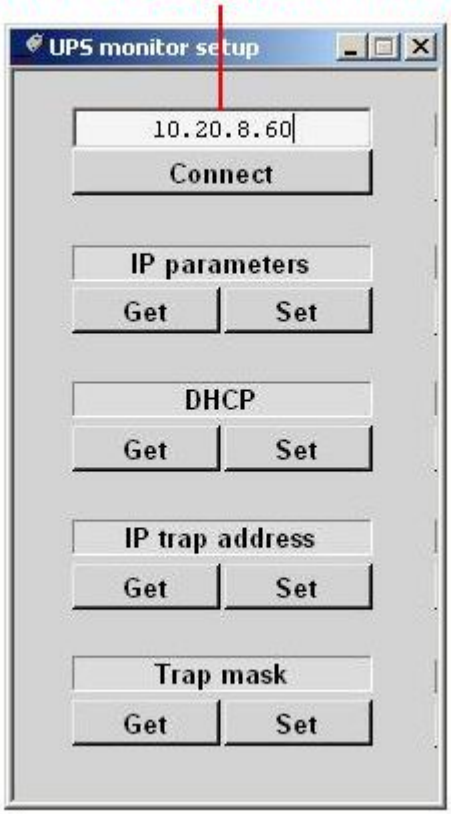
IP address 10.20.8.1
Subnet mask 255.255.255.0

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

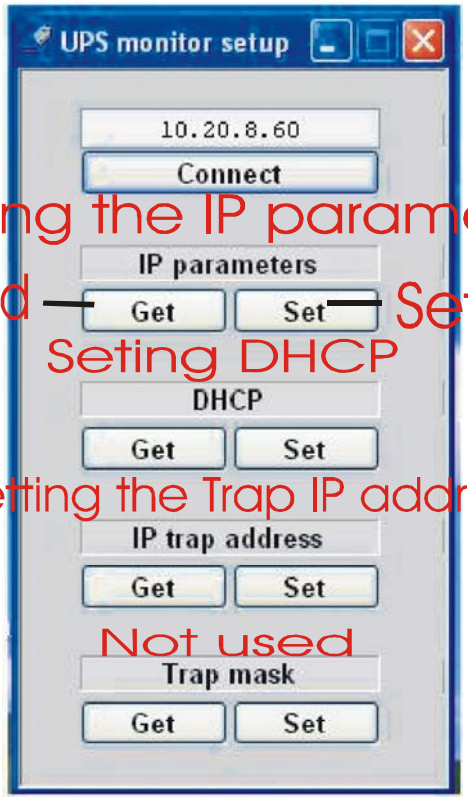
Enter the IP address of the SNMP card.
Then **Connect**.

Enter the IP address of the LAN card

UPISATI IP ADRESU SNMP KARTICE



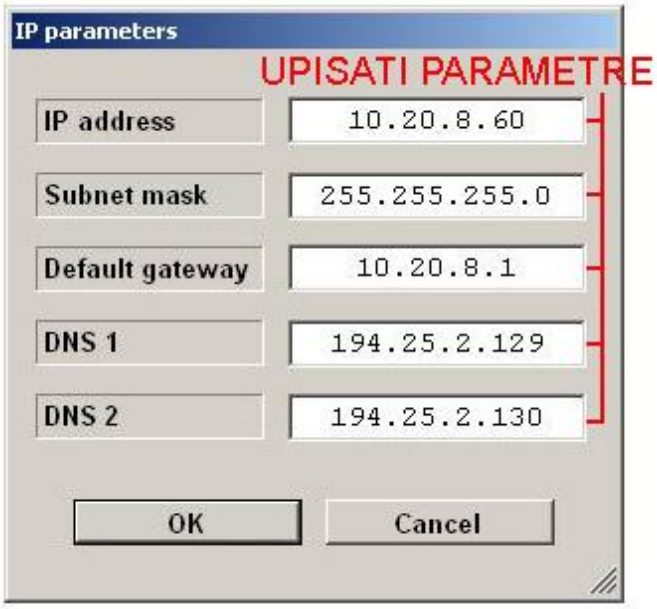
Get - reads data
Set - writing data



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.

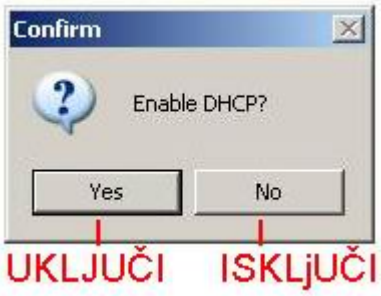
Enter the parameters



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.

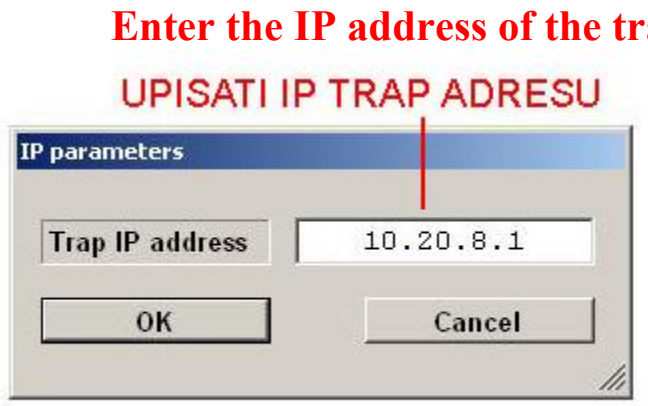


Turn on **Turn off**

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

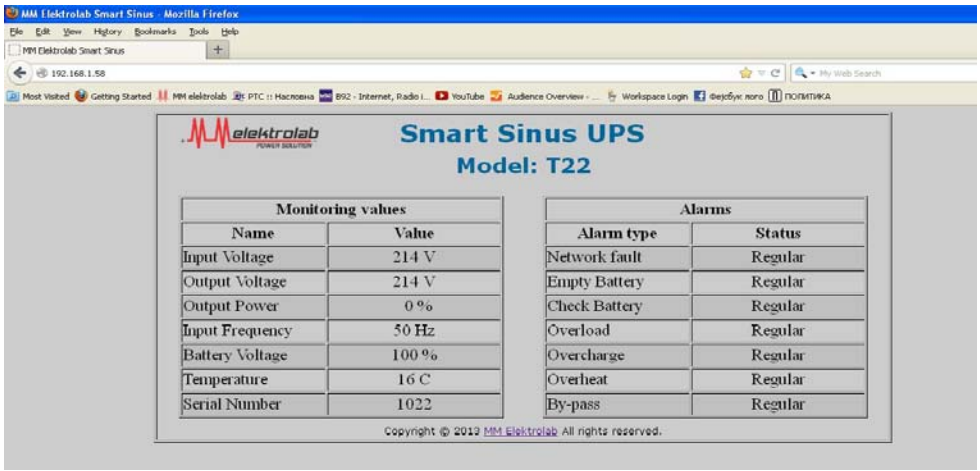
If we have a problem with the connection, SNMP card can be reset as follows:

-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.



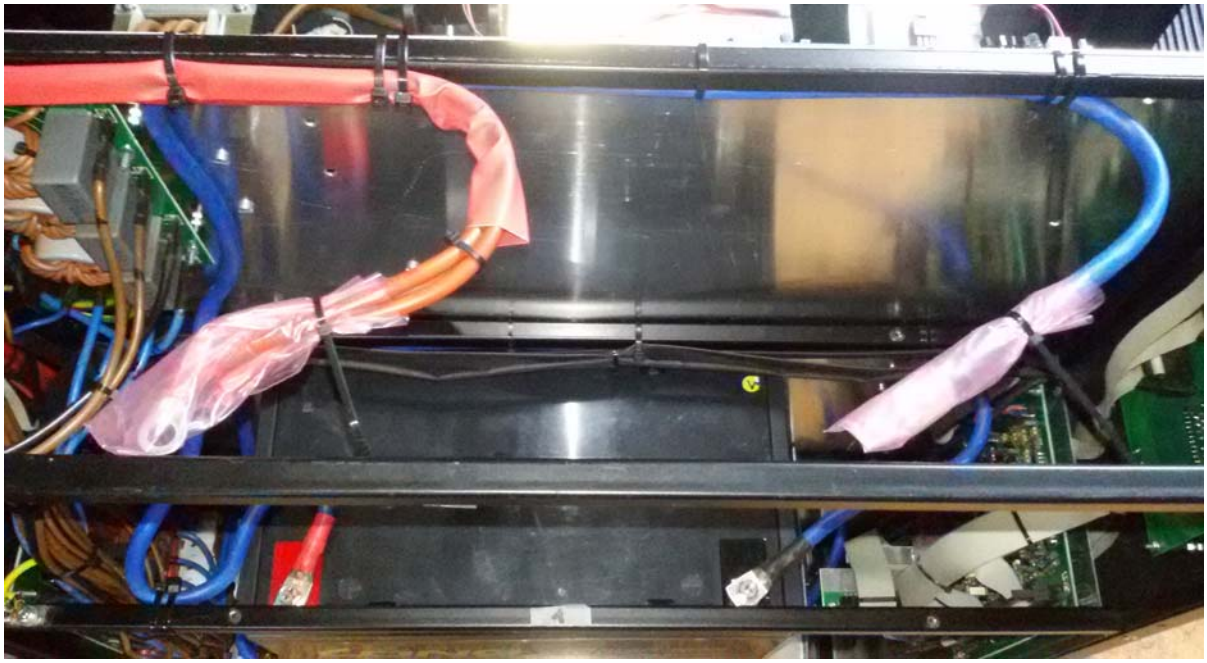
1.11 INSTALLATION

- **FIRST, READ EVERYTHING**

- DO NOT CONNECT MAINS VOLTAGE AND LOAD.

INSTALL BATTERIES:

- REMOVED TOP AND LEFT SIDE COVER ON THE UPS.
- REMOVE THE BATTERY MOUNT.
- REMOVED THE THREE TOP BATTERY SHELVES (BOTTOM SHELF REMAINS).
- AUTOMATIC FUSES IN THE BATTERY CIRCUIT 6 X 40A-PUT ALL IN THE DOWN POSITION.
- **REMOVE THE SCREWS FROM THE BATTERY TERMINALS BEFORE INSERTING BATTERY INTO UPS !!!**
- PLASTIC BAGS ARE PLACED ON THE TERMINALS OF THE BATTERY CONDUCTORS AS IN THE PICTURE AND THEY ARE REMOVED SEPARATELY BEFORE MOUNTING THE BATTERY - BE CAREFUL THAT THE TERMINAL DOES NOT FALL ON SOME SIDE PRINT BOARDS.



- INSERT THE FIRST BATTERY AT THE BOTTOM OF THE UPS AND CONNECT THE WIRES.
- PUT THE HOLDER AND SHELF FOR THE NEXT BATTERY (SEE THE PICTURES ABOVE) AND CONNECT THE CONDUCTORS, IN THE SAME PRINCIPLE INSERT THE THIRD AND FOURTH BATTERIES.

IMPORTANT NOTICE:

- **WHEN INSERTING AND CONNECTING THE BATTERY - BE CAREFUL DONT DAMAGE THE SIDE PRINTED BOARDS OR THAT ANY CONDUCTOR FROM THE BATTERY DOES NOT FALL ON THE ELECTRONIC BOARDS.**

- PRESS THE "CHARGE" BUTTON ON THE PRINTED BOARD LOCATED IN THE LOWER LEFT CORNER, **HOLD THE BUTTON PRESSED FOR 20 sec** (THE ELECTROLYTIC CAPACITORS ON THE ENERGY MODULES ARE THEN CHARGED).

- TURN ON (UPPER POSITION) AUTOMATIC FUSES IN BATTERY CIRCUIT 6 X 40A.

- PRESS THE ON / OFF BUTTON ON THE FRONT PANEL OF THE UPS AND CHECK THE OUTPUT VOLTAGE VALUES ON ALL THREE DISPLAYS ABOUT 220V~, IF EVERYTHING IS OK, TURN OFF THE UPS - ON THE BUTTON.

- PUT THE LEFT SIDE COVER AND THEN THE TOP COVER.

CONNECTION FOR MAINS VOLTAGE AND LOAD:

- REMOVED, TERMINAL COVER, ON THE BACK SIDE OF THE UPS.
- CONNECT THE MAINS VOLTAGE SUPPLY - ATTENTION CONNECT TO THE MARKED ,,INPUT,,
- TURN ON THE MAINS VOLTAGE SUPPLY, TURN ON ALL THREE AUTOMATIC FUSES 16A, THE UPS AUTOMATICALLY TURN ON, BY ITSELF IN 10 SEC, IF EVERYTHING IS OK, FROM BATTERY POWER SUPPLY – UPS WILL BE SWITCHES TO POWER SUPPLY FROM THE MAINS VOLTAGE AFTER 12 SEC.
- IF THE UPS REPORTS "WRONG SEQUENCE OF PHASES AT THE INPUT", (INSCRIPTION ON THE DISPLAYS AND SOUND SIGNALING), IT IS NECESSARY TO ROTATE THE INPUT SUPPLY PHASES: S AND T.
- WHEN THE UPS SWITCHES TO NETWORK VOLTAGE ON THE DISPLAY AFTER 12 SECONDS, THEN SHOWING "ON-LINE"

- TURN OFF THE UPS (KEY) AND THE MAINS VOLTAGE SUPPLY AND CONNECT THE CONSUMERS.

- PUT THE COVER OVER THE TERMINAL

- CHECK THE POWER MEASUREMENTS ON ALL THREE PHASES - IT IS RECOMMENDED THAT THE POWER OF THE CONSUMER BE LESS THAN ABOUT 20% OF THE MAXIMUM

- CHECK THE MANUAL BY-PASS SWITCH, IS IT IN THE "ZERO" POSITION

- CONNECT USB OR LAN COMMUNICATION (NOT MANDATORY - RECOMMENDATION), READ THE USER MANUAL TO INSTALL THE SOFTWARE, DOWNLOAD THE SOFTWARE FROM THE WEBSITE.

- **<u>SIMULATION, FAILURE OF MAINS VOLTAGE</u>** - TURN OFF THE AUTOMATIC FUSE IN THE MAINS VOLTAGE CIRCUIT, THE UPS SWITCHES TO BATTERY DRIVE, ON THE DISPLAY THE INSCRIPTION,,BATTERY DRIVE,,. THEN TURN ON THE AUTOMATIC FUSES - AFTER TEN SECONDS THE UPS SWITCHES TO MAINS POWER ON THE DISPLAY WITH THE INSCRIPTION ON-LINE

<u>BATTERY REPLACEMENT:</u>

- SWITCH OFF ALL CONSUMERS.
- TURN OFF THE MAINS VOLTAGE SUPPLY (**<u>IT IS NOT ENOUGH JUST TO TURN OFF THE AUTOMATIC FUSES 3 X 16A ON THE REAR OF THE UPS</u>**).
- REMOVED LEFT AND TOP COVER.
- TURN OFF AUTOMATIC FUSES IN BATTERY CIRCUIT 6 X 40A.
- DISCONNECT ONE CONDUCTOR TERMINAL FROM THE BATTERY, AND IMMEDIATELY PUT A PLASTIC BAG OVER THE TERMINAL AND SECURE IT WITH A TIE.
- WHEN THE FIRST UPPER BATTERY IS REMOVED - REMOVE THE SHELF ON WHICH THE BATTERY WAS, AND REMOVE THE FOLLOWING BATTERIES.
- AFTER REMOVING ALL BATTERIES, INSERT NEW BATTERIES ACCORDING TO THE ABOVE PROCEDURE.

1.12 ASSEMBLY AND COMMISSIONING

LOCATION CHOICE

- The room where the UPS is located should be dry, free of moisture, dust and aggressive gases, with free air flow.
- The room where the device is placed should be protected from access by unauthorized persons and it is recommended that the temperature in the room does not exceed 25C (if the ambient temperature is higher than 25C, the life of the gelled batteries will be shortened)!

COMMISSIONING

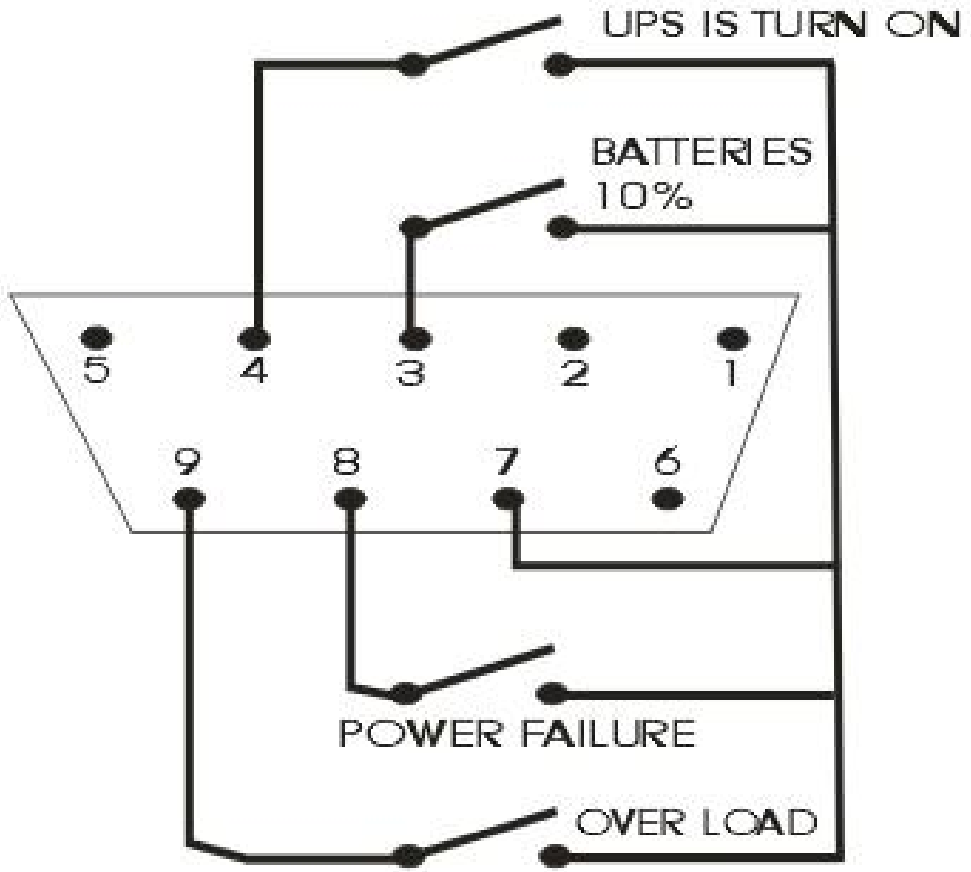
- Press the START / STOP button and the device will be activated (sound signal). After turning on the device, it is powered by batteries for the first 12 seconds, then it is powered by the mains voltage.
- The device is turned off by pressing the START / STOP button
- Restarting the UPS, must wait up to 10 seconds from the moment it was turned off!

1.13 IMPORTANT NOTICE

- It is forbidden to discharge the batteries and leave them empty for a long period of time (max 10 days) because this would lead to permanent damage the batteries!
- If the device is not used for a long period of time, leave the UPS to charge the batteries, then turn off the device (START/STOP button) and turn off the automatic fuses on the back of the UPS (for mains voltage).
- It is forbidden to close the ventilation openings.
- In case of UPS malfunction, switch on the manual BY-PASS switch to position 1, now the mains voltage is sent to the output, it is important to note that in this position the input fuses are by-passed!!!
- When designing the installation, the user must distribute the load evenly across the phases, and leave a certain power reserve of 15-20% per phase!

RELAY REMOTE SIGNALING

9 PIN (FEMALE) CONNECTOR ON THE BACK SIDE OF THE UPS -VIEW FROM THE FRONT.



DESRIPTION AND IMPORTANT NOTICE:
-WHEN THE UPS IS ON - THE "UPS IN OPERATION" RELAY is present SHORT-CIRCUITED CONTACTS

-ALARM RELAY CONTACTS ,,BATTERY 10% ,, / ,,POWER FAILURE,, /,,OVERLOAD,, ARE OPEN
WHEN EVERYTHING IS OK, IF AN ALARM OCCURS THEN THE CONTACT IS SHORTLY CONNECTED

-THE COMMON END OF CONTACTS FOR ALL RELAYS IS CONNECTED TO PIN 7 OF THE CONNECTOR.

1.15 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.**

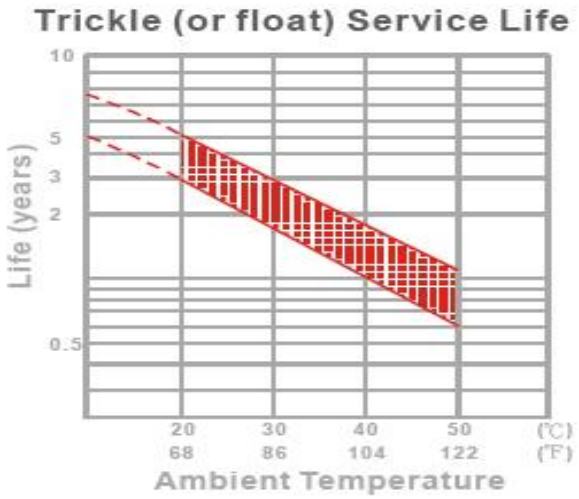
THE WARRANTY IS NOT VALID IN FOLLOWING CASES:

- **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:

- **THREE PHASE UPS: 5 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:**



NOTES:

- **UPS HAVE UNIQUE SERIAL NUMBER LOCATED ON A STICKER.**
- **ON THE UPS PACKAGING, THERE IS A GUARANTEE CERTIFICATE WHICH SHOWS THE FOLLOWING INFORMATION: UPS MODEL / SERIAL NUMBER / DATE OF SALE / SELLER NAME**

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