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Manual user for
Smart Sinus Ups

CE

User manual and description

Smart Sinus Ups

Tower solution: **T12 / T12b / T15 / T22 / T22D / T22b / T25 / T30 / T32 / T52 / T62 / T82**
Rack solution: **R22 / R30 / R32 / R52 / R62**

CONTENT:

1.1 Description and settings:

Smart 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~.

Smart tehnologija

- enables high reliability, fully automated and independent system

Ups T12b

- has a long autonomy of operation on battery mode, no internal battery, one 12V battery is connected externally, the battery capacity is defined in accordance with the required autonomy (recommendation for capacity is provided by the manufacturer).

Ups T22b

- has long autonomy of operation on battery mode, no internal battery, two 12V batteries are connected externally in a 24V serial connection, the battery capacity is defined according to the required autonomy (recommendation for capacity is provided by the manufacturer).

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, the setting is blocked at the factory except for models with external batteries. The manufacturer enables settings of the charging current - at the request of the user, by sending instructions.

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).

By-pass:

- (Only for model: T30-R30, T32-R32, T52-R52, T62-R62, T82) UPS has an automatic by-pass (mains voltage forwarding) in the event of a shutdown or an alarm.

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.

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.

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

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.

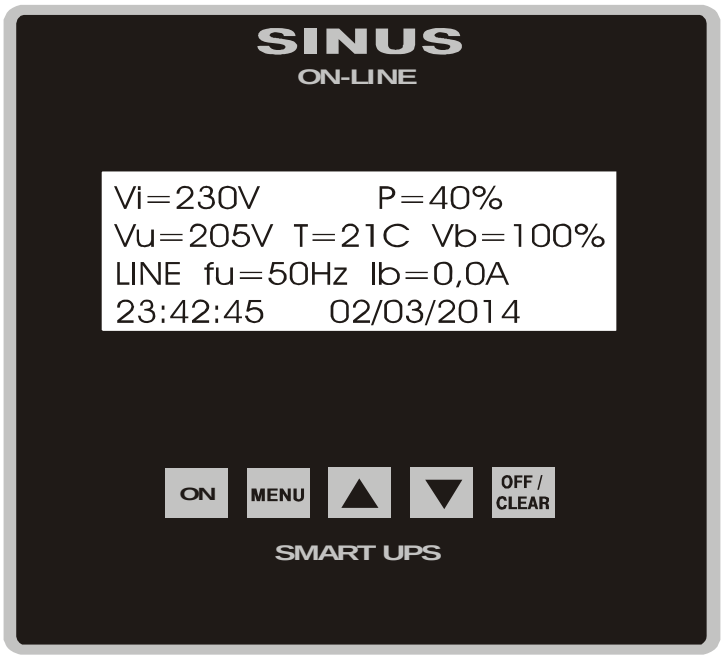
- **„OVERLOAD„** when is load 100% on the displey will be show attention, if load higher then 110% start countdown from 60sec to zero and ups will be turn-off, if load higher then 130% shut down wil be after 5sec. This situations will be memorized in real time.

- **„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



1.5 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**

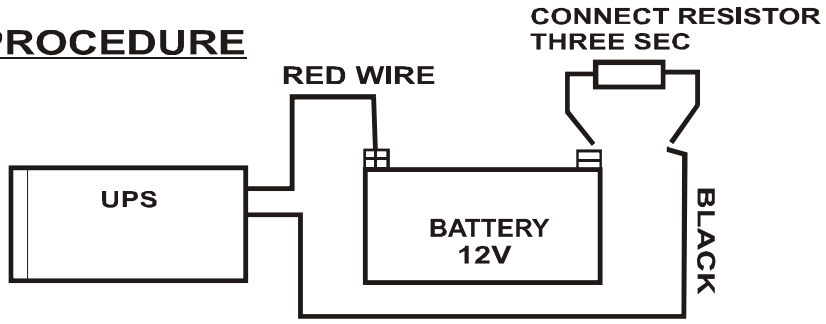
TEMPERATURES –40C / +65C

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

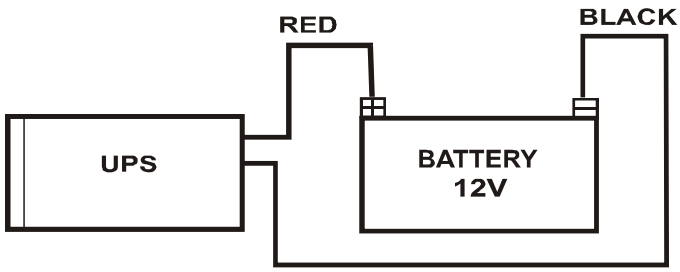
RP22 / RP22D / RP22i / RP30 / RP32 / RP52 / RP62

1.6 T12b UPS BATTERY CONNECTION

FIRST PROCEDURE

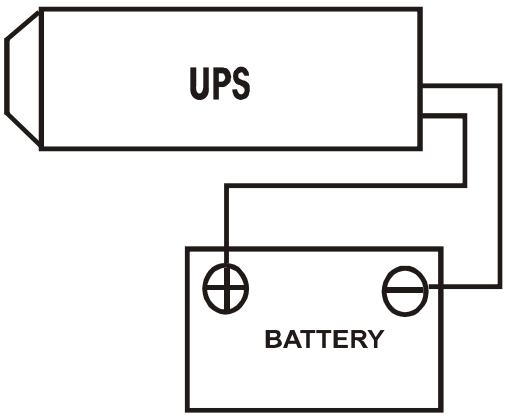


SECOND PROCEDURE



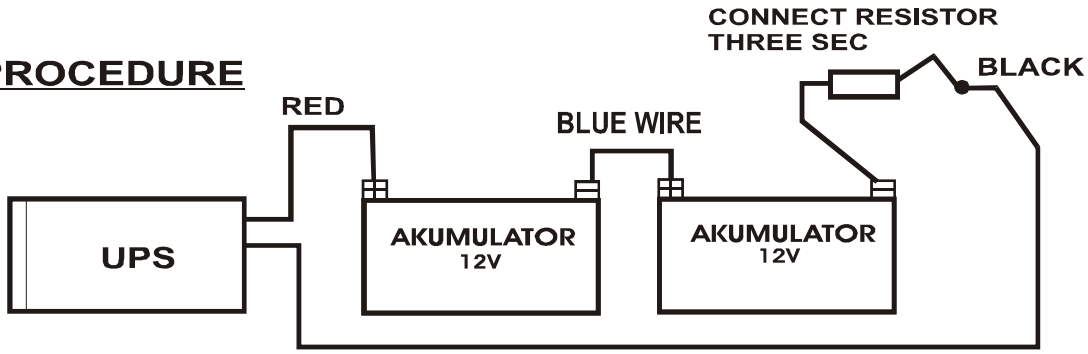
NOTICE:
- WHEN THE UPS IS CONNECTED AS IN THE SCHEME, TURN ON UPS IN MAINS VOLTAGE AND LOAD!
- IT IS STRICTLY FORBIDDEN TO EXTEND THE CONDUCTORS FOR BATTERIES!!!

- WHEN DISCONNECTING THE BATTERIES, FIRST TURN OFF THE UPS, AND DISCONECT UPS FROM THE MAINS VOLTAGE, REMOVE THE TERMINALS FROM THE BATTERIES AND THEN CONNECT A RESISTOR BETWEEN: RED AND BLACK CONDUCTORS (TO DISCHARGE THE CAPACITORS)!!!

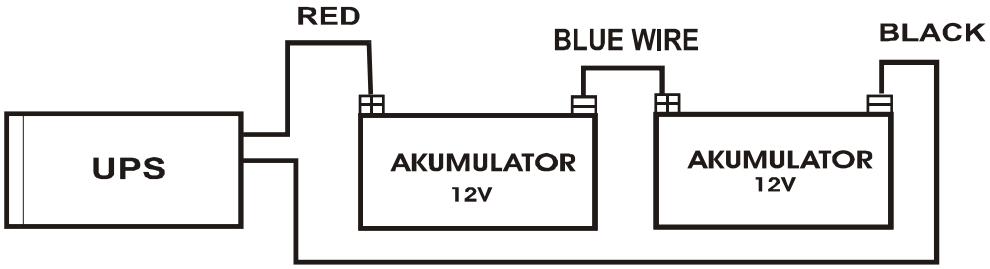


1.7 T22b UPS BATTERY CONNECTION

FIRST PROCEDURE



SECOND PROCEDURE



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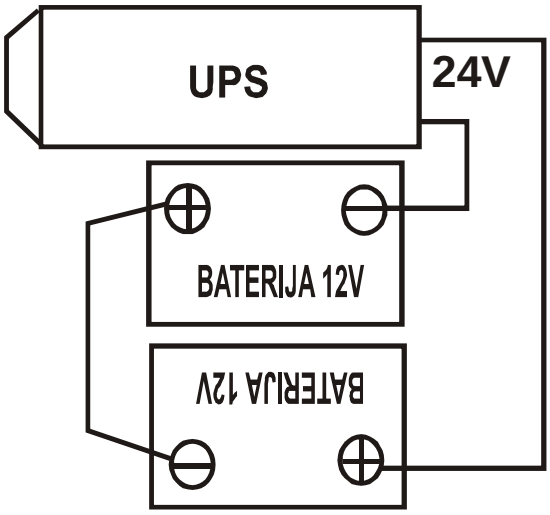
- WHEN DISCONNECTING THE BATTERIES, FIRST TURN OFF THE UPS, AND DISCONECT UPS FROM THE MAINS VOLTAGE, REMOVE THE TERMINALS FROM THE BATTERIES AND THEN CONNECT A RESISTOR BETWEEN: RED AND BLACK CONDUCTORS (TO DISCHARGE THE CAPACITORS)!!!



1.8 SMART SINUS UPS (TOWER)- TECHNICAL CHARACTERISTICS

MODEL:	**T12**	**T12b**	**T15A**	**T15**
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:	1000VA/800W	1000VA/700W	1500VA/1100W	1500VA/1100W
OUTPUT Frequency:	50Hz +/- 0,01%			
Transfer time:	0 msec			
By-pass:	No			
Efficiency:	95%	93%	95%	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 / settings			
Batteries:	12V/9Ah x 3pcs (36V)	12V External	12V/12Ah x 3 pcs (36V)	12V/9Ah x 4 pcs (48V)
Battery charging:	The possibility of adjusting the charging current from 26Ah to 200Ah			
Extending battery autonomy:	YES			
Charging time:	6-8h			
Communication:	USB / Option LAN			
Autonomy:	10 min/100%	Optional	5min / 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			
Voltage distorsion:	<3%			
Operating temperature range:	–20C / +65C			
Dimensions:				
Height: Width: Depth:	32 cm 17 cm 54 cm			
Weight:	21 kg	16 kg	24 kg	24 kg
IP class:	IP 21			
Safety mark:	CE			
Warranty:	Ups 5 years / Batteries 2 years			

1.9 SMART SINUS UPS (TOWER)- TECHNICAL CHARACTERISTICS

MODEL:	**T22**	**T22D**	**T22b**	**T25**	**T30**
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:	2200VA/1600W		2000VA/1400 W	2500VA/1800W	3000VA/2100W
OUTPUT Frequency:	50Hz +/- 0,01%				
Transfer time:	0 msec				
By-pass:	No				Yes
Efficiency:	97%		96%	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 / settings				
Batteries:	12V 12Ah x4 pcs (48V)	12V 15Ah x4 pcs (48V)	24V External	12V/9Ah x 10 pcs (24V)	12V/9Ah x 8 pcs (48V)
Battery charging:	The possibility of adjusting the charging current from 26Ah to 200Ah				
Extending battery autonomy:	YES		YES		
Charging time:	6-8h				
Communication:	USB / Option LAN				
Autonomy:	5min/ 100%	10min / 100%	Optional	15min / 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:	37 cm 17 cm 54 cm		32 cm 17 cm 54 cm	39 cm 17 cm 74 cm	62 cm 17 cm 54 cm
Weight:	36kg	39 kg	24 kg	59 kg	64 kg
IP class:	IP 21				
Safety mark:	CE				
Warranty:	Ups 5 years / Batteries 2 years				

1.10 SMART SINUS UPS (TOWER) - TECHNICAL CHARACTERISTICS

MODEL:	**T32**	**T52**	**T52-5h**	**T52-90m**
INPUT:	Schuko	Schuko+ hard wire		
Voltage:	230V (150V - 290V without degrading power)			
INPUT FREQUENCY:	50Hz +/- 10 %			
Output connection:	Schuko CEE7x3	Schuko CEE7 x 3+hard wire		
Output voltage:	230V +/- 5 %			
Wave form:	Pure Sine wave			
Output power:	3500VA/2500W	5000VA / max 4000W		
OUTPUT Frequency:	50Hz +/- 0,01%			
Transfer time:	0 msec			
By-pass:	Yes			
Efficiency:	97%	97%	97%	97%
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 / settings			
Batteries:	12V/9Ah x12 pcs (48V)	12V/40Ah x 4 pcs (48V)	12V/200Ah x 8 pcs (48V)	12V/100Ah x 8 (48V)
Battery charging:	The possibility of adjusting the charging current from 26Ah to 200Ah			
Extending battery autonomy:	YES			
Charging time:	6-8h			
Communication:	USB / Option LAN			
Autonomy:	13 min / 100%	10 min /100%	300 min / 60%	90 min / 90%
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:	62 cm 17 cm 54 cm	52 cm 22 cm 74 cm	140 cm 60 cm 100 cm	132 cm 40 cm 71 cm
Weight:	74 kg	105 kg	655 kg	315 kg
IP class:	IP 21			
Safety mark:	CE			
Warranty:	Ups 5 years / Batteries 2 years			

1.11 SMART SINUS UPS (TOWER)- TECHNICAL CHARACTERISTICS

MODEL:	**T62**	**T82**	**T82-6h**
INPUT:	Hard wire		
Voltage:	230V (150V - 290V without degrading power)		
INPUT FREQUENCY:	50Hz +/- 10 %		
Output connection:	Schuko + hard wire		
Output voltage:	230V +/- 5 %		
Wave form:	Pure Sine wave		
Output power:	6000VA/4800W	8000VA / 6400W	
OUTPUT Frequency:	50Hz +/- 0,01%		
Transfer time:	0 msec		
By-pass:	Yes		
Efficiency:	98%	97%	97%
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 / settings		
Batteries:	12V/45-50Ah x 4 pcs (48V)	12V/100Ah x 4 pcs (48V)	12V/150Ah x 16 pcs (48V)
Battery charging:	The possibility of adjusting the charging current from 26Ah to 200Ah		
Extending battery autonomy:	YES		
Charging time:	6-8h		
Communication:	USB / Option LAN		
Autonomy:	10 min / 100%	20min / 100%	360min / 60%
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:	52 cm 22 cm 74 cm	52 cm 22+22 cm 74 cm	197 cm 70 cm 75 cm
Weight:	109 kg	198 kg	816 kg
IP class:	IP 21		
Safety mark:	CE		
Warranty:	Ups 5 years / Batteries 2 years		

1.12 SMART SINUS UPS (Rack)- TECHNICAL CHARACTERISTICS

MODEL:	**R22**	**R22D**	**R30**	**R32**
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:	2000VA / 1600W		3000VA / 2100W	3500VA / 2500W
OUTPUT Frequency:	50Hz +/- 0,01%			
Transfer time:	0 msec			
By-pass:	No		Yes	Yes
Efficiency:	97%		98%	97%
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 / settings			
Batteries:	12V 12Ah x4kom (48V)	12V 15Ah x4kom (48V)	12V / 9Ah x 8kom (48V)	12V / 9Ah x 8kom (48V)
Battery charging:	The possibility of adjusting the charging current from 26Ah to 200Ah			
Extending battery autonomy:	YES			
Charging time:	6-8h			
Communication:	USB / Option LAN			
Autonomy:	5min / 100%	10min / 100%	10 min / 100%	5 min / 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	17,5 cm 44/48 cm 60 cm
Weight:	36kg	39 kg	58 kg	60 kg
IP class:	IP 21			
Safety mark:	CE			
Warranty:	Ups 5 years / Batteries 2 years			

1.13 SMART SINUS UPS (Rack) - TECHNICAL CHARACTERISTICS

MODEL:	**R52**	**R62**
INPUT:	Schuko+hard wire	
Voltage:	230V (150V - 290V without degrading power)	
INPUT FREQUENCY:	50Hz +/- 10 %	
Output connection:	Schuko CEE7 x 3 +Hard wire	
Output voltage:	230V +/- 5 %	
Wave form:	Pure Sine wave	
Output power:	5000VA/4000W	6000VA/4800W
OUTPUT Frequency:	50Hz +/- 0,01%	
Transfer time:	0 msec	
By-pass:	Yes	
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 / settings	
Batteries:	12V / 9Ah x 16 kom (48V)	
Battery charging:	The possibility of adjusting the charging current from 26Ah to 200Ah	
Extending battery autonomy:	YES	
Charging time:	6-8h	
Communication:	USB / Option LAN	
Autonomy:	10 min / 100%	5 min / 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:	27 cm 44/48 cm 60 cm	
Weight:	95 kg	
IP class:	IP 21	
Safety mark:	CE	
Warranty:	Ups 5 years / Batteries 2 years	

2.1 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:

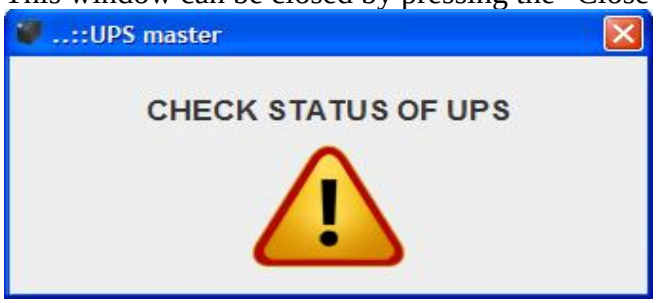
- Total of eight alarms
- Green field color - no alarm
- Red color of the field - the alarm is activated

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.

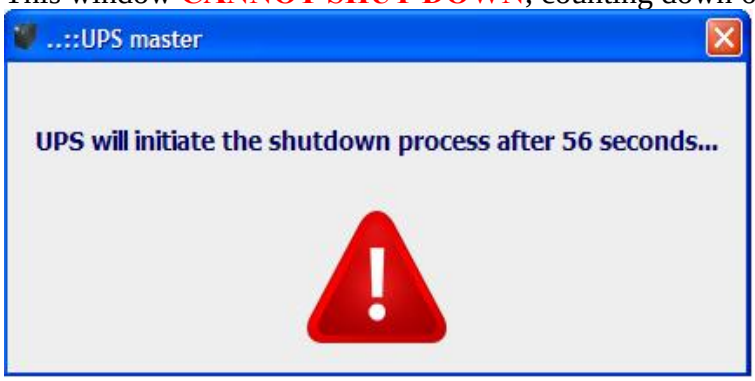
Notifications on monitors (Master / Slave):
The message "CHECK UPS STATUS" appears when alarms occur:
Main power is out of range / UPS connected / UPS is going to shut-down (when is press OFF button)

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.

2.2 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.

2.3 WINDOWS 10- ADDITIONAL SETTINGS:

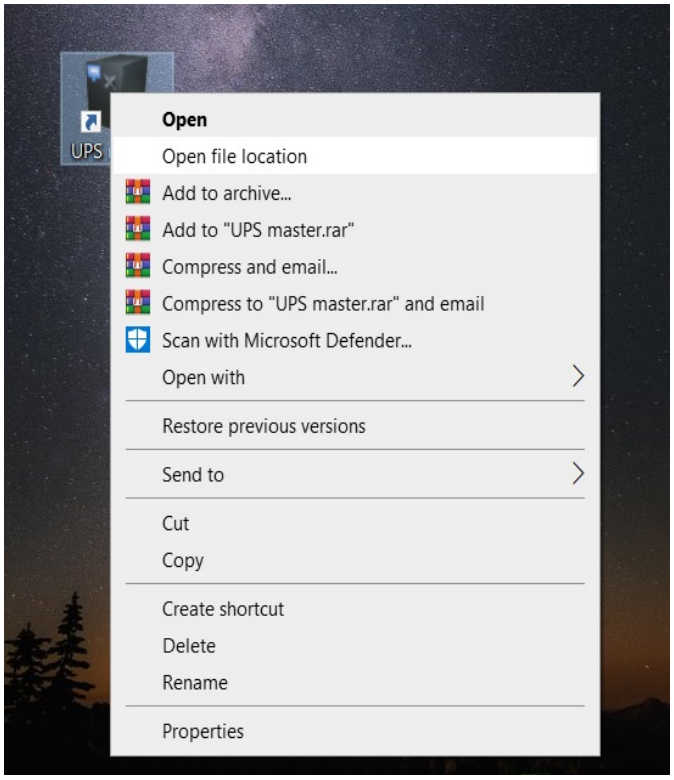
If the UPS software applications do not work properly after the standard installation, the following should be done for Windows 10:

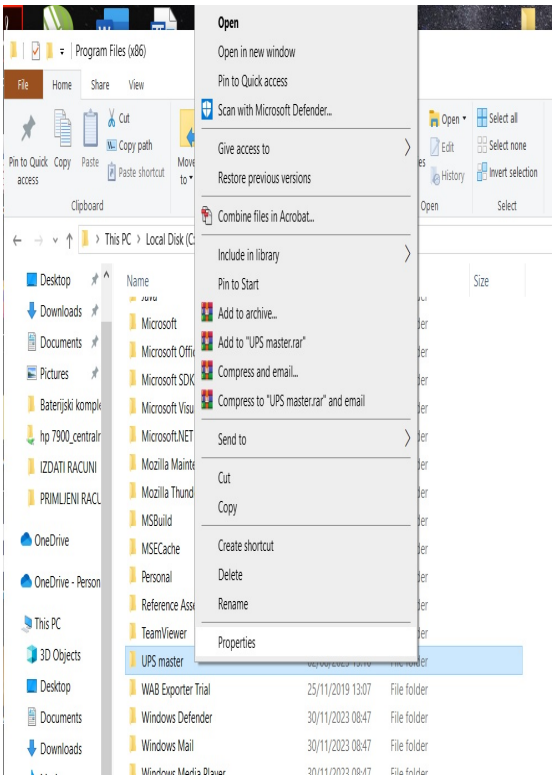
Settings for UPS Master / Ups Slave application:

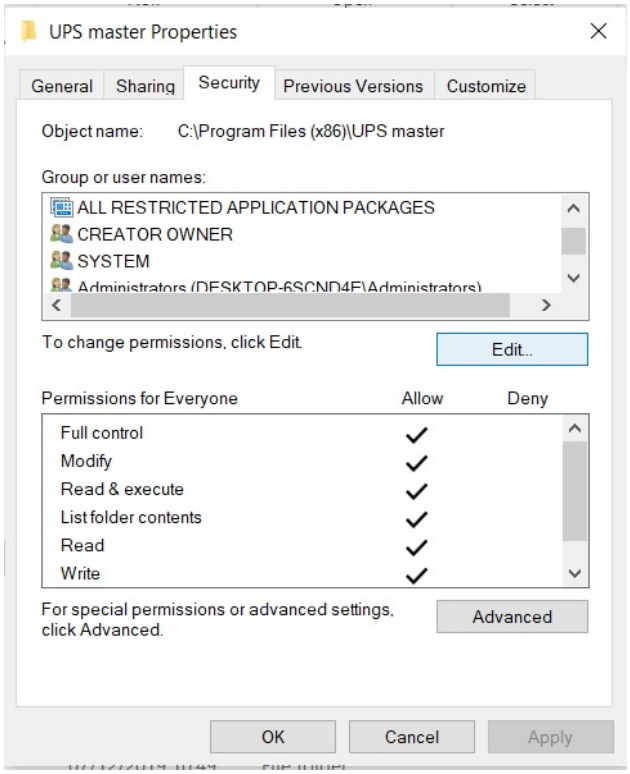
Note: the settings are the same for UPS Master and UPS Slave applications.

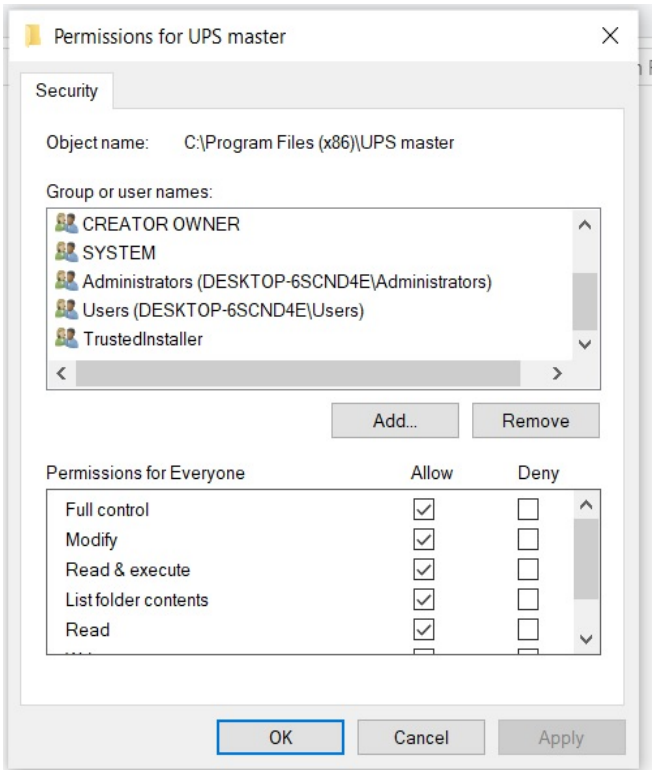
- Right click on the icon ,,UPS Master,, (or ,,Ups Slave,,) software on the Desktop –choose ,,Open file Location,,
- A window opens C:/Program files(x86) and there is ,,UPS Master,, (or ,,Ups Slave,,) folder.
- Right click on ,,UPS Master,, (or ,,Ups Slave,,) folder - choose ,,Properties,,
- Open ,,Security,,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

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

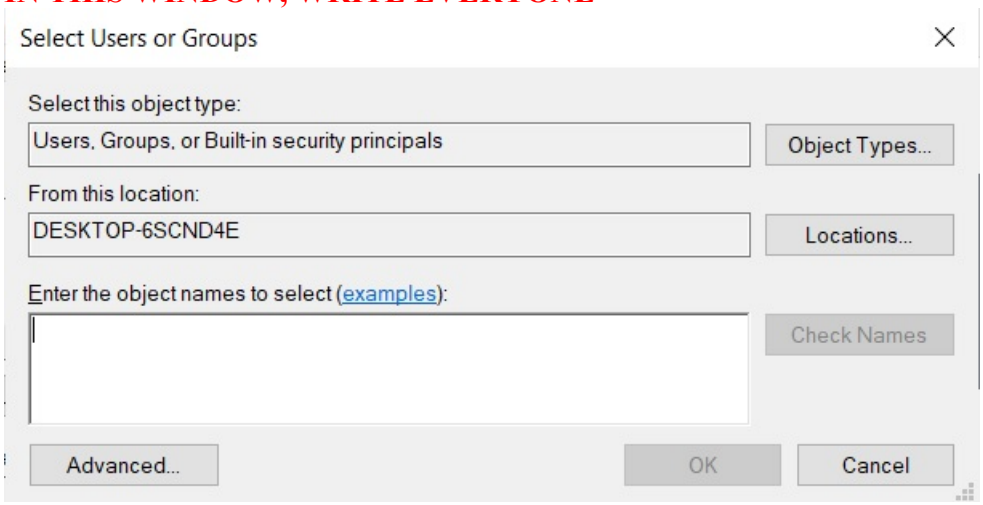






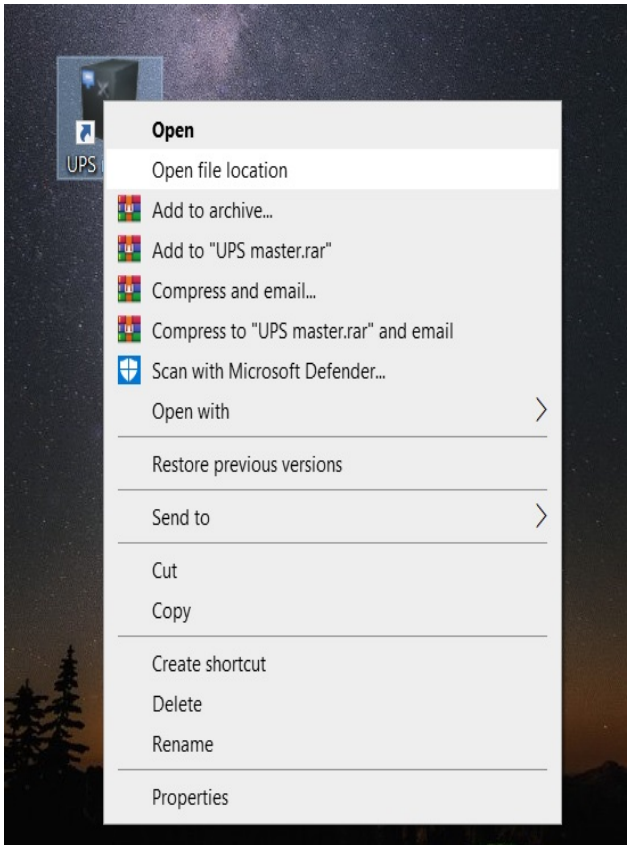


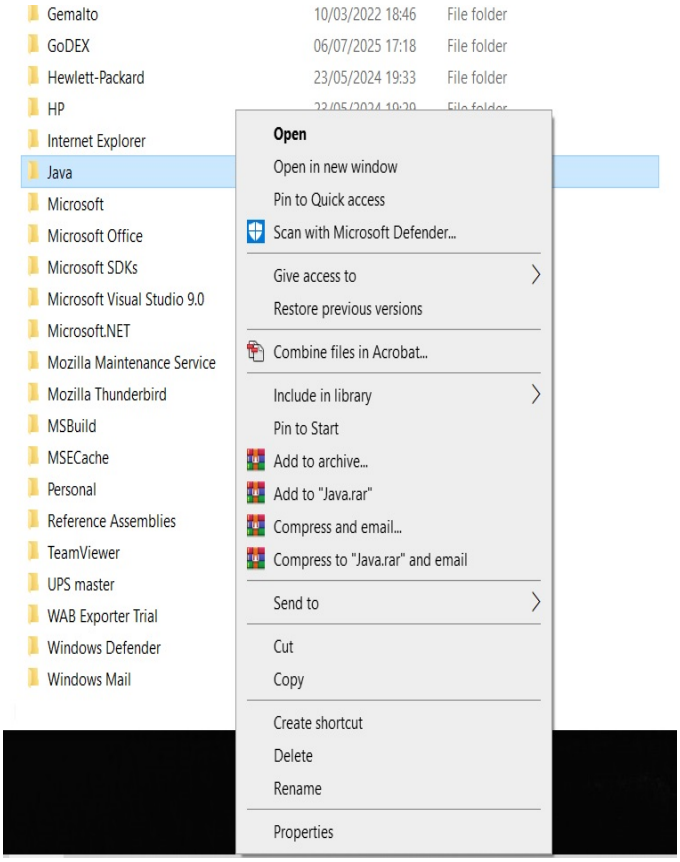
IN THIS WINDOW, WRITE EVERYONE

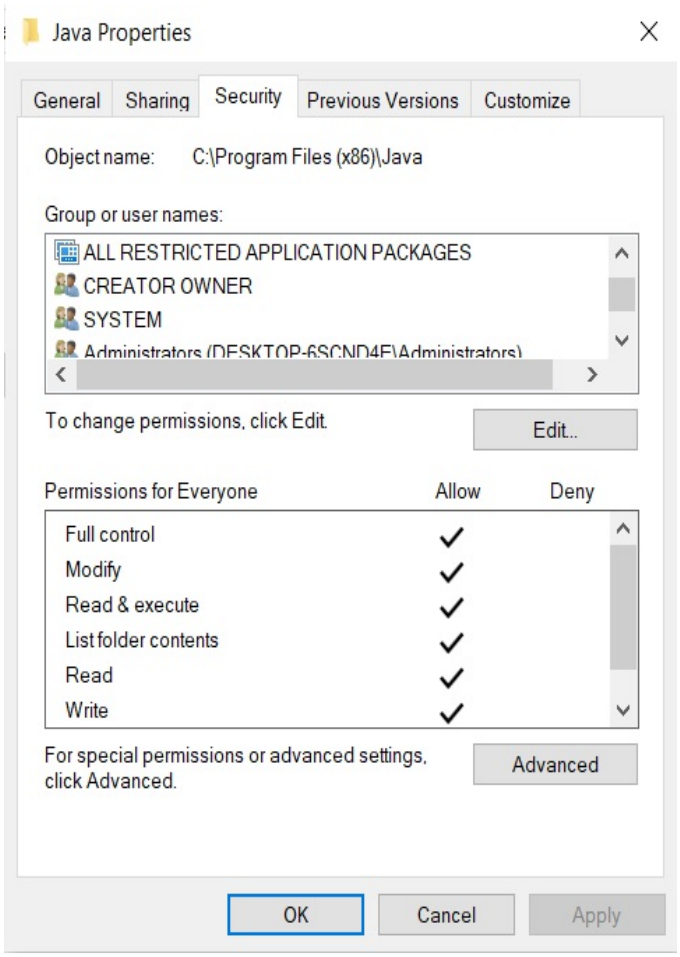


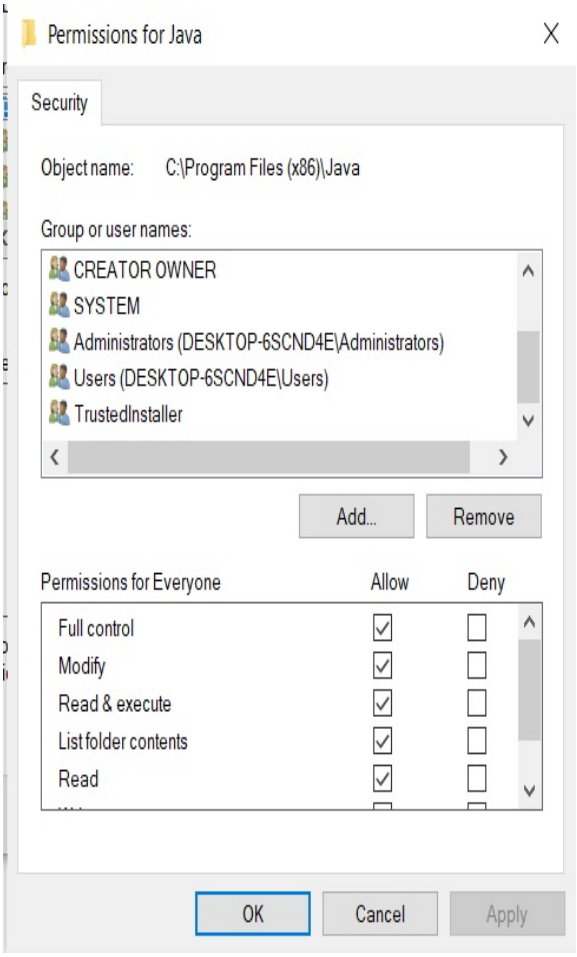
Settings for JAVA application:

- 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

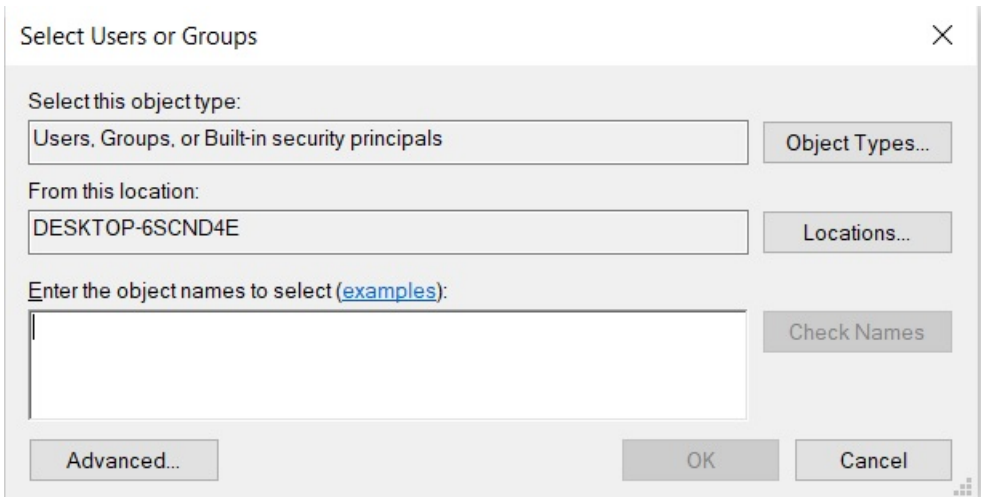






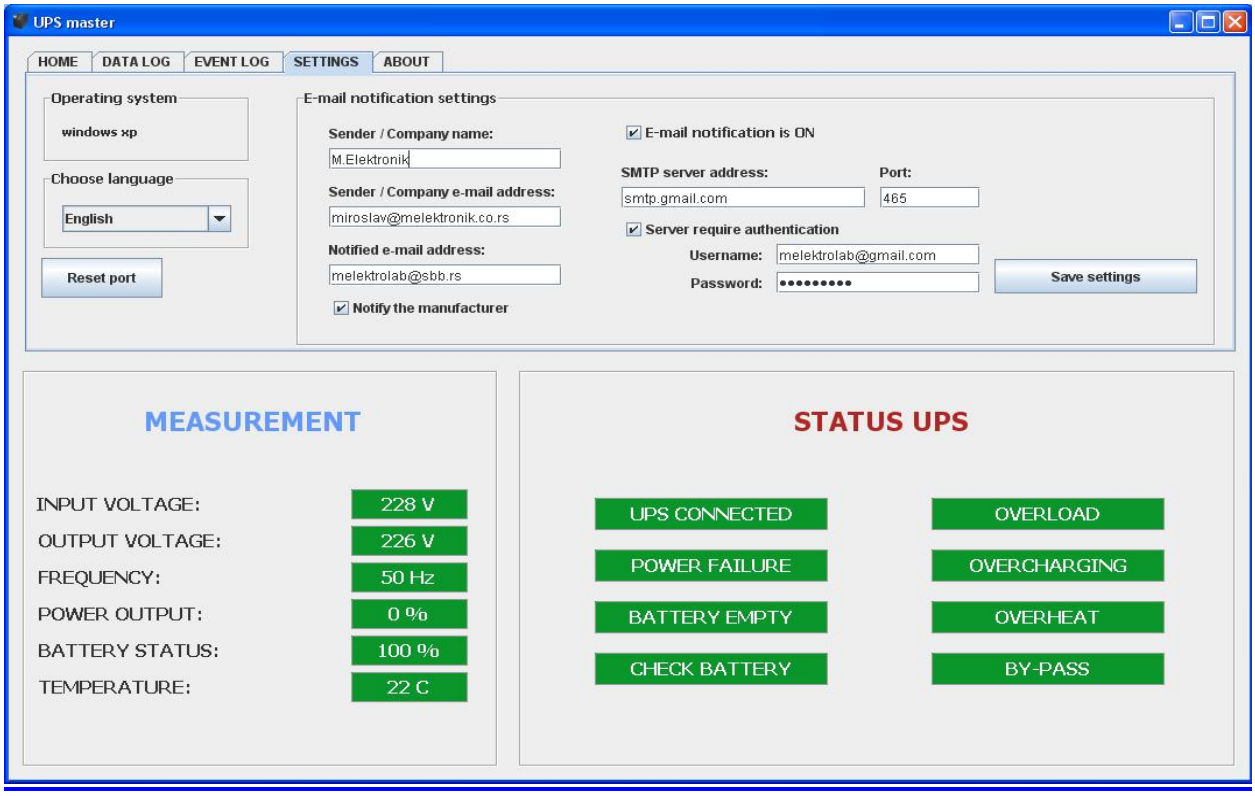


IN THIS WINDOW, WRITE EVERYONE



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

2.4 SETTINGS page



Choice of language: English or Serbian.

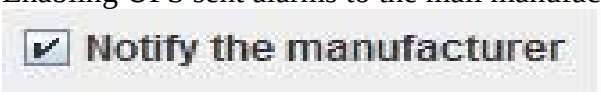
RESET port: if the Master software reports that it has lost connection - press the RESET button.
If the connection was not established, disconnect the USB cable -wait 10 seconds - connect the USB cable.

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)

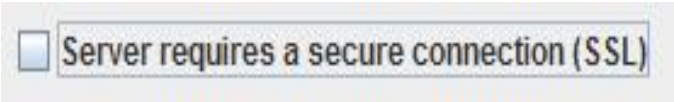
SMTP server address:

- 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.

2.5 TESTING SOFTWARE AND COMMUNICATION

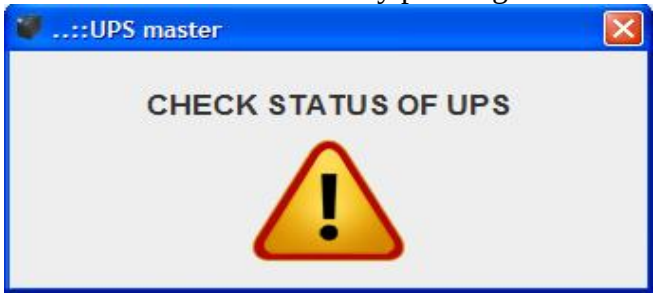
If everything is fine:

- 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,,

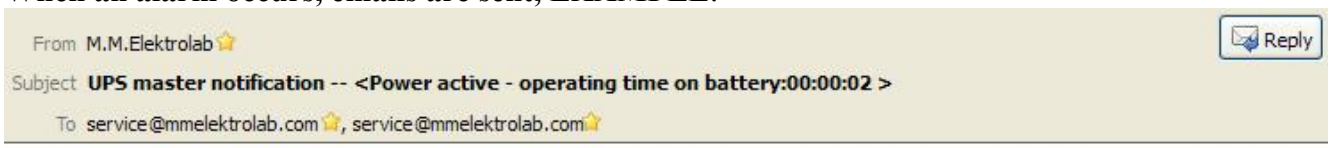
This window can be closed by pressing the "Close" button.



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.

2.6 Description of Data Log / Event Log:

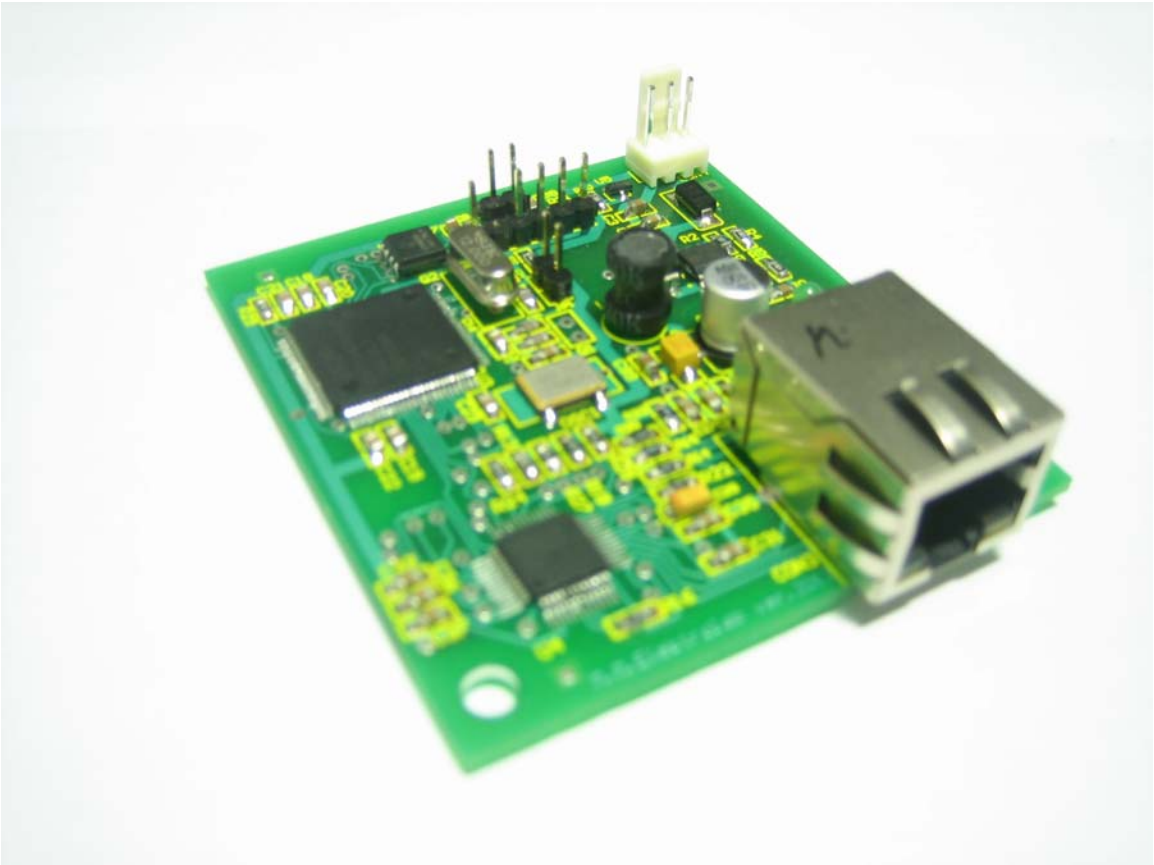
Data Log:

- 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.

3.1 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

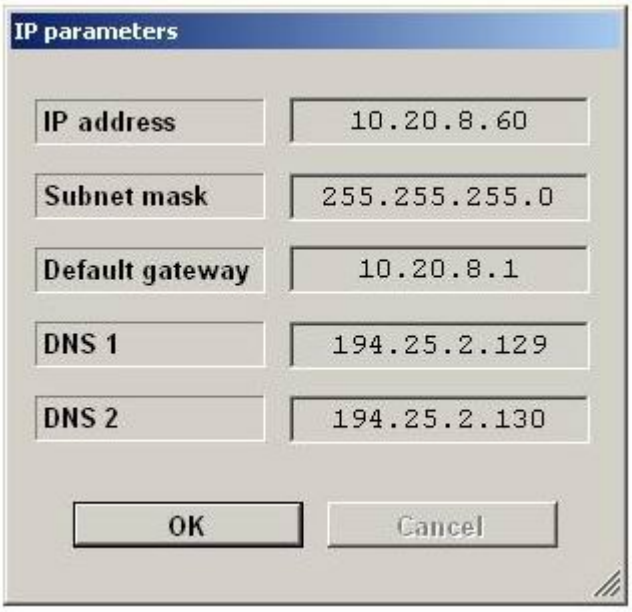
1. OID - .1.3.6.1.4.1.39385.1.1.0 Model
2. OID - .1.3.6.1.4.1.39385.1.2.0 Serial number
3. OID - .1.3.6.1.4.1.39385.1.3.0 Output voltage
4. OID - .1.3.6.1.4.1.39385.1.4.0 Output power
5. OID - .1.3.6.1.4.1.39385.1.5.0 Input voltage
6. OID - .1.3.6.1.4.1.39385.1.6.0 Input frequency
7. OID - .1.3.6.1.4.1.39385.1.7.0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

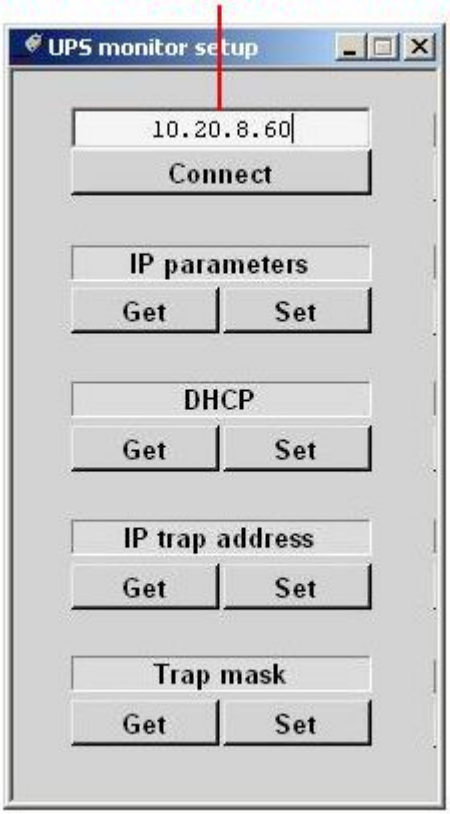
IP address 10.20.8.1
Subnet mask 255.255.255.0

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**.

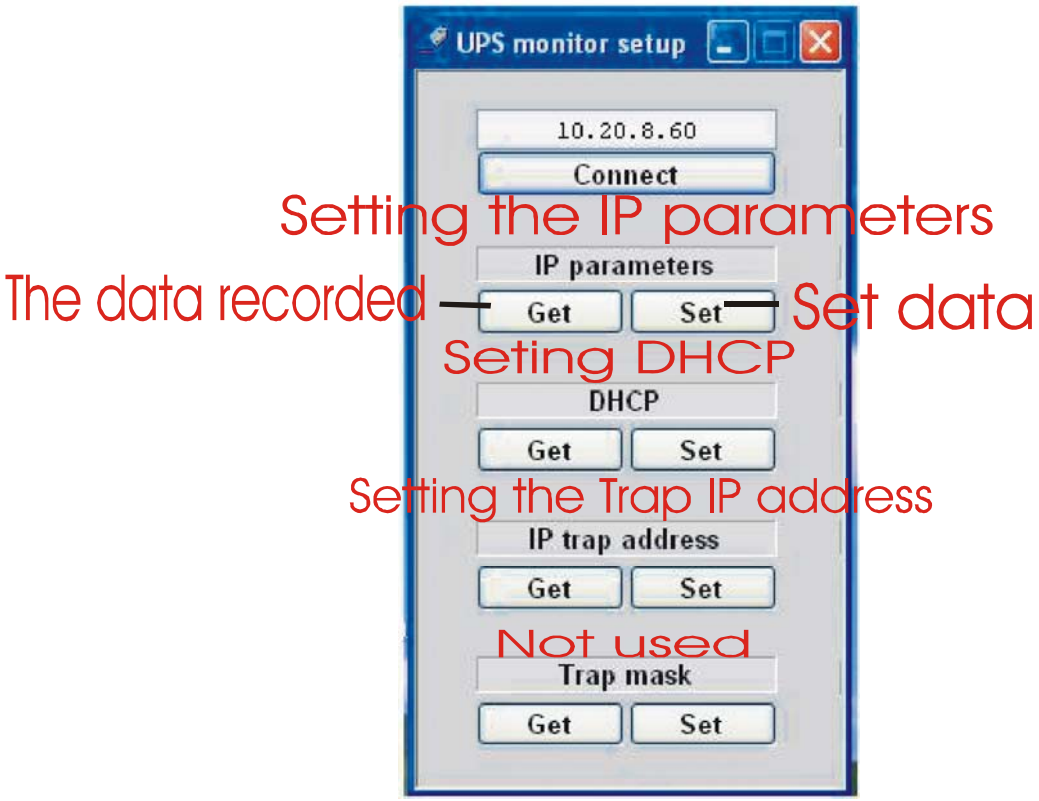
Enter the IP address of the LAN card

UPISATI IP ADRESU SNMP KARTICE



Get - reads data

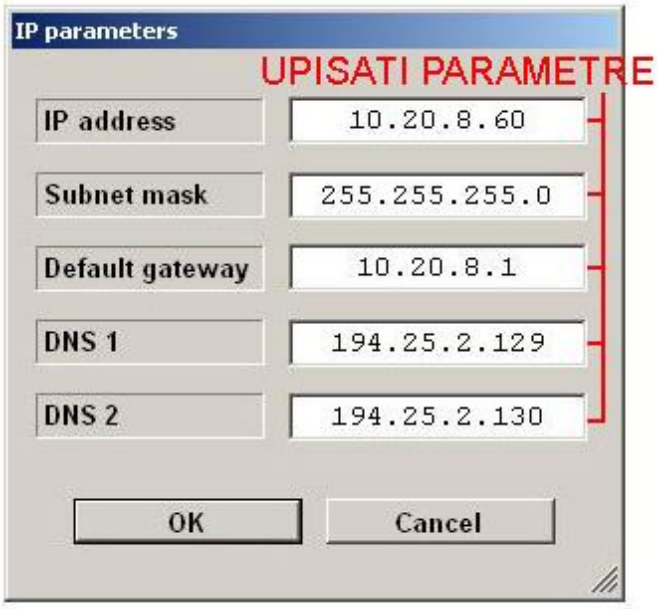
Set - writing data



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.

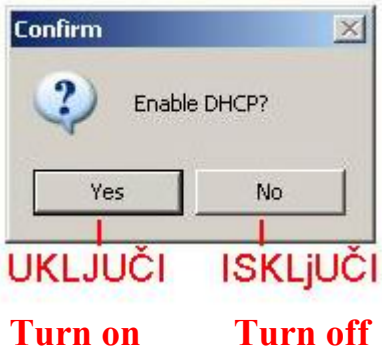
Enter the parameters



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.

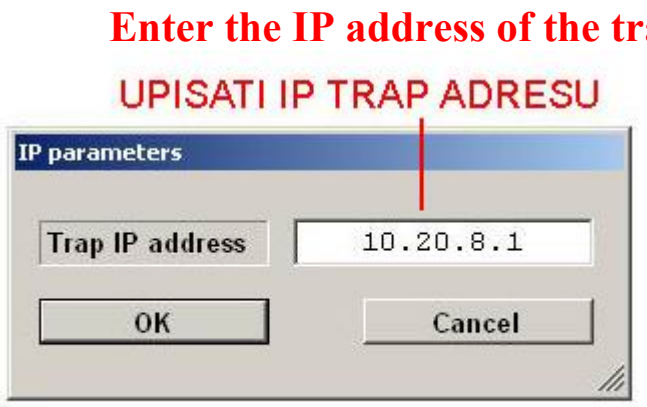
DHCP

Below DHCP click Set.
Enable or disable DHCP.



Setting the Trap IP address

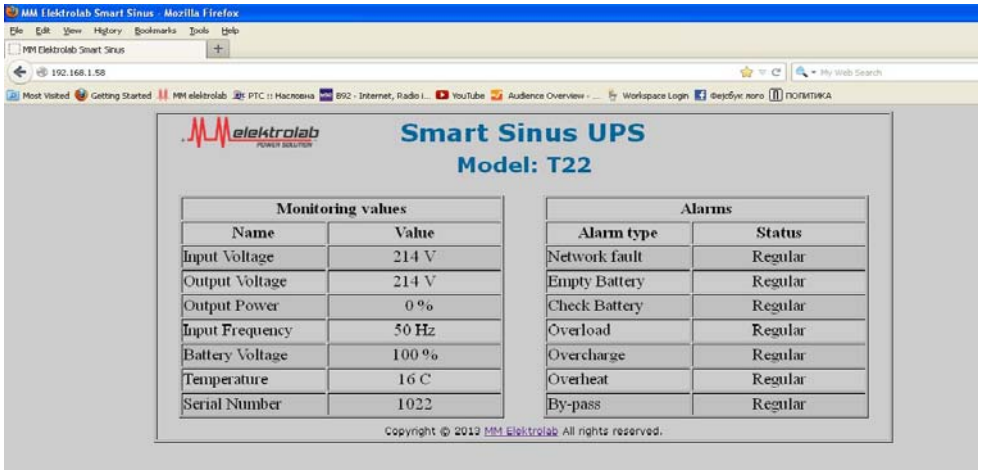
Below the trap IP address click Set.
The field enter the IP address of the computer that we want to follow traps (click on the icon, Local Area Networks, and choose, Support, and there you can see the IP address of the local computer and practically this IP Ares specify):



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.



4.1 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.

4.2 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.

4.3 Battery autonomy table

Smart Sinus Ups T12 / 1000VA / 700W				
Batteries 12V 9Ah x 3 (36V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 36-36 (12 x 12V / 9Ah) NON Linear-Min
0	0	400	400	2000
10	100	80	50	400
20	200	62	45	350
30	300	35	27	220
40	400	25	22	180
50	500	21	17	120
60	600	15	12,5	95
70	700	13	10	85
80	800	10	9	70
90	900	9,5	7,5	60
100	1000	8	6	55
If lo-batt set on 1,6V per cel, autonomy 10min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T12b / 1000VA / 700W				
Batteries 12V EXTERNAL 100Ah (12V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	
0	0	1440	1440	
10	100	400	300	
20	200	222	205	
30	300	168	117	
40	400	111	93	
50	500	93	69	
60	600	63	56	
70	700	54	48	
80	800	46	39	
90	900	34	29	
100	1000	29	27	
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T15 / 1500VA / 1000W				
Batteries 12V 9Ah x4 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 27-48 (12 x 12V / 9Ah) NON Linear-Min
0	0	600	600	1800
10	150	100	100	700
20	300	50	50	280
30	450	40	30	180
40	600	25	20	100
50	750	20	15	90
60	900	15	12	80
70	1050	12	10	70
80	1200	10	9	55
90	1350	9	6	40
100	1500	7,5	5	35
If lo-batt set on 1,6V per cel, autonomy 10min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T22b / 2000VA / 1400W				
Batteries 12V x 2 EXTERNAL 100Ah (24V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	
0	0	1400	1400	
10	200	500	400	
20	400	231	205	
30	600	168	117	
40	800	117	102	
50	1000	102	72	
60	1200	78	54	
70	1400	60	46	
80	1600	51	35	
90	1800	40	29	
100	2000	32	27	
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T22-R22 / 2200VA / 1600W				
Batteries 12V 12Ah A x4 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 24-48 (8 x 12V / 12Ah) NON Linear-Min
0	0	400	400	650
10	220	105	100	350
20	440	75	50	180
30	660	40	29	130
40	880	25	18	90
50	1100	20	15	82
60	1320	15	10	60
70	1540	11	8	45
80	1760	9	6,3	33
90	1980	8	5,4	28
100	2200	6,3	5	26
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

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				

Smart Sinus Ups T22D-R22D / 2200VA / 1600W				
Batteries 12V 15Ah x4 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 30-48 (8 x 12V / 15Ah) NON Linear-Min
0	0	500	500	1300
10	220	120	115	420
20	440	80	60	220
30	660	56	47	135
40	880	38	27	100
50	1100	28	23	87
60	1320	23	17	65
70	1540	20	13	58
80	1760	15	10	51
90	1980	12,5	9	47
100	2200	10	7,4	39
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T25 / 2500VA / 1800W				
Batteries 12V 9Ah x10 (24V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + TBK 100-24 (2 x 12V / 100Ah) NON Linear-Min
0	0	700	700	1800
10	250	180	185	900
20	500	100	70	360
30	750	65	45	206
40	1000	45	33	155
50	1250	33	28	120
60	1500	28	22	98
70	1750	23	18	72
80	2000	18	15	58
90	2250	15	13	54
100	2500	13	10,5	50
If lo-batt set on 1,6V per cel, autonomy 15min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T30-R30 / 3000VA / 2100W				
Batteries 12V 9Ah x8 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 27-48 (12 x 12V / 9Ah) NON Linear-Min
0	0	300	300	900
10	300	100	80	240
20	600	55	47	120
30	900	30	26	85
40	1200	25	20	65
50	1500	20	14	50
60	1800	15	11	40
70	2100	12	9,7	30
80	2400	10	8	26
90	2700	9,5	6,5	22
100	3000	8	5,5	20
If lo-batt set on 1,6V per cel, autonomy 10min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Rack Smart Sinus Ups R32 / 3500VA / 2400W				
Batteries 12V 9Ah x8 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 27-48 (12 x 12V / 9Ah) NON Linear-Min
0	0	300	300	900
10	350	80	82	240
20	700	45	35	100
30	1050	27,5	25	78
40	1400	23	15	53
50	1750	15	12	41
60	2100	12	9,5	29
70	2450	10	8	26
80	2800	8,5	6,5	22
90	3150	7,5	5,5	20
100	3500	6	5	17
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T32 / 3500VA / 2400W				
Batteries 12V 9Ah x12 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 27-48 (12 x 12V / 9Ah) NON Linear-Min
0	0	570	570	1200
10	350	120	125	450
20	700	78	60	120
30	1050	50	40	90
40	1400	30	28	65
50	1750	27,5	22	55
60	2100	22	15	40
70	2450	17,5	13	30
80	2800	14	11	27
90	3150	12,5	9,5	25
100	3500	10	9	22
If lo-batt set on 1,6V per cel, autonomy 13min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T52 / 5000VA / 3500W				
Batteries 12V 40Ah x4 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + TBK 100-48 (4 x 12V / 100Ah) NON Linear-Min
0	0	1050	1050	2000
10	500	170	160	800
20	1000	99	73	390
30	1500	56	49	240
40	2000	40	36	180
50	2500	28	24	144
60	3000	24	19	112
70	3500	20	14,5	92
80	4000	15	11	68
90	4500	12,4	8,3	57
100	5000	9	6,4	51
If lo-batt set on 1,6V per cel, autonomy 11min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T62 / 6000VA / 4200W				
Batteries 12V 45Ah x4 (48V)				
LOAD (%)	**LOAD (VA)**	**Autonomy Min Linear**	**Autonomy Min Non-Linear**	**Battery pack Ups + TBK 100-48 (4 x 12V / 100Ah) NON Linear-Min**
0	0	1070	1070	2000
10	600	180	168	750
20	1200	96	84	330
30	1800	69	50	199
40	2400	42	28	155
50	3000	26	19	112
60	3600	19	15	90
70	4200	15	13	64
80	4800	13,5	11	55
90	5400	11,5	9	49
100	6000	10	7,4	41
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Rack Smart Sinus Ups R52 / 5000VA / 3500W				
Batteries 12V 9Ah x16 (48V)				
LOAD (%)	**LOAD (VA)**	**Autonomy Min Linear**	**Autonomy Min Non-Linear**	**Battery pack Ups + RT-BK 27-48 (12 x 12V / 9Ah) NON Linear-Min**
0	0	500	500	1500
10	500	120	100	220
20	1000	70	55	100
30	1500	50	35	72
40	2000	28	26	55
50	2500	23,5	20	40
60	3000	20	14,5	28
70	3500	15	12	25
80	4000	13,5	9,7	21
90	4500	10	9	19
100	5000	9	7,5	15
If lo-batt set on 1,6V per cel, autonomy 11min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Rack Smart Sinus Ups R62 / 6000VA / 4200W				
Batteries 12V 9Ah x16 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + RT-BK 27-48 (12 x 12V / 9Ah) NON Linear-Min
0	0	500	500	1500
10	600	125	100	215
20	1200	55	50	90
30	1800	35	27,5	58
40	2400	26	22	43
50	3000	20	14,5	29
60	3600	14,5	12,5	25
70	4200	12	9,5	20
80	4800	9,7	8,5	17
90	5400	9	7	14
100	6000	7,5	5	12
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

Smart Sinus Ups T82 / 8000VA / 6400W				
Batteries 12V 100Ah x4 (48V)				
LOAD (%)	LOAD (VA)	Autonomy Min Linear	Autonomy Min Non-Linear	Battery pack Ups + TBK 100-48 (4 x 12V / 100Ah) NON Linear-Min
0	0	1600	1600	2000
10	800	300	231	780
20	1600	120	114	235
30	2400	90	75	180
40	3200	58	47	117
50	4000	42	29	97
60	4800	29	26	75
70	5600	25	22	56
80	6400	22	19	48
90	7200	19	17	40
100	8000	17	14	31
If lo-batt set on 1,6V per cel, autonomy 20min / 100% load				
Battery manufacturer,declare results of autonomy: Tolerance +/- 15% when is battery new, ambient temperature 20C				

4.4 WARRANTY TERMS

WE GURANTUEE:

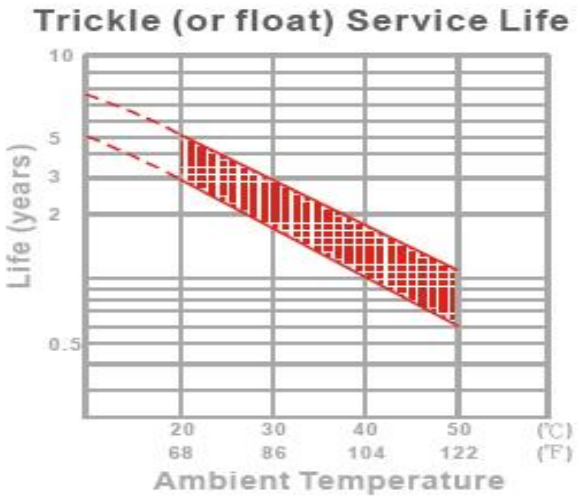
- **PROPER UPS OPERATION, IN ACCORDANCE WITH CHARACHERISTICS.**
- **IF UPS IS USED IN ACCORDANCE WITH USER MANUAL.**
- **FREE REPAIR AND REPLACEMENT OF DEFECTIVE PARTS.**
- **AVAILABILITY OF SPARE PARTS WITHIN 5 YEARS AFTER THE EXPIRATION OF THE WARRANTY.**

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.

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