

### Medizintechnik



# Benutzerhandbuch / User's Manual mNSP3-450P-USB

Industrie-PC-Netzteile
 Netzteile
 Medizintechnik
 DC/DC-Wandler
 USV-Systeme





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## 1. General

Congratulations for choosing the mNSP3-450P-USB!

This manual explains the components and properties of the medical PC power supply. All information contained in this manual has been revised thoroughly to ensure accuracy and completeness. Yet Bicker Electronic accepts no liability for any omissions or faults. We will appreciate any notifications regarding faults, suggestions for improvements and criticism.

#### 1.1 Contents of Delivery

Please check immediately upon reception of the mNSP3-450P-USB whether the delivery is damaged in any way, for which packing damage may be an indication.

The contents of delivery are:

- Medical PC Power Supply mNSP3-450P-USB
- Cable harness

#### 1.2 Optional Accessories

- BP-2423N (battery pack with lead batteries 24 V / 2.3 Ah)
- RBS02A-P24/2.3L (battery pack with lead batteries, removable (clip-on-frame)
- BS10A-H24/2.0L (battery pack with NiMH batteries 24 V /2.0 Ah)
- RUPS 2000-B1 (UPS Management Software)
- ENSP3-REBOOT (Automatic Startup PC board)
- ENSP3-USB-INT (internal USB interface holder)

## 2. Technical Data

- I Please download the current datasheets from our homepage.
- mNSP3-450P-USB
- BP-2423N
- RBS02A-P24/2.3L
- BS10A-H24/2.0L
- RUPS 2000-B1



## 3. Software Installation

#### 3.1 USB Driver for mNSP3-450P-USB

Please load down the driver from www.bicker.de directly at the product mNSP3-450P-USB. (If you are using the PDF version of the manual please click on the picture below.)

mNSP3-450P-USB   300 Watt	Medical applications	PC power supplies
<ul> <li>Product data:</li> <li>PC PSU for medical applications with UPS function</li> <li>Various battery packs</li> <li>With USB interface</li> <li>C 5 8 20</li> </ul>	Technical documentation:	Product details







	Found New Hardware Wizard	
5	Welcome to the Found New Hardware Wizard	
	Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). <u>Read our privacy policy</u>	
	Can Windows connect to Windows Update to search for software?	
	<ul> <li>Yes, now and every time I connect a device</li> <li>No, not this time</li> </ul>	
	Click Next to continue.	
The "Welcome" screen is displayed. Click "Next".	Cancel	



	Found New Hardware Wizard
5	Please choose your search and installation options.
	Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
	Search removable media (floppy, CD-ROM)
	Include this location in the search:
	G:\USB-Driver
	◯ <u>D</u> on't search. I will choose the driver to install.
	Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
Select the required source and click "Next".	<back next=""> Cancel</back>

	Found New Hardware Wizard		
6	Please wait while the wizard searches		
	CP2102 USB to UART Bridge Controller		
	<u>s</u>		
Wizard searches driver.	< Back Next> Cancel		

7	Hardware Installation
	The software you are installing for this hardware:     Nipron USB Port     Near not passed Windows Logo testing to verify its compatibility     with Windows XP. (Left me why this testing is important.)     Continuing your installation of this software may impair     or destabilize the correct operation of your system     either immediately or in the future. Microsoft strongly     recommends that you so top this installation now and     contact the hardware vendor for software that has     passed Windows Logo testing.     [continue Anyway] STDP Installation
Click "Continue Anyway".	

8	Found New Hardware Wizard Please wait while the wizard installs the software			
	Nipron USB Port			
	Setting a system restore point and backing up old files in case your system needs to be restored in the future.			
Software installation	< Back Next > Cancel			





0	Found New Hardware Wizard	
9	Completing the Found New Hardware Wizard The wizard has finished installing the software for:	
Click "Finish".	Click Finish to close the wizard.	

10	Book - 🕥 - 🌮 🔊 Search 🌮 Folders 🛄 -						💙 🔁 Go
	Control Panel 🛞	Content of the second s	Rdd Hardware	Add or Remov	Administrative Tools	Automatic Updates	Date and Time
	ee Also 🛞	S Display	Folder Options	onts (	Game Controllers	Internet Options	达 Keyboard
	Help and Support	Mouse	Network Connections	Network Setup Wizard	Phone and Modem	Power Options	Printers and Faxes
		Regional and Language	Scanners and Cameras	Scheduled Tasks	Security Center	Sounds and Audio Devices	speech
Control Panel select "System".		System	Taskbar and Start Menu	User Accounts	Windows Firewal	Wireless Network Set	

At Control Panel select "System".

	System Properties	3
	System Restore Automatic Updates Remote	
	General Computer Name Hardware Advanced	
	Device Manager	
	The Device Manager late all the hardware devices invalued on your compute Let the Device Manager to charge the properties of any device.	
	Drivers	
	Driver Signing lets your make sure that installed drivers are compatible with Windows. Windows Lipdate lets you set up how Windows connects to Windows Lipdate for drivers.	
	Driver Signing Windows Update	
	Hardware Profiles	
	Hardware profiles provide a way for you to set up and store different hardware configurations.	
	Hardware <u>P</u> rofiles	
	OK Cancel Apply	
en the Device Manager.		1

13	🖳 Device Manager	
	Elle Action View Help	
	E- BICKER-PLANT2	^
	Gomputer     Solution	
	🗉 👰 Display adapters	
	JVD/CD-ROM drives	
	General Floppy disk controllers     Jack drives	
	General Stress     General	
	🕀 🦢 Keyboards	
	Mice and other pointing devices	Ξ.
	Monitors     Honitors     Honitors	
	🚊 🍠 Ports (COM & LPT)	
	Communications Port (COM1)	
The USB Port will be displayed	- J Communications Port (COM2) - J ECP Printer Port (LPT1)	
as virtual COM Port.		
	🗄 💏 Processors	
It can now be used with the		
UPS module of Windows®	🗄 🍝 Storage volumes	· · · · · · · · · · · · · · · · · · ·
or the RUPS 2000 software.		





#### 3.2 RUPS 2000-B1

This software supports the following OS: Novell NetWare®, Linux, LAN Manager, Windows® 3.x/95/98/NT/ME/2000/2003/XP/Vista/7, IBM Lan Server, Artisoft LANtastic.



	License Agreement Please read the following license agreement carefully.
-	Press the PAGE DOWN key to see the rest of the agreement.
	LIMITED WARRANTY THE PROGRAM AND ENCLOSED MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KING, ETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANT ABILITY AND PRENED A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO QUALITY AND PRENEDMEND OF THE PROGRAM AND ENCLOSED MARTERIAL IS ASSUMED BY YOU. LIMITATION OF REMEDIES Mega System Technologies entire liability and your exclusion remedy shall be replacement
	, Do you accept all the terms of the preceding License Agreement? If you choose No, the setup will close. To install RUPS 2000, you must accept this agreement.
	InstallShield

	InstallShield Wizard
5	Customer Information Please enter your information.
	Please enter your name, the name of the company for which you work and the product serial number.
	Loser Name: Bicker Company Name:
	Bicker Serial Number:
Enter the respective data. The Serial Number is printed on the CD cover.	InstallShield

6	Question
	You have provided the following registration information
	Name: Benutzer Name!! // User name!!
	Company: Firmenname!! // Customer Name!!
	Serial Number:
	Is this registration information correct?
	<u></u>
When all data have been entered	
correctly, click "Yes" to continue.	





Setup will install RUPS 2000 in the following folder. To install to this folder, click Next. To install to a different folder, click Browse and select another folder. Destination Folder	Choose Destination Location Select folder where Setup will install files.
	To install to this folder, click Next. To install to a different folder, click Browse and select
D:\Program Files\Megatec\RUPS 2000 Browse	

#### Select directory and click "Next".

	InstallShield Wizard
8	Select Program Folder Please select a program folder.
	Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing folders list. Click Next to continue.
	Program Folders: RUPS 2000
	Existing Folders: Acronis
	Adobe ATI HydraVision ATI Multimedia Center Autostart Averus Zweckform WinLabel
	Bauknecht Schlobo CanStudio Canon iR1200-1300
	InstallShield
Click "Next".	< <u>Back</u> <u>Next</u> > Cancel

	InstallShield Wizard	1
9	Setup Status	
	RUPS 2000 Setup is performing the requested operations.	
	Installing:	
	C:\\99D9824A-71EA-4870-AADA-D1FABC69A959}\data1.cab	
	4%	
	InstallShield	
The data are copied into the directory.	Instelioneto	



	InstallShield Wizard				
	Enter Text				
	Please enter information in the field below.				
	1. Your Name/Company Name:	Benutzer Name!! // User name!!/Firmenname!! // Customer N			
	2. Country and Area:	Select from list			
	3. <u>E</u> -mail Address:				
	4. Product Name:	RUPS 2000			
	5. <u>S</u> erial Number:				
	6. Software ⊻ersion:	3.30			
	7. Cable <u>N</u> umber:	Select from list			
	8. UPS Brand Name, Model No. (or	UPS Manufacturer):			
	Comments:	×			
When the software is registered,		Y			
all fields (incl. Serial Number)	InstallShield	Register Now Register Later			
must be filled in.		Tegister now Register Later			

12	InstallShield Wizard	InstallShield Wizard Complete         The InstallShield Wizard has successfully installed RUPS 2000. Before you can use the program, you must restart your computer.         Image: The Installed RUPS 2000. Sefore you can use the program, you must restart your computer.         Image: The Installed RUPS 2000. Sefore you can use the program, you must restart your computer.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You must restart your computer now.         Image: The Installed RUPS 2000. Sefore you can use the program. You can u
Completion. Then, click "Finish".		Complete setup.





13	Shortcut to i_view32	Image: marked black blac
	Windows Media Playe	Startup     KUPS Daemon     Minimum Explorer     Minimum Kinimum
	Windows Messenger	Outlook Express     Remote Assistance
	Tour Windows XP	Windows Media Player     Windows Messenger
	All Programs	<ul> <li>3 Windows Movie Maker</li> <li>2000</li> </ul>
The RUPS 2000 can be started		Log Off 💽 Turn Off Computer
without previous restart of the PC!	🦺 start	

14 Rups Service Stopped. Start the service now 2a Nein Click "Yes".



16	Settings      General E-Mail Pager Shutdown Warning      UPS connected at Senial Port: Auto      Remote Configuration Password:
Select the COM Port in rider "General".	OK Cancel









10	➤ Settings
19	➤ Settings       Image: Structown   Warning           Image: General   E-Mail Peger   Structown   S
Settings for Pager. A modem is required!	DK Cancel

20 Settings E-mail settings. An e-mail system is required!



22	Event Log     Ist     Calendar
	Date         Time         Description           ▲ 2008-3-19         16:07:26         ▲ AC Failure           ▲ 2008-3-19         16:07:28         ▲ AC Failure           ▲ 2008-3-19         16:07:30         ▲ AC Failure           ▲ 2008-3-19         16:07:32         ▲ C Failure           ▲ 2008-3-19         16:07:34         ▲ C Failure           ▲ 2008-3-19         16:07:34         ▲ AC Failure           ▲ 2008-3-19         16:07:36         ▲ AC Fower Restored
Error messages can be read out from a list.	Save as Print Clear Exit

23	Event Log .ist Cale	ndar   Mon	Tue	Wed	Thurs	Fri	Sat	
							1	
	2	3	4	5	6	7	8	
	9	10	11	12	13	14	15	
	16	17	18	(19)	20	21	22	
	23	24	25	26	27	28	29	
	30			-51	200	8/03	Ø	
Days with failure occurrences will be marked in the calendar.		Sa	ve as	Print		Clear	Exit	

24	Closed File Records
	Relative <u>S</u> aving Filename:
Under "Closed File Records" the closed programmes are listed.	ОК





#### 3.3 UPS Service of Windows® 2000 / XP

The UPS Service can be accessed via System Control under Energy Options.



7	UPS Selection	? 🛛
4	Select manufacturer:	On port:
	Generic	СОМ1 💌
	Select model:	
	Custom	
Choose "Standard", "Customized"		
and "COM Port", then, click		Next > Cancel
"Next".		

2	UPS Interface Configuration On: COM1			
3	UPS Signal Polarity: Warning: Please consult your UPS documentation before attempting to configure signal polarities.			
	<ul> <li>✓ Power Fail/On Battery:</li> <li>✓ Low Battery:</li> <li>✓ UPS Shutdown:</li> </ul>	<ul> <li>Negative</li> <li>Negative</li> <li>Negative</li> </ul>	<ul> <li>Positive</li> <li>Positive</li> <li>Positive</li> </ul>	
Make the required settings. Setting "Shut down via UPS" is not compulsory. Then click "Finish".		< <u>B</u> ack	Finish Cancel	

4	Power Options Properties     Image: Comparison of Comparison
	To commit the new settings, choose OK or Apply.
Click the "Configuration" button.	OK Cancel Apply

-	UPS Configuration	]
5	Enable all notifications.	
	Seconds between power failure and first notification: 5 💲	
	Seconds between subsequent power failure notifications: 120 🗘	
	Critical alarm	
	A critical alarm occurs when the UPS battery is almost exhausted or, optionally, after a specified time on battery power.	
	Minutes on battery before critical alarm: 2 🗘	
	When the alarm occurs, run this grogram.	
	Next, instruct the computer to:	
	Shut down	
	Finally, turn off the UPS.	
Make the desired settings.		
Click "OK" and "Accept".	OK Cancel	

	Power Options Properties
6	Power Schemes Advanced Hibernate UPS
	Uninterruptible Power Supply
	Current power source: On Battery Entimated UPS numme: Extimated UPS capacity: Eatimated UPS capacity: Eatimated Const.
	Detaite Manufacturer: Generic Model: Custom
	Configure Select
The PC will shut down after the	Agout
given time.	OK Cancel Apply







## 4. Connections

#### 4.1 External

The power supply is connected from the backside to the mainboard via an USB cable.





#### 4.2 Internal (ENSP-USB-INT)

The following figures illustrate the connection procedure with USB cable









## 5. ENSP3-REBOOT (Automatic Startup PC board)

The PCB supports the following operational modes:

- Starting the PC as soon as mains power is supplied.
- Rebooting the PC or Windows<sup>®</sup> in case mains power returns while Windows<sup>®</sup> is shutting down.

Note: This is not possible via PC BIOS settings

#### Contents of the ENSP3-REBOOT:

Automatic Startup PC board, cables, crimp connectors, spacers

#### Installation or retrofit









The following connections have to be made at the PCB:

Connect the red-and-black twisted cable to +5 V and the purple-and-black twisted cable to +5 VS. **Observe polarity!** 

Then, connect the open ends to the ATX cable harness (red/red, purple/purple, black/black). Connect the start button of the PC to OUT2 and connect the included black-and-white cable to the multi-pin connector (= start button) on the motherboard. Connect the remaining connector to OUT1.







## 6. Health and Safety Warnings





## 7. Troubleshooting

Failure:	No function
Possible cause:	1. Mains switch is switched off 2. Cable at PSU and PC is loose
Possible countermeasure:	1. Switch on mains switch 2. Check cable at PSU and PC for tightness
Failure:	No UPS function
Possible cause:	<ol> <li>No battery pack is connected</li> <li>Battery pack has not enough capacitance or is discharged</li> </ol>
Possible countermeasure:	1. Connect battery pack 2. Charge battery pack or replace it
Failure:	No software communication
Possible cause:	1. Wrong COM-Port is set 2. No USB driver is installed for mNSP3-450P-USB
Possible countermeasure:	1. Adjust COM-Port 2. Install driver
Failure:	PC switches off in UPS operation
Possible cause:	<ol> <li>The back-up time in the UPS software was set too high</li> <li>Battery pack has not enough capacitance or is discharged</li> </ol>
Possible countermeasure:	1. Check back-up time 2. Check battery pack
Failure:	PC does not switch off after Windows® shutdown
Possible cause:	<ol> <li>ACPI function is not activated</li> <li>Is a wrong interface cable installed?</li> </ol>
Possible countermeasure:	<ol> <li>Activate ACPI function in BIOS and operating system</li> <li>Check interface cable</li> </ol>



## Notizen / Notes


- Industrial PC PSUs
- Power supplies
- Medical applications
- DC/DC converters
- UPS systems



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