

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
 Product data: PC PSU for medical applications with UPS function Various battery packs With USB interface C 5 8 20 	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>Bead our privacy policy</u>	
	Can Windows connect to Windows Update to search for software?	
	Ves, now and every time I connect a device No, not this time	
	Click Next to continue.	
The "Welcome" screen is displayed. Click "Next".	Cancel	



	Found New Hardware Wizard
5	Please choose your search and installation options.
	<u>S</u> earch for the best driver in these locations.
	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 Browse
	◯ <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".	< <u>Back</u> Next> Cancel

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

7	Hardware Installation		
	The software you are installing for this hardware: Nipron USB Port has not passed Windows Logo testing to verify its compatibility with Windows XP. (Leil me why this testing is important.) Continuing your installation of this software may impair either immediately or in the future. Microsoft strongly recommends that you stop this installation on wo 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.	

	Back 👻 🕥 - 🏂 🔎 Se	arch 🜔 Fo	Iders 🛄 -				
	ss 📴 Control Panel						💙 🔁 Go
	Control Band	Ġ,	Ń	6		2	P
	Switch to Category View	Accessibility Options	Add Hardware	Add or Remov	Administrative Tools	Automatic Updates	Date and Time
			T	d	ŝ		1
	Windows Update	Display	Folder Options	Fonts	Game Controllers	Internet Options	Keyboard
	Help and Support	3		6		4	
		Mouse	Network Connections	Network Setup Wizard	Phone and Modem	Power Options	Printers and Faxes
		٢	2	1	۲	O,	<u> </u>
		Regional and Language	Scanners and Cameras	Scheduled Tasks	Security Center	Sounds and Audio Devices	Speech
		V				1	
		System	Taskbar and Start Menu	User Accounts	Windows Firewall	Wireless Network Set	
ontrol Panel select "System".							

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 let 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

	🖴 Device Manager	
	Eile Action View Help	
	$+ \rightarrow \blacksquare \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \textcircled{2} \rule{2} \textcircled{2} \textcircled{2} \rule{2} \rule{2} \rule{2} \rule{2} $	
	E BICKER-PLANT2	~
	E g Computer	
	Josk drives Josk drives Josk drives	
	e 🚳 DVD/CD-ROM drives	
	Floppy disk controllers	
	General Controllers	
	🗄 🦢 Keyboards	
	Mice and other pointing devices	=
	H Monitors	
	Ports (COM & LPT)	
	Communications Port (COM1)	
The USB Port will be displayed	Communications Port (COM2)	
as virtual COM Port	Nipron USB Port (COM3)	
	🗄 💏 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 DOW/N key to see the rest of the agreement.
	LIMITED WARRANTY THE PROGRAM AND ENCLOSED MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MECHAAT RABIUTY AND PREPROMANCE OF THE PROGRAM AND ENCLOSED MATERIAL 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
Customer Information Please enter your information.
Please enter your name, the name of the company for which you work and the product serial number.
Bicker
Bicker Serial Number:
InstallShield < <u>B</u> ack <u>N</u> ext Cancel

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?
When all data have been entered	
correctly, click "Yes" to continue.	





Choose Destination Location Select folder where Setup will install files.
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 Edder

Select directory and click "Next".

8	InstallShield Wizard X 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: Eyisting Folders: Actonics Actonics Adobe ATI HydraVision ATI HydraVision ATI Mutimedia Center Autostart
Click "Next"	Avery Zweckform Wini abel Basknecht Stoffalo CanStudo Canon R1200-1300

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

10	InstallShield Wizard InstallShield Wizard Complete The InstallShield Wizard has successfully installed RUPS 2000. Click Finish to exit the wizard. Image: Click Finish to exit the wizard. Image: Ves, I want to view the Readme file. Image: Ves, I want to register the product now.
Set the checkmarks as required and click "Finish".	K Beck Finish Cancel

	InstallShield Wizard	
	Enter Text	A second s
	Please enter information in the field	d 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:	<u>A</u>
When the software is registered,		×
all fields (incl. Serial Number)	InstallShield	Register Now Register Later
must be filled in.		Tegister now Legister Fater

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. (* Yes, I want to restart my computer now) (* No, I will restart my computer later. Remove any disks from their drives, and then click Finish to complete setup.
Completion. Then, click "Finish".		Kack: Finish Cancel





13	Shortcut to i_view32	Mini Accessories > Image: Acconis > Image: Games >	
	Windows Media Playe Windows Messenger Tour Windows XP	Internet Explorer Internet Explorer MSN Outlook Express Remote Assistance Image: Windows Media Player Windows Messenger Windows Movie Maker	RUPS Daemon
The RUPS 2000 can be started without previous restart of the PC!	All Programs 🕨	RUPS 2000	er

14 Rups Service is stopped. Start the service now Dein 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









	> Settings
19	Settings Image: Shutdown Warning Image: Shutdown Warning Image: Shutdown Warning Image: Shutdown Warning Shutdown Warning Image: Shutdown Warning Image: Shutdown Warning Shutdown Shutdo
Settings for Pager.	OK Cancel

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



22	≸r Event Log List Calendar	×
	Date Time Description ▲ 2008-3-19 16:07:26 AC Failure ▲ 2008-3-19 16:07:28 AC Power Restored ▲ 2008-3-19 16:07:30 AC Failure ▲ 2008-3-19 16:07:30 AC Failure ▲ 2008-3-19 16:07:32 AC Power Restored ▲ 2008-3-19 16:07:34 AC Failure ▲ 2008-3-19 16:07:36 AC Power Restored	I
rror messages can be read out rom a list.	Save as Print Clear Ex	it

	\$ *	Event Log]	×
73	ſ	_ist Cale	ndar						
		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	
		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			E	200	8/03		
						,			
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.



	UPS Selection		? 🔀
4	Select manufacturer:	On port:	
	Generic	СОМ1	*
	Select <u>m</u> odel:		
	Custom		
pose "Standard", "Customized"			
"COM Port", then, click		<u>N</u> ext > Ca	ancel

UPS Interface Configuration On: COM1			
3	UPS Signal Polarity: Warning: Please consult your UPS documentation before attempting to configure signal polarities.		
	 ✓ Power Fail/On Battery: ✓ Low Battery: ✓ UPS Shutdown: 	 Negative Negative Negative 	 Positive Positive Positive
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 the source
	To commit the new settings, choose OK or Apply.
Click the "Configuration" button.	

-	UPS Configuration	
5	Enable all notifications.	
	Seconds between power failure and first notification:	•
	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 alarma	
	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 Cance	

	Power Options Properties
6	Power Schemes Advanced Hibernate UPS
	Uninterruptible Power Supply
	Current power source: On Battery Entimated UPS numme: Extimated UPS capacity: Battery conclusion:
	Details Manufacture: Generic Model: Custom
	Configure Select
The DC will should down offer the	About
riven time	OK Cancel Apply
given time.	







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[®] in case mains power returns while Windows[®] 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:	 Mains switch is switched off Cable at PSU and PC is loose
Possible countermeasure:	 Switch on mains switch Check cable at PSU and PC for tightness
Failure.	No LIDE for sting
Fallure:	No OPS function
Possible cause:	 No battery pack is connected Battery pack has not enough capacitance or is discharged
Possible countermeasure:	1. Connect battery pack 2. Charge battery pack or replace it
Failure	No software communication
ranure.	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
Esiluro	PC switches off in LIPS operation
Fallure:	PC switches on in OPS operation
Possible cause:	 The back-up time in the UPS software was set too high Battery pack has not enough capacitance or is discharged
Possible countermeasure:	1. Check back-up time 2. Check battery pack
Failure:	PC does not switch off after Windows® shutdown
Possible cause:	 ACPI function is not activated Is a wrong interface cable installed?
Possible countermeasure:	1. Activate ACPI function in BIOS and operating system 2. Check interface cable



Notizen / Notes

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



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