



# **MODCOM** Manual



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## **1 MXI Installation**

Connect MXI to a vacant USB Port on your PC.

The following window should appear.



Choose "Install from a list or specific location (Advanded)".

Press "Next"



In the next window press "Don't search. I will choose the driver to install"

Found New Hardware Wizard
Please choose your search and installation options.
Search 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:
D:\A.E\Driver MXI\MXI_Driver V
Don'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.
< <u>B</u> ack <u>N</u> ext > Cancel

Press "Next".



In the next window press "Have Disk ..."

Found New Hardware Wizard		
Select the device driver you want to install for this hardware.		
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.		
Model		
MXI PID 370 D2X		
This driver is not digitally signed!       Have Disk         Tell me why driver signing is important       Have Disk		
< <u>B</u> ack <u>N</u> ext > Cancel		

Press "Browse" in the next window.



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?× Locate File 🔽 🔇 🤌 📂 🔜-Look in: 🗀 Windows\_XP FTSERMOU.INF FTDIBUS.INF FTDIPORT.INF My Recent Documents Desktop My Documents My Computer FTDIBUS.INF File <u>n</u>ame: Y Open Files of type: v Cancel Setup Information (\*.inf) My Network

Choose in the folder "Driver MXI" .. operating system.. the file FTIBUS.INF

Press "Open".



The following message you could ignore.

Hardwa	re Installation
	The software you are installing for this hardware: Phocos MXI has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell 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 stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway STOP Installation



The driver would installed now.

Found New Hardware Wizard		
Please wait while the wizard insta	Ils the software	E.
Phocos MXI		
Ď	6	
	< <u>B</u> ack <u>N</u> ext >	Cancel



The first driver is successfully installed now when the following window would shown to you.



Click on "Finish". Now the second driver must be installed which create the Virtual Comport which is used to communicate with Modcom.



When the next window appears click on "Install from a list or specific location (Advanced)"

Found New Hardware Wizard		
	Welcome to the Found New Hardware Wizard	
	This wizard helps you install software for:	
	USB Serial Port	
	If your hardware came with an installation CD or floppy disk, insert it now.	
	What do you want the wizard to do?	
	<ul> <li>Install the software automatically (Recommended)</li> <li>Install from a list or specific location (Advanced)</li> </ul>	
	Click Next to continue.	
	< <u>B</u> ack <u>N</u> ext > Cancel	



In the next window click on: "Don't search. I will choose the driver to install"

Found New Hardware Wizard
Please choose your search and installation options.
Search 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 <u>m</u> edia (floppy, CD-ROM)
Include this location in the search:
D:\A.E\MXI_Comport_Driver\Windows_XP\Window:
Don'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.
< <u>B</u> ack <u>N</u> ext > Cancel

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Choose "Show All Devices".

Found New Hardware Wizard	
Hardware Type.	E)
Select a hardware type, and then click Next. Common <u>h</u> ardware types:	
Show All Devices Show All Device States States States CDROM Computer Computer States States Computer States	
< <u>B</u> ack <u>N</u> ext >	Cancel



Click on "Have Disk…"

Found New Hardware Wizard		
Select the device driver you	want to install for this hardware.	
Select the manufacturer and have a disk that contains th	d model of your hardware device and then click Next. If you e driver you want to install, click Have Disk.	
Manufacturer (Generic USB Audio) (Generic USB Hub) (Standard CD-ROM drives)	Model	
This driver is digitally signed. Tell me why driver signing is impo	<u>H</u> ave Disk	
	< <u>Back</u> <u>N</u> ext > Cancel	





Click on "Have Disk ..."

Found New Hardware Wizard
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Model
Phocos MXI
Image: This driver is not digitally signed!       Have Disk         Tell me why driver signing is important       Have Disk
< <u>B</u> ack Next > Cancel

Press "Browse"





Choose the file "FTDIPORT.INF"

Locate File							? 🗙
Look <u>i</u> n:	Windows_XP		*	G	Ø 6	• 🖽 🤊	
My Recent Documents	FTSERMOU.INF						
Desktop							
My Documents							
My Computer							
<b></b>	File <u>n</u> ame:	FTDIPORT.INF				~	<u>O</u> pen
My Network	Files of type:	Setup Information (*.inf)				~	Cancel

Press on "Open"

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The next message you could ingnore

Hardwar	re Installation
<u>.</u>	The software you are installing for this hardware: Phocos MXI has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell 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 stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway

Now the MXI would installed.

Found New Hardware Wizard					
Please wait while the wizard installs	s the software				
Phocos MXI					
È	7				
	- Paolo	Nexts	Creat		
	< <u>B</u> ack	Next >	Cancel		



When the next window is shown to you, the MXI is successfully installed.



The MXI is successfully installed now press "Finish".

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Now you could find the MXI in the "Device Manager". In our example it's "COM4". Please set this Com in the Modcom for communication. How you do that you could see at capital 3.1

🖳 Device Manager
<u>File A</u> ction <u>V</u> iew <u>H</u> elp
Image: Appropriate interview of the interview o



## 2 MODCOM Installation

Please start the "setup.exe", then the MODCOM Setup would guide you through the installations steps.

If the Microsoft framework is still installed on your PC, then please go to step2

## Step 1: Install the Microsoft .NET Framework

Open setup.exe and you will see the following picture if Microsoft .NET Framework **is not** currently installed on your computer. If Microsoft .Net Framework is already installed, look into step 2 of the installation.



Click to "Yes" and the next window will appear.



Microsoft .NET Framework installation is executing now.





Click "I agree" if you agree with license terms of Microsoft .NET Framework. Then, click "Install" to continue software installation.



Microsoft .NET Framework setup is installing components now.



Finish of the .NET Framework installation with a message.

ft .NET Framework 1.1 Setup
Installation of Microsoft .NET Framework 1.1 is complete.
(OK
Installation of Microsoft .NET Framework 1.1 is complete.

Now the Microsoft .NET Framework is installed on your computer. You must start the setup.exe again to install the Phocos MODCOM software.



## Step 2: Install the MODCOM software

Start the setup again and following the instructions.

🔀 Modular Power Management
Welcome to the Modular Power Management Setup Wizard
The installer will guide you through the steps required to install Modular Power Management on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel < Back Next >

Click on "Next".

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Choose a folder where you want to install the software.

🔂 Modular Power Management
Select Installation Folder
The installer will install Modular Power Management to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
<u>F</u> older:
C:\Programme\Phocos\Modular Power Management\ Browse
Disk Cost
Install Modular Power Management for yourself, or for anyone who uses this computer:
◯ Just <u>m</u> e
Cancel < <u>B</u> ack <u>N</u> ext >

Click on "Next" and the software would installed now.

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🔀 Modular Power Management		
Confirm Installation		
The installer is ready to install Modular P Click "Next" to start the installation.	ower Management on your computer.	
	Cancel < <u>B</u> ack	<u>N</u> ext ≻
🙀 Modular Power Management		
Hodular Power Management	er Management	
Modular Power Management	er Management	
Modular Power Management	er Management stalled.	

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If the installation was successfully the window above will show you the success.

On the Desktop the following link will shown to you:

Modular\_Power\_Management.exe



## 3 The Software

After launching the software click on "START"





## 3.1 Interface setting

If you have connected a Modem or communicate over Comports than you have the possibility in the Modcom software to change the Port. This you could do in the menu line "Interface". Choose here the port which you want to use for communication.





## 3.2 Main Menu

Following possibilities:

## • Help Assistant/Create New System

- Helps you to configure your individual system
- Check the addresses of the devices

## • Modem Connection

 $\circ$   $\;$  This function is for remote monitoring your system over a modem.

## • Import Status

- If a MXI is connected than click on this button and the software starts to download the actual data of the MCU (actual Status values and Settings)
- Import Datalogger
  - Import the daily datalogger (max 91 days)
  - Import the monthly datalogger (the last 10 years)

### • Import Daily Intervall

- Import System data which are saved every 15/30 or 60 minutes (depending of the interval setting)
- Import Saved Data
  - $\circ$   $\,$  Here you can save system data or import saved saved data  $\,$

### Bootloader

 $\circ$   $\;$  This function is for update the devices with the newest software.

## • Actual system

• If you have import data you go again to the overview window.



🔜 MODULAR POWER M	ANAGEMENT	VERSION 1.29.013	
File Interface baudrate	Main Menu		
phocos		Modular Power Management	phocos
		Help Assistant / Create New System	
		Modem Connection	
	6	Import Status	
	6	Import Datalogger	
	Day	Import Daily Detail Datalogger	
		Save/Import Data	
		Actual System	
		Bootloader	



## 3.2.1 Help Assistent / Create a new System

Main Menu: Help Assistant/Create New System (page 13)

If you want to configure a new system this assistant will help you to configure your devices.

The assistant will guide you in following steps to your individual system.

🔜 MODULAR PO	WER MANA	GEMENT	VERSION 21			
File Interface M	ain Menu					
phocos		He	elp Assistent: (	Create new Sys	tem	phocos
	CON	TROL UNI	Г			
The	e"Create Ne stem. Pleas	ew System" Help Assis e follow the below instru	tent will guide you throu ctions.	ıgh six (6) steps of impo	rtant system settings for y	your MPM
1.	Choos	se System Settin	gs			
2.	Choos	e Devices for Y	our System			
3.	Print C	Out System Sche	ematic			
4.	Set Di	p Switches on A	ll Devices and V	Viring		
5.	Hardw	/are/Software ch	eck			
6.	Ready					
	Next					
System	Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
			Mair	n Menu		

Please click on "Next" at the bottom of the window and the next window will appear.



MODULAR POWER MAN	GEMENT	VERSION 21			
e Interface Main Menu					
phocos	He	elp Assistent: (	Create new Sys	tem	phocos
CONTROL UNIT					
For Optimal Charging					
PWM/MPPT					
To Avoid Electromagnetic	Interference				
		Bank S	witching		
System Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
		Main	Menu		

Decide between "PWM/MPPT" charging or "Bank Switching"

## **PWM/MPPT:**

It's for a optimal charging. Choose this menu item if you have no special requirements.

#### **Bank Switching:**

If you want to avoid power peaks which causes electromagnetic influences you should choose Bank Switching. This function is only possible if you have only MPS as charger it's not possible by using MPPT's.



Depending of the charging mode you have two different windows for setting the charging voltages: <u>Choosing: PWM/MPPT</u>

🔜 MODULAR POWER MANAGEM	ENT	VERSION 21			
File Interface Main Menu					
phocos	He	elp Assistent:	Create new Sys	tem	phocos
	ROL UNI	r			
Default Setting					Default Settings
System Voltage: 12V	•	Battery Type:	Liquid 💽	(	Custom Settings
Charge Voltage Set-Points Float Mode Voltage Ø Boost Mode Voltage: Equal Mode Voltage: Ø Main Charge Voltage:	Max. Voltage + 13.8 V + 14.4 V + 14.8 V + 14.4 V + 14.4 V	Activation Voltage Time F	Period Daily Time Period          20       min         20       min         20       min         20       min	Frequency (days)	
Temperature Compensation	E.	÷ 24 mv/K			
Back Next					
System Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
		Mai	n Menu	·	

## Notice:

This settings you should only change if you are a battery specialist.

#### **Charging Voltages:**

The charging voltages have different priorities. (see next page)

### **Temperature Compensation:**

The Temperature Compensation value is the correction of the charging voltage depending of the temperature of 25°C. The value is the correction of the charging voltages per Kelvin.



### Priority1: Main charge voltage



If battery voltage falling below "Activations voltage" of Equal Mode then Equal mode would activated.



If battery voltage falling below "Activations voltage" of Equal Mode then Equal mode would activated.



## **Priority4: Daily Boost Mode:**



Daily Boost Mode is activated when a new day starts



## Choosing: Bank Switching

🖶 MODULAR POWER MANA	GEMENT	VERSION 21			
File Interface Main Menu					
phocos	He	elp Assistent: (	Create new Sys	tem	phocos
		r			
Default Setting	12V 💌	Lic	uid 👤	•	Default Settings Custom Settings
Bank Switching Voltages for Charge On/	Off:				
	Max:	<u>↓ 14.8</u> V			
	Min:	÷ 13,0 V			
	Minimum Off Time:	• 120 s			
Back Next	]				
System Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
		Main	Menu		

## Notice:

## This settings you should only change if you are a battery specialist.

Here you can choose the threshold levels if you use a Bank Switching System.



	CENENT	VERSION 24			
MODULAR POWER MANA	GEMENT	VERSION 21			
phocos	He	elp Assistent: (	Create new Sys	tem	phocos
		r			
Emergency High-Voltag The system will perform will disconnect immediate	e Disconnect for Load Protecti nnormal load disconnects ellv	on following a one (1) minute t	ime delay. However, if the volta	age threshold set below is exc	eeded, all load switches
Maximum Allowed Batte	ry Voltage	÷ 17.0 V			
Emergency Low-Voltage Disconnect for Battery Protection         The system will perform normal load disconnects following a one (1) minute time delay. However, if the voltage threshold set below is exceed, all load switches will disconnect immediately.         Minimum Allowed Battery Voltage       10.5 V					
Back					
System Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
		Main	Menu		

In this window you could choose the min. and max. allowed voltage in the system.

The max. allowed Voltage to protect your loads. By reaching this voltage all load switches will disconnect the loads immediately from the battery.

The min. allowed Voltage to protect the battery. When the battery voltage falls below this setting the load switches will also disconnect the load immediately.



MODULAR POWER MANAGE	MENT	VERSION 21			
Interface Main Menu					
phocos	He	elp Assistent: (	Create new Sys	tem	phocos
CONT	ROL UNIT	Γ			
Grounding All Devices Must be G	rounded on the Same Pole	: (Negative or Positive):			
Grounding:	Ne	egative 🔽			
Grounding:	Ne	gative 🔽			
Grounding:	Ne	gative			
Grounding:	Ne	egative			
Grounding:	Ne	egative			
Grounding:	Ne	egative			

Choose the grounding of the system.

It's necessary that the software could check if each device is connected correctly.

Notice:

By using MPPT it's only possible to ground on the negative pole.





Next step is to add the devices in your system.

Please, click for this on the devices at the right side of the window above. Than you can add the devices.

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If you want to delete a device click with the right mouse button on it and then on delete at the menu which appears.



Click on "next" if you have all components in your system.



		2EMENT	VERSION 21			
File Interface	Main Menu	JEMEN I	VERSION 21			
phocos			System	Overview		phocos
	Please choose CutePDF Write	a printer: PRINTER PREVIEW PRINT	'WINDOW		ATION'LAN 18 (1.200 12.25.2) In Vage Brannel Puterline In Vage Brannel Pu	
Back	Next	Status Data	Datalogoer	Save Svetam	Granks	Print Shematic
Syster	II Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic

Now you could print out the schematic of your system to know also the Dip Switch settings for the devices.



🖶 MODULAR PO	WER MANAG	GEMENT	VERSION 21			
File Interface Ma	in Menu					
phocos			System	Overview		phocos
	CON	TROL UNIT	r			
The	"Create Ne tem. Pleas	ew System" Help Assis e follow the below instru	tent will guide you throu ctions.	igh six (6) steps of impo	rtant system settings for y	your MPM
	Choos	se System Settin	gs			
	Choos	e Devices for Y	our System			
	Print C	Out System Sche	ematic			
4.	Set Di	p Switches on A	ll Devices and V	Viring		
	Please, take	e care that all devices are con	nected to the battery at the sa	me time. You can realize that b	y a switcher (for example: fus	e).
5.	Hardw	/are/Software ch	eck			
6.	Ready	1				
Back	Next					
System I	Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
			Mair	Menu		

Now you could make the dip switch setting like the schematic and make the wiring of all components to the battery and the panels respectively Dump loads.

After the wiring is finished you should check again if you have no circuits before you connect it to the battery. Please use a fuse in the battery wire.



Now the software makes a comparison of the components which are really connected. If it's successfully the following message will shown to you.



Now the system is configured correct.

Now you could transmit the other settings.



## **3.2.2 Modem connection**

Please get sure that your modem is configured to send a "echo" and communicate with 9600 bit/s.

After that press "Modem connection" in the main menu.

Set: menuline  $\rightarrow$  baudrate  $\rightarrow$  "9600 bit/s"



Enter the teleponenumber of the modem which you want to contact.

Press "Dial and Connect to MCU on Modem"

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By a successfully connetion you would see a label with green colour:

R MODULAR POWER MANAGEMENT	VERSION 1.29.013
File Interface baudrate Main Menu	
phocos	Modem connection
Modern Connection	
Dial and Connect to MCU on Modern	00151 / 56586730
MODEM CONNECTION ACTIVE	10/26/2009 11:26:59 AM CONNECT 9600
Disconnect and hang up	

The connection is now active. When go back to the main menu you could click on "Import status" and could download the actual status of the system which you want to monitoring over the modem connection.

When you want to disconnect the connection click on "Disconnect and hang up" than the modem disconnects the telephone conneciton.

The Modcom understands following Modem answers:

NO CARRIER BUSY NO ANSWER ERROR NO DIALTONE CONNECT 9600 (successfully connection)

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If the connection failed it would shown to you by a red color.

<b></b> /	NODULAR	POWER M	ANAGEMENT	VERSIO	DN 1.2	9.013	
File	Interface	baudrate	Main Menu				
P	ohocos				М	odem co	nnection
	Mode	n Connecti	on				
		Dia	and Connect to MCU on I	Modern		00178	/ 4599711
		M	ODEM CONNECTION FA	iled		10/26/200911	:02:27 AM
			Disconnect and hang up				

When the connection failed, please restart your modem by disconnecting it from power and connect it again. Make also sure that the SIM card is insert in the modem.

After that try it again.



## 3.2.3 Import Status

If you import the status then the Modcom import the actual status and settings values of the MCU.

🔜 MODULAR POWER MANAG	GEMENT	VERSION 21			
File Interface Main Menu					
phocos		System	Overview		phocos
Transmit Settings		OVEF	CHARGE PROTECTIO	N	
	0,52A	A0			
	<b>•</b>	phocos 🚺 o	e phocos	0000000	
	MPPT 🔳 🛆	MPPT 🔳 🛆			
	MPPT 00	MPPT	D1		
			CONTROL UNIT		
	12,007				
		L	OAD MANAGEMENT		
	OA OA	0.05A			
	ju phocas u p	hocas 📑 🖞 phacas		0000000	
		MPS			
System Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
		Mai	n Menu		

If you click on the devices you can see the actual status values and settings of the devices



## 3.2.4 Import Datalogger

If you click on "Import Datalogger" you will get the monthly and daily saved data of the system.

	GEMENT	VERSION 21			
					, •
phocos		Data	logger		phocos
		Syster	m Data		
		Mor	nthly		
	Daily Recorded (91)				
		Daily I	nterval		
System Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
		Main	Menu		

After data import click on "Datalogger" at the buttons of the bottom. Then you have the choice between "System Data", "Monthly", "Daily Recorded(91)" and "Daily Interval"





## 3.2.5 Import Daily Interval Datalogger

B MODULAR POWER MANAGEMENT	VERSION 21	
File Interface Main Menu		
phocos	Main Menu	phocos
	Help Assistent / Create New System	
6	Import Status	
	Import Datalogger	
day 00 💌	Import Daily Interval Datalogger	
	Import Saved Data	
	Bootloader	
	Actual System	

The Daily Interval Datalogger save data all 15, 30 or 60 minutes (depending of the setting) of the last 91 days.

On the drop down menu you can choose the day what you like to import.



## 3.2.6 Import Saved Data

If you want to save data click on the button "Import Saved Data" and the following window will open.

🔜 MODULAR POWER MANA	GEMENT	VERSION 1.29.013			
File Interface baudrate Main	Menu				
phocos		Save/Export a	and Import Data	а	phocos
Filename					
Here you can save t	he data into a .pho file whic	h allows you to download t	e data again into the Modcorn :	software.	
	Save File				
	Open File				
System Devices	Status Data	Datalogger	Save System	Graphs	Print Shematic
		Mair	Menu		·

You could save it as .pho file. Than you have the possibility to import the data again into the software.



## 3.2.7 Bootloader

When you want to get sure that your devices have the latest firmware you could download the actual Modcom software which actual firmeware for the MPS, MPPT devices at following internet page:

http://www.phocos.com/download/firmware/firmware\_download.php

Click in the main menu on "Bootloader" than the following window will appear:

- MODULAR POWER MANAGEMENT	VERSION 1.2	9.013		
File Interface baudrate Main Menu				
phocos		Bootloader		phocos
	OL UNIT			
Bootloading If you have new .enc files th • Use the latest bootload file	hen copy the update files in t Available Bootload files:	the folder "\Modcom\Bool	load_files\ " MPS Bootload files:	MPPT Bootload files:
C Use individual bootload file Update	]			
<ol> <li>Be sure the MXI interface</li> <li>Start bootloading by click</li> </ol>	ce is connected to PC and MC cking the following buttons ->	U.		
Start MCU Bootloading	]	MCU Bootload File:	mcu2009-10-15_0109.enc	
Start MPS Bootloading	AUTOMATIC ALL	MPS Bootload File:	mps2009-09-01_0140.enc	
Start MPPT Bootloading		MPPT Bootload File:	mppt_2009-08-13_0113.enc	
		Main Menu		



Please get sure that the MXI is installed correct and connected. The Interface (menuline  $\rightarrow$  Interface  $\rightarrow$  Com..) should also adjusted correct.

- 1. Disconnect all devices from PV Panels, Dump Loads and Consumer Loads.
- 2. Please get sure that Dip Switch 1 of the MCU is off (Dip 2,3 and 4 depends on your system, please look at the MCU manual)
- 3. At first start bootloading the MCU with new firmware, for this click on "**Start MCU Bootloading"**
- 4. When bootloading is successfully finished disconnect the MCU from power and connect it again for a restart.
- 5. When the green LED of the MCU is on again, the next device is ready for bootloading.
- 6. If you want to bootload only MPS please go on with step 10
- 7. To bootload MPPT next, click on "Start MPPT Bootloading"
- 8. Wait until bootloading is finished, and disconnect the whole system from the battery and connect it again for a restart.
- 9. When the green LED of the MCU is on, the next devices could bootloaded. If you want to bootload also MPS go on with step10 otherwise with step 12.
- 10. To bootload the MPS click on "Start MPS Bootloading".
- 11. When bootloading is finished please disconnect the whole system from the battery and connect it again for a restart.
- 12. Bootloading is now successfully finished.
- 13. When the green LED of the MCU is on now, go back to "main menu" and click on "Import status" to get the actual information of the devices.
- 14. Connect the PV Panels, Dump Loads and Consumer Loads again.
- 15. The system should work normally now.

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If the bootloading process stops no matter what reason, please restart the system by disconnecting it from battery power and connect again. Start the Modcom also new.

After that go again into the Bootloader menu and set the adress of the device which you want to bootload:

Instead of "Automatic all" set:

#### **MPS** adresses:

LVD: Low Voltage Disconnect (Dip8 off)



## OVP: Over Charge Protection (Dip8 on)

Dip6 and Dip7 doesn't matter at bootloading processes



![](_page_52_Picture_2.jpeg)

#### **MPPT adresses:**

![](_page_52_Figure_4.jpeg)

After you have set this click again on "**Start MPS Bootloading**" respectively "**Start MPPT Bootloading**". After bootloading is finished successfully restart the whole system by disconnecting and connect the system again to the battery.

![](_page_53_Picture_2.jpeg)

## 3.2.8 Actual System

If you have imported already data than you can go to the actual overview window when you click on "Actual System".

B MODULAR POWER	MANAGEMENT	VERSION 1.29.013	
File Interface baudrate	Main Menu		
phocos		Modular Power Management	phocos
		Help Assistant / Create New System	
		Modem Connection	
	6	Import Status	
	6	Import Datalogger	
	Day Al	Import Daily Detail Datalogger	
		Save/Import Data	
		Actual System	
		Bootloader	

![](_page_54_Picture_2.jpeg)

## **4 MCU Interface connections**

## 4.1 Connection MCU with PC over MXI Interface

Direct connection MCU to PC over the MXI

![](_page_54_Figure_6.jpeg)

![](_page_55_Picture_2.jpeg)

## 4.2 Connection MCU over MXI232 to GPRS modem INSYS

Phocos recommends to make remote monitoring systems only with the following Modem

Insys: GPRS Modem 5.0 serial.

After you made the neccessary settings in the INSYS GPRS Modem (see manual ,,Manual\_setting\_Modem\_for\_GPRS.pdf<sup>\*\*</sup>) you could connect the MCU over the MXI232 to the INSYS GPRS Modem.

![](_page_55_Figure_7.jpeg)

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![](_page_56_Picture_2.jpeg)

Connecting the MCU to the INSYS GPRS Modem:

![](_page_56_Picture_4.jpeg)

![](_page_57_Picture_2.jpeg)

## **5** Technical Support

If you have any questions about the software, please contact:

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