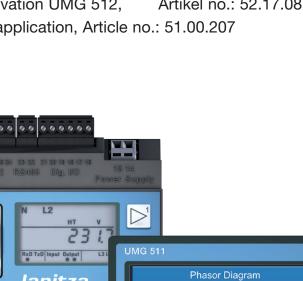
# Functional description Multitouch/BACnet

UMG 604 / UMG 605 / UMG 508 / UMG 509 UMG 511 / UMG 512

BACnet activation UMG 604,Article no.: 52.16.081BACnet activation UMG 605,Article no.: 52.16.083BACnet activation UMG 508,Article no.: 52.21.081BACnet activation UMG 509,Artikel no.: 52.21.081BACnet activation UMG 511,Article no.: 52.19.081BACnet activation UMG 512,Artikel no.: 52.17.081Multitouch application, Article no.: 51.00.207Artikel no.: 51.00.207



229 V

2 kvar

Janitza

+ 0 kva

1 kva

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L3 VL1 IL1 VL2 IL2 VL3

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# Prerequisite

The Power Analyser for the BACnet communications must be activated to use the Multitouch function. The activation code required for this must be purchased and can be pre-entered at the manufacturing factory - or subsequently directly on the device - with the help of a numerical code.



## Attention

Without paying for the BACnet option, the BACnet specific expansion cannot be used!

Description	Art. no.
BACnet activation code UMG 604	52.16.081
BACnet activation code UMG 605	52.16.083
BACnet activation code UMG 508	52.21.081
BACnet activation code UMG 509	52.21.081
BACnet activation code UMG 511	52.19.081
BACnet activation code UMG 512	52.17.081

## Setting the activation code with UMG 604 / 605:

- Set the device to programming mode (see operating instructions) to enter the activation code.
- Set address 520 and enter the first part of the license as the value.
- Then set address 521 and enter the second part of the license as the value.

Address	Description	Setting range
520	Activation "BACnet" option, license part 1	09999
521	Activation "BACnet" option, license part 2	0 9999

## Setting the activation code with UMG 508 / 509 / 511 / 512:

• The entering of the activation code is implemented directly via the device display. In doing so observe the "Expansion/activation" chapter (UMG 508 / 509 / 512) or "Display/activation" chapter (UMG 511) of the corresponding operating instructions.

# Integrate Power Analyser into the GridVis

To integrate the Power Analyser into the GridVis evaluation and configuration software an Ethernet connection must be established to the device and the TCP/IP address defined.

- Establish a connection between the PC and the device (see connection example) via a direct connection or via a switch/router. It is recommended to use CAT5 cable.
- Determine or set the addressing mode ("fixed IP" or "DHCP"). If "fixed IP" mode is selected then set the TCP/IP address of the device.

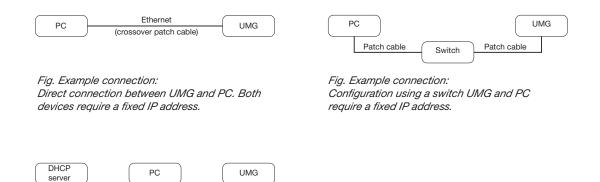


Fig. Example connection: Integration into a network with DHCP server. UMG and PC are assigned their IP addresses automatically from a DHCP server.

Switch

Patch cable

## **Fixed IP address**

In simple networks without a DHCP server, the network address has to be set directly in the device.

With a direct PC-UMG connection, note:

• Use a crossover patch cable.

Patch cable

 The first three segments of the IP addresses for the device and the computer should be identical. The last segments must be different! The subnet mask must match in all four blocks.
 Example:

Computer's IP address:	192.168.000.020 with the subnet mask: 255.255.255.0
UMG's IP address:	192.168.000.021 with the subnet mask: 255.255.255.0

#### **DHCP** mode

DHCP allows for the fully automatic integration of a UMG into an existing network without additional configuration. When started, the UMG automatically obtains the IP address, the network mask and the gateway from the DHCP server.



#### Attention

The connection of the UMG to an existing Ethernet network may only be carried out after discussion with the network administrator!

### Integrating the UMG 604 / 605

- Change the device to programming mode. To do so press buttons 1 and 2 simultaneously for approx. 1 second. With the password query deactivated the programming mode is then started and identified with the text "PRG". The first digit of the address flashes.
- Set the address 205 for the selection "DHCP-Modus" (=2) or "Fixed IP address" (=0).
  - To do so, use button 2 to set the first digit to the value 2. Then switch to the second digit with button 1 and set it to a value of 0 with button 2. Set the third digit to a value of 5 in the same way.
  - Once the address is set, switch to the setting with button 1. Use button 2 to set the parameter to the corresponding value (cf. "Addressing mode" table).
  - For further settings use button 1 to go back and enter the next address.
  - If no button is actuated for ca. 60 seconds, or if buttons 1 and 2 are pressed simultaneously for ca. 1 seconds, then the device exits programming mode and changes back to display mode.

Address	Description				
205	DHCP mode				
	0 = Fixed IP	1 = BootP	2 = DHCP client	3 = Zeroconf	Table: Addressing mode

- With the selection of "Fixed IP address", other additional network parameters must be set:
  - Setting the device IP address
    - Change to programming mode. Set the address 300 as described and set the first three digit block of the device IP address (cf. IP addresses table).
    - Then set the address 301 and allocate the second block of the device IP address.
    - Complete the entries with the addresses 302 and 303.
  - Setting the subnet mask
    - Set the subnet mask, using the same method as for configuring the device IP address, with addresses 304 to 307 (cf. IP addresses table).
  - Setting the standard gateway
    - Set the standard gateway (if present), in the same way as the IP address, with addresses 310 to 313 (cf. IP addresses table).
    - Note: Gateway adjustment is normally not required for the configuration.
- Read out the device address with "DHCP mode" selection:
  - Change to the programming mode as described. Set the address to 300, using buttons 1 and 2 and note down the three digit block in the Contents area. Carry out the same step for addresses 301 to 303 (cf. table under step 10).

Address	Description	Address	B Descriptio	n	Address	Description	
300	IP address, xxx	304	IP mask,	xxx	310	IP gateway,	xxx
301	IP address, xxx	305	IP mask,	xxx	311	IP gateway,	xxx
302	IP address, xxx	306	IP mask,	xxx	312	IP gateway,	xxx
303	IP address, :	xx 307	IP mask,	xxx	313	IP gateway,	xxx

Table: ID addresses

## Integrating the UMG 508 / 509 / 511 / 512

- Start the configuration menu from the home display with button 1 ("ESC"). Change to the "Communication" entry with button 3 and open this with button 6.
- Similarly to above, set the selection to "DHCP". To do so mark the "DHCP" entry and open this via button 6. Select the corresponding entry "DHCP" or "Off" with button 3 or 4 and confirm this with button 6. Deactivate the entry in the case of networks without DHCP servers ("Off").
- With the DHCP mode deactivated ("Off") further network parameters must be set:
  - Setting the device IP address
    - Select the entry "Address" with button 3 or 4 and open this with button 6. Change the first digit of the address via button 3 or 4. Then switch to the second digit with button 5 and set this in a similar manner to above. Complete the IP address and confirm the entries with button 6.
  - Setting the subnet mask
    - Select the entry "Netmask" with button 3 or 4 and open this with button 6. Set the subnet mask in a similar manner to the setting of the IP address for the device.
  - Setting the standard gateway
    - Select the entry "Address" with button 3 or 4 and open this with button 6. Set the IP address for the Standard Gateway (if present) in a similar manner.
    - Note: Gateway adjustment is normally not required for the configuration.
- Reading out the device address:
  - Start the configuration menu from the home display with button 1 ("ESC"). Change to the "Communication" entry with button 3 and open this with button 6.
  - Note the addresses under "Address" and "Netmask".

## Setting the IP address of the computer for a direct connection

PCs on company networks normally use DHCP. If you would like to assign a fixed IP address for the PC (e.g. for a direct PC to UMG connection), proceed as follows:



## Attention

Settings in a company network can vary.



#### Attention

The connection of the UMG to an existing Ethernet network may only be carried out after discussion with the network administrator!

- Open the Network and Sharing Center in the Windows Control Panel.
- Open the status window via the LAN connection (fig. Network and Sharing Center).
- By selecting "Properties", it is possible to assign a fixed IP address to the PC (see fig. Process for defining a fixed IP address under Windows 7).

Control Panel + All Control Panel Items + I				
G S Kontrol Panel > All Control Panel Items > 1	Network and Sharing Center			
Control Panel Home View your basic ne	etwork information and set up connections			
Change adapter settings	🚇 🥥	See full map		
Change advanced sharing PC129 settings (This computer)	janitza.de Internet			
View your active network		nnect or disconnect		
janitza.de Domain n		ing		
Change your networking	n settings			
🙀 Set up a new o	connection or network			
	ess, broadband, dial-up, ad hoc, or VPN connection; or set up a rout			
🗽 Connect to a r	network	Fig.: Network al	nd Sharing Center	
LAN-Verbindung Status	×			
General				
Connection	LAN-Verbi	indung Properties		
IPv4 Connectivity:	Internet			
IPv6 Connectivity:	No Internet access Networking Enabled			
Media State: Duration:	Connect usi	ing:		
Speed:	1.0 Gbps	R) 82579LM Gigabit Network Connection		
Details		Configure	Internet Protocol Version 4 (TCP/IPv4)	Properties ?
	This conner	ction uses the following items:	General	
		ent for Microsoft Networks	You can get IP settings assigned autom	where the second second
Activity		oS Packet Scheduler e and Printer Sharing for Microsoft Networks	this capability. Otherwise, you need to for the appropriate IP settings.	
Sent — 🛄		emet Protocol Version 6 (TCP/IPv6)	for the appropriate resettings.	
a a a a a a a a a a a a a a a a a a a	۰ · · · · · · · · · · · · · · · · · · ·	emet Protocol Version 4 (TCP/IPv4)	Obtain an IP address automatical	у
Bytes: 115.921.356		nk-Layer Topology Discovery Mapper I/O Driver nk-Layer Topology Discovery Responder	Use the following IP address:	102 100 211 25
			IP address: Subnet mask:	192 . 168 . 211 . 25 255 . 255 . 255 . 0
Properties 😗 Disable Di	liagnose	II Uninstall Properties	Default gateway:	
	Descriptio	n	Derault gateway:	· · ·
	Close Transmiss	sion Control Protocol/Internet Protocol. The default a network protocol that provides communication	Obtain DNS server address autom	
		iverse interconnected networks.	<ul> <li>O Use the following DNS server address</li> </ul>	resses:
			Preferred DNS server:	· · ·
	<b></b>	OK Cancel	Alternate DNS server:	<u> </u>
			Validate settings upon exit	Advanced
			→	OK Cancel

Fig.: Process for defining a fixed IP address under Windows 7.

#### Insert the device in the GridVis software

- Open the GridVis software and load or create a project.
- Open the "Device" node in the project window and activate the context menu for the "Device" node with a right click of the mouse.
- Select the "Add new device" context menu item (cf. fig. Add new device).



Fig.: "Add new device"

• Select the type of device, listed under the device category, and confirm the selection with "Next".

Mew File			×
Steps	Choose File Type		
1. Choose File Type	Project: Grid2		•
000010101	Categories: Janitza UMG Janitza EM Series Counter ECS Series Generic Modbus Virtual Devices Description:	File Types: UMG966S UMG96RM UMG96RM-M UMG96RM-EL UMG103 UMG503 UMG505 UMG505 UMG507 UMG508 UMG510 UMG511	
	< Back	Next > Finish Cancel	Help

Fig.: "Add new device" - Device selection

 Set the connection type to "TCP/IP" and enter the corresponding device IP address (cf. chapter "Integrate UMG 604 / 605" or "Integrate UMG 508 / 509 / 511 / 512")

Mew UMG604	×			
Steps 1. Configure connection	ps Configure connection			
010101	time out [millisec.] 5,000 🔄			
	< Back Next > Finish Cancel Help	Fig.: Configure device inte- gration		

• Carry out a connection test after entering the device IP address. If the connection with the UMG has been established then device information - such as the serial number for example - will be displayed. The device can now be used and configured within the software.

🚂 Configure conne	ction (UMG508 Master - UMG604, Wage 🗶
Connection type TC	P/IP
UMG508 [TCP/IP]	
Host	192.168.003.66
time out [millisec.]	5,000 🚖
	Connection test
	92.168.003.66
ſ	Show device info
	Serial number: 2200-2401 Hardware revision: 0005 Ethernet Profibus BACNET EMAX
	Firmware version: 2.034 2013-07-24 07:45:00
	OK Cancel Help Fig: Successful connection test for device

Further information on using the GridVis software can be found in the internet at: https://wiki.janitza.de/display/GRIDVIS70EN/GridVis-Documentation+7.0

# Installing the "Multitouch" (Touch & BACnet) application

If the BACnet has been activated for the UMG and there is a connection between the computer and the device, then the "Multitouch" application can be installed via the GridVis software. With the help of this application it is possible to display and process up to 31 slave devices on the device homepage of the Power Analyser.



## Attention

The "Multitouch" application must run alone on the Power Analyser. The installation of additional applications is not possible!

• Open the "Extras / Install applications" menu in the GridVis system and select the corresponding application via the "..." button. If the application has been selected then further information is listed in the description field. Confirm the selection with the "Next" button.

Steps	Select app file (1. from 3)	
<ol> <li>Select app file</li> <li>Select devices</li> <li>Select Jasics</li> </ol>	File       C:\Temp\MultitouchV40-Build1-5100207.egg         Name       Monitoring         Description       Item No.: 5100207         Construction:       LxMASTER, up to 31xSlave 1xJPC35 (optional) homepage expansion stations choice         Versions number: V4.0 Build 1         made by Janitza	··
	<back next=""> Finish Cancel He</back>	Fig.: Installing the Applica

• Select the corresponding device in the following field and confirm the selection with "Next".

2. Se 3. Se	ect app file <b>lect devices</b> ect Jasics (UMG508 Master MG604, Wagen unten)	Select devices	s (2. from 3)			
2. Se 3. Se	ect Jasics (UMG508 Master					
		Droject				
Ĭ	noor if magen anterly	FIDJELL	Connection test	Туре	Name	
		grid 1	2	UMG511	Gerät-4	
		grid 1	X X X X	UMG604	umg604-he.tst	
		grid 1	<b>X</b>	UMG605	UMG 605	
		grid 1	×	UMG508	UMG508 Maste	
		< Back	Next >	Finish Ca	ncel Help	Fig.: Device selection for the application installat

 Indicate which program location the application should be saved to. Because at least two program locations will be required for this, at least two program locations should be selected by multiple marking! To do so, mark a program location with the mouse and then select a second with an additional mouse click whilst simultaneously holding down the <CTRL> key.

- Three programs will be installed. The control program "Multitouch 5100207", the program "COV Increment Multitouch" and a third program (read-out program), which will be stored in a free program location during the runtime. This program will not be shown in the list! The exact installation location can only be queried via the DEBUG function of the control program:
  - To do so, open the overview window for the respective device and click on the Multitouch program in the "Jasic information" area.
  - Then open the log file via the "Debug Log" button.

Fig.: Device-specific overview	GridVis-4.0.2(2013-05-28_14-34-52)	- • X
-	File Edit View Tools Window Help	
window	🖴 🗊 🥙 🕲 🗑 🔊 🦧 🤱	
	Overview Window 8	
	Download memory Configure Configure connection Connection test Reset values	
	1	
	UMG508 UMG508 Master - UMG604, Wagen unten Profitus	
	BEDDEB BACNET	
	Last Value: EMAX Timeplan: No Timeplan	Serial number:
	Tillepan. To Tillepan	Firmware version: 2.034 2013-07-24 07:45: Connection String: TCP
		IP Adress: 192,168,003.66
GridVis-4.0.2(2013-05-28_14-34-52)		sic information
File Edit View Tools Window Help		
		igram 1[Multitouch 5100207 Steuer Programm 🗑 Igram 2[COV Inkrement Multitouch V4.0 Build 2] 🥳
🎜 🗐 🦿 🕼	Sector Pro	
		igram 3[Empty] g gram 4[Empty] g gram 5[Empty] g gram 6[Empty] g gram 7[Empty] g
Overview Window 🛛 🖉 prg1 [UMG508 Master] 🖇		Igram 6[Empty]
Graph Editor Debug Log Logs	Pro	igram 7[Empty]
Graph Land Debug Log Logs	Transmit Transmit to Load from file Save as	2013 12:12:54 PM CEST (GMT+02:00)
1 REM -UMG5089	A	
<sup>2</sup> if .strcmp(dev serien\$,"22") .the	ng	
<pre>3 start.prg name\$="/html/UMG508.j</pre>		
4 typ\$ .= . "UMG508"¶		
5 endif¶		
6 or		
	►	
	Aug 9, 2013 12:15:17 PM CEST (GMT+02:00) 80   10 INS	

GridVis-4.0.2(2013-05-28_14-34-52)		
File Edit View Tools Window Help		
🖴 🚚 🖻 🥙 🚳 😱 🥠 🕹		
Overview Window 🛛 🗴 prg1 [UMG508 Master] 🕺		
Graph Editor Debug Log Logs	ve as	
Thable debug log	Clear	
Some bytes lost rogrammplatz 3.00 Runningauf Geraet UMG508 Touch&Bacnet auf Programmplatz 3.00	- E	
Runningauf Geraet UMG508 Touch&Bacnet auf Programmplatz 3.00 Runningauf Geraet UMG508 Touch&Bacnet auf Programmplatz 3.00	-	
Aug 9, 2013 12:18:09 PM CEST (GMT+02	2:00)	Fig.: "Debug log" windo

- In the example above the read-out program was automatically installed in program location 3. After the application installation the precise program sequence is as follows
  - 1. Control program and COV program are installed.
  - 2. The control program waits for 15 seconds until all HTML pages are transferred and then installs the read-out program in a free program location.
  - 3. After 40 seconds the COV increments for all value groups are automatically set.
- The COV increments are not persistently saved in the device, if these are set per BACnet on the device. The COV increments are preset in the JASIC program per value group and can be changed in the JASIC program. After the change, the program must be transferred to the device. The BACNet Sendlam\_time is deactivated in default condition, but can be set to a number of seconds if desired. A \_bacnet\_sendlam\_time = 5 would mean that a broadcast message would be sent every 5 seconds.

vervi	iew Window 🗴 InconsistencyLog Window 🗴 🗾 prg2 [UMG 604] 🗴
Gra	iph Editor Logs Debug Log Fransmit to Save as
ą.	· · · · · · · · · · · · · · · · · · ·
1	rem N COV Inkrement Multitouch V4.0 Build 2
2	REM Ver 3.9 Zeitverzoegerung fuer Start integriert (8sek) + Inkrement Strom auf 1A gesetzt
3	REM Anzahl der Angeschlossenen UMG103
4	global (FLOAT,_numdevice,1,20200,"",1)
5	REM strukturierte Variablen fuerr ein COV anlegen
6	record cov = (int ,error)(int,dev_nr)(int ,var_nr) (float,cov_increment)
7	
8	sleep(25000) REM Zeitverzögerung bis Programm Multitouch gestartet ist
9	
10	REM Array Erzeugung
11	DIM increment [20]
12	
13	_bacnet_sendIam_time = 0     REM Sendeabstand B&CNET auf 0 setzen
14	
15	Loop:
16	increment[0] = 2 REM Inkrement Spannung (2V)
17	increment[1] = 1 REM Inkrement Strom (1A)
18	increment[2] = 2 REM Inkrement Leistung (2kW)
19	increment[3] = 0.05 REM Inkrement Cos-phi (0.05)
20	increment[4] = 1 REM Inkrement THD (1%)
21	increment[5] = 0.1 REM Inkrement Frequenz (0.1Hz)
22	increment[6] = 1 REM Inkrement Drehfeld (rechts/links)
23	increment[7] = 2 REM Inkrement Wirkarbeit / Blindarbeit (2kWh)
24	increment[8] = 1 REM Inkrement Temperatur (1 Grad)
25	increment[9] = 1 REM Inkrement Leistung SO (1kW)
26	increment[10] = 2 REM Inkrement Sicherheitmessgroesen
27	increment[11] = 1 REM Inkrement Kommunikationsfehler Slave
28	

## Set up master device

- The transmission speed of all subscribers must be the same in order to establish communication between master and slave devices. The RS485 baud rate should be set to 38.4 kBit/s.
- Each subscriber receives a device address, wherein these addresses may not be assigned twice.
- The master device can receive a device address starting from 32.
- The interface mode must be parameterised to RS485 on the Modbus master (Gateway).
- All settings can be carried out directly on the device or via the GridVis software.

Parameter	Setting
Baud rate	RS 485 = 38400 Bit/s or higher
Device address	Freely selectable from 32 onward
Serial interface	RS 485 = Modbus Master (Gateway)

We recommend the following cable types for the bus line: Li2YCY(TP)2x2x0, 22 !

#### Important parameters UMG 604 / 605:

Parameter	Setting	Parameter recommendation	Setting
205	TCP mode	0	Fixed IP
203	RS485 mode	1	Master
202	RS485 baud rate	2	38.4 kbit/s
200	Device ID	32	32
300	IP address XXX	192	*
301	IP address XXX	168	*
302	IP address XXX	000	*
303	IP address XXX	021	*
304	IP mask XXX	255	*
305	IP mask XXX	255	*
306	IP mask XXX	255	*
307	IP address XXX	000	*

#### Important settings UMG 508 / 511:

Parameter	Setting
DHCP	Off
Address	192.168.000.021
Net mask	255.255.255.000
Gateway	
Protocol	Modbus gateway
Address	32
Baud rate	38400

# Setting up slave devices

- The transmission speed of all subscribers must be the same in order to establish communication between master and slave devices. The RS485 baud rate should be set to 38.4 kBit/s.
- The slave device addresses must begin with "1" and then be assigned consecutively.
- All settings can be carried out directly on the device or via the GridVis software.

Parameter	Setting
Baud rate	RS 485 = 38400 Bit/s or higher
Device address	1,2,3,4
Serial interface	RS 485 = Modbus Slave

# **BACnet configuration**

- Enter the IP address for the Power Analyser into the address bar of the web browser (Windows Internet Explorer, Firefox etc.). As soon as a connection has been established with the Power Analyser, the web server of the device appears.
- A Power Analyser with the BACnet option can be used as a gateway with the "Multitouch" application. This enables all standard values of the sub-devices to be displayed on the BACnet protocol.
- The station selection can be configured via the "Configuration / Monitoring config" menu.
  - The number of slaves connected is defined here and the specific names allocated for the station selection.
  - The configuration is transferred to the device with the "Send configuration" button at end of table.
  - An additional storage of the configuration in the flash memory of the device is done via the button "Backup configuration". You can reload the saved configuration with the button "Recover configuration".

J	anitza°	UMG604				🏹 🦛 English	
<b>î</b>	Measurement values	🖭 Apps	<i>i</i> Information	🛛 Help			
Gene	ral configuration						
	Overview	BACNet C	Config				
numbe	er slave devices		6				
Name	Master / Description		Master		UMG604		
Name	Slave 1 / Description		Slave 1		UMG SLAVE1		_
Name	Slave 2 / Description		Slave 2		UMG SLAVE2		_
Name	Slave 3 / Description		Slave 3		UMG SLAVE3		_
Name	Slave 4 / Description		Slave 4		UMG SLAVE4		_
Name	Slave 5 / Description		Slave 5		UMG SLAVE5		—
Name	Slave 6 / Description		Slave 6		UMG SLAVE6		—
Name	Slave 7 / Description		Slave 7		UMG SLAVE7		
Name	Slave 8 / Description		Slave 8		UMG SLAVE8		
Name	Slave 9 / Description		Slave 9		UMG SLAVE9		-
Name	Slave 10 / Description		Slave 10		UMG SLAVE10		
Name	Slave 11 / Description		Slave 11		UMG SLAVE11		
Name	Slave 12 / Description		Slave 12		UMG SLAVE12		-
Name	Slave 13 / Description		Slave 13		UMG SLAVE13		—
Name	Slave 14 / Description		Slave 14		UMG SLAVE14		_
Nama	Olaus 40 / Description				(		

Fig.: Web browser with device homepage ("General Configuration").

- In the "Configuration / BACNet Config" menu.
  - The input of the virtual network addresses is necessary for the slave devices on the RS485 interface. Another address **must** be allocated for each line!
    - The 1st line (slave device) is allocated BACnet-MAC-Slave-Number 10.
    - The 2nd line (slave device) is allocated BACnet-MAC-Slave-Number 11 and so on.

#### Example:

1st line	2nd line
UMG 508 Master	UMG 508 Master
BACnet-MAC-Slave-Number = <b>10</b>	BACnet-MAC-Slave-Number = 11

- The settings for "Bacnet ID / location" can be changed.
- The configuration is transferred to the device with the "Send configuration" button at end of table.
- An additional storage of the configuration in the flash memory of the device is done via the button "Backup configuration". You can reload the saved configuration with the button "Recover configuration".

A Measurement values	🖾 Apps	i Information	😰 Help			
General Configuration BA	ACNet					
Overview	Multitouc	h Config				
BACnet		Active	•			
BACnet Instance before object name		Active	Ŧ	_		
Virtuell network number		10		<		
BACnet ID / Location		9000		Location-Master		Virtual network
BACnet ID / Location BACnet ID / Location BACnet ID / Location		9001 9002 9003		Location-Slave1	Location-Slave1 Location-Slave2 Location-Slave3	address: Each line must have a different addres
				Location-Slave2		
				Location-Slave3		
BACnet ID / Location		9004		Location-Slave4		
BACnet ID / Location		9005		Location-Slave5		
BACnet ID / Location		9006		Location-Slave6		
BACnet ID / Location		9007		Location-Slave7		
BACnet ID / Location		9008		Location-Slave8		
BACnet ID / Location		9009		Location-Slave9		
BACnet ID / Location		9010		Location-Slave10		
BACnet ID / Location		9011		Location-Slave11		
BACnet ID / Location		9012		Location-Slave12		
BACnet ID / Location		9013		Location-Slave13		
BACnet ID / Location		9014		Location-Slave14		

Fig.: Web browser with device homepage ("General Configuration BACNet").

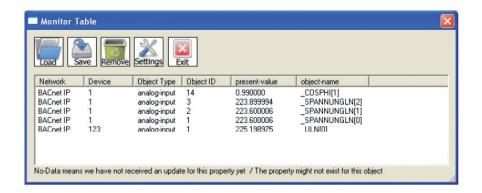
The standard measurement values can be shown via the BACnet protocol with a BACnet Explorer. The Data link option is the BACnet-IP.

The illustrations below were created with the Chipkin Explorer.

Preferences		×
General settings     Refresh     Property Types     Debug     Network     BACnet MSTP     BACnet IP     Auto Update     License	Network         Enable Networks       Spy mode         Image: Spy mode       To enable CAS BACnet Explorer to run in spy mode your computer must be connected with a HUB to the BACnet devices. If you connect with a router or a switch you will not be able to spy on the BACnet MSTP         Select a network device       ID         ID       IP Address         Name       2         192:168.182       Dell Wireless 1390 WLAN Mini-Card (Microsoft's Packet Scheduler) 'o         1       192:168.182         0       0.0.0         'Generic dialup adapter' on local host         Image: Show this dialog on start up	
	OK Abbrechen Obernehr	nen

In the illustration shown here, master and slave devices are shown in a tree structure in the explorer.	CAS BACnet Explorer Menu Profiles
	Refresh       Image: Report       Image: Report
	firmware-revision: 1.1     application-software-version: 3.03     protocol-version: 1
CAS BACnet Explorer Menu Profiles	<ul> <li>protocol-revision: 2</li> <li>protocol-conformance-class: 2</li> <li>max-apdu-length-accepted: 1476</li> </ul>
Refresh       Image: Report       Image: Report	segmentation-supported: 0x03     utc-offset: 60     daylights-savings-status: False     apdu-timeout: 3000     number-of-APDU-retries: 3     analog-input [1] - ULN0     analog-input [2] - ULN1     analog-input [5] - ULN1     analog-input [5] - ULL0     analog-input [5] - ULL1     analog-input [6] - ULL1     analog-input [8] - JLN0     analog-input [9] - JLN1     analog-input [9] - JLN1     analog-input [9] - JLN1     analog-input [1] - LN2     analog-input [1] - LN3     analog-input [1] - JLN2     analog-input [1] - LN2     analog-input [1] - JLN2     analog-input [1] - LN2     analog-input [1] - LN2     analog-input [1] - LN3     analog-input [1] - LN3     analog-input [1] - PLN3     analog-input [1] - PLN3     analog-input [1] - PLN3     analog-input [1] - PLN3     analog-input [1] - QLN0     Analog-input [1] - QLN0

All measurement values can be shown in the ChipKin in a live monitor.



Visualisation of the measurement values on the homepage:

• The visualisation of the measurement values on the homepage is implemented on the first page (Overview) of the app "Multitouch".

	Measuremen			Apps	Z Info	ormation	🛛 Help					
			Multitouch Apps Overv									
tation s	selection		Apps Overv	iew .								
	Multitouch Co	onfig		BACNet Config	)	6						
						Ma	ister					
	Voltage UL1/ Voltage UL2/ Voltage UL3/	L3 3	393.86 ∨ 394.80 ∨ 394.92 ∨	Active Power L1 Active Power L2 Active Power L3		2.07 kW 1.00 kW 1.04 kW	Apparent Power L1 Apparent Power L2 Apparent Power L3	2.57 KVA 1.14 KVA 1.27 KVA	React	ive Power L1 ive Power L2 ive Power L3	-0	1.75 kvar 1.33 kvar 1.47 kvar
				Active Power L1	L3	4.11 kW	Apparent Power L1L3	4.97 KVA	React	ive Power L1L3	-1	.55 kvar
	Voltage L1/N Voltage L2/N Voltage L3/N Voltage L4/N	2	227.10 V 228.34 V 228.00 V 26.54 V	Current L1 Current L2 Current L3 Current L4		1.30 A 4.98 A 5.57 A 0.23 A	Cos-phi L1 Cos-phi L2 Cos-phi L3 Cos-phi L1L3	-0.94 -0.95 -0.91 -0.94				
	Active Energy	y L1L3 3	399.47 kWh	Reactive Energy	y L1L3	0.18 kvarh	Frequency	50.01 Hz	Serial	number	7002/25	553
	Slave			<b>C</b> 1	ve 2		Slave	2			Slave 4	
Apparen	L1 L1	11.10 4.95 5.45 -0.35 4.90 583.30	A A KW KVA	Current L1 Current L1 Current L1 Active Power L1L3 Apparent Power L1L3 Active Energy L1L3	1	11.10 A 4.90 A 5.45 A 4.05 KW 4.90 KVA 74.00 KWh	CurrentL1 CurrentL1 CurrentL1 Active PowerL1.L3 Active Energy L1.L3	11.10 A 4.95 A 5.55 A 1.01 kW 1.23 kVA 465046.66 kWh		Current L1 Current L1 Current L1 Active Power L1 Apparent Power L1 Active Energy L1	.3 1.L3	6.69 A 8.51 A 3.34 A -1.56 kW 4.22 kVA -19131.34 kWh
Serial n		7500/2707		Serial number	7500/		Serial number	7500/2708		Serial number		7700/2967
Apparen	L1 L1 ower L1L3 It Power L1L3 nergy L1L3	5 11.10 4.95 5.60 4.05 4.90 1221102.63 7500/0037	A A KW KVA	Star Current L1 Current L1 Current L1 Active Power L1L3 Active Energy L1L3 Serial number	3	16.58 A 7.39 A 8.41 A 6.11 kW 7.37 kVA 76.43 kWh						

Fig.: Web browser with device homepage (start page of the app "Multitouch")

• A window with further measurement values appears with a click on the table header of a slave device.

<b>f</b>	Measurement values	<b>∷</b> ∧	upps <i>i</i> I	Information	🛛 Help			
Statio	n selection							
	Overview		Multitouch Config		BACNet Config			
		_		Slave 1 (UM	G SLAVE1)			
	Voltage UL1/L2 Voltage UL2/L3 Voltage UL3/L1	392.80 V 391.90 V 400.40 V	Voltage L1/N Voltage L2/N Voltage L3/N	227.50 ∨ 229.20 ∨ 227.70 ∨	Current L1 Current L2 Current L3	11.05 A 4.95 A 5.25 A	Current Average L1 Current Average L2 Current Average L3	10.80 A 4.95 A 5.30 A
	Cos-phi L1 Cos-phi L2 Cos-phi L3	0.18 -0.95 -0.83	Active Power L1 Active Power L2 Active Power L3	-0.41 kW 1.00 kW -0.90 kW	THD U L1 THD U L2 THD U L3	2.12 % 2.08 % 2.29 %		
	Cos-phi L1L3	0.07	Active Power L1L3	-0.30 kW	Current N (calc)	8.90 A	Frequency	49.97 Hz
	Reactive Power L1L3	1.20 kvar	Apparent Power L1L3	4.85 KVA	Rotating Field	left		
	Active Energy L1L3	583.30 kWh	Reactive Energy L1L3	545.95 kvarh				
							Serial number	7500/2707

Fig.: Web browser with device homepage (detail window of a slave device) • The individual pages can also be called up directly:

Call-up	Page
<ip address="" umg="">/multitouch.html</ip>	Master measurement values
<ip address="" umg="">/multitouch_SlaveDevice.html?SlaveDevice=1</ip>	Slave 1 measurement values
<ip address="" umg="">/multitouch_SlaveDevice.html?SlaveDevice=2</ip>	Slave 2 measurement values

with: <UMG IP address> describes the IP address of the Power Analyser

### Example, call-up of measurement values from slave 1:

