

GridVis® software quick guide for the device series UMG 96RM

Supplement to the user manuals and installation manuals



Valid for devices:
UMG 96RM
UMG 96RM-E
UMG 96RM-EL
UMG 96RM-M
UMG 96RM-P
UMG 96RM-CBM
UMG 96RM-PN

Download area:



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General

This quick guide to our GridVis® software is a supplement to the user manuals and installation manuals of the UMG 96RM device series. The following steps outline the most common connections for communication between PC and device.

First, please read and ensure that you understand the information products that accompanies the product and in particular the safety related information contained therein.

Disclaimer

The observance of the information products for the devices is a prerequisite for safe operation and to achieve the stipulated performance characteristics and product characteristics. Janitza electronics GmbH accepts no liability for injuries to personnel, property damage or financial losses arising due to a failure to comply with the information products. Ensure that your information products are accessible and legible.

Further information can be found on our website www.janitza.com at Support > Downloads.

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Subject to technical amendments

Information and specifications subject to change. Please inform yourself under www.janitza.com on the latest version of our software.

SAFETY

Please note safety instructions in this document, which are shown as follows and include the following level of danger for our software:



VORSICHT!

Refers to dangerous situations which, for example, can lead to property damage from data loss or failures in IT network.

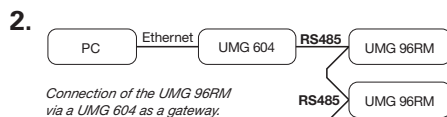
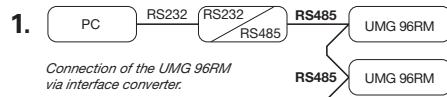


This symbol with the word **NOTE!** describes important information, procedures or handling steps.

2

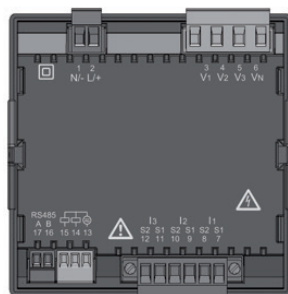
UMG 96RM - PC connections

Connections for communication between PC and device:



The most common connection for communication between PC and device is the connection via UMG 604 as a gateway (2).

Fig. Rear side view UMG 96RM



CAUTION!

Property damage due to incorrect network settings

Incorrect network settings can cause faults in the IT network!

Find out the correct Ethernet network settings for your device from your network administrator.

UMG 96RM - PC connection of the UMG 96RM via UMG 604 as gateway

1. Configure your UMG 604 via Ethernet (see user manual and installation manual to the UMG 604).
2. Connect your UMG 96RM with the UMG 604 via the RS485 interface.

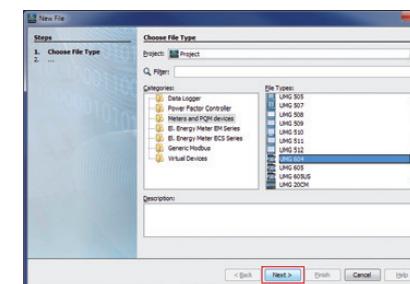
GridVis® software

Install the GridVis® software on your computer and proceed as follows:

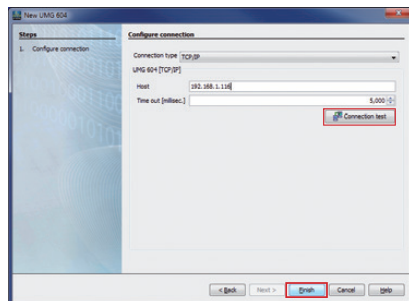
1. Open the GridVis® software on your PC.
2. In the menu bar, select "File" > "New project". If the project already exists, open it by selecting "File" > "Open project".
3. The "New project" window is displayed.
4. In step 1, "Select project", click "Continue".
5. In step 2, "Project path", select the:
 - "Project name".
 - "Project path".
6. Click "Finish".
7. Your project is displayed on the left in the "Projects" window in the work area.

Insert UMG 604 in the project:

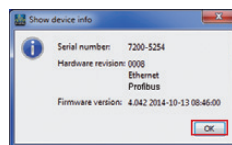
1. In the menu bar, select "File" > "New file".
2. The "New file" window appears.
3. In step 1, "Select file type", select the "File type" (UMG 604) in the "Measurement devices" category.



4. Click "Next".
5. The "Configure connection" step is displayed in the window.

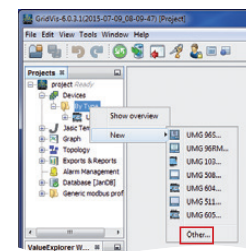


9. Click "OK".
10. Complete the "Insert new device into the project" step by clicking "Finish".

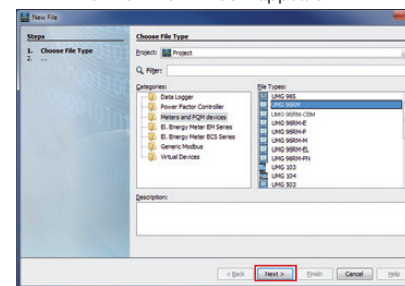


Insert UMG 96RM in the project:

1. In the project window, click the plus icon in front of the "Devices" directory.
2. In the "Devices" directory, click the plus icon in front of the "By device type" subdirectory.
3. The UMG 604 that was installed previously is displayed.
4. Right-click the "By device type" subdirectory.
5. Select the "New" menu item in the context menu.
6. Click on the "Other" menu item in the sub-menu.

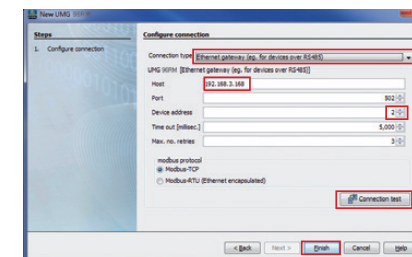


7. The "New file" window appears.



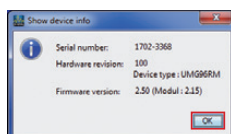
8. In the "Measurement devices" category, select the "File type" UMG 96RM.
9. Click "Next".

10. The "Configure connection" step is displayed in the window.




11. Important settings in "Configure connection":
 - In the selection list, select the "Ethernet gateway (e.g. for devices on the RS485)" connection type.
 - In the "Address" input field, enter the IP address for your **UMG 604** (read **parameter address 300 to 303** from the device, see user manual and installation manual to the UMG 604).
 - In the "Device address" selection field, select the device address for your **UMG 96RM** (read or set **parameter address 000** on the device, see the installation manual).

12. Click "Connection test".
13. If the connection test is successful, the "Display device information" window appears with the serial number, hardware version and firmware version.



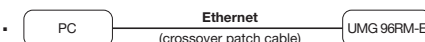
14. Click "OK".
15. Complete the "Insert new device into the project" step by clicking "Finish".

 A description of GridVis® Device configuration settings (basic settings), see from step 6

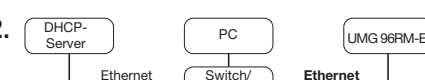


UMG 96RM-E, -EL and -PN - PC connections

Connections for communication between PC and UMG 96RM-E:

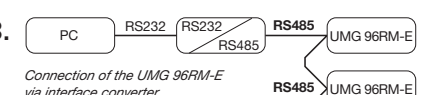
1. 

PC — Ethernet (crossover patch cable) — UMG 96RM-E

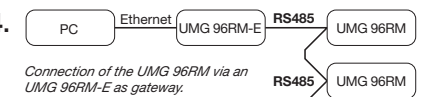
PC and UMG 96RM-E require a fixed IP address.
2. 

DHCP-Server — Ethernet — PC

PC — Ethernet — Switch/Router — Ethernet — UMG 96RM-E

DHCP server automatically assigns IP addresses to UMG 96RM-E and PC.
3. 

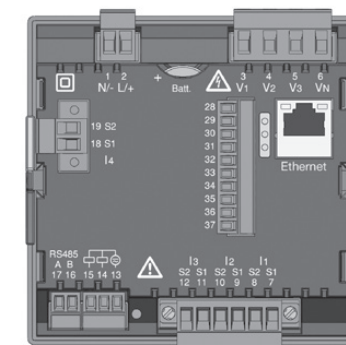
PC — RS232 — RS232/RS485 — RS485 — UMG 96RM-E

Connection of the UMG 96RM-E via interface converter.
4. 

PC — Ethernet — UMG 96RM-E — RS485 — UMG 96RM-E

Connection of the UMG 96RM-E via an UMG 96RM-E as gateway.

Fig. Rear side view UMG 96RM-E



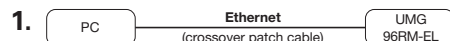
Recommendation for the Ethernet connection:
Use at least a CAT5 cable!



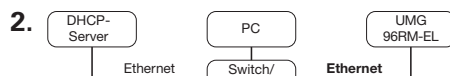
CAUTION!
Property damage due to incorrect network settings
Incorrect network settings can cause faults in the IT network!
Find out the correct Ethernet network settings for your device from your network administrator.

Fig. Rear side view **UMG 96RM-EL**

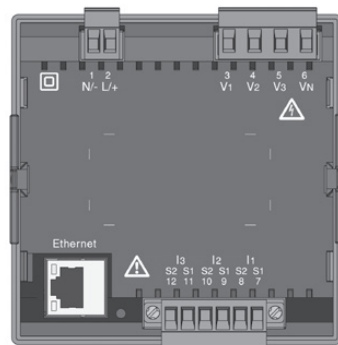
Connections for communication between PC and UMG 96RM-EL:



PC and UMG 96RM-EL require a fixed IP address.



DHCP server automatically assigns IP addresses to UMG 96RM-EL and PC.



Recommendation for the Ethernet connection:
Use at least a CAT5 cable!



CAUTION!

Incorrect network settings can cause faults in the IT network!

Find out the correct Ethernet network settings for your device from your network administrator.

Property damage due to incorrect network settings

UMG 96RM-E/-EL/-PN - PC connection via Ethernet

For UMG 96RM-E, -EL, -PN the Ethernet connection is the most common connection for communication between PC and device.

Ensure that

- the subnet mask on your PC matches that on your UMG.
- the first three characters of the PC IP address match those of the UMG IP address.
- the last three digits (xxx) of the PC IP address differ from the last three digits of the device IP address.

Example: IP address: 192.168.1.xxx
Subnet mask: 255.255.255.0

UMG 96RM-E:

The settings of the device with dynamic TCP/IP allocation:

- (dYn IP "on")** - The device IP address will be passed on to the PC automatically.
- (dYn IP "off")** - Set the address of the device and the corresponding parameters on the PC beforehand.

UMG 96RM-EL:

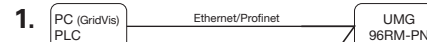
The settings of the device with dynamic TCP/IP allocation:

- DHCP (dYn IP 002)** - the device IP address is transmitted to the PC automatically.
- Static IP address (dYn IP 000)** - Set the device's address and the corresponding parameters on the PC in advance.

UMG 96RM-PN:

In ProfiNet systems with DCP, device TCP/IP addresses are assigned automatically. To configure a fixed TCP/IP address, configure, as described in the installation manual to the device, the address of the device and the corresponding parameters on the PC.

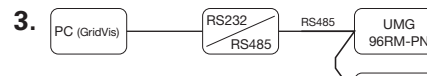
Connections for communication between PC and UMG 96RM-PN:



Direct connection of the device to a PC/PLC with Ethernet/ProfiNet.



Connection of the device to a PC/PLC with Ethernet/ProfiNet via a switch (fieldbus level).

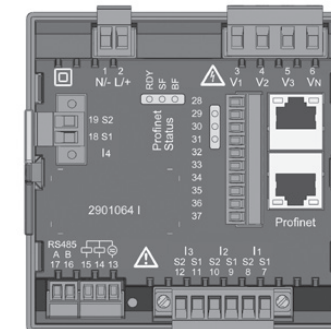


Device connection with a PC via an interface converter.



Connection of the device to a PC via a UMG 604 as a gateway.

Fig. Rear side view **UMG 96RM-PN**



Recommendation for the Ethernet connection:
Use at least a CAT5 cable!



CAUTION!

Incorrect network settings can cause faults in the IT network!

Obtain information from your network administrator about the correct Ethernet network settings for your device(s).

Property damage due to incorrect network settings

PC connection test ("ping test"):

- Determine and note down your device IP address (see installation manual for the device) before starting the PC connection test.
- Press the **Windows** key on your PC.
- The Start menu appears with the search window.
- Enter the command "**cmd**" in the search window and press the "**Return button**" to confirm.
- The "**Windows Command Prompt**" window (CMD window) is displayed.
- Enter the command "**ping**" (**space**) with your device IP address (e.g. "**ping 192.168.1.116**").
Note the following: Omit the zeros at the start of a block of 3!
- press the "**Return button**" to confirm.
- If the command reaches the device, a positive response is received.

Entering the IP address of your device in a web browser (e.g. "**http://192.168.1.116**") leads to the device homepage and so this checks the connection.

You check the IP address of your PC in 2 ways:

- Via the "**Windows input prompt**" (CMD window)
- Via the "**Control panel**".

Checking the IP address via the "**Windows input prompt**":

- Press the **Windows** key.
- The "**Start menu**" appears with the search window.
- Enter the command "**cmd**" in the search window and press the "**Return button**" to confirm.
- The "**input prompt**" appears.
- Enter the command "**ipconfig**" and press the "**Return button**" to confirm.
- The "**input prompt**" window displays the IP address, subnet mask and the default gateway for your PC.

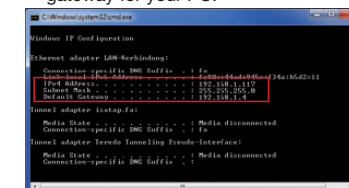


Fig. MS-Windows 7 - Windows input prompt (CMD window)

Checking the IP address via the "Control Panel":

1. Press the Windows key.
2. The "Start menu" appears.
3. Click "Control Panel" in the right menu area.
4. The "Adjust Computer Settings" window is displayed.
5. Click "Network and Sharing Center".
6. The "Network and Sharing Center" window is displayed.

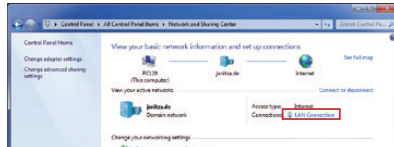


Fig. MS Windows 7 - "Network and sharing center" window

7. Click "Local area connection" in the Internet area.
8. The "Local area connection status" window is displayed.

9. Click the "Details" button.

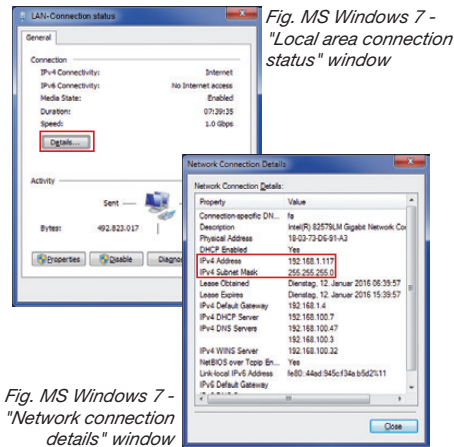


Fig. MS Windows 7 - "Local area connection status" window

Fig. MS Windows 7 - "Network connection details" window

10. The "Network connection details" window appears showing the IP address and the subnet mask of your PC.

The DHCP communication protocol (automatic TCP/IP address assignment) in most corporate networks standard for PCs.

In some networks, PCs require configuration of the IP address and subnet mask. The gateway address is not required.

You require administrator rights on your PC to do this.

Following the PC configuration for the „fixed“ TCP/IP assignment is described:

- UMG 96RM-E:
Dynamic TCP/IP assignment
„oFF“, DHCP mode (dYn IP „oFF“).
- UMG 96RM-EL:
„Fixed IP address“ (IP dYn „000“).
- UMG 96RM-PN:
Setting the IP address on the device.

UMG 96RM-E:

Set the DHCP communication protocol (dYn IP) of the device to "oFF" in advance.
(see installation manual for the device).

UMG 96RM-EL:

Set the DHCP communication protocol (dYn IP) of the device to „000“ in advance (see installation manual for the device).

UMG 96RM-PN:

Configure advance the IP address and subnet mask (see installation manual for the device).

Example:

Device IP address: 192.168.1.116
Subnet mask: 255.255.255.0

In this case, set the computer as follows:

IP address: 192.168.1.117
Subnet mask: 255.255.255.0

In order to allocate an IP address for the PC e.g. for a direct connection between the PC and your device, please proceed as described in, point "Checking the IP address via the Control panel" (up to and including point 8).

Then proceed as follows:

1. In the "LAN-Connection status" window, click the "Properties" button.

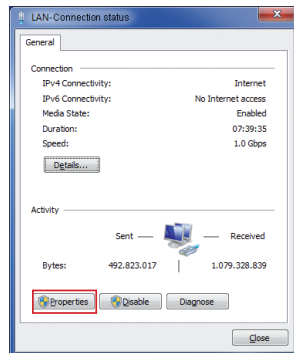


Fig. MS Windows 7 - "Local area connection status" window

2. The "LAN-Connection Properties" window is displayed.

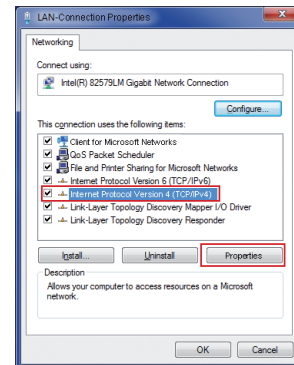


Fig. MS Windows 7 - "Local area connection properties" window

3. In the "LAN-Connection Properties" window, click the "Internet Protocol Version 4 (TCP/IPv4)" option to activate it and then click the "Properties" button.
4. The "Internet Protocol Version 4 (TCP/IPv4) Properties" window is displayed.

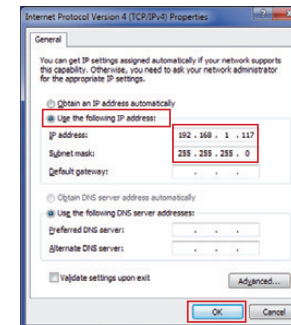


Fig. MS Windows 7 - "Internet Protocol Version 4 (TCP/IPv4) Properties" window

5. Select the "Use the following IP address" option and enter your PC's "Static IP address" (and "Subnet mask" if necessary).
6. Click "OK".

Integrate the UMG 96RM-E, -EL or -PN into the project:

Install the GridVis® software on your computer and proceed as follows:

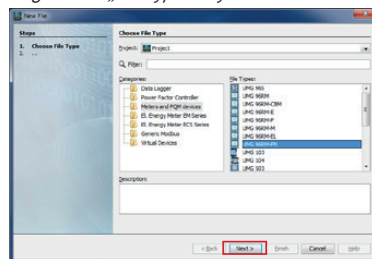
Create a new project:

1. Select "File" > "New project". For existing projects, select your project under "File" > "Open project".
2. The "New project" window appears.
3. Click the "Next" button under step 1 "Select project".
4. Under step 2 "Project path", select the:
 - "Project name".
 - "Project path".
5. Click on the "Done" button.
6. Your project appears on the left in the "Projects" window in the working area.

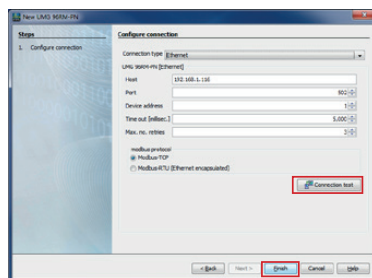
Enter the new device into the project:

1. Select "File" > "New file".
2. The "New file" window appears.
3. Under step 1 "Select file type", select the "File type" of your device in the "Measurement devices" category (UMG 96RM-E, -EL or -PN).

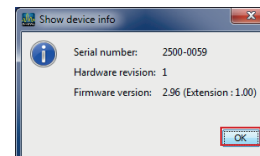
Fig. Select „File type“ of your device



4. Click on the "Next" button.
5. The "Configure connection" step appears in the window.



6. Select "Connection type" > "Ethernet" in the selection list and enter the IP address of your device in the "Address" field (see installation manual for the device).
7. Click on the "Connection test" button.
8. If the connection test is successful, the "Display device information" window appears with the serial number, hardware version and firmware version.
9. Click on the "OK" button.



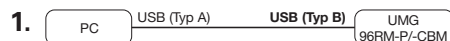
10. Exit the "Add new device to the project" step by clicking on the "Done" button.

A description of GridVis® Device configuration and recording settings (basic settings), see from step 6.

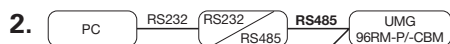
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UMG 96RM-P/-CBM - PC connections

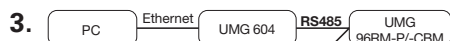
Connections for communication between PC and UMG 96RM-P/CBM:



PC and UMG 96RM-P/-CBM require a fixed IP address.



Connection of the UMG 96RM-P/-CBM via interface converter.



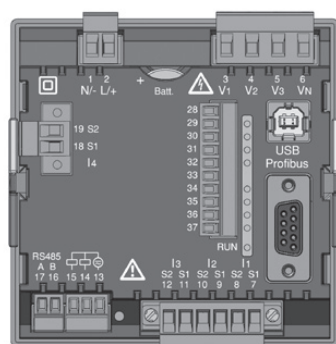
Connection of the UMG 96RM-P/-CBM via a UMG 604 as gateway.

The most common connection for communication between PC and device is the USB connection (1).



NOTE "Profibus interface"!
Information for integrating your UMG 96RM-P in your Profibus network can be found in the user manual.

Fig. Rear side view UMG 96RM-P



Recommendation for the Ethernet connection:
Use at least a CAT5 cable!



CAUTION!

Property damage due to incorrect network settings

Incorrect network settings can cause faults in the IT network!

Find out the correct network settings for your device from your network administrator.

UMG 96RM-P/-CBM - PC connection via USB

USB driver installation with:

- Internet access.
- Authorisation for automatic updates of the driver library.

With first connection of the device to the USB interface of the PC, the installation of the driver starts automatically for current operating systems (from Windows 7):

- Supply the UMG 96RM-P/-CBM with voltage.
- Connect the UMG 96RM-P/-CBM to the USB interface on the PC with the USB cable provided.
- The driver installation starts automatically.
- After successful installation, the device is ready for operation.

USB driver installation:

- without internet access.
- without authorisation for automatic updates of the driver library.
- with Windows or Linux operating system.

Windows system:

- Start the USB setup program in the in the UMG 96RM/USB-Treiber/Windows folder on the CD. The Windows drivers are installed automatically.

Linux system:

- Follow the instructions in the Readme file in the folder of the USB drivers (UMG 96RM/USB-Treiber/Linux).
- Supply the device with voltage.
- Connect the device to the USB interface on the PC with the USB cable provided.
- The driver installation starts automatically.
- After successful installation, the device is ready for operation.



NOTE!

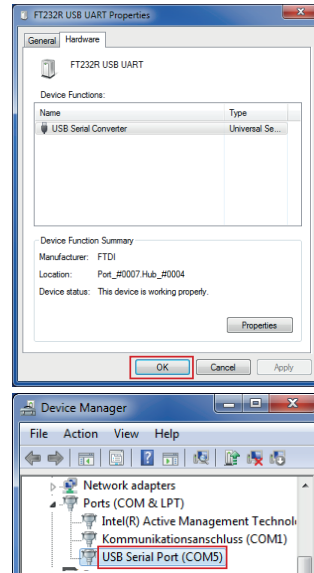
You can find drivers for various operating systems on our website:
www.janitza.com

Checking the USB connection

1. Under Windows 7, open the "system control".
2. The window "Adjust your computer's settings" appears.
3. Click on "Devices and printers".
4. Open the "Properties" of the device "FT232R USB UART" by double-clicking on the symbol.
5. The window "Properties of 'FT232R USB UART'" appears.

You will find further information on the device under the tabs "General" and "Hardware".

Under Windows 7, you will find this in "Device Manager" information regarding your USB serial port (COM-Port). This information is important for the settings in the GridVis® software.



NOTE!

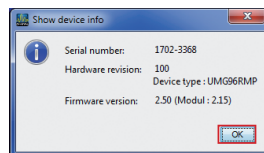
If you change the USB interfaces with the devices, or if various devices use one USB interface, Windows issues new COM-Ports.



NOTE!

The check of the USB connection (connection test) can be performed during the device configuration or in the GridVis® software (see online help of the Software).

7. Click on the "Connection Test" button.
8. If the connection test is successful, the "Display device information" window appears with the serial number, hardware version and firmware version.



9. Click on the "OK" button.
10. Exit the "Add new device to the project" step by clicking on the "Done" button.



A description of GridVis® Device configuration and recording settings (basic settings), see from step 6.

Integrate the UMG 96RM-P/-CBM into the project:

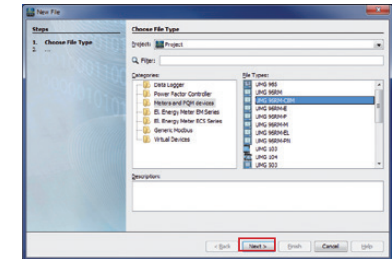
Install the GridVis® software on your computer and proceed as follows:

Create a new project:

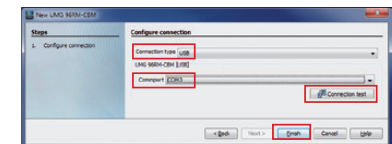
1. Select "File" > "New project". For existing projects, select your project under "File" > "Open project".
2. The "New project" window appears.
3. Click the "Next" button under step 1 "Select project".
4. Under step 2 "Project path", select the:
 - "Project name".
 - "Project path".
5. Click on the "Done" button.
6. Your project appears on the left in the "Projects" window in the working area.

Enter the new device into the project:

1. Select "File" > "New file".
2. The "New file" window appears.
3. Under step 1 "Select file type", select the "File type" for your device in the "Measurement devices" category.



4. Click on the "Next" button.
5. The "Configure connection" step appears in the window.

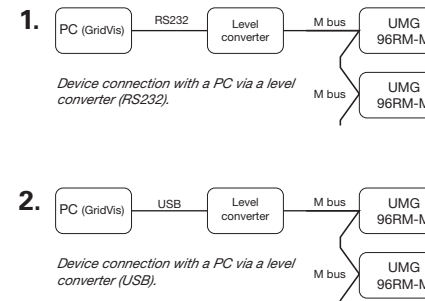


6. Select "Connection type" > "USB" in the selection list and enter the USB serial port (COM-Port) used in the "Interface" field, e.g. "COM3" field.

5

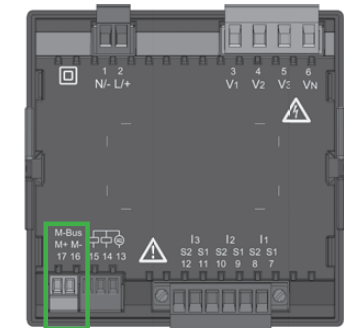
UMG 96RM-M - PC connections

Connections for communication between PC and UMG 96RM-M:



The most common connection for communication between PC and device is the USB connection via a level converter (2.).

Fig. Rear side view UMG 96RM-M



CAUTION!

Property damage due to incorrect network settings

Incorrect network settings can cause faults in the IT network!

Find out the correct network settings for your device from your network administrator.

UMG 96RM-M - PC connection via level converter with USB connection

In order to connect your device via a level converter (USB/M-Bus, optionally available) to the USB interface of your PC, the installation of the driver starts automatically for current operating systems:

- Supply the UMG 96RM-M with voltage.
- Connect the M-Bus interfaces between UMG 96RM-M and level converter (see installation manual for the device).
- Connect the USB interfaces between level converter and PC.
- The driver installation starts automatically.
- After successful installation, the device is ready for operation.

Checking the USB connection of your PC

For the configuration of your UMG 96RM-M in the GridVis® software, you require the USB interface (COM port) used on your PC. Under Windows 7, in the "Device Manager" (Windows button > Control Panel > Device Manager) you will find information on your USB serial port (COM port).

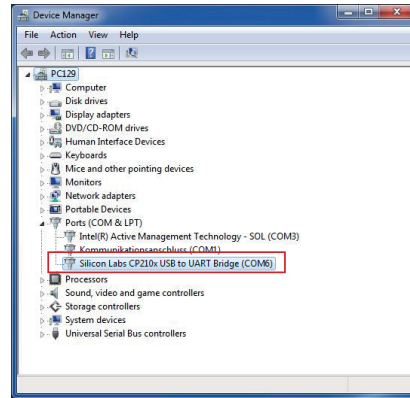


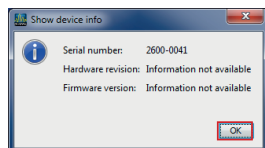
Fig. MS Windows 7 - "Device Manager" window



NOTE!

If you change the USB interfaces with the devices, or if various devices use one USB interface, Windows issues new COM-Ports.

- Choose from the selection list:
 - Connection type > "M-Bus"
 - Interface > "Your USB interface"
 - Baud rate > "Your Baud rate"
 - Device address > "Your device address" (see installation manual for the device)
- Click "Connection test".
- If the connection test is positive, the "Display device information" window is displayed.

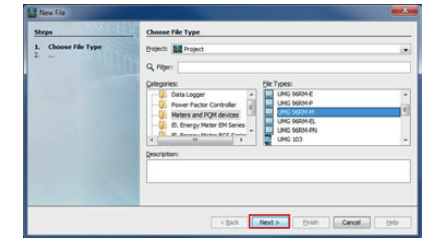


- Click "OK".
- Complete the "Insert new device into the project" step by clicking "Finish".

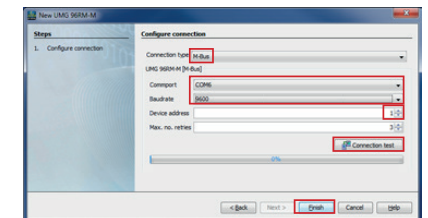
Integrate the UMG 96RM-M into the project:
Install the GridVis® software on your computer and proceed as follows:

Create new project:

- In the menu bar, select "File" > "New project". If the project already exists, open it by selecting "File" > "Open project".
- The "New project" window is displayed.
- In step 1, "Select project", click "Continue".
- In step 2, "Project path", select the:
 - "Project name".
 - "Project path".
- Click "Finish".
- Your project is displayed on the left in the "Projects" window in the work area.



- Click "Next".
- The "Configure connection" step is displayed in the window.



Insert new device into the project:

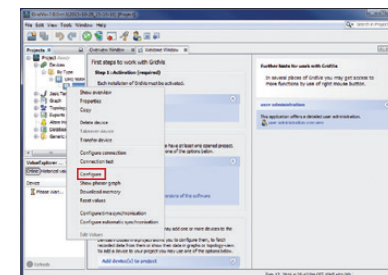
- In the menu bar, select "File" > "New file".
- The "New file" window appears.
- In step 1, "Select file type", select the "File type" for your device (UMG 96RM-M) in the "Measurement devices" category.



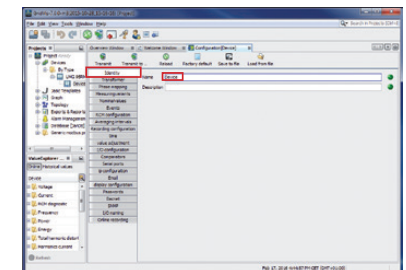
GridVis® software - device configuration

Basic settings

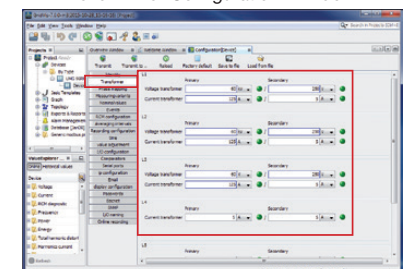
- Open the context menu for your device with the right mouse button:
 - In the window "Projects" > "Your project" > "Devices" > "By device type" > "UMG 96RM-XXX" > "Device x".



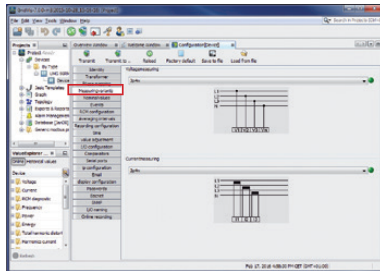
- Click on the "Configuration" menu item in the context menu.
- The "Configuration [device x]" window appears in the right half of the working area.
- Enter your individual device name in the "Name" field under the "Identity" menu of the "Configuration" window.



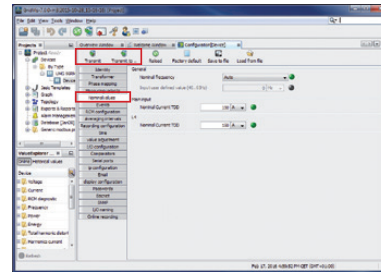
- Enter the voltage and current ratios in the input fields under the "Transformers" menu in the "Configuration" window.



6. Select the connection variant for the voltage and current measurement of your device (see user manual) in the selection lists under the "Measuring variants" menu in the "Configuration" window.



Select the nominal frequency under the "Nominal values" menu in the "Configuration" window, in accordance with the existing grid conditions. In order to identify events (over/undervoltage and overcurrent), enter the nominal values for the phases as references.

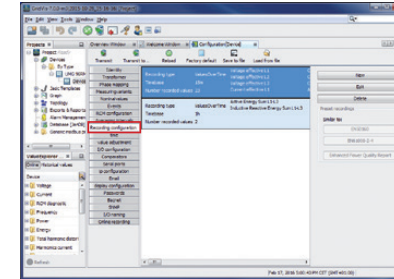


NOTE!
In order to avoid data loss, save your device configuration changes with the "Transfer" or "Transfer to" buttons!

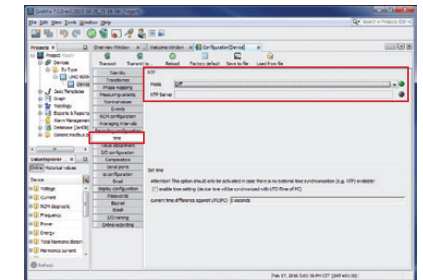


GridVis® software - recording settings

Under "Recording configuration" you can check and configure which recordings the measurement device should save if required. A record holds a measured value or the mean value of the measured value.
Recommendation:



In order to be able to compare recordings of transients and events with those from other measurement points, activate the NTP mode under the "Time" menu and enter an NTP time server.



NOTE!
The GridVis® device configurations and recording settings (records only for devices with memory) represents the basic settings.
The program window shown may, depending on the device, differ from the actual display.
Other functions, information and device settings, especially for your device of the UMG 96RM-series, see the online help of the GridVis® software.

Janitza®