Janitza aartesys EasyGateway V50 User Manual

Contents

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General information

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Comments on the manual
We welcome your comments. If anything in this manual seems unclear, please let us know by sending an e-mail to: **info@janitza.de**

Meaning of symbols

This manual uses the following pictograms:

- **Dangerous voltage!**
  Risk to life or serious injury. Before commencing work on the system and the device, they must first be de-energised.
- **Attention!**
  Please pay attention to the documentation. This ymbol is intended to warn you of potential dangers, which could occur during installation, commissioning and use.
- Note

Supplementary description for “EasyGateway” commissioning
The installation and commissioning of the “EasyGateway” is implemented in accordance with the instructions from

Aartesys. This is included in the scope of delivery of the “EasyGateway”.

This description provides additional information for use with the UMG series devices.

General

With a data transfer via mobile radio, a standard protocol such as Modbus-TCP/IP cannot be used with large data quantities due to the latency times. Mobile radio communication is very sluggish in comparison to DSL etc. It can take a considerable amount of time to establish communication due to the ramp-up time – which can vary from one network operator to another. Once a connection is established, the largest possible data packages should be sent. Because the Modbus protocol permits only 200 Bytes per telegram but 1492 Bytes (MTU size) can be carried with mobile radio communication, the Modbus protocol is not well suited to mobile communication. A special protocol â€” integrated into the measurement devices and in the GridVis software â€” in combination with the Aartesys Gateway, bypasses this problem and also enables encryption without VPN.

Connection

The “EasyGateway” ships with a fixed IP address (10.10.10.10).
The following measurement devices can be connected to the “EasyGateway”:

via Ethernet	**via RS 485 (max. 10-15 devices)**
UMG 508	UMG 96RM-CBM
UMG 509	UMG 103-CBM
UMG 509-PRO	
UMG 512-PRO	
UMG 604-PRO	
UMG 605-PRO	
UMG 96RM-E	
UMG 96-PA-series (with Ethernet-module)	
UMG 96-PQ-L-serie (with Ethernet-module)	

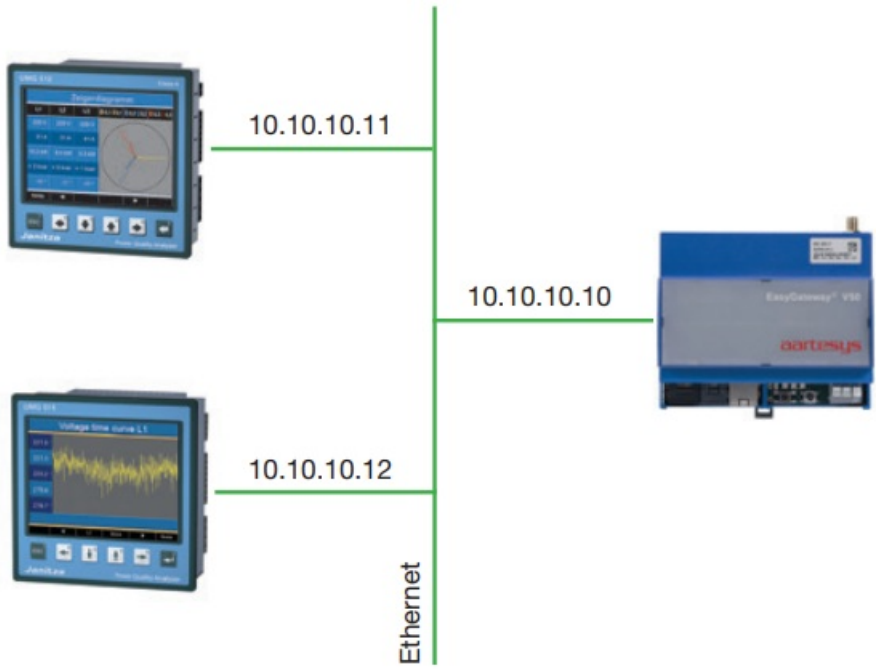
Up to 15 measurement devices can be connected to an “EasyGateway” via a switch. In general, the memory of the measurement device can be read out via the “EasyGateway”. A max. of 2 measurement devices should be connected per “EasyGateway” in order to ensure that the data volume for recording per EN50160 does not become too large. With a transfer of the basic values such as energy, power, etc. with a greater averaging time, it is also possible to use more measurement devices.
In all cases, it is advisable to have flat-rate tariff available. With EN50160 recording, ca. 300 MBytes arise per measurement device per month.
Nothing need be configured at the “EasyGateway” after installation! The Gateway has a fixed IP address and connected measurement devices need only be located in the same IP address range.
To do so, set the IP addresses of the connected measurement devices as follows:

1. **UMG at the Gateway:**

   IP = 10.10.10.11 SubnetMask = 255.255.255.0 Gateway: = 10.10.10.10
2. **UMG at the Gateway**

   IP = 10.10.10.12 SubnetMask = 255.255.255.0 Gateway: = 10.10.10.10

etc.



SIM card:

The SIM card used must have no SIM PIN. The SIM PIN must either be removed directly by the provider or by using a mobile phone. We also recommend a flat-rate data package.

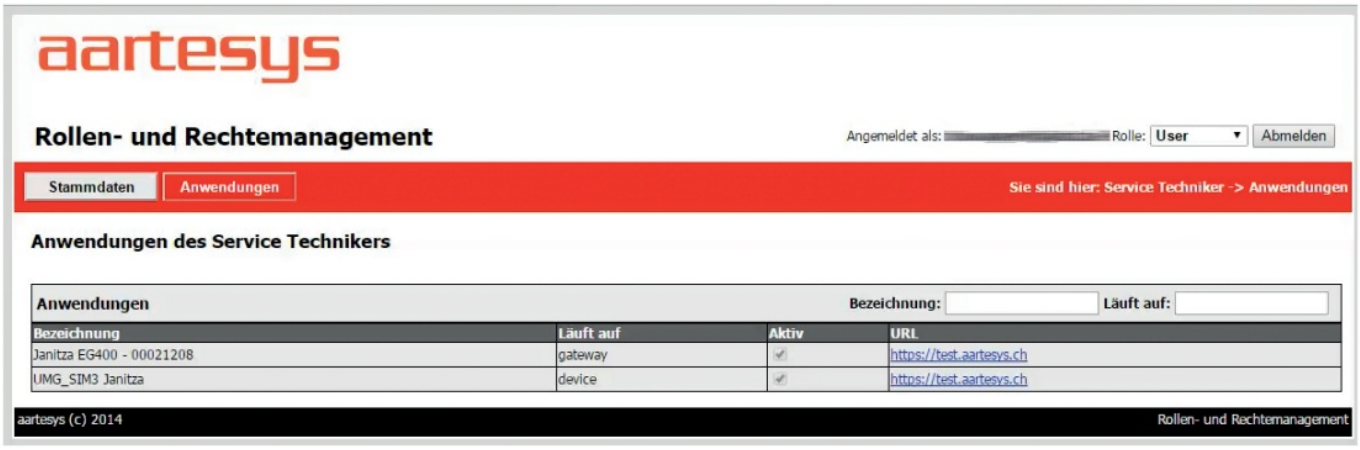
Managed Service (C2C) Art. no.: 15.06.096

The Managed Service is required for each “EasyGateway”. The Service ensures that the communication from the PC to the Gateway is implemented with SSL encryption. This means that there is no need to set up a complicated VPN connection. Furthermore, the Service enables direct availability of the “EasyGateway” without a fixed IP address or service such as DynDNS being required.

- The Service contains 15 end devices and 5 portal users on ONE EasyGateway.
- The Managed Service is provided by Aartesys.
- The minimum term is 12 months and this extends automatically by 12 months unless terminated 3 months before expiry.
- The customer must enter their password and email address for portal access and to set up the Gateway in GridVis.
- The customer receives the password for their account from Aartesys after ordering the Managed Service.

Calling up the measurement device homepage

The homepage of the measurement device cannot be called up directly as otherwise encryption would not be possible. The call-up of the device homepage is implemented via the Aartesys portal. The access data is received by email from Aartesys after ordering the Managed Service.



The measurement device homepage is accessed via the URL. Note: This URL is only visible in the role of ‘Service technician’ (D) or ‘User’ (E) under ‘Applications’ (D) or ‘Application’ (E).

Create the UMG in the C2C portal (roles and rights management)

The measurement device must be created in the C2C portal. Aartesys accept the definition in the C2C portal if information is available as follows (example):

EasyGateway **Serial no.**	**IP**	**UMG** **IP address**	**Designation** **(freely selectable, example)**
00020001	10.10.10.10 (default)	10.10.10.11	PQM1 – UMG508
		10.10.10.12	PQM2 – UMG512
00020002	10.10.10.10 (default)	10.10.10.20	Abc location A
		10.10.10.30	Abc location B

email with this information to: **helpdesk@aartesys.ch**

GridVis software

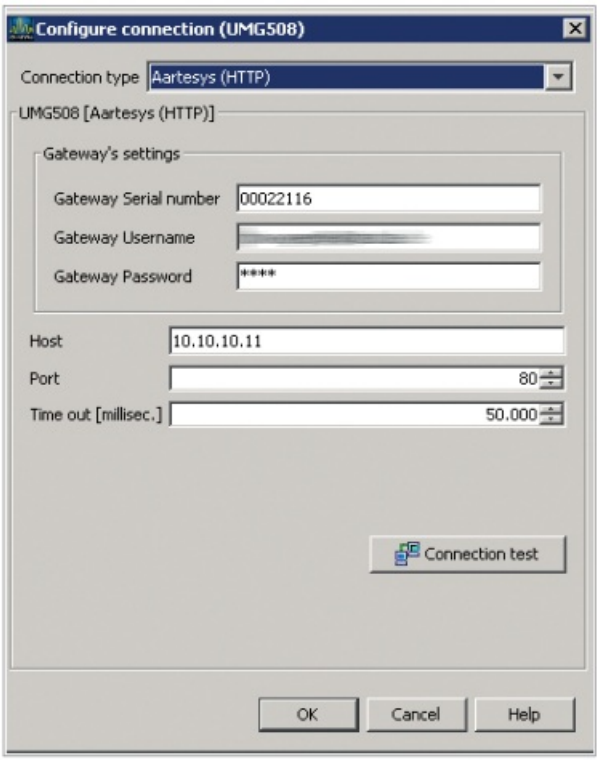
The following functions are possible via the GridVis software:

1. Reading out the memory of the measurement device
2. Configuration of the measurement devices
3. Firmware update
4. Online measured values in the topology
5. Online graphs

The set-up in the GridVis software is very simple:

- There must be no VPN tunnel installed on the computer.
- Encryption is implemented via SSL and is assured through the GridVis and the Managed Service.
- The measurement devices on the “EasyGateway” are set up simply in the GridVis via the IP address.

- “EasyGateway” or “Aartesys” must be selected as the connection type.
- Each “EasyGateway” has its own individual serial number that must be set in the GridVis connection dialogue. The serial number can be found on the delivery note or on the “EasyGateway”.
- You will receive the usernames and your password from Aartesys by email automatically after ordering the Managed Service.
- The IP addresses of the UMGs connected must be entered in the “Host” field. Timeout should be set to 50000 milliseconds.

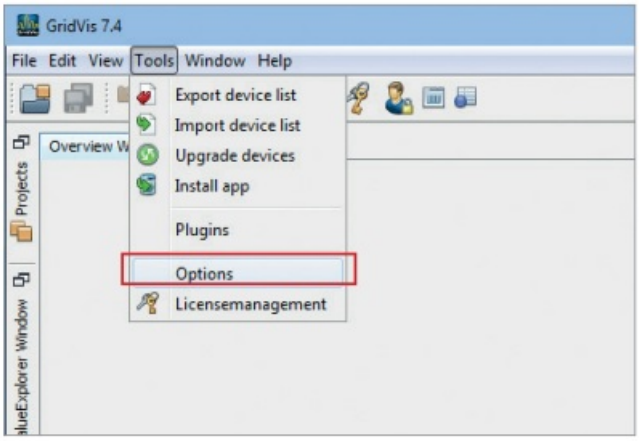


Connection configuration within the GridVis software

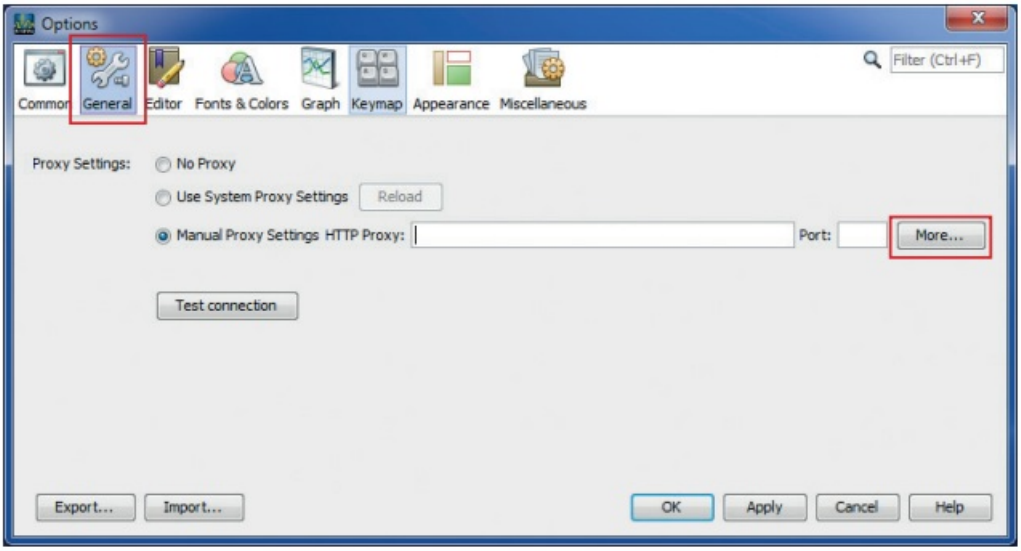
"EasyGateway" with serial number sticker

- The communication from “EasyGateway” to the measurement device is implemented via Port 80.
- An HTTPS connection is used from the GridVis to the “EasyGateway” so that the transmission can be implemented in encrypted form. The connection is implemented via HTTPS Port 443. This port is generally activated as internet sites also use this port for encrypted connections.
- In some cases – depending on the company structure – an “HTTPS proxy” server must be set in the GridVis software. Consult your IT administrator for the IP address of your “HTTPS proxy”.

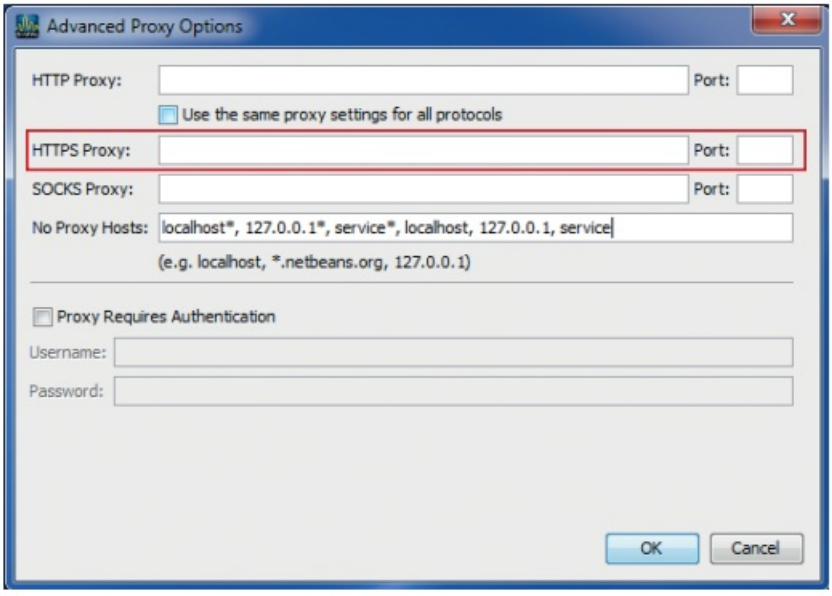
Set up this “HTTPS proxy” in the GridVis under “Extras / options”.



You can find the GridVis proxy settings in the “General” field. Select “Use own proxy settings” and then click on the “More” button there.



Enter the HTTPS proxy server from your IT administrator in the “HTTPS proxy” field. The Port is 443 !



Note

- Updates should generally be carried out via the “EasyGateway” if the application requests this. Large quantities

of data are exchanged during updates. The updates generally take up to 15 minutes.

- Online measured values in the topology and graphs are possible, but cause a higher data usage for your “Flatrate”.
- The first connection to be established to the measurement device generally taken somewhat longer until all connection paths have been established. If the “Connection test” button is pressed in the GridVis, it takes ca. 10 seconds with a 3G connection.
- Constructing the DASHBOARD generally takes ca. 12 seconds with a 3G connection

Latency times (response times)

The lower the transmission speed the longer the latency time. The “EasyGateway” supports GSM-GPRS, GSM-EDGE, UMTS (3G) und LTE (4G). These transmission speeds have the following latency times:

	Downlink	**Uplink**	**Latency time**
GSM-GPRS:	53.6 KBits/s	13.4 KBit/s	500 ms and more
GSM-EDGE	236.8 KBits/s	118.4 KBit/s	300 to 400 ms
UMTS (3G)	384 KBits/s	128 KBit/s	170 to 200 ms
HSDPA (3.5G)	3.6 MBit/s	384 KBit/s	60 to 70 ms
LTE (4G)	> 150 MBit/s	> 50 MBit/s	30 to 50 ms

It is generally advisable to have at least a UMTS (3G) connection on site for reading out the memory with a EN50160.

Documents / Resources

	Janitza aartesys EasyGateway V50 [pdf] User Manual aartesys EasyGateway V50, aartesys, EasyGateway V50, EasyGateway

References

- Janitza electronics