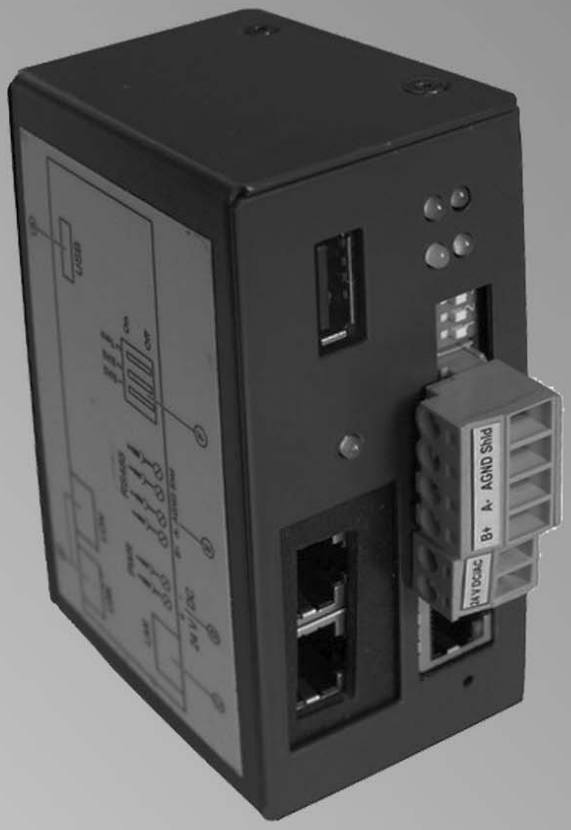
Online Help

for use by heating contractor

Vitogate 300
Communication from heating system via BACnet or Modbus

Vitogate 300



Certified as a component part for Viessmann boilers

Product may not be exactly as shown

IMPORTANT

Read and save these instructions for future reference.

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Please file in Service Binder

Safety, Installation and Warranty Requirements

Please ensure that these instructions are read and understood before commencing installation. Failure to comply with the instructions listed below and details printed in this manual can cause product/property damage, severe personal injury, and/or loss of life. Ensure all requirements below are understood and fulfilled (including detailed information found in manual subsections).

- **Product documentation**
  Read all applicable documentation before commencing installation. Store documentation near boiler in a readily accessible location for reference in the future by service personnel.

  

  ▶*For a listing of applicable literature, please see section entitled "Important Regulatory and Safety Requirements".*

- **Licensed professional heating contractor**
  The installation, adjustment, service and maintenance of this equipment must be performed by a licensed professional heating contractor.

  

  ▶*Please see section entitled Safety and "Important Regulatory and Installation Requirements".*

- **Advice to owner**
  Once the installation work is complete, the heating contractor must familiarize the system operator/ ultimate owner with all equipment, as well as safety precautions/requirements, shutdown procedure, and the need for professional service annually before the heating season begins.

- **Warranty**
  Information contained in this and related product documentation must be read and followed. Failure to do so renders the warranty null and void.

  

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About these Installation Instructions

Take note of all symbols and notations intended to draw attention to potential hazards or important product information.

⚠ WARNING

Warnings draw your attention to the presence of potential hazards or important product information.

▶ Indicates an imminently hazardous situation which, if not avoided, could result in death, serious injury or substantial product/property damage.

⚠ CAUTION

Cautions draw your attention to the presence of potential hazards or important product information.

▶ Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product / property damage.

IMPORTANT

▶ Helpful hints for installation, operation or maintenance which pertain to the product.

▶

▶ This symbol indicates to note additional information

▶ This symbol indicates that other instructions must be referenced.

General Information

The Vitogate 300 gateway links the Viessmann LON system with a BACnet or Modbus build management or automation system. For further information, see the Vitogate 300 Installation and Service Instructions or www.vitogate.info (http://www.vitogate.info/).

System Requirements

PC/laptop with following features

- Minimum screen resolution 1024 x 768
- Supported web browsers:
  - MS Internet Explorer version 7 or higher
  - Firefox version 2 or higher
  - Mobile Safari version 3.1 or higher
  - Google chrome version 18.0 or higher

Vitogate 300 User Login

To log on as a user, carry out the following steps in the given order:

1. Enter the User name and Password.
   User name: vitogate
   Password: viessmann
2. Press Login. The Vitogate overview screen appears.

It is recommended that you issue a new password (see Change Password, page 11) after logging into Vitogate 300 for the first time.

IMPORTANT

To ensure that unauthorized persons cannot access the Vitogate settings, never give out the password.

Logging off from the Vitogate 300

Click on  in the main menu. The login screen will be displayed.

Supported Devices

The supported devices are listed in Info (see Display Vitogate Information, page 18) in the main Help menu. For more information, see www.vitogate.info (http://www.vitogate.info/).

Operating Information

The operating information will summarize all important information on the current operating status of the Vitogate.

Select Language

To change the displayed language, use the language menu located in the right hand section of the main menu.
Use the ▾ icon to open the language menu and select the desired language. The entire display will change into the selected language.

Menu Overview

The main menu contains the following menu options:

General: General setting options that are required for Vitogate 300 operation or the software screen (see General Settings, page 8).
- Network settings
- Data backup/restore
- Change password
- Update management
- Restart operation

VI LON: contains all settings for the Viessmann LON (see Setting VI LON, page 12).

BACnet: contains the settings for BACnet (see Set BACnet, page 14).
or
Modbus: contains the settings for Modbus (see Set Modbus, page 16).

Help: The Help menu contains various help topics and trouble shooting (see Help and Diagnoses, page 18).

User: indicates the user name of the logged-on user (see Change Password, page 11).

 Logs out of the Vitogate software (see Vitogate 300 User Login, page 5)

Language: The desired language can be selected here. (see Select Language, page 6).

 Calls up the online help.

Restart required: Found on the display in the grey bar under the main menu. After configuration changes, this message indicates that a Restart is required (see Carry out a Restart, page 12).

Depending on which menu screen is open and the system's features, the submenus include various vertically arranged menu options with system-specific functions of Vitogate 300.

Menu Overview *(Continued)*

Workspace

The currently selected window is displayed here.

A status bar is located in the upper area. The currently selected menu, followed by the currently selected submenu, is displayed In the left-hand section of the status bar. The information “Status on:” with the day of the week, date, and time, as well as the refresh button , is located in the right-hand section of the status bar. The Date and time format (see Set System Time, page 10) is adjustable.

Operation Symbols

The following operation symbols may be displayed:

Display help topics
Opens the online help for the Vitogate 300.

Refresh
Refresh the content of the current screen.

Highlight
Within the tables, this symbol means: Highlight all table entries or remove all highlights

Edit
To further edit the element, the program switches to another screen or opens a separate window.

Open calendar
A dialogue opens, where the date can be set.

Delete
Removes the highlighted element from the current screen. A dialogue box will ask you to confirm this action.

Save settings
Saves the table settings made.

Log off from the current session
Ends the current Vitogate 300 session.

General Settings

The General menu contains the following submenus:

Overview: Overview of Vitogate functions (see Overview, page 8)

Vitogate: Vitogate settings (see Vitogate Settings, page 8)

IP network: IP network settings (see Set IP Network, page 9)

System time: Settings for system time to synchronize the various systems (see Set System Time, page 10)

Data backup: Vitogate settings can be backed up to a PC or onto a USB stick where they can then be reloaded (see Backing up Vitogate Data, page 11)

Password: Change password (see Change Password, page 11)

Update: Option to implement a software update (see Perform an Update, page 12)

Restart: After a change to the configuration, restart the Vitogate's communication software (see Carry out a Restart, page 12).

Overview

The overview contains a basic summary of information about the Vitogate, the Viessmann LON, and BACnet or Modbus.

Vitogate Settings

The following parameters for Vitogate are adjustable:

Name: To identify the device: Enter "Vitogate 300".

Installation location: Specify the installation site.

Description: Space for individual text and notes about the system

Vitogate type: Set which BUS system the Vitogate is to be used with in the list field:
- Vitogate 300 BN (BACnet)
  For additional information, see BACnet documentation
- Vitogate 300 MB (Modbus)
  For additional information, see Modbus documentation

Language data points: Select the desired language for data points:
- Deutsch
- English

Measurements: Select the desired system for units of measurement:
- SI units
- Imperial units

After completing the table fields, press Save.
The settings are saved.

Set IP Network

The following settings are needed for the IP network:

Network adaptor
Communication with BACnet via IP network:
Request data from network administrator
Communication with BACnet via serial interface:
The data is required solely for configuring the Vitogate. Retain standard setting:
Standard setting:
- IP address: 169.254.0.1
- Netmask: 255.255.0.0
- Default gateway: none

Network name
- Host name: A separate device name must be assigned for each Vitogate in the network. Each Host name may exist only once in a network.
- Name server 1: Fill out only if using a name server for time synchronization (see Set System Time, page 10).
- Name server 2: Fill out only if using a name server for time synchronization (see Set System Time, page 10).

Services
Webserver access:
- Delivered condition: http (80)
- https (443)
- http and https (80/443)

Diagnostics port (ssh 22): ☑ Deselect only if, for IP security reasons, only http/https is permitted.

After completion, press Save. The settings are saved.

Set System Time

The Vitogate has a real-time clock with an integrated battery backup.

The Vitogate has various time setting options to choose from:

○ **Use VI LON time**	The time sent by VI LON will be used for the Vitogate communication software.
○ **Manual time setting**	The date and time set here will be used for the Vitogate communication software. After entering, press Set clock.
○ **NTP synchronization**	The time stipulated by an NTP server will be used for the Vitogate communication software. This requires that the NTP server is present in the IP network. Enter the desired server (if necessary, inquire with the network administrator).

Note: The time is transmitted to the VI LON with a ☑ on time synchronization with VI LON.

○ **Use BACnet time synchronization**	The time sent by BACnet will be used for the Vitogate communication software.

Note: The time is transmitted to the VI LON with a ☑ on time synchronization with VI LON.

Time synchronization with VI LON:	With a ☑, the time set at the NTP Server or BACnet will be sent to VI LON.
Time zone:	Setting of the applicable time zone
Time display:	Setting the Time display to 12 or 24 hours
Date format:	Setting the date format

1. Choose and set the desired time setting.
2. Press Save. The time setting is saved.
3. To activate the saved time setting, restart the Vitogate software with Restart (see Carry out a Restart, page 12). The saved time setting is now active.

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Backing up Vitogate Data

By using this function, the Vitogate's configurations can be saved as a file on a PC or a USB stick. These files can later be used to restore the Vitogate.

Saving configuration file

1. Select, backup Vitogate configuration.
2. Select backup media (USB or PC).
3. Press Start. The configuration file will be saved.

Load configuration file

1. Select the configuration file in the file system.
2. Press Start. The configuration file will be loaded.

Change Password

It is recommended that you assign a new password after logging into Vitogate 300 for the first time.

The table for Change password contains the following content:

User name: The user name reads: vitogate
The user name cannot be changed.

Current password: Enter the current Password here.
Password for the initial login:
viessmann

Note: If you have forgotten your password, please contact Viessmann technical service.

New password: Enter the new Password here.
Requirements of a new password:
- The password must have at least 8 characters (case sensitive).
- The password can consist of numbers, letters, and special characters.

Note: It is recommended using a combination of letters, numbers and special characters.

Retype password: Enter the new Password again.

Note: To ensure that unauthorized persons cannot access the Vitogate settings, never give out the password.

After completing all required fields, press Save.
The new password is immediately active.

Perform an Update

When Viessmann provides an update file, it can be transferred to the Vitogate with this function.
Only a file designated as 'update.ugw' can be transferred.
Updates will not change the current Vitogate configuration.

1. Locate the required file and transfer.
2. Restart the Vitogate communication software with the Restart (see Carry out a Restart, page 12) function. The update will now be performed.

Carry Out a Restart

Changes to the Vitogate communication software configuration may require a Restart, the following prompt can be found under the language selection menu in the grey bar: Restart required!

☑ Complete system restart: Always select when a Restart prompt occurs.
☑ Delete trendlog data: Select if desired.

1. Select the desired functions.
2. Press Restart. The Restart occurs.

Setting VI LON

The VI LON menu contains the following submenus:

Configuration: Configure VI LON (see Configure VI LON, page 12)

Participant scans: Setting and running participant scans (see Implement a VI LON Participant Scans, page 13)

Participant: Settings for the data points of individual LON participants. For LON participant designation explanations, (see Select the Participants VI LON Data Points, page 13), (see Supported Devices, page 5).

○ 1.1V..... LON participant
○ 1.2V..... LON participant

Configure VI LON

1. Adjust the required settings in the table, relative to the system.

Note: For large networks, set the scan speed to Reduced.

2. Press Save. The settings are saved.
3. Continue with scan participant (see VI LON Participant Scan, page 13).

VI LON Participant Scan

1. Set the System number.
2. Limit the range to be scanned with Participant numbers. For fairly large networks, failing to set limits can cause the scan to take a substantially longer time.
3. Press Start, and the participant scan starts.
   An active participant scan can be stopped at any time.
4. After the scan, use to select the devices whose parameters are to be transferred to BACnet.
5. Press Save. The devices are saved and appear in the Participant submenu on the left of the screen.
6. Continue with the settings of individual devices under Participants (see Select the Participants VI LON Data Points, page 13).

Select the Participants VI LON Data Points

Choose data points for transfer to BACnet

1. Under Participants, select a LON participant. The 1st number is the LON system number. The 2nd number (after the decimal) is the LON participant number.
   e.g. 1•3 (System #1•Participant #3)
2. Select a data point sector above the table heading and a grouping in the first table column.
3. Using , select the desired data points that are to be transferred to BACnet or Modbus.
4. When all desired data points have been selected, press Save. The selected LON participant's data points are now activate and will be transferred to BACnet.
5. Select data points for additional LON participants and use Save to activate them.

Set BACnet

The General menu contains the following submenus:

Configuration: Configure BACnet
(see Configure BACnet, page 14)

Device: Vitogate software settings
(see Set BACnet Device, page 15)

Objects: BACnet objects (data points) settings
(see Set BACnet Objects, page 16)

Configure BACnet

The following configuration must be entered:

Startup delay: Set startup delay

Password DCC/RD: The password protects the DCC (device communication control) and RD (re-initialize device) functions.
Password for the initial login: viessmann
When changing the password observe the following requirements:
- The password must have at least 8 characters (case sensitive).
- The password can consist of numbers, letters, and special characters.

Note: It is recommended to use a combination of letters, numbers and special characters.

Data links: Select the connection to be used. Depending on the desired connection, the required adjustments must be made to the settings in the relevant tab.

After completing the table fields press Save.
The settings are saved.

Set BACnet Device

This table is where you carry out communication settings.

Device instance: This number may be assigned only once within the BACnet.

Device name: The device name may be assigned only once within the BACnet.

Description: Description of the device

Location: Information regarding where the device is installed.

Vendor identifier: Identification number of the BACnet operator

Vendor name: Name of the BACnet operator

Firmware Revision: The revision of the firmware used

Application software version: BACnet version used

APDU max length accepted: Applicable for APDU settings: The BACnet administrator must implement the same settings here as those on the central BACnet computer.

APDU timeout:

APDU retries:

APDU segmentation supported:

APDU max segments accepted:

APDU segment timeout:

After completing the required fields press  Save.
The settings are saved.

Set BACnet Objects

The displayed table contains all of the possible BACnet objects (data points). In the table heading, the objects displayed under 'All' can be filtered for specific objects. The table is divided into the following columns:

Object ID: Designation of the object assigned internally in BACnet

Object name: Viessmann's designation: The 1st number indicates the LON system number. The 2nd figure (after the decimal) indicates the LON participant number.
e.g. 1•3 (System #1•Participant #3)
This is followed by the designation of the LON data point.

Description: Additional data point description field

Edit object

1. Select the object name field to the right of the desired object ID.
2. Enter the desired LON data point in the text field. In doing so, first enter the LON system number, then a decimal point, followed by the LON device number. After this, enter the description.
for example, "1.1 boiler water temperature"
3. Press OK. The Object name will be displayed in the table and is saved.
4. If desired, enter an additional description for the object in the Description field.
5. Press OK. The description will be displayed in the table and is saved.
6. Press. The dialogue for editing the properties of the BACnet object opens.
7. Enter the desired settings.
8. Press OK. The dialogue closes. The properties are saved.

Set Modbus

The Modbus menu tab contains the following submenus:

Configuration: Configure Modbus
(see Configure Modbus, page 17)

Objects: Set Modbus objects (data points)
(see Set Modbus Objects, page 17)

Configure Modbus

The following configuration must be entered:

Slave address: Select a number between 1 and 254 for the Vitogate. The address may be assigned only once in the Modbus system.

Modbus TCP/IP: Select the connection to the Modbus via TCP/IP. Port 502 is the standard Modbus port. Acceleration of port and serial packets to be adjusted only by the Modbus administrator.

Modbus RS485: Connection to the Modbus via RS485. The individual data must conform to the settings of the entire Modbus. To be adjusted only by the Modbus administrator.

After completing the table fields press Save.
The settings are saved.

Set Modbus Objects

The displayed table contains all of the possible Modbus objects (data points). In the table heading, the objects displayed under All can be filtered to produce specific screens.

The table is divided into the following columns:

Tab: Object designation assigned internally in the Modbus

Name: Viessmann's designation: The 1st number indicates the LON system number. The 2nd number (after the decimal) indicates the LON participant number.
e.g. 1•3 (System #1•Participant #3)
This is followed by the designation of the LON data point.

Unit: Unit used for the numerical values

Format: Information about how the numerical value should be assessed.
- u: Numerical value unsigned
- s: Numerical value signed
- t: Numerical value is one tenth of the value displayed
- h: Numerical value is one hundredth of the value displayed
- m: Numerical value is one thousandth of the value displayed

Help and Diagnoses

The General menu contains the following submenus:

Help Vitogate Handbook: The Vitogate handbook and the complete online help can be displayed. (see display Vitogate online help, page 18)

Info about: Information about the Vitogate 300 device (see Display Vitogate Information, page 18)

Diagnostics Device info: (see Display Vitogate Device Information, page 19)

System status: Shows the device data points (see Display System Status, page 19)

Log files: Display log files (see Display Log Files, page 19)

Ping: Perform ping test (see Ping, page 19)

Traceroute: Perform traceroute test (see Traceroute, page 19)

Process information: Displays current process information. (see Display Process Information, page 20)

Display Vitogate Online Help

Complete online help for Vitogate 300 as a PDF, e.g. to print.

Display Vitogate Information

Displays information about the Vitogate 300 device.

Vitogate version: The first two digits are the version of the communication software. The last two digits are the version of the Vitogate hardware.

Supported languages: Display of the languages supported by the software

Supported devices: Devices supported by Vitogate 300. For more information on this, see www.vitogate.info (http://www.vitogate.info/)

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Display Vitogate Device Information

The following Device information will be displayed:

Type of Vitogate:	This must read: Vitogate 300 BN (BACnet)
Data points:	Number of configured data points / Number of possible data points
System start:	Date and time of the system start
System memory (RAM):	Used space / Free space
Operating system:	Installed operating system
Version:	The first two digits are the version of the communication software. The last two digits are the version of the Vitogate hardware.
Most recent update:	Date and time of the last completed update
Status:	OK: System has no faults. Not OK: System has a fault.

Display System Status

Current status of the data point manager.
Internally displays data on the drivers, the active data points/objects, and on Vitogate.

Display Log Files

Log files are written and displayed here. These logs are used for diagnostics and troubleshooting.

Ping

Ping is a special diagnostic tool used to test whether a particular host in an IP network can be reached.

1. Enter the IP address to be tested into the pin -c3 field (see IP address in the General menu (see Set IP Network, page 9).
2. Press Start. The test starts.

Traceroute

Traceroute is a special computer program used by routers and internet nodes reach the IP data points all the way to the queried computer.

1. Enter the IP address to be tested in the traceroute field [see IP address in the main menu General (see Set IP Network, page 9)].
2. Press Start. The test starts.

Display Process Information

The list shows the operating system's current Process information. For more information about this, see www.linuxfoundation.org (http://www.linuxfoundation.org/) or www.linux.com (http://www.linux.com/)

Glossary

Appliance/Device

Appliances/devices are heat generators including their control units, boiler circuit and heat pump control units, cascade and heating circuit control units and communication devices.

BACnet

BACnet (Building Automation and Control Networks) is a network protocol for building automation

Datapoint

A datapoint summarizes all the information for a parameter required for the respective application. For example, the data point of a control unit parameter contains not only the parameter name, but also a setting value, the setting range and the physical unit.

Imperial units

Displayed units will be °F, GPM, BTU, etc.

LON

A Local Operating Network is a fieldbus used by Viessmann devices to communicate with one another.

Modbus

A communication protocol developed by Gould Modicon, which is based on a master/slave or client/server architecture.

Object

Objects describe the data properties in building automation.

Parameter

A factor that is used to define a technical attribute. The parameter data includes the setting value, the physical unit and the possible setting range.

System

Complete heating system comprising heat generators, control unit, accessories and other heating equipment.

SI units

Displayed units will be °C, L, W, etc.

Printed on environmentally friendly (recycled and recyclable) paper.

Technical information subject to change without notice.

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