

Viessmann Vitogate 300 Supplementary Documentation



Document Overview

Please ensure that these instructions are read and understood before commencing installation. Failure to comply with instructions listed below can cause product/property damage, severe personal injury,

and/or loss of life. Ensure all requirements are understood and fulfilled (including detailed information found in manual subsections).

IMPORTANT

This supplementary documentation is NOT intended or to be regarded as a substitute for the CSA certified technical support literature that is supplied with each Viessmann Vitogate 300 communications gateway.

Defaults:

IP address: 169.254.0.1

Netmask: 255.255.0.0

User name: vitogate

Password: viessmann

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Please visit:

www.viessmann.ca

www.viessmann.us



Visit Modbus website for more information.

Please visit:

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For more information please visit:

www.bacnet.org

www.ashrea.org

Vitogate 300

Changing Computer IP Address-Windows XP

Open 'Control Panel' and open 'Network Connections'.

Locate 'Local Area Connection' and double click it to open.

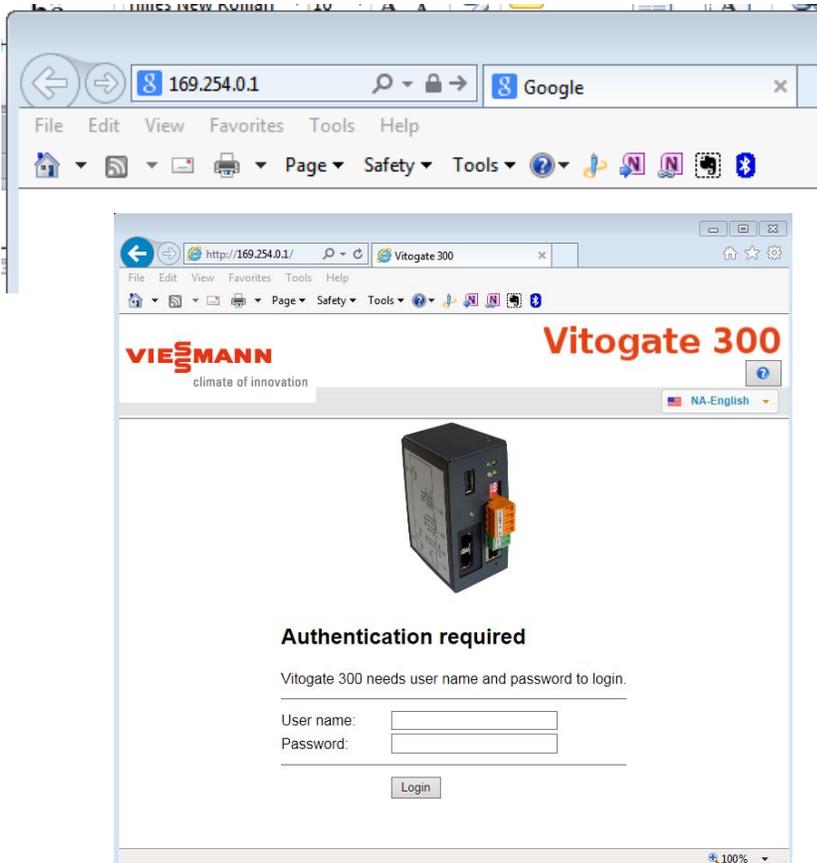
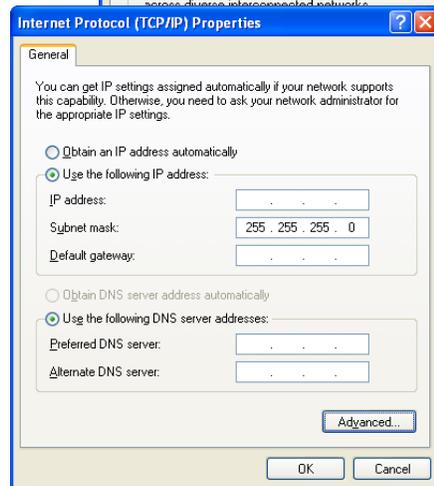
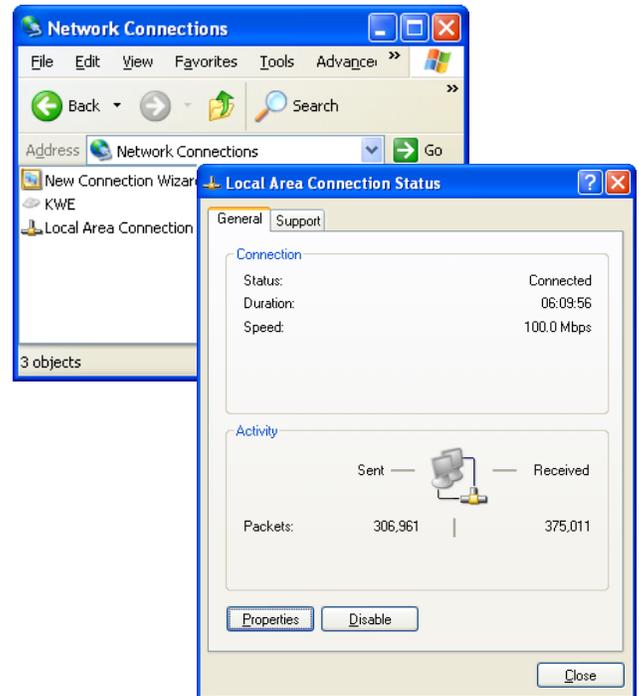
Select 'Properties' at the bottom of this window. Scroll to the bottom of items list, and find 'Internet Protocol (TCP/IP)', select this and then click on 'properties'

Select 'Use the following IP address' and enter an IP address of 169.254.0.20 (the '20' may be substituted with any other number as long as it isn't 1 since that is the Vitogate 300).

Click 'OK' to save the settings.

The Vitogate and Computer are now on the same network.

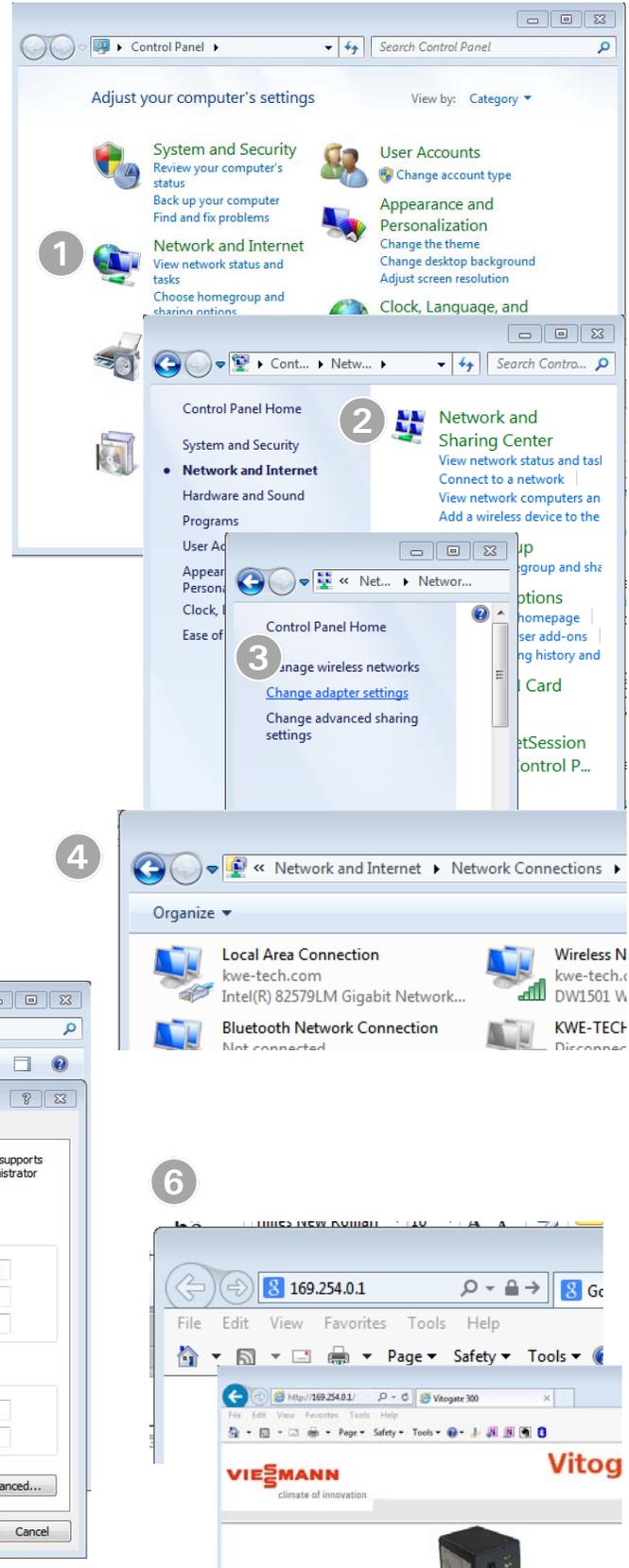
You can access the Vitogate 300 webpage by opening a browser webpage and entering the address 169.254.0.1 in the URL window.



Vitagate 300

Changing Computer IP Address-Windows 7

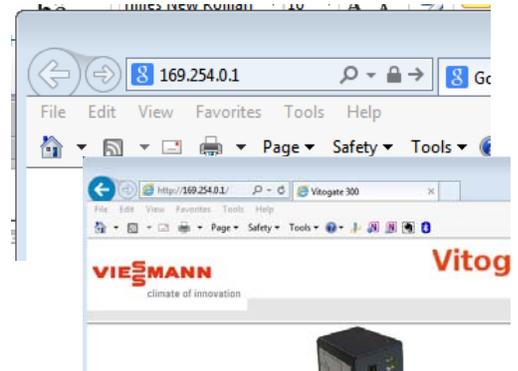
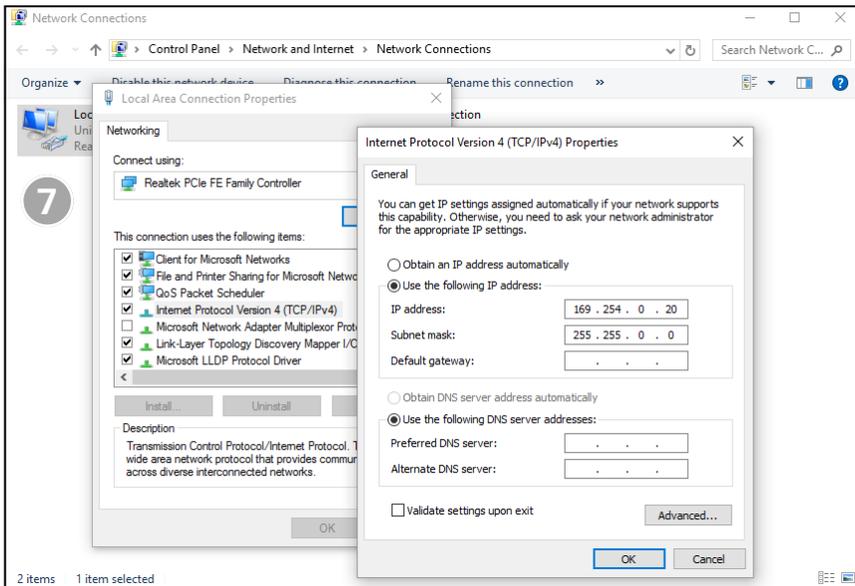
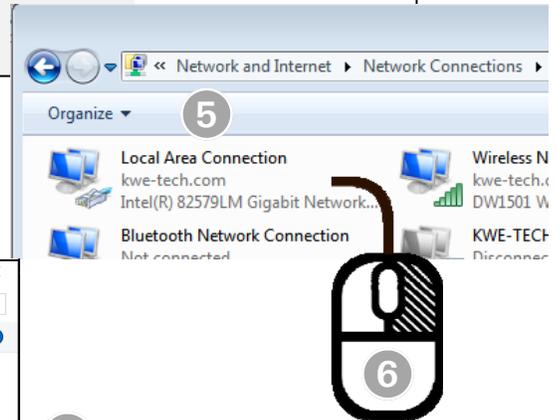
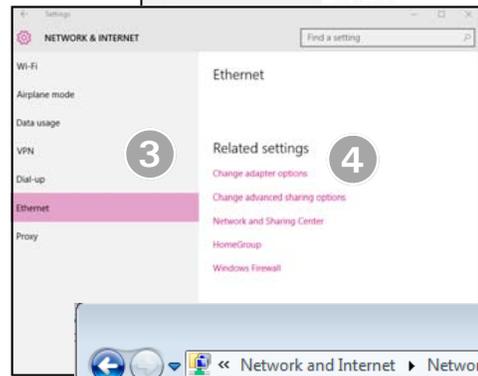
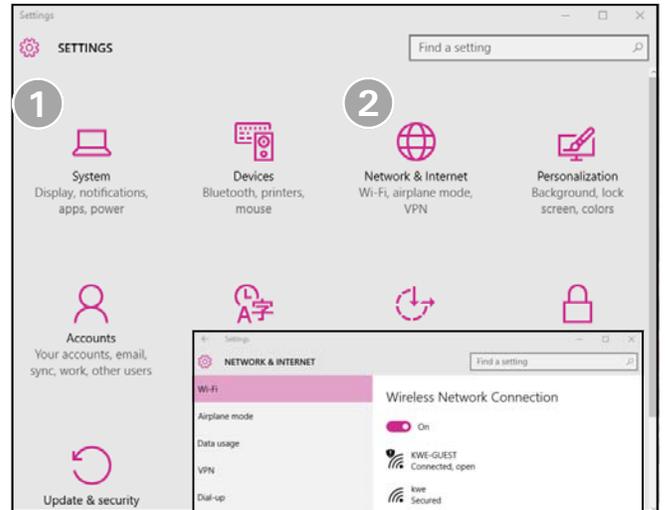
1. From the "start" button, open 'Control Panel' and open 'Network and Internet'.
2. Locate 'Network and Sharing Center' and click it to open.
3. Locate "Change adapter settings' and click to open.
4. Locate 'Local Area Connection' which is the connection between your computer and the Vitagate 300. Use a right click and select Properties of the Local Area Connection. Ensure that the LAN selected is correct for the computer to gateway network as there can be multiple LANs.
5. Find 'Internet Protocol Version 4 (TCP/IP)', select this and then click on 'properties'. Select 'Use the following IP address' and enter an IP address of 169.254.0.20 (the '20' may be substituted with any other number as long as it isn't 1 since that is the Vitagate 300. Set the subnet mask of 255.255.0.0. Click 'OK' to save the settings. The Vitagate and Computer are now on the same network.
6. You can access the Vitagate 300 webpage by opening a browser webpage and entering the address 169.254.0.1 in the URL window.



Vitogate 300

Changing Computer IP Address-Windows 10

1. From the "start" Windows button (typically the bottom left hand corner), select the "Settings" function. 'Control Panel' and open 'Network and Internet'.
2. Locate 'Network and Internet' and click it to open.
3. Locate "Ethernet" and select.
4. Locate 'Change Adapter Options' and select.
5. The Network Connections window will appear and allow you select the correct connection which is the Local Area Connection that the computer is using to communicate with the Vitogate. It cannot be a wireless network or Bluetooth connection.
6. Use a right click and select Properties of the Local Area Connection. Ensure that the LAN selected is correct for the computer to gateway network as there can be multiple LANs.
7. Find 'Internet Protocol Version 4 (TCP/IP)', select this and then click on 'properties'. Select 'Use the following IP address' and enter an IP address of 169.254.0.20 (the '20' may be substituted with any other number as long as it isn't 1 since that is the Vitogate 300. Set the subnet mask of 255.255.0.0. Click 'OK' to save the settings. The Vitogate and Computer are now on the same network. You can access the Vitogate 300 webpage by opening a browser webpage and entering the address 169.254.0.1 in the URL window.



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Vitagate 300

Changing Computer IP Address-MAC OS

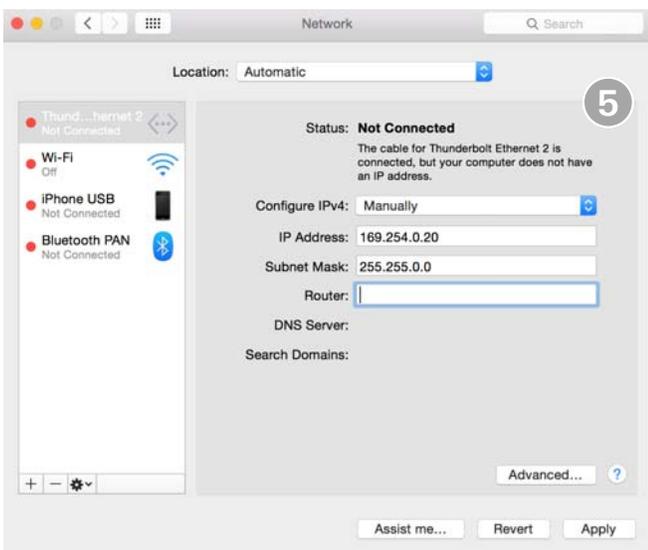
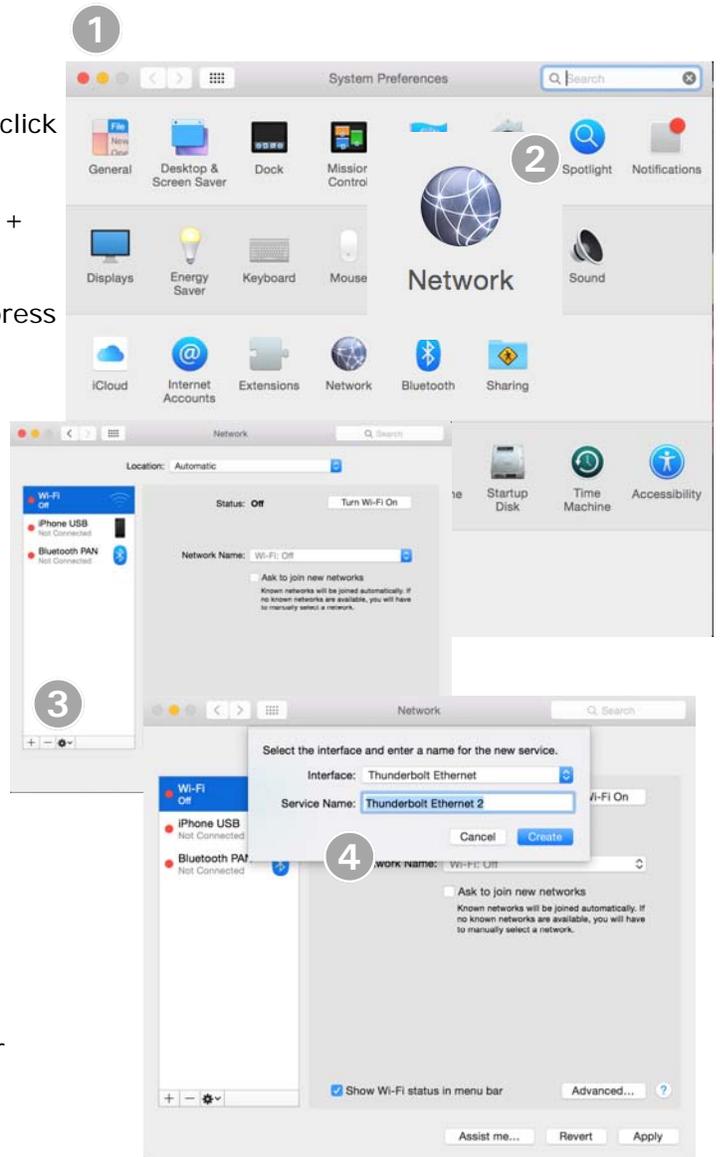
1. Locate the "System Preferences" icon or access using the Launchpad access and select.
2. Locate 'Network' from System Preferences and click it to open.
3. Ensure that the Wifi is turned off and press the + to create a new "Service".
4. Select a Thunderbolt Ethernet connection and press the Create button.
5. From the drop down selection, select "Manually" to Configure the IPv4.

Enter the IP address of 169.254.0.20 (the '20' may be substituted with any other number as long as it isn't 1 since that is the Vitagate 300).

Set the subnet mask of 255.255.0.0 and click on the Apply button.

6. Open a new browser to access the Vitagate 300 webpage. Enter the IP address 169.254.0.1 in the URL window.
7. Enter:
User name: vitagate
Password: viessmann

No caps are required
8. When finished this connection can be deleted or saved and Wifi can be re-enabled.

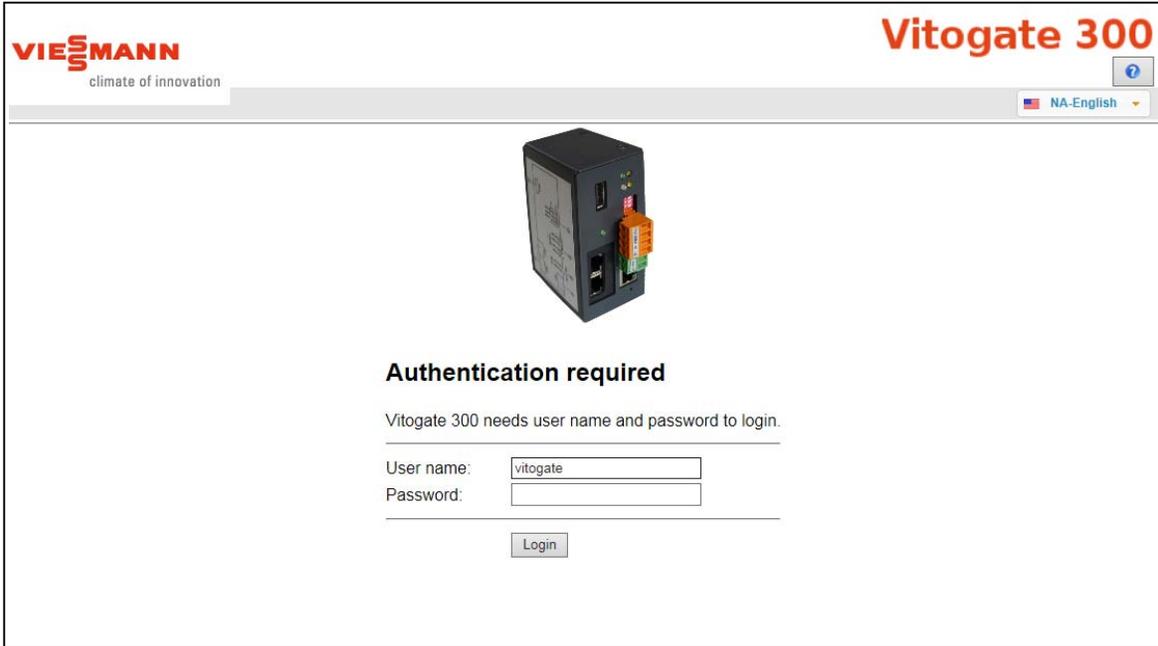


Vitogate 300

General—Overview

Open web page and go to address 169.254.0.1 which is a default address for the Vitogate 300.

This address can be changed later to suite the BMS system's needs.



Vitogate 300

General—Overview

Provides an information overview of the gateway with as well as LON and BACnet driver states. respect to current faults, data points, operational mode

Device configuration	
Vitogate type:	Vitogate 300 BN (BACnet)
Name:	Vitogate 300
Location:	default location
Description:	Demo Unit

System status	
Status LED:	Ok
Datapoints:	61 / 1600
CPU Load:	2 %
System memory:	14 / 32 MByte

VI LON status	
Driver state:	Online
1.1 V300GW6B-Lead	OK

BACnet status	
Driver state:	Online

General—Vitogate

Allows field settings to name the gateway as well as providing a location should there be multiple gateways, Vitogate type, datapoint language and units.

Vitogate type can be selected here with BACnet as the default with Modbus being the alternate communication protocol. Finer details under BACnet/Modbus tab.

Parameter	Value
Name:	Vitogate 300
Location:	Set Geographical location here
Description:	Set Description of system
Vitogate type:	Vitogate 300 BN (BACnet)
Language of datapoints:	English
Units:	Metric units

Vitogate 300

General—IP Network Settings

Vitogate IP Network Settings to allow IP communications with gateway

The screenshot shows the 'IP network settings' page in the Vitogate 300 web interface. The left sidebar contains a 'General' menu with options: Overview, Vitogate, IP-Network (selected), System time, Backup/Restore, Password, Update, and Restart. The main content area is titled 'IP network settings' and includes a table with 'Parameter' and 'Value' columns. The settings are organized into sections: Network adapter (IP address: 10.1.16.77, Netmask: 255.255.255.0, Default gateway: NONE), Network name info (Hostname: vitogate, Nameserver 1: , Nameserver 2:), and Services (Webserver access: http and https (80/443), Diagnostic port (ssh 22):). A 'Save' button is located at the bottom right of the settings area. The top right of the interface shows the user 'vitogate' and the language 'NA-English'. The last refresh time is 'Friday, 15.05.2015 02:25:12 am'.

Parameter	Value
Network adapter	
IP address:	10.1.16.77
Netmask:	255.255.255.0
Default gateway:	NONE
Network name info	
Hostname:	vitogate
Nameserver 1:	
Nameserver 2:	
Services	
Webserver access:	http and https (80/443)
Dagnostic port (ssh 22):	<input type="checkbox"/>

General—System Time

System Time Settings of the Vitogate

The screenshot shows the 'System time settings' page in the Vitogate 300 web interface. The left sidebar contains a 'General' menu with options: Overview, Vitogate, IP-Network, System time (selected), Backup/Restore, Password, Update, and Restart. The main content area is titled 'System time settings' and includes a table with 'Mode' and 'Settings' columns. The settings are organized into sections: Mode (Use VI LON time, Manual time setting (selected), NTP time synchronization, Evaluate BACnet time synchronization), Synchronize time to VI LON: , Timezone: USA/Canada Central Time, Chicago, Time format: 12 hour, Date format: Day, dd.mm.yyyy. A 'Save' button is highlighted with a red box at the bottom right of the settings area. The top right of the interface shows the user 'vitogate' and the language 'NA-English'. The last refresh time is 'Friday, 15.05.2015 02:27:17 am'.

Mode	Settings
<input type="radio"/> Use VI LON time	
<input checked="" type="radio"/> Manual time setting	Date: Wednesday, 13.05.2015 Time: 15 h : 45 m : 29 s <input type="button" value="Set clock"/>
<input type="radio"/> NTP time synchronization	NTP Server: ntp.web.de
<input type="radio"/> Evaluate BACnet time synchronization	
Synchronize time to VI LON:	<input type="checkbox"/>
Timezone:	USA/Canada Central Time, Chicago
Time format:	12 hour
Date format:	Day, dd.mm.yyyy

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Vitogate 300

General—Backup/Restore

Allows backing up of gateway or restoring from backup/saved file. Can be done with either Web-client or

USB stick. Select correct radio button to make selection.

The screenshot shows the 'Perform Backup/Restore' section of the Vitogate 300 web interface. The 'Mode' section has two radio buttons: 'Backup Vitogate configuration' (selected) and 'Restore Vitogate configuration'. Under 'Backup Vitogate configuration', there is a 'Backup media' dropdown menu set to 'WEB-Client (Browser)' and a 'Backup name' text input field. Under 'Restore Vitogate configuration', there is a 'Restore media' dropdown menu set to 'WEB-Client (Browser)', a text input field, and a 'Browse...' button with a red 'X' icon. A 'Start' button is located at the bottom right of the form. The left sidebar shows a menu with 'Backup/Restore' selected. The top navigation bar includes 'General', 'VI LON', 'BACnet', and 'Help' tabs. The user is identified as 'vitogate' and the language is 'NA-English'. The last refresh time is 'Friday, 15.05.2015 02:29:04 am'.

General—Password

Changing the current gateway password

The screenshot shows the 'Change password' section of the Vitogate 300 web interface. It features a table with two columns: 'Parameter' and 'Value'. The table contains three rows: 'User name' with the value 'vitogate', 'Current password' with an empty text input field, and 'New password' with an empty text input field. Below the table is a 'Retype password' text input field. A 'Save' button with a green icon is highlighted with a red box. The left sidebar shows a menu with 'Password' selected. The top navigation bar includes 'General', 'VI LON', 'BACnet', and 'Help' tabs. The user is identified as 'vitogate' and the language is 'NA-English'. The last refresh time is 'Last Refresh:'.

Parameter	Value
User name:	vitogate
Current password:	<input type="text"/>
New password:	<input type="text"/>
Retype password:	<input type="text"/>

Vitagate 300

General—Update

Performing a gateway update. Pressing the browse button to select the desired update and press start.

The screenshot shows the 'Update Vitagate software' section of the Vitagate 300 web interface. The left sidebar has 'Update' selected. The main content area includes a table with the following data:

Parameter	Value
Vitagate version:	1.2.15.1
Supported languages:	<ul style="list-style-type: none">GermanNA-EnglishUK-EnglishCA-French

Below the table, there is a text block explaining the update process and a 'Browse...' button with a red 'X' icon. A 'Start' button is located at the bottom right of the update section.

General—Restart

Restarting the gateway.

The screenshot shows the 'Restart Vitagate' section of the Vitagate 300 web interface. The left sidebar has 'Restart' selected. The main content area includes a section titled 'Options' with the following text and checkboxes:

By pressing the button 'Restart' you force the Vitagate to do a communication reset. This is necessary on most configuration changes.

- complete system restart
- delete data trendlog

Below the options, there is a text block explaining the 'complete system restart' option and a 'Restart' button.

Vitogate 300

Vi LON—Configuration

Factory LON address (Node ID) default of gateway is 97. If a participant check is performed, the gateway will show 97 unless it has already been changed.

Vitogate 300

General **VI LON** BACnet Help

User: vitogate NA-English

Last Refresh: Friday, 15.05.2015 02:39:28 am

VI LON

Configuration
 Scan participants

Participants

1.1 - V100GC1
 1.2 - V100GC1B-Lag

VI LON configuration

Parameter	Value
Domain-ID (fixed):	7
Subnet-ID (system number):	1
Node-ID (participant number):	97
Polling rate:	normal

Save

Vi LON—Scan Participants

Click on Vi-LON tab at top of screen and select Scan Participants

Vitogate 300

General **VI LON** BACnet Help

User: vitogate NA-English

Last Refresh: Wednesday, 10/12/2014 15:50:23 pm

VI LON

Configuration
 Scan participants

Participants

Scan participants

Scan settings

System number: 1
Participant number from: 1 to: 10
Start

Participant list

Use	Status	Participant	System	Type	Code	Model	Version	Last scan
-----	--------	-------------	--------	------	------	-------	---------	-----------

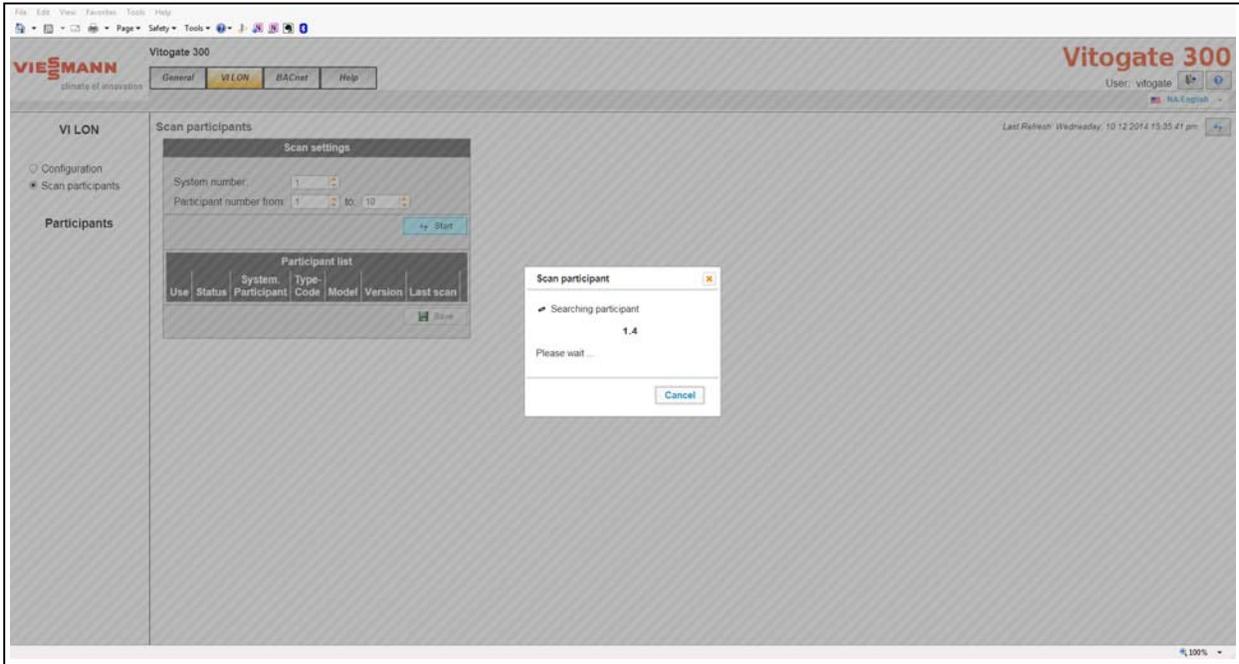
Save

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Vitagate 300

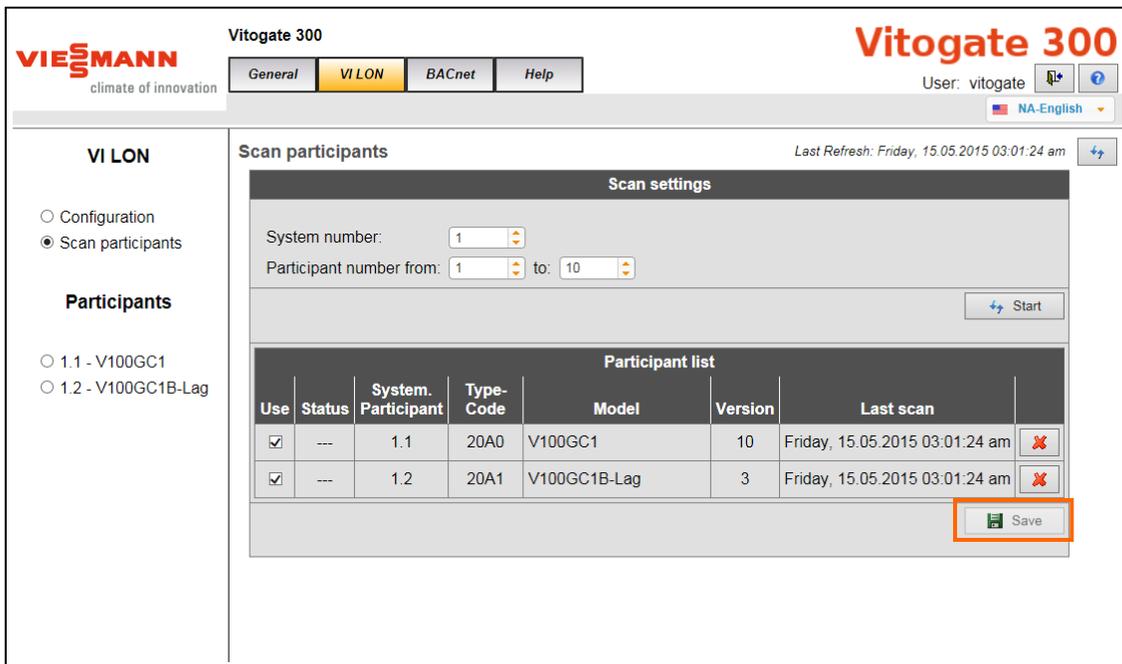
Vi—LON (Scanning participants)

Screen shot of the gateway looking for participants



The table should populate with participants. Note the LON addresses are shown at 1.X
SAVE must be pressed.

Note that in the upper right corner, it says Restart Required. Click on the General Tab and click on restart. Don't select either of the two square boxes, just press Restart.



Vitogate 300

Vi—LON Point Selection

Select the desired points for **each** control by ensuring that the checkmark is shown beside the desired point.

Once the selection is complete, press SAVE button at the bottom right and the database will be saved.

The screenshot shows the Vitogate 300 web interface. At the top, there is a navigation bar with tabs for 'General', 'Vi-LON', 'BACnet', and 'Help'. The 'Vi-LON' tab is selected. Below the navigation bar, there is a sidebar on the left with options for 'Configuration', 'Scan participants', and 'Participants'. Under 'Participants', '1.1 - V100GC1' is selected. The main content area displays a table for 'Participant 1.1 - V100GC1'. The table has columns for 'All', 'VS-Addr', 'BACnet', 'Name', and 'Unit'. The 'All' column contains a dropdown menu with 'All' selected. The table lists various configuration points, each with a checkmark in the 'All' column. A 'Save' button is located at the bottom right of the table, highlighted with a red box.

All	VS-Addr	BACnet	Name	Unit
<input checked="" type="checkbox"/>	6300	AV-1001	Set DHW temperature	°C
<input checked="" type="checkbox"/>	2301	MV-1001	Operating mode A1M1	
<input checked="" type="checkbox"/>	5300	AV-1002	Set boiler water temperature	°C
<input checked="" type="checkbox"/>	2320	MV-1002	Operating mode A1M1	
<input checked="" type="checkbox"/>	08A7	AV-1003	Burner hours run stage 1	h
<input checked="" type="checkbox"/>	08AB	AV-1004	Burner hours run stage 2	h
<input checked="" type="checkbox"/>	088A	AI-1001	Burner starts	
<input checked="" type="checkbox"/>	0843	BI-1001	Output 20	
<input checked="" type="checkbox"/>	0844	BI-1002	Output 29	
<input checked="" type="checkbox"/>	084D	BI-1003	Output 52 OPEN	
<input checked="" type="checkbox"/>	084C	BI-1004	Output 52 CLOSED	
<input checked="" type="checkbox"/>	0842	BI-1005	Burner stage 1	
<input checked="" type="checkbox"/>	0849	BI-1006	Burner stage 2	
<input checked="" type="checkbox"/>	0845	BI-1007	Cylinder primary pump	

You can press the side and top tabs to narrow down points for a specific group, or press ALL for each and all of the points will be shown in the table.

Vitogate 300

BACnet IP—Configuration

Enter BACnet configuration information

VISSMANN climate of innovation

Vitogate 300

General | VI LON | **BACnet** | Help

User: vitogate

NA-English

Last Refresh: Friday, 15.05.2015 03:14:57 am

BACnet

- Configuration
- Device
- Objects

BACnet configuration

Startup delay: 0 sec.

Password DCC/RD: viessmann

Datalinks: BACnet IP

BACnet IP

Parameter	Value
UDP-Port:	47808
IP-Mode:	Normal

Save

BACnet IP—Device

Entry of specific BACnet device object information

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Vitogate 300

General | VI LON | **BACnet** | Help

User: vitogate

NA-English

Last Refresh: Friday, 15.05.2015 03:18:47 am

BACnet

- Configuration
- Device
- Objects

BACnet device object

Property	Value
Device instance:	6616
Device name:	Vitogate-6616
Description:	Vitogate300
Location:	Set physical location here
Vendor-Identifier:	767
Vendor-Name:	Viessmann Elektronik GmbH
Model-Name:	Vitogate 300
Firmware-Revision:	Viessmann BACstack 1.0
Application-Software-Version:	1.2.15
APDU Max-Length-Accepted:	1024 - IP Ethernet
APDU Timeout:	5000 millisec.
APDU Retries:	3
APDU Segmentation-Supported:	0 - Both
APDU Max-Segments-Accepted:	3
APDU Segment-Timeout:	3000 millisec.

Save

Vitogate 300

BACnet MSTP—Configuration

Enter BACnet MSTP configuration information

Vitogate 300

General | VI LON | **BACnet** | Help

User: vitogate | UK-English

BACnet

- Configuration
- Device
- Objects

BACnet configuration Last Refresh: Wednesday, 27.05.2015 09:27:45 am

Startup delay: 60 sec.

Password DCC/RD: viessmann

Datalinks: BACnet MS/TP

BACnet MS/TP

Parameter	Value
MS/TP address:	24
Max. Master:	127
Max. info frames:	10
Baudrate:	38400

Save

BACnet MSTP—Device

Entry of specific BACnet device object information

Vitogate 300

General | VI LON | **BACnet** | Help

User: vitogate | NA-English

BACnet

- Configuration
- Device
- Objects

BACnet device object Last Refresh: Friday, 15.05.2015 03:18:47 am

Property	Value
Device instance:	6616
Device name:	Vitogate-6616
Description:	Vitogate300
Location:	Set physical location here
Vendor-Identifier:	767
Vendor-Name:	Viessmann Elektronik GmbH
Model-Name:	Vitogate 300
Firmware-Revision:	Viessmann BACstack 1.0
Application-Software-Version:	1.2.15
APDU Max-Length-Accepted:	1024 - IP Ethernet
APDU Timeout:	5000 millisecc.
APDU Retries:	3
APDU Segmentation-Supported:	0 - Both
APDU Max-Segments-Accepted:	3
APDU Segment-Timeout:	3000 millisecc.

Save

Vitogate 300

BACnet—Objects

Table of BACnet Objects based on the selection of the LON points selected after controls were discovered. It is possible to edit the Object Name and Description to allow BMS to show desired changes

Vitogate 300

General | VILON | **BACnet** | Help

Vitogate 300

User: vitogate

NA-English

BACnet

- Configuration
- Device
- Objects

BACnet objects Last Refresh: Friday, 15.05.2015 03:20:43 am

Object-Id	Object-Name	Description	Trend
AI-1001	1.1 Burner starts	Burner starts	
AI-1002	1.1 Boiler output value	Boiler output value	
AI-1003	1.1 DHWC: Effective set DHW temperature	Output network variable of the DHWC (domestic hot water)	
AI-1004	1.1 Effective set boiler water temperature	Effective set boiler water temperature	
AI-1005	1.1 Active set system/boiler temperature	nvoCFDMEffectSetpt	
AI-1006	1.1 Output reduction required by consumer	nvoCFDMProdState	
AI-1007	1.1 Actual system output - value	nvoCFDMPwrState	
AI-1008	1.1 Actual system flow/boiler water temper	nvoCFDMSupplyT	
AI-1009	1.1 Fuel consumption (litres or m³)	Display of fuel consumption in litres or m³Prerequisite for	
AI-1010	1.1 Burner output	Burner output	
AI-1011	1.1 Minimum boiler temperature	Minimum boiler temperature	
AI-1012	1.1 Maximum boiler temperature	Maximum boiler temperature	
AI-1013	1.1 Set boiler water temperature (effective)	Gives the set boiler water temperature, taking into account	
AI-1014	1.1 Return temperature 17A	Return temperature 17A	

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16

Vitogate 300

Modbus Gateway Communication Selection

From the General Menu, it is possible to reprogram the gateway to communicate via Modbus. Ensure that the Save button is pressed after the selection is made and the gateway will need to be Restarted.

The screenshot shows the Vitogate 300 web interface. At the top left is the VIESMANN logo with the tagline 'climate of innovation'. The page title is 'Vitogate 300'. There are navigation tabs for 'General', 'VI LON', 'BACnet', and 'Help'. The 'General' tab is selected. On the right, it shows 'User: vitogate' and a language dropdown set to 'UK-English'. Below the navigation is a sidebar menu under 'General' with options: Overview, Vitogate (selected), IP-Network, System time, Backup/Restore, Password, Update, and Restart. The main content area is titled 'Vitogate settings' and includes a table with columns 'Parameter' and 'Value'. The table contains the following rows:

Parameter	Value
Name:	Vitogate 300
Location:	default location
Description:	Demo Unit
Vitogate type:	Vitogate 300 MB (Modbus)
Language of datapoints:	English
Units:	SI units

At the bottom right of the settings table, there is a 'Save' button with a green icon, which is highlighted with a red box. A 'Last Refresh' timestamp of 'Wednesday, 27.05.2015 09:37:30 am' is also visible.

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Vitogate 300

Modbus—Configuration

Enter Modbus configuration information

The screenshot shows the 'Modbus configuration' page in the Vitogate 300 web interface. The 'Modbus' section is active, with 'Configuration' selected. The 'Modbus RS485' mode is chosen. The configuration parameters are as follows:

Parameter	Value
Slave-Address:	0
Modbus TCP/IP	
Port:	502
Force serial pakets (instead of tcp pakets):	<input type="checkbox"/>
Modbus RS485	
Protocol:	RTU
Baudrate:	9600
Databits:	8
Parity:	none
Stopbits:	1

The 'Save' button at the bottom right of the configuration area is highlighted with a red box.

Modbus—Objects

Entry of specific BACnet device object information

The screenshot shows the 'Modbus objects' page in the Vitogate 300 web interface. The 'Objects' section is active. The table below lists the BACnet device objects:

Register	Name	Unit	Format
CO 1	1.1 (56) Set DHW temperature range		
CO 501	1.2 (56) Set DHW temperature range		
HO 1	1.1 Set DHW temperature	°C	u
HO 2	1.1 Operating mode A1M1		u
HO 3	1.1 Set boiler water temperature	°C	u
HO 4	1.1 Operating mode A1M1		u
HO 5	1.1 Burner hours run stage 1	h	u
HO 6	1.1 Burner hours run stage 2	h	u
HO 7	1.1 (04) Boiler switching hysteresis		u
HO 8	1.1 (06) Maximum boiler water temperature	°C	u
HO 9	1.1 (08) Maximum burner output in 1KW		u
HO 10	1.1 Standard burner output	%	u
HO 11	1.1 (0C) Function of butterfly valve return control		u
HO 12	1.1 (0D) ThermControl		u
HO 13	1.1 ThermControl		u
HO 14	1.1 (13) Stop differential of the boiler controller	K	u
HO 15	1.1 (58) Set DHW temperature 2	°C	u

Vitogate 300

Help—Online Help

Help Manual

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Vitogate 300

General VI LON BACnet **Help**

User: vitogate

NA-English

Help

- Online help
- BACnet PICS
- Modbus Register
- Info about

Diagnostics

- Device info
- System status
- Logfiles
- Ping
- Traceroute
- Process information

Online Help
for use by heating contractor

VISSMANN

Vitogate 300
Communication from heating system via BACnet or Modbus

Vitogate 300

Help—BACnet PICS

PICS: Protocol Implementation Conformance Statement

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Vitogate 300

General VI LON BACnet **Help**

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Vitogate 300

ASHRAE BACnet™

Vitogate 300

Help—Modbus Register

Help Manual

Help—Info About

Vitogate 300 supported controls

Parameter	Value			
Vitogate version:	1.2.15.1			
Supported languages:	<ul style="list-style-type: none"> German NA-English UK-English CA-French 			
	Type-Code	Model	German	English
	2048	V200WO1A	X	X
	2049	VBC702_AW	X	X
	204A	VBC702_S	X	X
	204B	WPR3_(WO1C)	X	X
	204C	CU401B_A	X	X
	204D	CU401B_S	X	X
	20A0	V100GC1	X	X
	20A1	V100GC1B-Lag	X	X
	20A2	V100GC1C	X	X
	20A4	V200GW1	X	X
Supported devices:				

Vitogate 300

Diagnostics—Device Info

Information specific to device and set up

The screenshot shows the Vitogate 300 web interface. At the top left is the VIESMANN logo with the tagline 'climate of innovation'. The page title is 'Vitogate 300'. There are navigation tabs for 'General', 'VI LON', 'BACnet', and 'Help'. The user is logged in as 'vitogate'. The language is set to 'NA-English'. The 'Help' section on the left includes links for 'Online help', 'BACnet PICS', 'Modbus Register', and 'Info about'. The 'Diagnostics' section includes 'Device info' (selected), 'System status', 'Logfiles', 'Ping', 'Traceroute', and 'Process information'. The 'Vitogate info' section contains a table with the following data:

Parameter	Value
Vitogate type:	Vitogate 300 BN (BACnet)
Datapoints:	492 / 1600
System start:	Sunday, 10.05.2015 01:56:23 am
System memory:	8 / 26 MByte
Operating system:	Linux 2.6.34.7 #238 Thu Jun 26 09:14:04 CEST 2014 armv5tej1
Version:	1.2.15.1 #3589
Last update:	OK

The last refresh time is Friday, 15.05.2015 10:22:11 pm.

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BACnet Overview

BACnet Object ID Breakdown Overview

AI-XX017

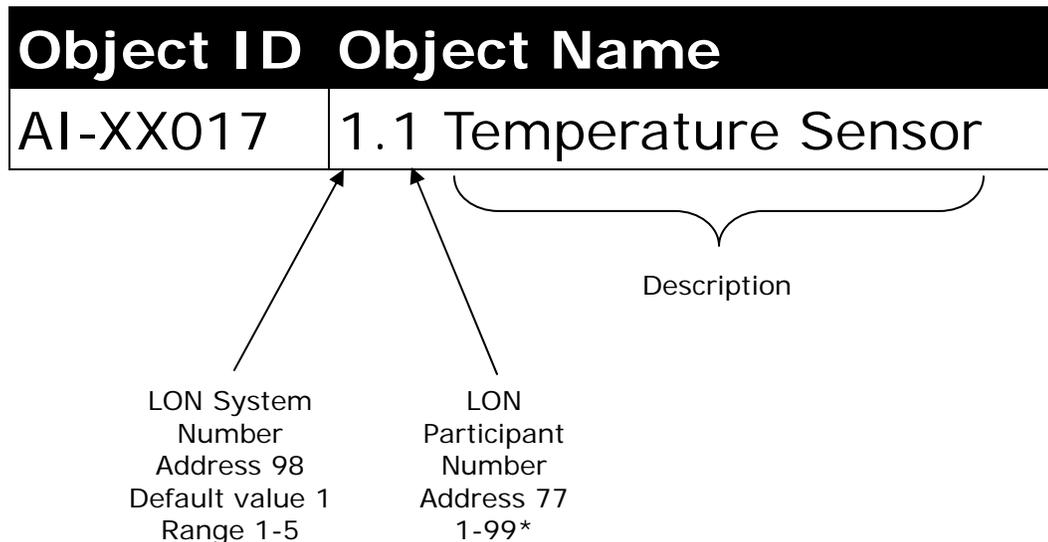
Object Type

Control LON
Address value
77
(Range 1-99)

Object ID
number as
per list

AI=Analog Input (read)
AV=Analog Value (read/write)
BI=Binary Input (read)
BV=Binary Value (read/write)
MI=Multistate Input (read)
MV=Multistate Value (read/write)

BACnet Object Name Breakdown Overview



*Caution with setting of participant numbers to ensure no duplicates. Vitocom LON by default is Node Address 97

Modbus Overview

Modbus Overview

The VS Address is a number that Viessmann uses as an internal point in each control to define the points that are able to be taken from the device. It is this point that is selected when you configure the gateway for the points that you are looking for on either the Modbus or BACnet side of the BMS.

Modbus Point/Numbering Structure

It must be understood that there are some points in the Cascade/Lead boiler controls which are not available in lag boiler controls. However points between lag boilers will typically be consistent.

When register values are known, it is possible to add a value of 500, to calculate the next control assuming that address 77 values are consecutive.

Example:

Boiler 2 IN523 is Flue Gas Temperature
 Boiler 3 IN1023 is Flue Gas Temperature
 Boiler 4 IN 1523 is Flue Gas Temperature
 .
 .
 .
 Boiler 8 IN3523 is Flue Gas Temperature

Binary Information

CO=coil which is a Boolean/Digital point that is read/writeable

ST=Status is a Boolean/Digital point that is only readable

Analog Information

IN=analog input register which is a read only integer 16bit

HO=Holding is an analog output point which is read/writeable

Binary Register

Coils: *discrete output coils* (read-write Boolean, 1 Bit) Range/Register 1 – 9999

Status: *discrete input coils* (read-only Boolean, 1 Bit) Range/Register 10001 - 19999

Analog Register

Input: registers *analog input register* (read-only integer, 16 Bit) Range/Register 30001 – 39999

Holding: registers *analog output holding register* (read-write integer, 16 Bit) Range/Register 40001 – 49999

The allocation of bits or registers have what meaning can only be established in the form of a data point list. Additional information such as the name of the information unit, limits or min / max information cannot be determined.

The 16-bit data registers may need to be scaled or converted. Vitogate used formats:

- Integer unsigned and signed (u - unsigned, s - signed)
- a factor of 10 (one decimal place) (ut, unsigned tenth, st - signed tenth)
- a factor of 100 (two decimal places) (uh, unsigned hundredths, sh - signed hundredths)
- Factor 1000 (three decimal places) (order, unsigned mega, sm - signed mega)

The conversion must be done on the master side (the client).

Supported function codes

In order to read or write the data from Vitogate following MODBUS function codes are supported:

- § 01 (0x01) Read Coils
- § 02 (0x02) Read Discrete Inputs
- § 03 (0x03) Read Holding Registers
- § 04 (0x04) Read Input Registers
- § 05 (0x05) Write Single Coil
- § 06 (0x06) Write Single Register

u: Numerical value without prefix is unsigned, cannot have negative values

s: Numerical value with prefix can have a negative value

t: Numerical value is one tenth of the value displayed

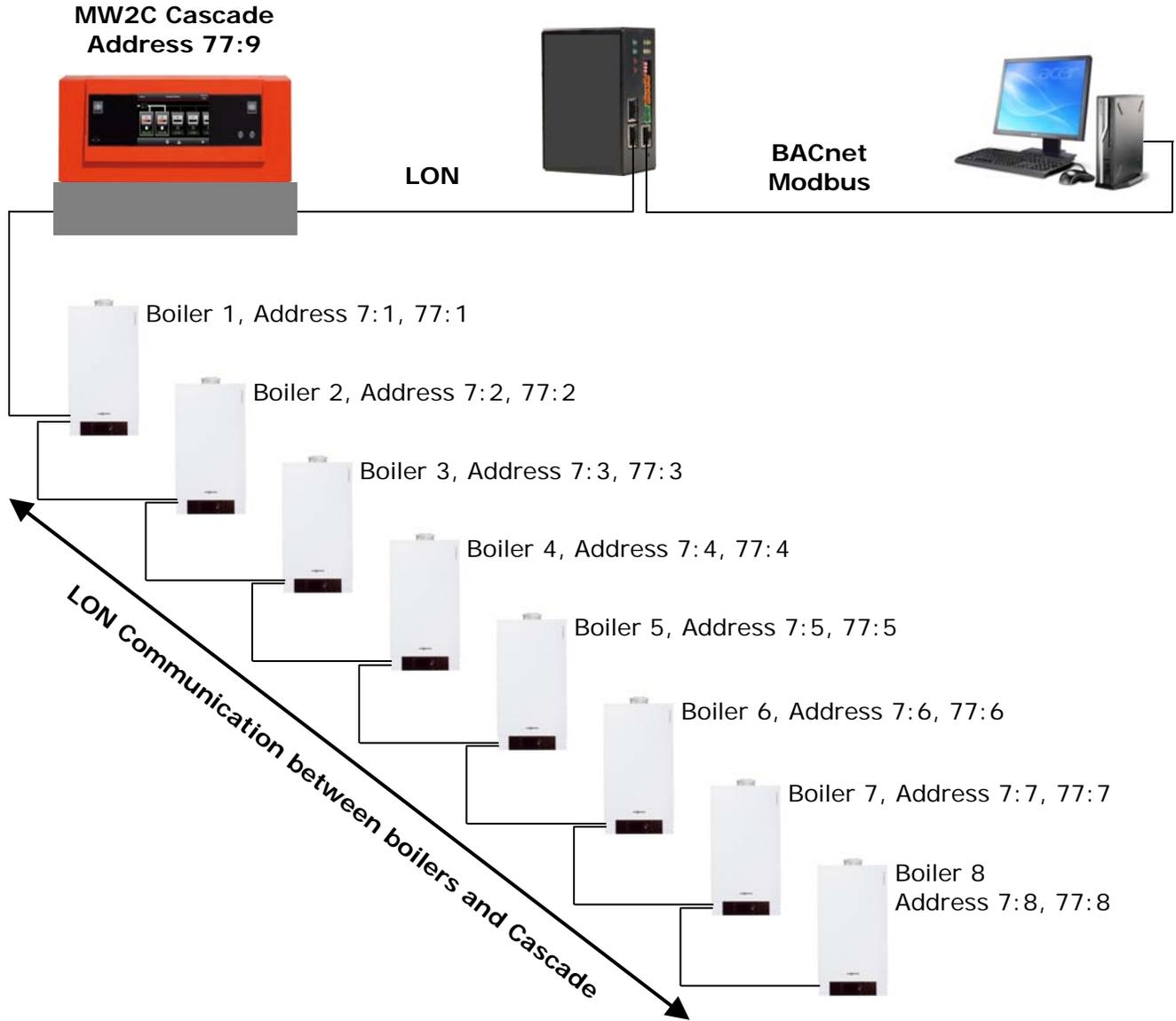
h: Numerical value is one hundredth of the value displayed

m: Numerical value is one thousandth of the value displayed

Vitogate 300

Control LON Addressing Best Practices MW2C Cascade and Vitodens B2HA

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Notes:

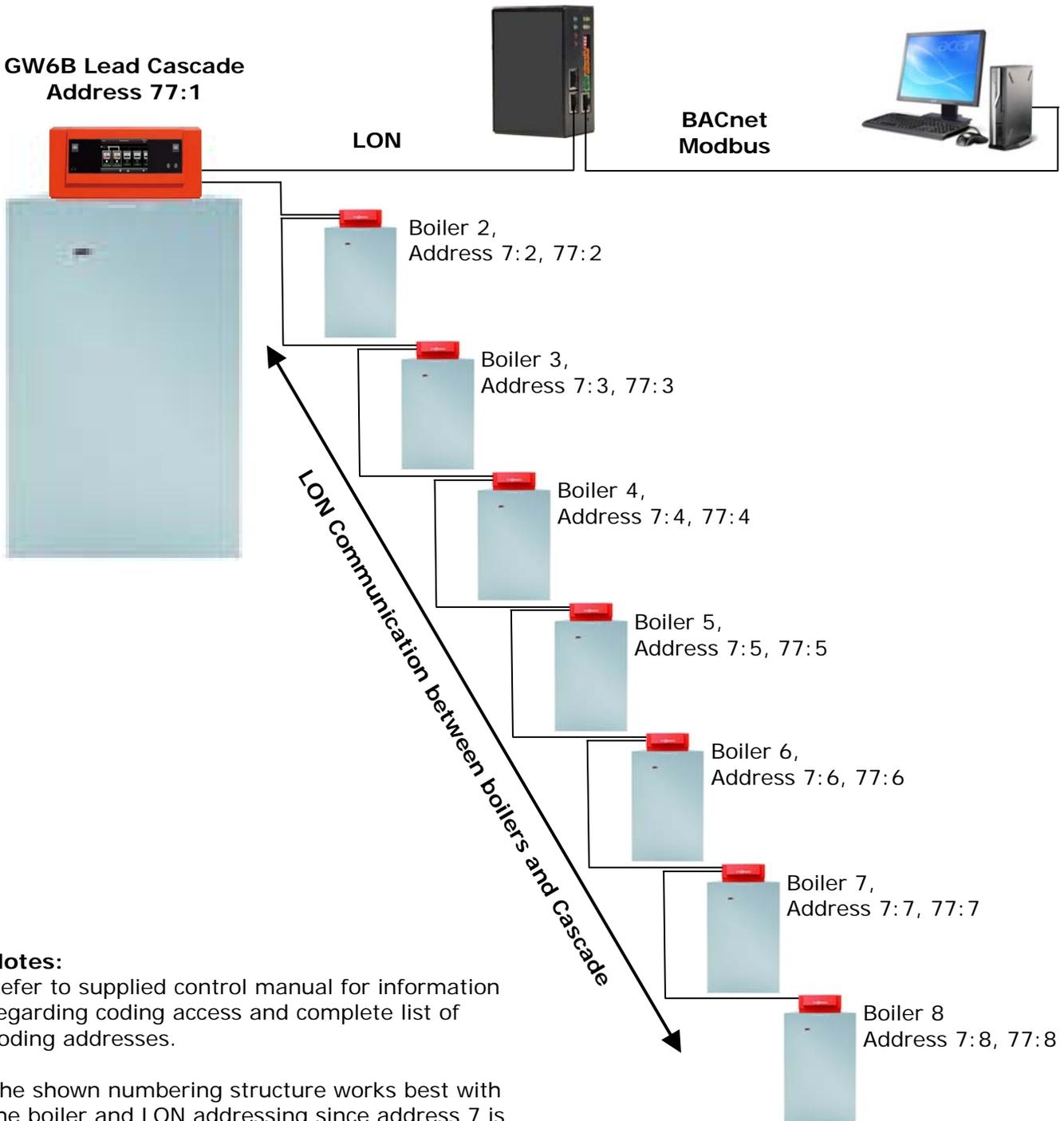
Refer to supplied control manual for information regarding coding access and complete list of coding addresses.

The shown numbering structure works best with the boiler and LON addressing since address 7 is limited to values from 1 through 8.

Termination resistors are used at both ends of the Viessmann LON bus in the last boiler and the Vitogate 300.

Vitogate 300

Control LON Addressing Best Practices GW6B Cascade and Lag controls



Notes:

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