Congratulations on the purchase of your Signum IoT Gateway!
Please follow these instructions to install and configure your Signum.

Contents

Mount & connect your Signum module

1. The Signum module is compatible with standard DIN rail cabinets and clicks into place.


2. Connect the Signum to your local network with an ethernet cable.

3. Connect the provided Molex-to-Molex cable with the Molex connector on your Signum and connect with another Velbus module already installed. If you have older Velbus modules without Molex connectors, cut & strip one end of the Molex-to-Molex cable and connect each wire to the corresponding connection of your existing Velbus installation.

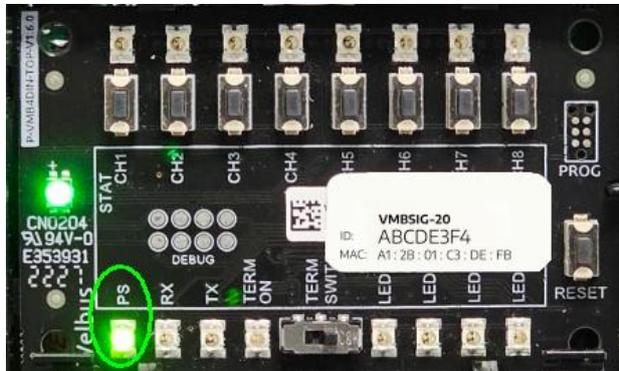The Velbus bus cable colors are arranged in the following order:

Color	Connection	Indicator
Red	Power 15V (± 3V)	+
Black	Power GND	-
Yellow	CANbus High	H
White	CANbus Low	L
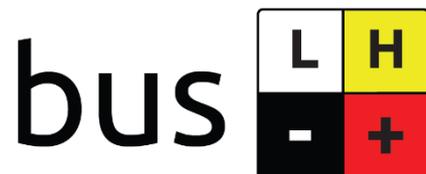
4. Write down or take a picture of the information on your Signum, you might need this information later.

5. Verify that the PS LED on the bottom left is turned on.

   If this LED is not turned on, please check your connections and the power to the Signum.

6. Press the RMT button (CH1) on the top left of the module.

   The green LED will light up, indicating the start of a 10 minute timer to allow remote connections and the configuration of your Signum. If you run out of time, simply press the button again to start a new 10 minute timer.

   You are now ready to configure your Signum.

Configure your Signum module

Your Signum IoT gateway runs the Velbus Signum software platform, a Velbus-adapted environment based on the open-source Home Assistant project. It provides an intuitive dashboard of your Velbus installation on your smartphone, tablet or web browser.

Please follow the next steps to configure your Signum IoT gateway using the Velbus Signum platform. You can do this via the Velbus Signum app on your smartphone (for installations that are already set up) or via Velbuslink (for installations that still need setting up).

Caution: Configuring the Velbus Signum platform should be the final step in your Velbus installation process, so **ensure your Velbus installation is set up** completely. Failure to set up your Velbus installation beforehand will result in an empty Velbus installation in your Signum IoT gateway, necessitating a rescan when the Velbus installation has been properly configured. Use Velbuslink and our software guide to setup, configure and finish your Velbus installation.

Via Velbuslink:

1. Download and install the latest Velbuslink software via
   https://www.velleman.eu/downloads/velbus/velbuslink/velbuslink-latest.exe

2. Start with a new project and connect to your existing installation:
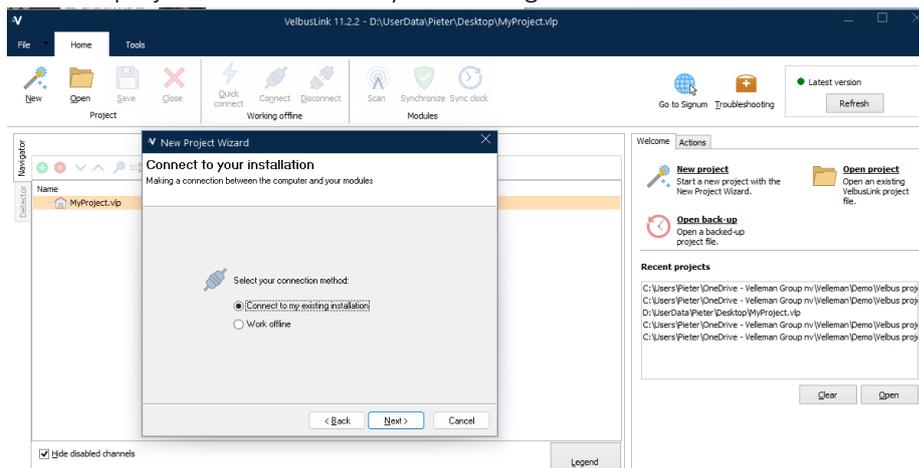
3. Select the option 'Connect to Signum' and select your Signum ID from the list.
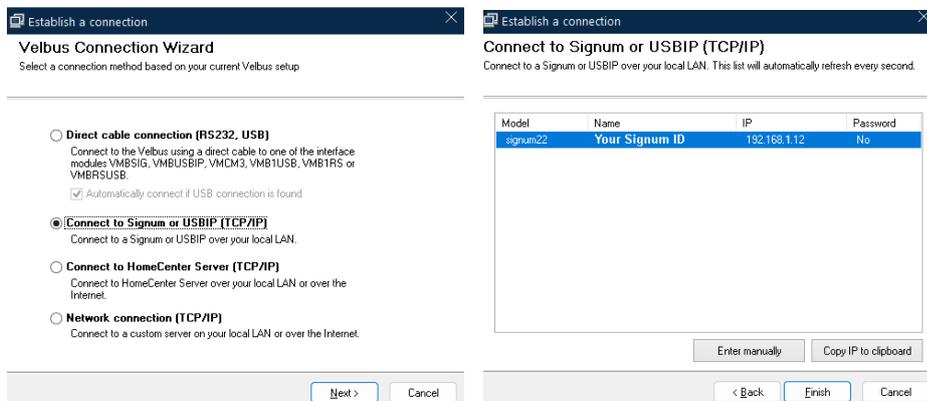

   If you cannot find your Signum, check if you are connected to the same network as your Signum and if the RMT LED on the module is turned on.

4. To setup your Velbus installation, choose 'Scan my installation for modules' and 'Auto-assign addresses'. If the installation has already been configured before, uncheck the 'Auto-assign addresses' option.
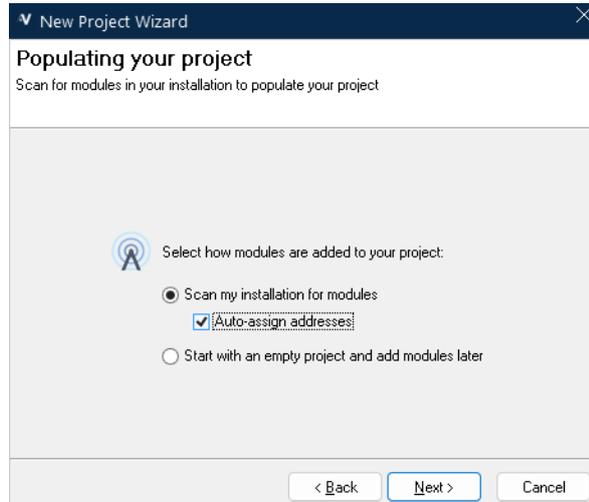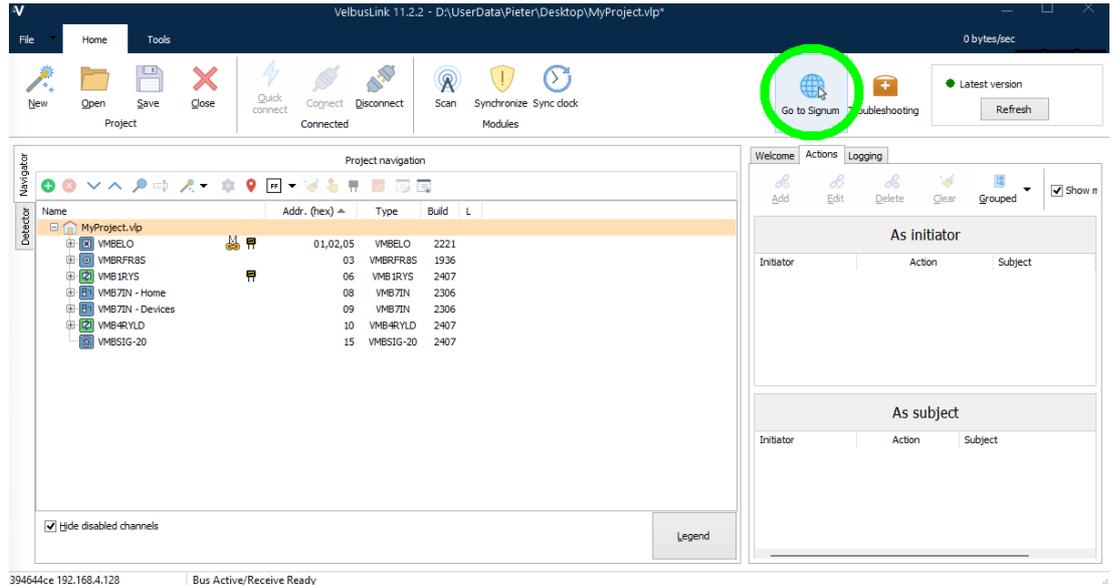

5. For a first time installation, you can start with blank modules, otherwise you select 'Read settings from my existing installation'. Depending on the size of your Velbus installation, this might take a while.
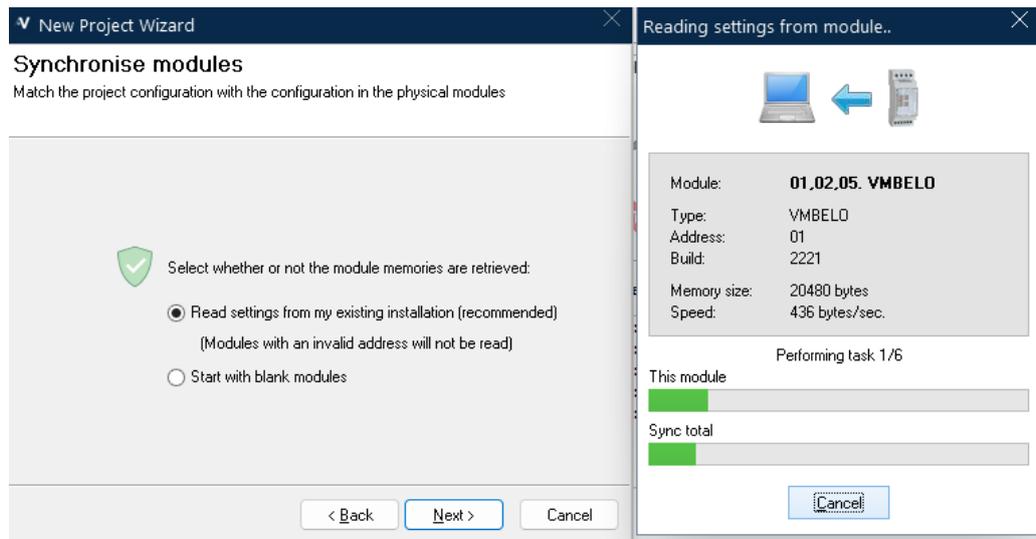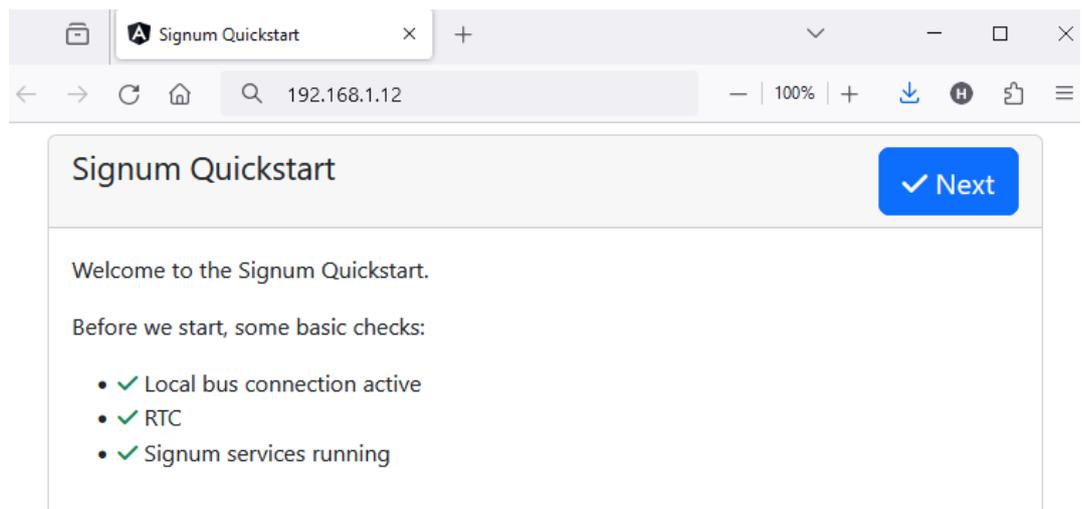

6. Save your project file, you will need it later in the process.

7. In Velbuslink, push the button 'Go to Signum' in the top right corner.
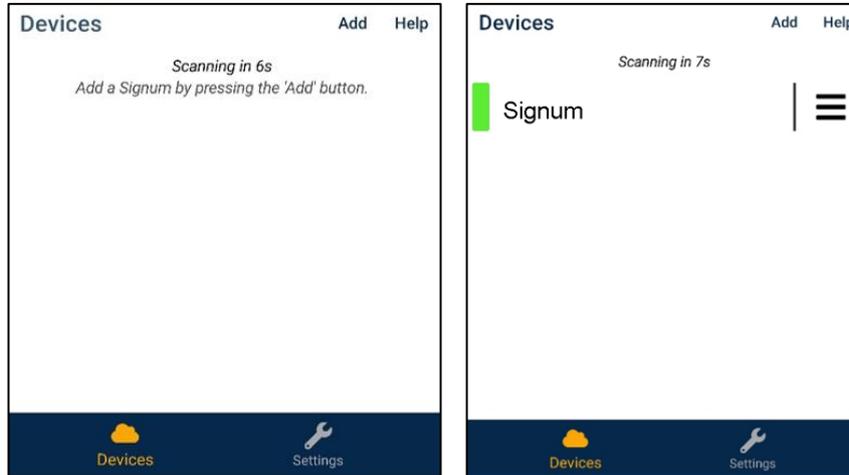

This will open your default web browser to the local IP address of your Signum with the Quickstart guide.

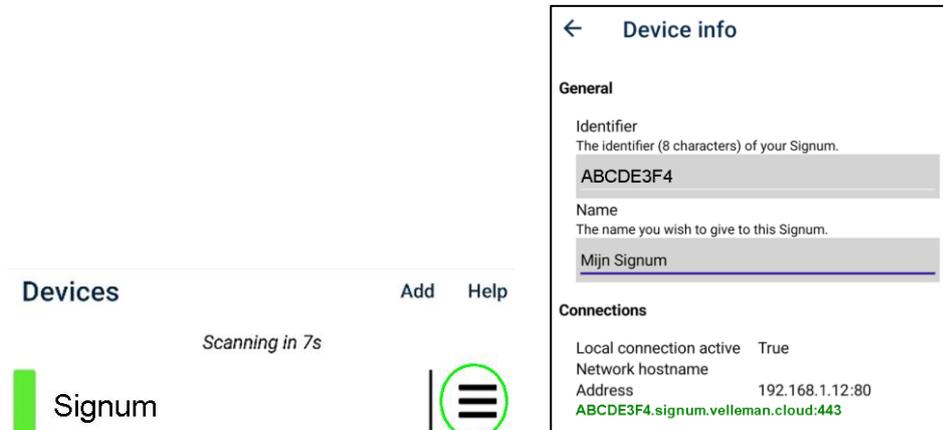Follow the instructions of the Quickstart guide.

Via the Signum app on your smartphone or tablet:

1. Download the Velbus Signum app for your device
   - iPhone: https://apps.apple.com/be/app/velbus-signum/id1444280978
   - Android: https://play.google.com/store/apps/details?id=be.velbus.SignumApp

2. Open de Velbus Signum app, let it scan and your Signum should be shown:

   If you cannot find your Signum, check if you are connected to the same network as your Signum and if the RMT LED on the module is turned on.

3. Personalise your Signum by pressing the hamburger menu on the right of your Signum.

   Enter a personalized name for your Signum and press the back button on the top left.

4. Now press the name of your Signum. You will see the Signum Quickstart.

   Follow the instructions of the Quickstart guide.

Quickstart guide

This guide will setup the Velbus Signum platform on your Signum gateway.

1. Your Signum will do a quick health check before starting the Quickstart. Click Next.

If any of the checks are not green, please wait a few more minutes (your Signum might be booting up (status LED on your module is white). Also check your connections and reset the Signum if the problem persists.

2. The Signum will check for updates. Click Next.

If an update is available, please install it to make sure you are using the latest version.

3. Subscribe to the Velbus newsletter to receive the latest updates and click Next.

4. We will now start the configuration of your Signum IoT gateway. Click Next.

5. Select your preferred language at the bottom left and click 'Create my smart home'.

You will be prompted to create a profile for your Signum. Fill in your name, pick a username and a strong and unique password. Do not loose this password since there is no way to recover it! If you loose your password, you will have to factory reset your Signum.

Click 'create account'.

6. The Signum will scan your network for compatible devices and show them here. Mind the Velbus Signum icon in the list. You can click Finish and set these devices up later.
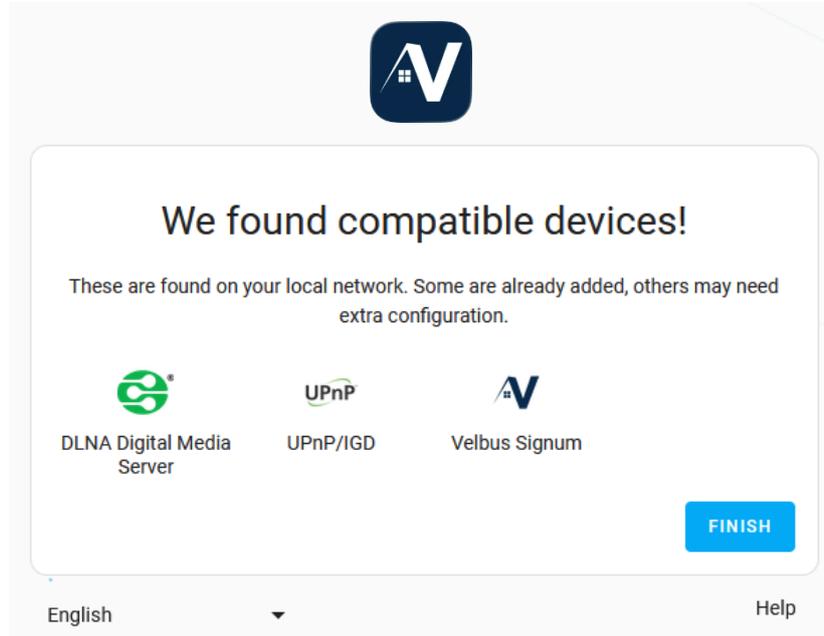
7. Your will see your Signum dashboard. Your dashboard will be empty or show no Velbus related items. Mind the Velbus tab on the left.
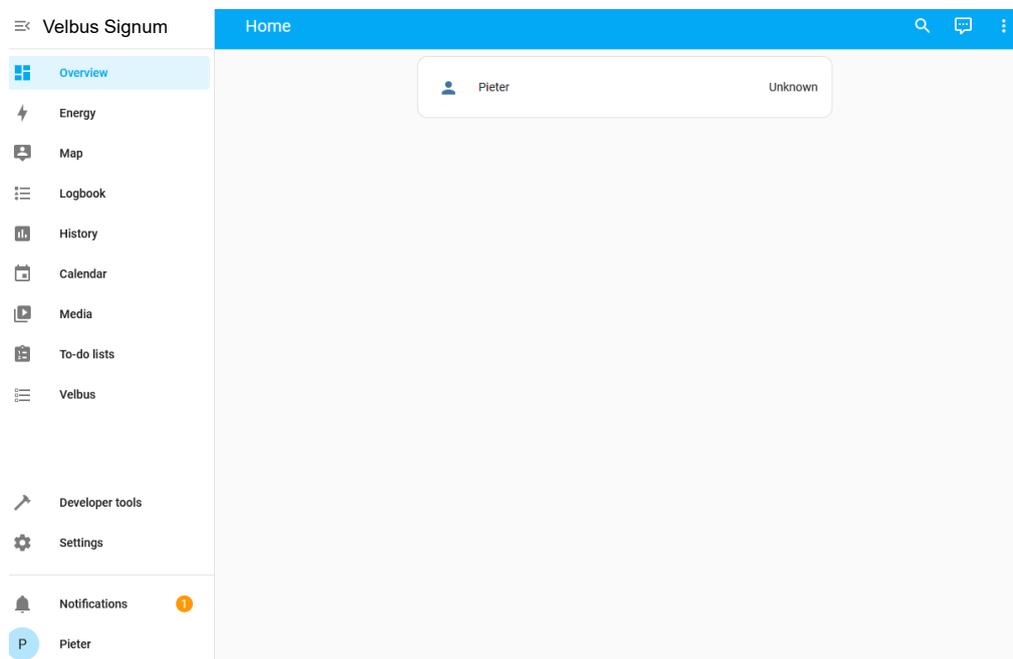
8. Now go to Settings / Devices to setup the Velbus installation in your Signum.
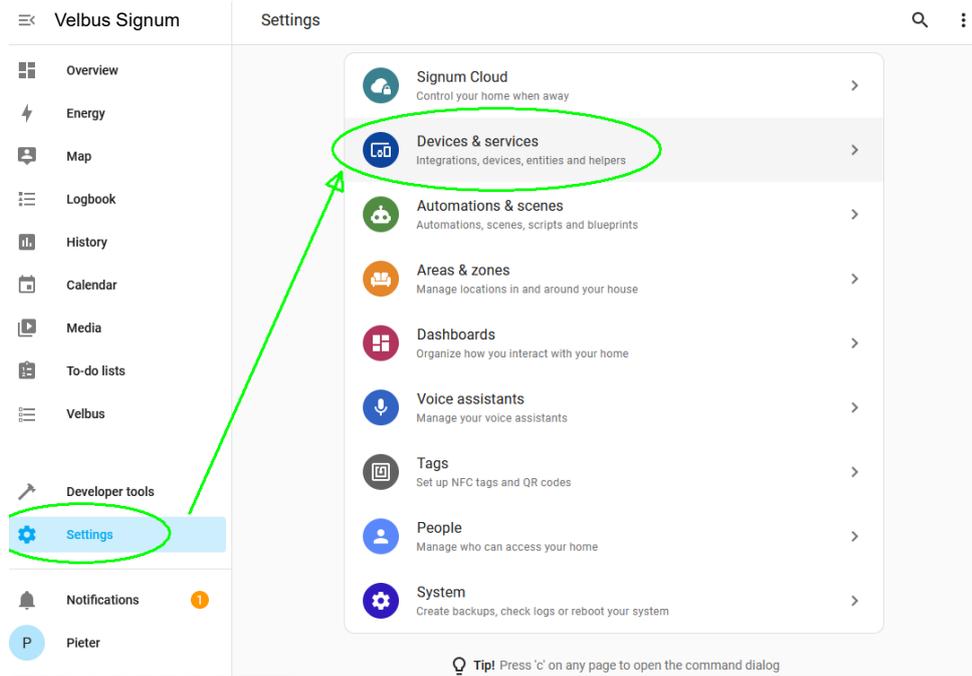
9. Click the Configure button on the Velbus Signum block.
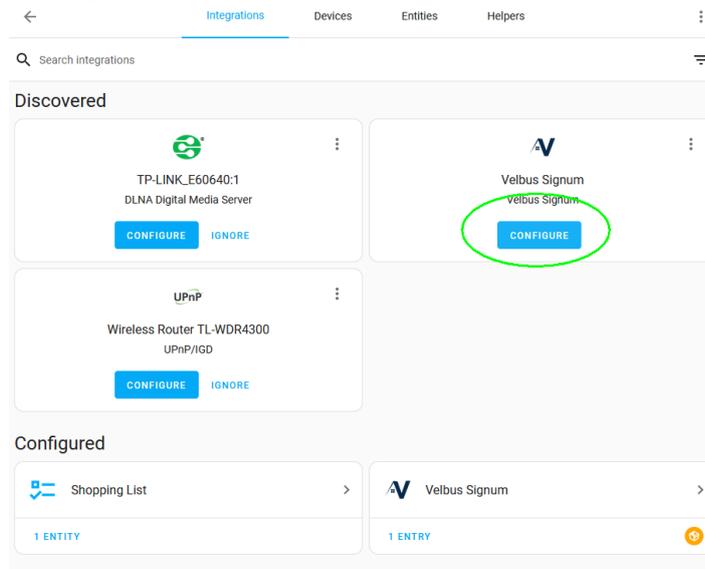
You will be asked to read your installation. You can either scan your installation or upload a VelbusLink project file. The latter is recommended if you have this available, since it will be much faster then scanning your entire installation (this can take up to 30 minutes or more, depending on de size of your Velbus installation. If you don't have an up-to-date VelbusLink project file, choose scan and read the Velbus-modules.
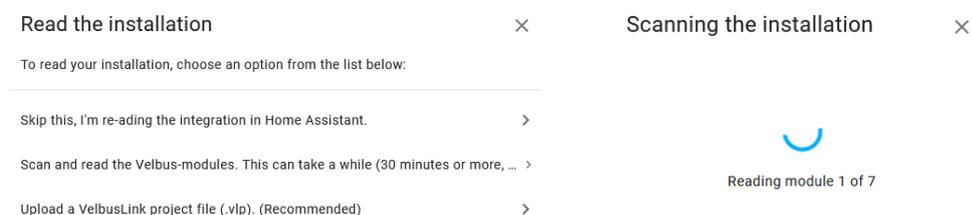
10. Once you see the message 'Installation complete', press 'Submit'.
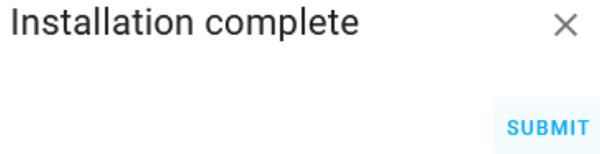
11. Now click the Overview tab and you will see your Velbus installation in the Signum.
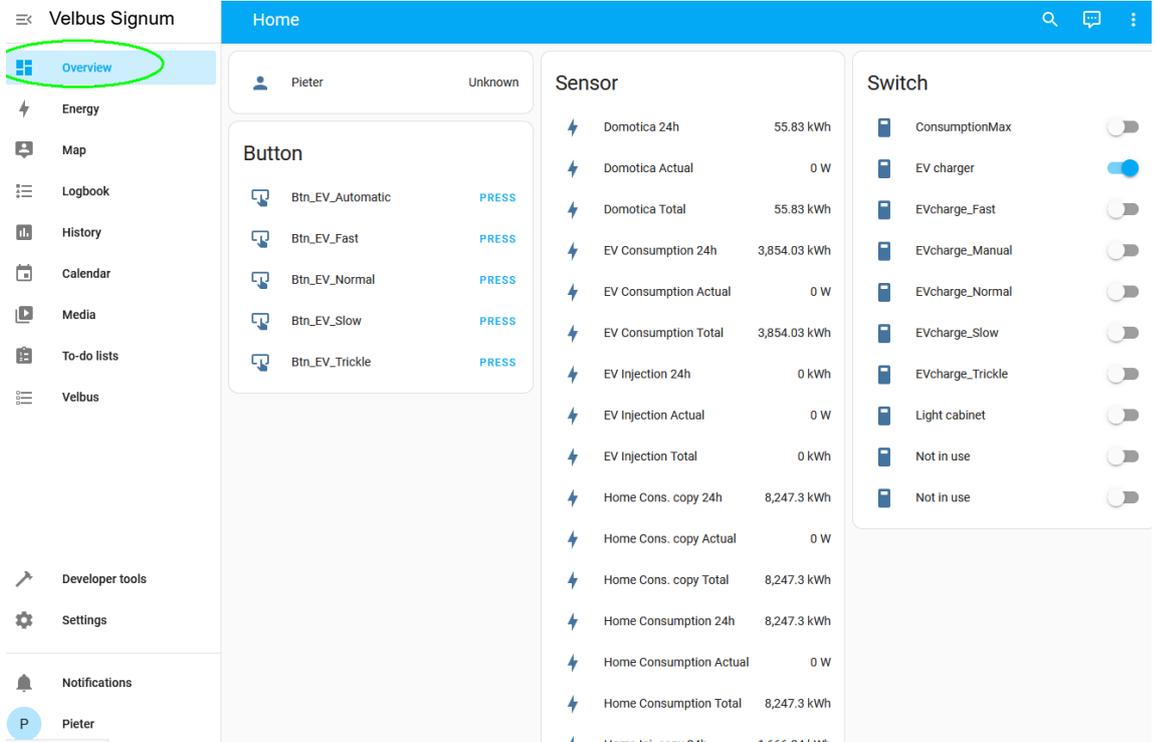
Nothing to see there? Please wait a few seconds as the integration might be loading. If your dashboard stays empty, go to Settings / Devices, choose 'Velbus Signum' and reload the integration. If no devices are shown on your dashboard, please set up your Velbus installation first, as unconfigured Velbus devices will not be shown.
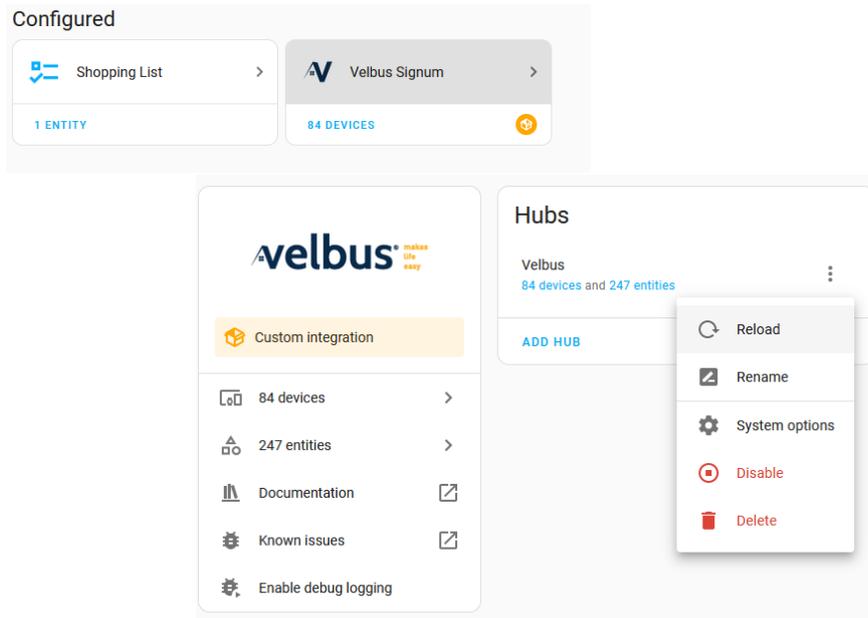
Using the Signum IoT gateway

Using the Signum is an easy way to control your Velbus installation. Have a look at our Youtube channel to get to know your Signum and how to use it.

These functions might come in handy:

Setting up remote access in the Signum IoT gateway

If you want to access your Velbus installation outside your home network, you can easily set this up by going to Settings / Signum Cloud.
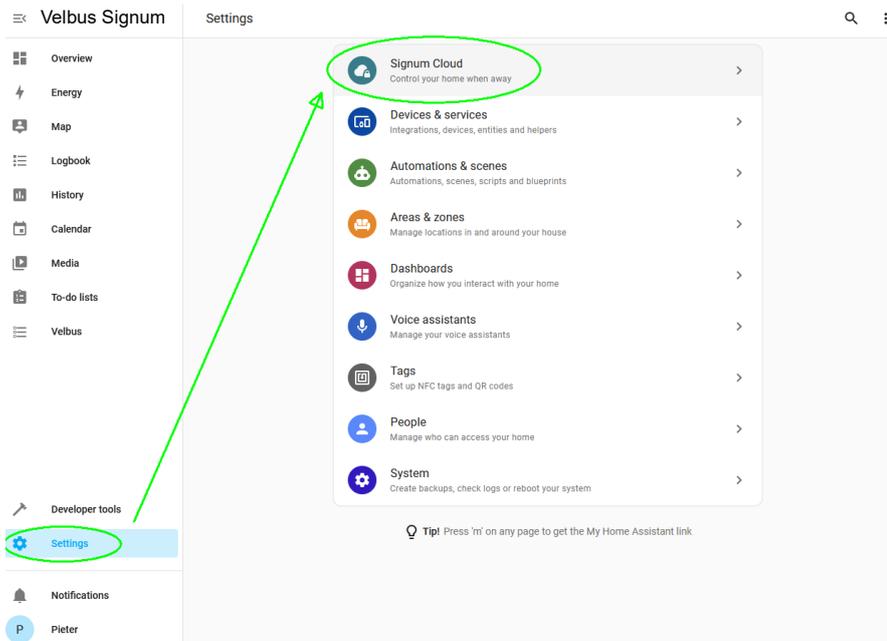
Activate the cloud access functionality in the top right corner.

Once activated, you can browse to your Signum for anywhere in the world with an internet connection by using the Velbus Signum app or your favourite browser with the provided url: https://YOURSIGNUMID.signum.velleman.cloud

Troubleshooting

LED behaviour of the Signum Module

Troubleshooting your Signum IoT Gateway starts by analysing the LED's on your module.

Please check if the PS LED is on. If not, please check your connections and the power to the Signum.

The STAT LED on middle left provides general information about the status of your Signum:

LED	Colour	Situation
⚪	White flashing (1x)	Your Signum is booting up – please wait a moment
🟢	Green flashing (1x)	Your Signum is operational and everything should work fine
🟡	Yellow flashing (5x)	There is a warning, check the Signum web interface
🔴	Red flashing (5x)	Your Signum has encountered an error, check the error code

There are also 4 LEDs on the bottom right of the module. If the Signum encounters an error, a specific combination of LED's will be shown, helping you identify the problem:

LED1	LED2	LED3	LED4	Situation
🟢				Your Signum did not get an IP-address
	🟢			Your Signum cannot be scanned on the local network
🟢	🟢			Your Signums web interface is not available
		🟢		Your Signums self-recovery service is not available
🟢	🟢	🟢	🟢	Your Signum can't communicate with the Compute Module 4

If you should encounter one of these errors, please reset your Signum by pressing the RESET button and checking your connections. If the problem persists, please follow the steps to factory reset your Signum.

If you still encounter problems after the factory reset, please create a support ticket via help.velbus.eu and prove us with your Signum ID and a brief description on what's going on.

Factory Reset Your Signum

If your Signum is not functioning properly, you can try to resolve the issue by doing a full reset of the Signum to factory defaults. This will delete all user accounts, dashboards, widgets, settings and network settings without recovery option in the Signum. The configuration in other modules in the Velbus installation, usually configured with VelbusLink, will be unchanged.

You will need physical access to your Signum to do a Factory reset.

Via the Signum Interface:
Go to Settings / System
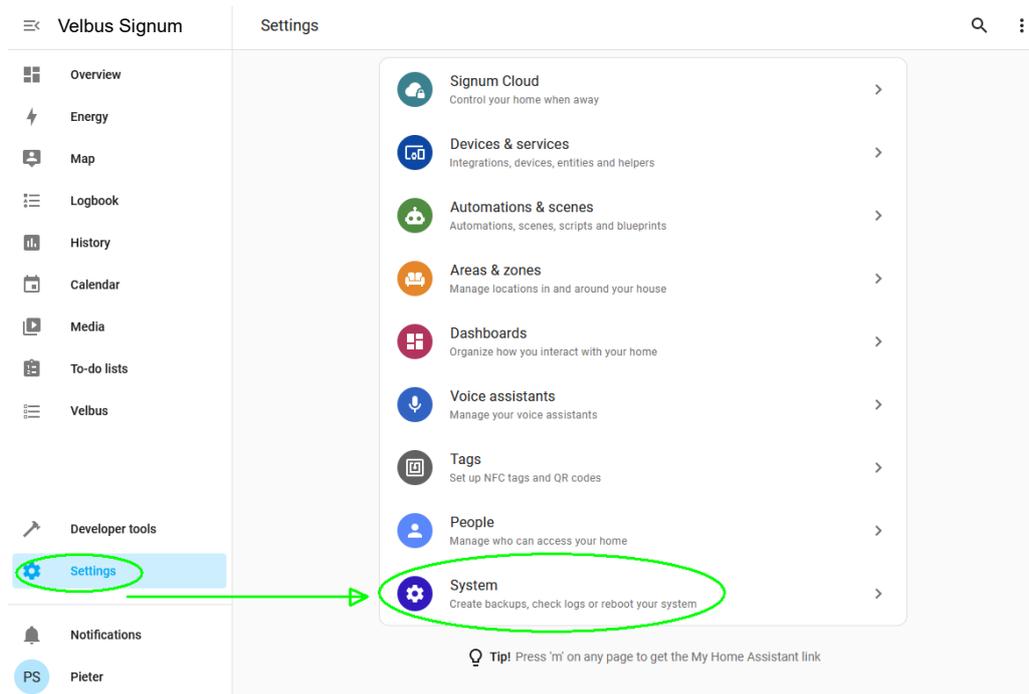
Chose Factory reset & press the reset button
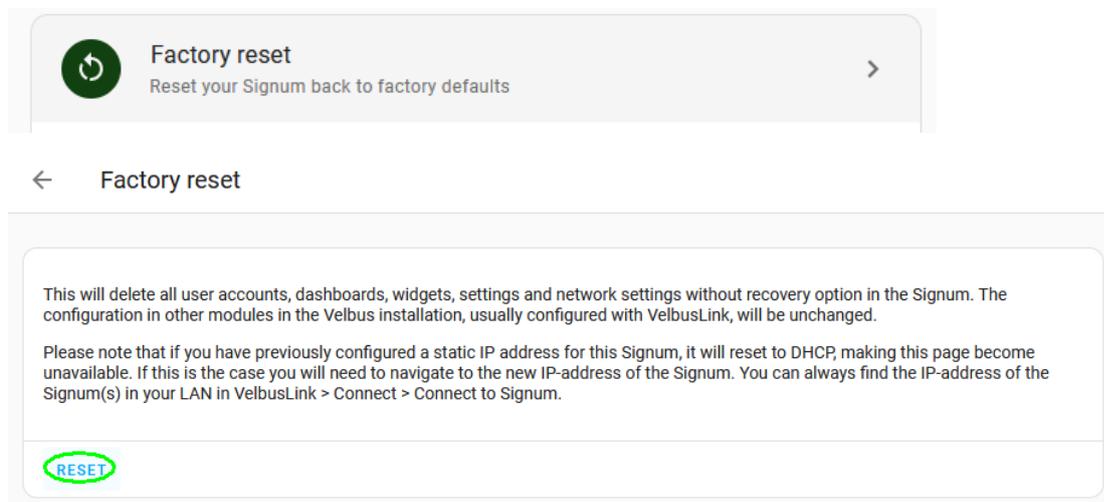
Via the rescue URL in your browser (Cloud):

Navigate to https://YOURSIGNUMID.signum.velleman.cloud/health/rescue in your favourite browser.
Change the YOURSIGNUMID to your personal Signum ID, printed on the module:

Attention: You must be connected to the same network of your Signum and cloud access will need to be enabled.

Via the rescue URL in your browser (local):

Navigate to YOURSIGNUMIPADDRESS/health/rescue in your favourite browser.
Change YOURSIGNUMIPADDRESS to the IP address of your Signum, for example 192.168.1.12.

You can find the IP address of your Signum via the Velbus Signum app on your smartphone:

1. Open the Velbus Signum app and press the hamburger menu on the right of your Signum. You can find the IP address on the bottom right in the Device info tab.
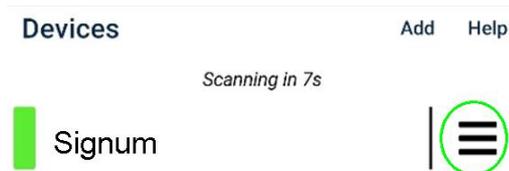
If you cannot find your Signum, check if you are connected to the same network.

2. Now enter that IP address in your favourite browser, followed by /health/rescue .

Reset process

1. Press the RMT button on your Signum (the first button on the left). The green LED will light up, indicating the start of a 10 minute timer before the authentication service is suspended.

If you are too late (the green LED is turned off again), you can simply press it again to start a new 10 minute window.

2. Refresh the Factory reset webpage in your browser
    https://YOURSIGNUMID.signum.velleman.cloud/health/rescue
    OR   YOURSIGNUMIPADDRESS/health/rescue

Factory reset Signum

Step 2/2: Press OK to do a full reset of the Signum to factory defaults. This will delete all user accounts, dashboards, widgets, settings and network settings **without recovery option** in the Signum. The configuration in other modules in the Velbus installation, usually configured with VelbusLink, will be unchanged.

After resetting, your Signum will be operational in 2 minutes.

Please note that if you have previously configured a static IP address for this Signum, it will reset to DHCP, making this page become unavailable. If this is the case you will need to navigate to the new IP-address of the Signum. You can always find the IP-address of the Signum(s) in your LAN in VelbusLink > Connect > Connect to Signum.

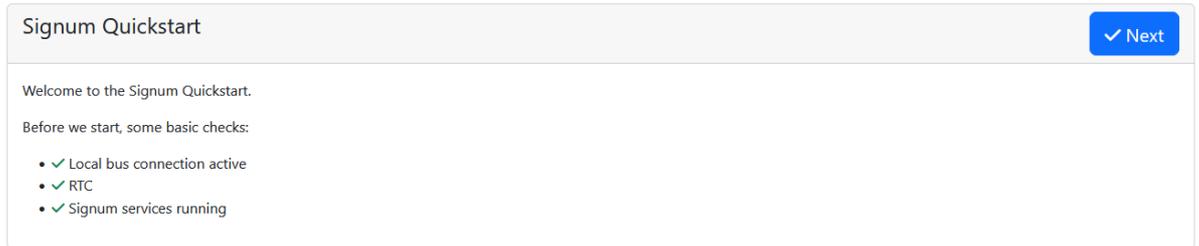OK Cancel

3. Press OK, you will see a countdown update every second.

Factory reset Signum

Please wait while the Signum is being reset. When the counter reaches zero you will be redirected to the application automatically.

Time left: 1m 57s

4. When the countdown has reached zero, the page is automatically refreshed, bringing you back to the Signum Quickstart.

Signum Quickstart	✓ Next
Welcome to the Signum Quickstart.	
Before we start, some basic checks:	
• ✓ Local bus connection active • ✓ RTC • ✓ Signum services running	

If the refresh is not automatic, please manually browse to the following URL:
https://YOURSIGNUMID.signum.velleman.cloud/
OR   YOURSIGNUMIPADDRESS/health/rescue

FAQ

Difference between Velbus Signum platform and a standard Home Assistant

At Velbus, our goal is to offer a smart home platform that combines reliability with the flexibility to integrate with other systems. Maintaining this balance between stability and flexibility is not always straightforward.

For this reason, the software running on the Signum gateway uses the Velbus Signum platform, a Velbus-adapted environment based on the open-source Home Assistant project. This environment can be considered a streamlined version of the full Home Assistant ecosystem where certain functions are not enabled by default. These limitations help ensure system stability and guarantee optimal compatibility with the Velbus installation.

The Velbus integration works seamlessly within this environment, and many integrations with third-party systems remain available.

Advanced users who require additional functionality can enable the **Advanced Mode** in the Signum settings. This mode allows access to additional Home Assistant configuration capabilities, including modifying configuration files such as configuration.yaml and installing integrations that require deeper system access.

Please note that enabling Advanced Mode may affect the stability of the system and therefore falls outside the supported Velbus configuration. Advanced Mode can be disabled again at any time, restoring the standard supported Signum configuration.

Voice assistants such as Google Assistant and Amazon Alexa are currently not enabled in the standard Signum environment due to security and reliability considerations. These integrations may be supported in future updates once they can be offered in a secure and stable way.

Users who prefer to experiment with the full Home Assistant experience can also install Home Assistant independently on their own hardware (for example on a Raspberry Pi or other minicomputer). In such cases the native Velbus integration provided by the Signum platform is not available. Instead, users may choose to install the community-developed Velbus integration available through the Home Assistant community. Please note that this community integration is not developed or supported by Velbus.

The Velbus Signum platform includes software based on the open-source Home Assistant project. This implementation is modified by Velbus and distributed as part of the Velbus Signum system. It is not an official Home Assistant distribution and is not endorsed, certified or supported by the Open Home Foundation. The Open Home Foundation is not associated with the operation of this software and cannot be held responsible for its functionality.

Can the Signum operate behind a firewall?

The Signum gateway operates without issues in most standard networks. However, when installed in networks protected by a firewall, it may be necessary to allow certain network connections. This can be configured together with your network administrator.

For time synchronisation the Signum uses an NTP server. To allow NTP traffic, the firewall must allow outbound UDP traffic on port 123.

To enable the Velbus Signum Cloud functionality, the firewall must allow outbound TCP connections on port 443 as well as outbound UDP/TCP connections on port 7844.