

# Open source

Victron Energy has committed itself to make certain of its projects open source. On this page you'll find more information about available sources and projects.

Below some of our own projects, you'll also find a list of other people's open source projects that work with Victron equipment. See bottom of this page.

Note that all this information is made available as is, for free, without any warranty and we do not commit to giving support. Although ofcourse we like to help out where possible.

Looking for Victron protocol documentation? Read our [Data communication whitepaper](#) as well.

## Color Control GX, BBB, RaspberryPi: the Venus OS

Venus OS is the Victron Energy Unix like distro with a linux kernel. Its the heart of our [Color Control GX](#) and [Venus GX](#) two very successful central and remote monitoring systems.

While being a very successful project for us in its standard configuration, the Venus OS, and compatible hardware platforms can also be the perfect platform for many other projects. Such as:

- Add drivers for certain products, if interesting enough we will add transmission and readout of that data on the [VRM Portal](#). Adding generators readout and start/stop, and also temperature sensors for example would be very interesting!
- Add logic on the product, for example to control the relay, or do other things.

Full information about the Venus OS; and compatible boards and hardware is here:  
<https://github.com/victronenergy/venus/wiki>

In case you want to develop something, please share your thoughts with us. We want to help making it a success, and preferably also include it in our main repositories and images.

### More information

- [Introduction to CCGX hardware and software platform](#)
- [Howto install and use the SDK](#)
- [Root access](#)
- [Command line introduction](#)
- [D-Bus - CCGX internal communication bus](#)
- developers mailing list: <https://groups.google.com/forum/m/#!forum/victron-dev-venus>
- [Beaglebone aka Venus GX project](#)
- [Installing CCGX functionality on a raspberry pi](#)
- [Traffic counting on the CCGX](#)
- [SignalK Venus Plugin](#)

## VRM Portal (<https://vrm.victronenergy.com/>)

- [VRM JSON REST API](#)
- [VRM App iOS](#)
- [VRM App Android](#)

## Why is the Bluetooth API not public?

Making the bluetooth API an official public one would mean that we can't change it as simply as we can today; and also it means that we'll get question about it: bluetooth is not simple. Far more complicated than a serial port.

And then only our developers will be able to answer them: taking away development resources. Hence we chose to not make the Bluetooth API public.

## Other Victron related open source projects

Many, many people all over the world are writing code to integrate Victron products and protocols into their systems. Below a list of public projects, aiming to help each other.

Tip: make sure to search for 'Victron' on Github and other open source hubs, or for 'Victron git' in

Google. That is how I found below links .

Want to list your project here? Please go ahead and change this page yourself! See Login on upper right.

### Multis / Quattros / MK2

- <https://github.com/hpdvanwyk/invertergui>: A primitive HTTP based monitor for a Victron Multiplus inverter. Uses [https://github.com/ncthompson/inverter\\_monitor](https://github.com/ncthompson/inverter_monitor) as a data source.
- Fabien Fleutot made a monitoring system for his beautiful old [Belgian barge called Elorn](#)
  - [Github source](#) for controlling Victron BMV and inverters on a raspberry pi.
  - [Blog, with posts outlining all the details of the project](#)
- Michel Kuenemann transformed his house, using 1 X RPi B and 4 X LPC1769 Cortex M3 :
  - [MyPV 2 minute presentation video](#)
  - [MyPV website \(Raspberry pi hosted\)](#)
  - [Project description](#)
  - [Source code](#)
- [Python library for MK2](#) (Izak Burger)
- EMDO can do! Energy manager to increase self-consumption quote, switch loads when energy is available. Programmable over BASIC interpreter (MM-BASIC).
  - [EMDO101 on kickstarter,swissEmbedded GmbH](#)
  - [Open Source BASIC programs on github](#)

- want to list your project here? Please go ahead and change this page yourself!

## VE.Direct (MPPT Solar Chargers and BMV Battery Monitors)

Arduino:

- [Victron on Arduino - Caravaners Forum](#)
- <https://github.com/physee/Victron.Arduino-ESP8266>

Other:

- Use VE.Direct compatible Victron equipment with EMON (Open Energy Monitor) [https://github.com/openenergymonitor/emonhub/tree/emon-pi/conf/interfacer\\_examples/vedirect](https://github.com/openenergymonitor/emonhub/tree/emon-pi/conf/interfacer_examples/vedirect)
- PvMonit : small real-time web interface and export to emonCMS for history (Brick from [OpenEnergyMonitor](#))
  - <https://github.com/kepon85/PvMonit/> (fr)
  - <http://david.mercereau.info/pvmonit-monitoring-de-mon-installation-photovoltaique-autonome/> (fr)
- <https://pypi.python.org/pypi/BMV/0.2.1>
- <https://github.com/karioja/vedirect>
- <https://github.com/jepefe/bmvmonitor>
- Nodejs monitor Raspberry PI <https://github.com/Moki38/vedirect>
- <http://www.deszynski.com/victron-bmv-700-lan-port/>
- pgf's client/server bash script for access to VE.Direct: <https://github.com/foxharp/ve.direct>
- [BMV-700 with LAN port](#)
- Raspberry Pi / PHP Victron Data Logger (Text-Mode) Open Source: <https://github.com/oekoluk/Victron-Data-Reader-and-Logger>
- SignalK: <https://github.com/sbender9/vedirect>
- victronPi: a Raspberry Pi driven graphical display of data from Victron equipment installed in a campervan <http://www.chronicle.me.uk/victronPi>
- velog: Serial log application for VE.Direct devices <https://github.com/ullman/velog>

## SignalK

Signal K is a modern and open data format for marine use. Built on standard web technologies including JSON, WebSockets and HTTP, Signal K provides a method for sharing information independently of the underlying communications protocol (e.g. NMEA0183, NMEA2000, SeaTalk, I2C, 1-Wire, ZigBee, etc) in a way that is friendly to WiFi, cellphones, tablets, and the Internet. More information on <http://signalk.org/>.

- SignalK Venus Plugin: <https://github.com/sbender9/signalk-venus-plugin>
- SignalK plug-in for USB- connected MPPT Solar Charger: <https://github.com/sbender9/vedirect>

## DISQUS

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