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.

Also there is a list of other people's open source projects that work with Victron equipment.

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 & Venus

While being a very successful product for us in its standard configuration, the CCGX can also be a 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.

And we are currently working to make the software that runs on the CCGX, called Venus, run on the Beaglebone Black, a 45 USD single board computer similar to the RaspberryPi. Also someone from the community is working to make the full Venus image run on a RaspberryPi. Go through the developers mailing list archive to find the latest status. Communication to Victron Products can then be done using our standard USB interfaces, such as the VE.Direct USB cable.

Getting started

The CCGX runs Venus, our own unix like distribution with a Linux kernel. It contains the kernel and many other base level drivers and code. But also contains all our applications, such as the drivers to communicate with VE.Bus products, VE.Direct producs and the VRM Portal.

Venus is currently available in three ways:

1. Image for the CCGX
2. Image for the Beaglebone Black, aka BBB. Still a beta version, see venus-dev mailinglist for latest status.
3. Packages for Rasbian Wheezy, Rasbian Jessie and Debian Wheezy.

Note that those packages are supplied on an as-is basis: no official support on those. Just best effort on the venus developers mailinglist.

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
- Setting up a development environment
- 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 Black project
- Installing CCGX functionality on a raspberry pi
- Traffic counting on the CCGX

For the die-hards: build your own CCGX image

- Venus repository and readme
- Venus wiki
- Bitbake tips

VRM Portal (https://vrm.victronenergy.com/)

- VRM JSON Juice API notes (DEPRECATED!)
- VRM App iOS
- VRM App Android

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: also simply type 'Victron' in the search field on Github and other open source hubs, or 'Victron git' in Google. That is how I found below links 😃.

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 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

- BMV-700 with LAN port

- 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)

- Use VE.Direct compatible Victron equipment with EMON (Open Energy Monitor) https://github.com/openenergymonitor/emonhub/blob/emon-pi/conf/VEDirect.readme.md
- 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
- Victron on Arduino - Caravaners Forum
- 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
- want to list your project here? Please go ahead and change this page yourself!

DISQUS

View the discussion thread.

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