## Color Control GX

The Color Control provides intuitive control and monitoring for all products connected to it. The list of Victron products that can be connected is endless: Inverters, Multi's, Quattro's, MPPT 150/70, BMV-600, BMV-700, Skylla-i, Lynx Ion and even more.

## VRM Online Portal

Besides monitoring and controlling products on the Color Control GX, the information is also forwarded to our free remote monitoring website: the VRM Online Portal. To get an impression of the VRM Online Portal, visit https://vrm.victronenergy.com/, and use the 'Take a look inside' button. The portal is free of charge. See also the kWh dashboard screenshot further down in this datasheet.

## Future functionality

The Color Control has endless possibilities. To implement all our ideas and wishes will take years. There are therefore many features that are not yet available. Functions marked with 'Future function' will become available later on, as a firmware update. Firmware updates are free of charge, as with all Victron products. Updating the product is easy: the Color Control GX will update itself automatically, as long as it is connected to the internet. Manual updates can be done via an SD Card.

## Supported products

- Multi's, including split-phase and three phase systems. Monitoring and control (on/off and current limiter). Changing the configuration is not yet available.
- Quattro's, including split-phase and three phase systems. Same limitations as Multi's, and some Quattro specific features, such as seeing which input is currently active, are not yet available.
- BlueSolar MPPT 150/70. Current solar output is visible on the overview screen, and all parameters are logged to the VRM online portal. Note that the VRM App has a nice overview showing data of the BlueSolar MPPT 150/70 as well.
- BMV-600 and BMV-700 families can be connected directly to either one of the two VE.Direct ports. There are other options to connect BMV's as well, see the FAQ further down in this document. Note that it is not yet possible to connect multiple BMV's at the same time. This will be possible in November 2013.

## Other highlights

- When connected to the internet, the Color Control GX will update itself automatically as if there is a new software version available. It checks for an update every night at 02:00 UTC.
- Multiple languages: English, Chinese, German, Italian, Spanish, French, Swedish and Dutch.

## Notes for existing VGR2 and VER users

- Opposite to the VGR2 and VER, the Color Control GX stores all data locally during network interruptions. As soon as the connection to the VRM Online Portal is restored, it will automatically send all backlogged data to the portal, where the data can be analyzed as usual. This can be useful for diagnostics and problem solving as well: leave it for a couple of days in an installation where there are problems, then take it back to the office and connect it to the internet.
- Remote VEConfigure is not yet supported by the Color Control GX. This functionality is expected in 2013 Q4, and it will include support for changing Assistants and their settings, which is not possible with the VGR2 and VER.
- The local website, as present on the Victron Ethernet Remote, is not yet supported.
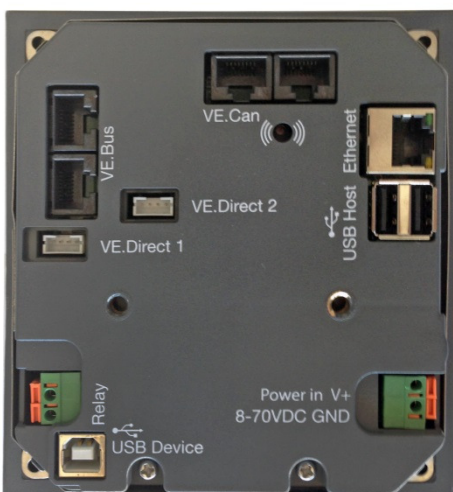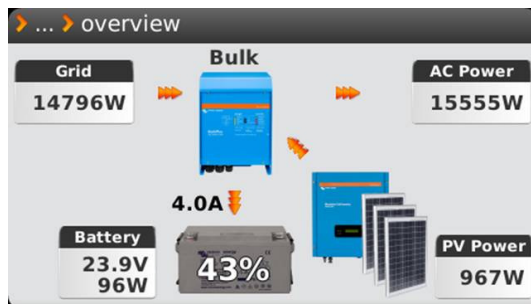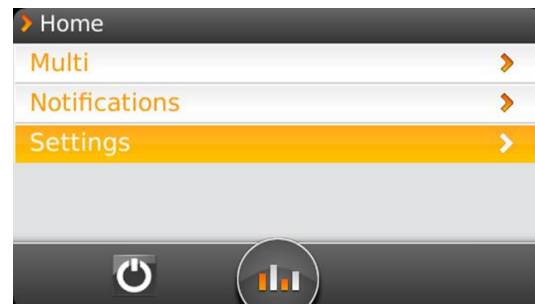
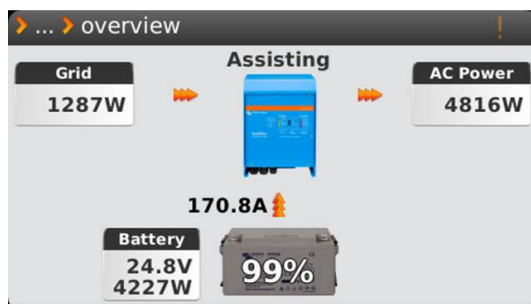| Color Control GX | | | |
|---|---|---|---|
| Power supply voltage range | 9 – 70V DC | | |
| **Current draw** | 12V DC | 24V DC | 48V DC |
| Switched off | 0mA | 0mA | 0mA |
| Display off | 140mA | tbm | tbm |
| Display at minimum intensity | 160mA | tbm | tbm |
| Display at maximum intensity | 245mA | tbm | tbm |
| Potential free contact | 3A / 30V DC / 250V AC (Normally open) | | |
| | **Data communication** | | |
| VE.Direct | 2 separate VE.Direct ports | | |
| VE.Can | 2 paralleled RJ45 sockets | | |
| VE.Bus | 2 paralleled RJ45 sockets | | |
| USB | 2 USB Host ports | | |
| Ethernet | 10/100/1000MB RJ45 socket | | |
| | **Other** | | |
| Outer dimensions (h x w x d) | | | |
| Operating temperature range | -20 to +50℃ | | |

**Overview - Multi with PV Inverter on output (Hub-2)**
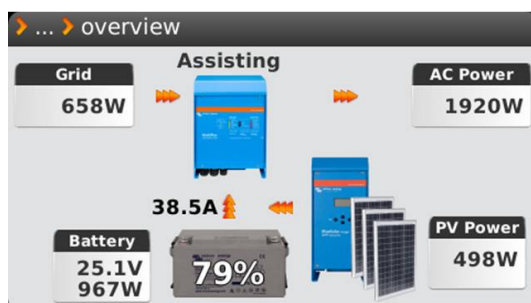


**Main menu**



**Overview - Multi**



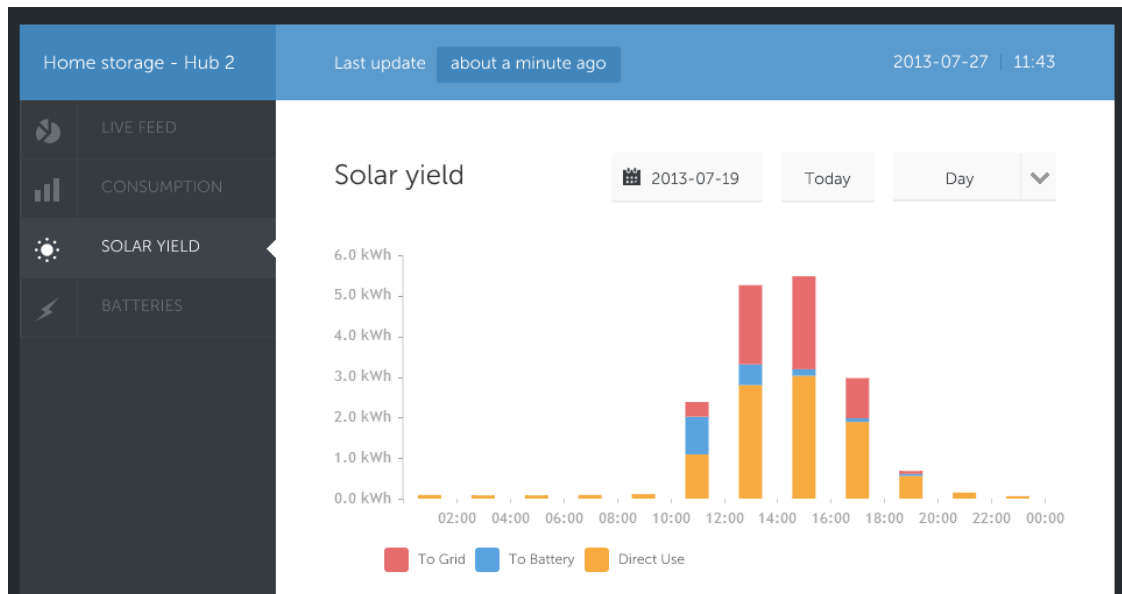**Alarm notifications**



**Overview - Multi with MPPT 150/70**

**VRM Dashboard – Live feed**



**VRM Dashboard – Distribution of Solar Yield**

# Color Control GX schematic diagram

**Multi and Quattro inverter/charger**
Parallel, three-phase and split-phase are also supported by the CCGX.

**MPPT 150/70**

**Skylla-i**

**VE.Can RJ45 terminators**

**Alarm buzzer**

**Ethernet**
Connect to internet router

**Wifi**
(future function)

**GPS**
(future function)

**VGR2**
(future function)

**Digital Multi Control**

**MPPT 70/15**
(future function)

**BMV-60xS or BMV-700**

**Potential free relay**
Used for alarm signaling, Generator start/stop or as a remote controllable switch.
(future function)

**To battery**

VE.Can

VE.Bus

VE.Direct 2

VE.Direct 1

USB Host Ethernet

Relay

Power in V+
8-70VDC GND

USB Device

Not used

**SD Card (accessible from the front)**
Used for manually updating firmware

## Frequently asked questions

**Is there a manual available?**
No, the manual is not yet available. As long as it isn't, please use this datasheet.

**Are there special instructions for connecting the Color Control to the Internet?**
No. Simply connect it to an existing Ethernet network. This network should have support for DHCP, since manual setup of an ip-address is not yet possible in the Color Control. Almost all Ethernet networks have a DHCP server. The identifier that you need to add the Color Control to your account is available in the setup menu. Go to VRM Online portal, and then look at the VRM Portal Identifier.

**Can I connect both a Color Control and a VGR2/VER to a Multi/Inverter/Quattro?**
No, unfortunately.

**Can I connect multiple Color Controls to a Multi/Inverter/Quattro?**
No, not yet.

**Can I use the Color Control in an installation with a VE.Bus BMS?**
No, not yet.

**Can I connect the Color Control and a Digital Multi Control to a Multi/Inverter/Quattro?**
Yes.

**When do you support connecting multiple BMV's?**
This function is expected in November

**What do I need to connect a BMV-700 to the Color Control?**
A VE.Direct cable

**Are there other ways to connect a BMV-700?**
Yes, besides using the simple cable it is also possible to use the VE.Direct to USB cable. Another way is to use the VE.Direct to VE.Can interface. Both options could be useful when you want to connect many BMV's to the same CCGX. Note that the canbus needs to be powered separately as the BMV and the CCGX do not power the canbus.

**What do I need to connect a BMV-600 to the Color Control?**
A BMV-60xS to VE.Direct cable

**Are there other ways to connect a BMV-600?**
Yes, besides using the simple cable it is also possible to use the VE.Can to NMEA2000 cable together with a BMV-60xS to NMEA2000 interface. Both options could be useful when you want to connect many BMV's to the same CCGX. Note that the canbus needs to be powered separately, as the BMV and the CCGX do not power the canbus.

**When can I connect my MPPT 70/15, 75/15, 100/15 and/or 75/50?**
Expected early November 2013. The firmware version in the MPPT Solar Charger must be v1.09 or later. Contact Victron Service for update instructions and files. Note that the 70/15 needs to be from year/week 1308 or later. Earlier 70/15's are not compatible with the CCGX. Every MPPT 70/15's currently shipping from our warehouse is of the required newer version.

**How can, in inverter mode, the power shown on the AC output be higher than the power drawn from DC?**
The Multi is not a real measurement instrument, and all different measurements, especially AC and DC current measurements, can be a little bit off the mark. Also all measurements are currently VA's. Especially in parallel and three-phase installations you will see wrong values. By the end of the year we expect to have new Multi firmware versions available that will provide (more accurate) Watts measurements.

**When will you have stock of the AC Current Sensor used by the new VRM dashboard?**
Early October 2013.

**What do I need to do to get the nice looking dashboard on VRM?**
See the FAQ on VRM.

**When I type the ip-address of the Color Control into my browser, I see a web page mentioning Hiawatha. Is there more?**
Our plan is to at least run a website where you can change settings and see the current status. If all works out as we would like to, there will be a fully functional version of the online VRM Portal running locally on the Color Control GX. This allows people without an internet connection, or an intermittent internet connection to have the same features and functionalities.

**In the setup menu, there are different types of firmware version at the 'Update to' setting. What is that?**

When the Color Control has a working internet connection, it will daily check for firmware updates. If a new version is available, it will automatically update itself. To allow testing, we defined two types of firmware versions:

- <u>Latest release (default)</u>
  These are the official, well tested, firmware versions.
- <u>Latest release candidate</u>
  As soon as we have implemented enough new functionality and/or bug-fixes, we put them together and work towards and official release. The major step in this process is making a release candidate. Select this if you are part of the beta testers.

**I love Linux, programming, Victron and the Color Control GX. Can I do more?**

Yes you can! We intend to release almost all code as open source, but we are not that far yet. What we can offer today is that many parts of the software are in script- or other non-precompiled languages such as Python and QML, and therefore available on your Color Control GX and easy to change. Root password and more information is available on request. Contact Matthijs Vader at mvader@victronenergy.com.

**GPL Note**

The software included in this product contains copyrighted software that is licensed under the GPL. You may obtain the complete Corresponding Source code from us for a period of three years after our last shipment of this product.