VE.Bus Error Codes

General

During first installation, and in case of problems, update all devices to the latest firmware. This includes the latest VE.Bus firmware and also the latest firmware in the Color Control GX.

Firmware update instructions:

1. for VE.Bus products
2. for Color Control GX

To restart a system, first switch all units off, one by one. And then switch all units on again. Do this with the On / Off / Charger only rocker-switch on the front of the device.

VE.Bus Error Codes

Error 1 - Device is switched off because one of the other phases in the system has switched off

One of the phases in a multi-phase system has failed. Commonly because of an Overload or High temperature alarm. When this happens, the other phases will show VE.Bus Error Code 1.

Trouble shooting: Look for the failing phase, which will be the phase that is not showing VE.Bus Error Code 1. And check the LEDs on that phase to find out what the reason was for the shut down.

Diagnosing on VRM First make sure that Automatic alarm monitoring is enabled; that is necessary to create the Overload and Temperature errors in the log. You will see Overload and Temperature alarms occurring at the same time as VE.Bus Error 1.

Note for split- and three-phase systems: VRM, nor the CCGX, will indicate on which phase the overload or the temperature alarm occured. To find out on which unit the error occurs, go to system after it has switched off. And look on the LEDs. The unit with the overload or temperature alarm, will have the corresponding alarm LED lit continuously. The other units will indicate a VE.Bus error, indicating that they miss one unit.

Error 2 - New and old types MK2 are mixed in the system

This should never happen, contact Victron service.

Error 3 - Not all, or more than, the expected devices were found in the system

Possible causes and solutions:

1. This error often follows VE.Bus Error 1. Solution: solve the cause for VE.Bus Error 1. Note that when using an older CCGX (version before v1.40), it can be that the first error is not reported on the Alarm log on VRM. So even when it only lists VE.Bus Error 3, it can very well be that that error was preceeded by VE.Bus Error 1.
2. The system is not properly configured: all VE.Bus devices connected to the VE.Bus network must be configured as one parallel, split- and/or three-phase system. Do not connect two separate VE.Bus systems together.
3. Communication cable error: check the communication cables.

Error 4 - No other device found

The master device is configured to run in a parallel-, split- and/or three-phase system, but cannot find other devices on the bus.

Multiple possible causes:

1. During a system restart

Error 4 can be seen temporarily while the system restarts after an error. Not a real error in that case, no need to investigate.

2. Because of issues in cabling Faulty cables. Check the communication cables. Don't use self made cables.

Error 5 - Overvoltage on AC out

Error 6 - Error in DDC Program

This means: error in an Assistant. To solve, follow these steps:

1. update VE.Bus firmware in all devices to the latest firmware. Instructions here.
2. download the latest VEConfigure and make sure it has downloaded all the latest Assistants.
3. re-configure the system

Error 7 - VE.Bus BMS detected, but not configured

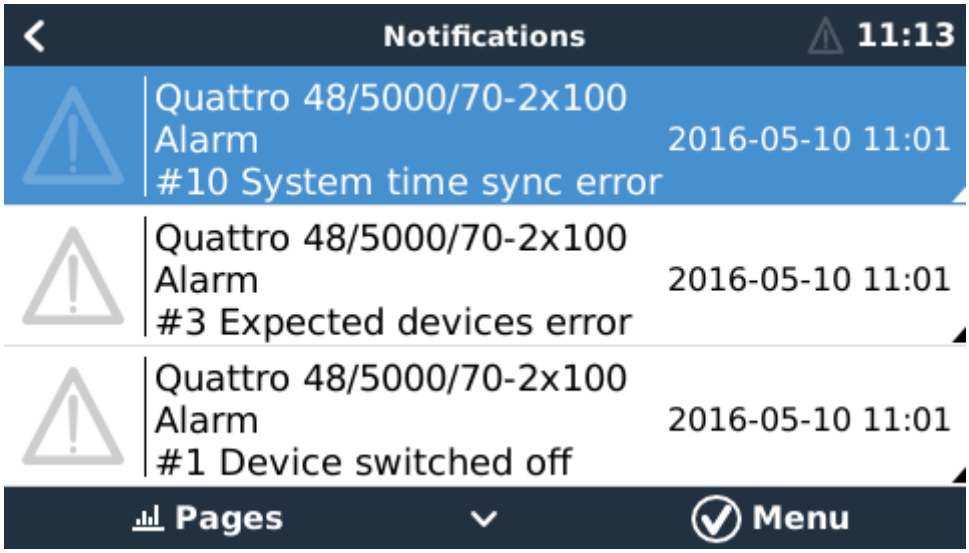
A VE.Bus BMS device is connected but there is no Assistant loaded which handles the VE.Bus BMS.

Solution: configure the use of the VE.Bus BMS in one of the Assistants.

Error 10 - System time synchronisation problem

This typically happens during a system restart, and is then not a real error; no need to investigate.

For example this screenshot from the Color Control GX:



The real problem is Error 1. In this example it was caused by switching device L2 off with the front toggle switch. It was then quickly followed by Error 3. And when switching device L2 back on, briefly Error 10 is visible, followed by full recovery.

Note: System restarts can also be triggered when using Remote VEConfigure.

Error 14 - Device cannot transmit data

Most probably a short circuit in the communication cables.

Another possibility, very rare though, is a broken component on the board. Return the device to the nearest service point for repair.

Error 16 - VE.Bus dongle is missing

Update firmware to latest version: VE.Bus dongles are no longer necessary.

Instructions here.

Error 17 - Original Master Missing

This error can only occur on systems with multiple devices installed per phase. For example a single phase installation with two or more devices in parallel, or a three-phase installation with six or more devices.

Error 17 will only appear on slaves. You'll see it when the master in that phase suddenly seemed to ‘disappear’ from the VE.Bus.

In some cases this error can be seen temporarily while using Remote VEConfigure to write a new configuration.

Otherwise, the most likely cause is bad cabling/contacts on the VE.Bus:

Check cabling and contacts. Make sure to also inspect the female RJ-45 sockets, instead of only the cabling: Sometimes badly mounted RJ45 cable connectors prevent the spring-contacts in the female RJ45 connectors on the Multis to properly make contact.

If nothing can be found and the failure persists a hardware error might be the cause. Contact your distributor, and also report the exact LED indication of the Master and all slaves in that phase.

Error 18 - AC Over-voltage on the output of a slave while switched off

Solution: check if AC wires are not swapped by accident. There can never be voltage on the AC out when a unit is switched off.

Error 22 - This device cannot function as a slave

This device is an obsolete and unsuitable model. It should be replaced.

Error 24 - Switch-over system protection initiated

This error is raised when one of devices detects current flowing through a backfeed relais that should be open. Which means that the relay did not open.

This should not occur in a correctly installed and sized system. Possible causes in order of probability:

1. There is too much AC load connected at the moment the relay needs to switch off. This large current will prevent the relay contacts from opening.

   Solution: remove excessive load.

2. The AC input voltage slowly drops before it is being rejected by the Multis. Typically happens in installations with a genset. Especially when combined with AC loads that increase their current

draw when the AC voltage drops: at the moment the Multis or Quattros decide to switch off, the current through the relays is too high to open them.

Solution: Make the Multis or Quattros disconnect earlier: increase lower limit of AC input voltage in VEConfigure3. For example to 210 VAC. The factory setting is 180 VAC.

3. The unit (or one of the units) has a hardware failure.

   Solution: replace faulty unit.

Error 25 - Firmware incompatibility

Make sure to use the same firmware in all devices.

Solution: update all devices to the latest available firmware. Instructions here.

Error 26 - Internal error

Should not occur. Switch all equipment off, and then on again. Contact Victron Energy if the problem persists.

DISQUS

View the discussion thread.

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Last update: **2017-02-15 16:43**