Firmware change log

[xxxx4xx change log](#) (supports Virtual switch and Assistants, new micros only)

Change log of xxxx4xx firmware versions

xxxx4xx Is the firmware to use for new micros.

xxxx450 and up

xxxx4 67	• For Multiplus-II only:
	   ○ Supports the European grid code EN50549-1:2019
	• For Compacts only:
	   ○ Improved remote on/off switching of a Compact.
	   ○ On/off behavior is now more similar to the other Multis (i.e. switching the unit off resets the controller, even if AC input is available.)

xxxx4 66	• For Multiplus-II only:
	   ○ New gridcode for France (VFR 2019)
	   ○ Two special gridcodes added for AS/NZS4777. These should be used in systems where the Neutral In and Out are externally tied together.

xxxx4 65	• Added Q(U) and P(U) functionality for AS/NZS4777
xxxx4 64	• Changed minimum difference between **DC input low shut-down** and **DC input low restart** voltages from 1V/2V/4V to 0.25V/0.5V/1V (12/24/48V systems). This allows systems to use a lower **DC input low restart** without the need to use a lower **DC input low shut-down** then also. (n.b. Lowest allowable DC input low restart is 10.9, 20.6, 41.2V (12/24/48V systems)) • Added P(f) functionality to UK grid code. • Solved an issue due to which Multis without AUX1 input could not use VDE Ziehl. • Fix some ESS systems with lithium batteries not feeding back, which in certain situations happened when the system was (re)started while battery voltage was low or lithium system disconnected. In such situation, the Battery voltage was required to go above 14V / 28V / 56V for relay test to start and feedin to be re-enabled. Now, in such situation, the inverter/charger will also perform the relay test (and enable feed-in) when SOC above 20% rather than waiting for such high voltage that some batteries never reach.
xxxx4 63	• For MultiPlus-II only. Removed "Ignore assistants by pushing button during startup" functionality.
xxxx4 62	• For MultiPlus-II only. Solves the issue of spontaneous E24 errors when an external current sensor is used.
xxxx4 61	• For MultiPlus-II only. Bug removed: Units did not switch to grid. (n.b. the 2626 model was ok but is nevertheless also updated to

	revision 461)

xxxx4 60	• Gridcodes added:
	    ○ VDE 2011:08 is replaced by VDE 2018:11
	    ○ UK **G83/2 August 2012, G59/3-1 August 2014** is replaced by **G98/1 March 2019, G99/1 May 2018**
	    ○ Romania
	    ○ Chile
	• Extra Info added to make it possible for VEConfigure (and other tools) to display the remaining waiting time before connecting to grid and also to display the cause of a grid rejection.
	• For Multi phase systems. The Locked state per phase is now available for VEConfigure. This simplifies detecting an installation error (phase swap).
	• Temperature compensation for charging is now adjustable between 0 - 30mV/°C (12V model)
	• A lot of under the hood changes.

xxxx4 59	• All models added. (Most of the models were still on 433)
xxxx4 58	• Introduced new model Compact 1600
xxxx4 57	• Transfers additional model info to VECOnfig. (required for external current sensors with MultiPlus-II)
xxxx4 56	• Bug fix. Some models exhibit occasionally rejection of the grid
xxxx4 55	• Fix false E11 "AC0/AC1 mismatch", "UMains error"
xxxx4 54	• Added support for new MultiPlus_II (with configurable AC-out2 relay) • Supports extended VE.Bus systems when GrideCode=None. (New required configuration tools will soon be released) • Supports readout of (amongst others) extended E11 info • Improvement to prevent false detection of GND relay failure under special circumstances. • When the gridcode imposes a certain power, this power is now imposed at the Inverter instead of at the input. • Improved speed of Power regulation during ESS • IPLog supported by all gridcodes. This IPLog contains info about the reason the grid is rejected. The Log stores the 5 last 'rejections'.
xxxx4 53	• MultiPlus-II only: Bug removed. When the unit is in AES it will not switch to grid when grid is connected.
xxxx4 52	• Automatic power reduction due to a rising internal temperature now also works during PowerAssist. • Minor bug removed. (Under certain circumstances (temperature related) the power up ramp was limited too much for FeedIn/Charge. The ramping up could take about 5 minutes.) • Solved issue with Multifunctional relay. (Once closed it would never open again.)
xxxx4 51	Added: • Added SOC low shut-down functionality • During FeedIn the power is automatically reduced when the internal temperature rises. • Furthermore, when connected to grid, the unit switches to bypass before it gets too hot. This will prevent switching off.
xxxx4	Major overhaul. Required for grid code related reactive power

50	regulations. At this moment it is released for MultiPlus II/Multigrid II models only. • Added support for reactive power requirements in VDE related grid codes • Addresses an issue in 3 phase systems which resulted in E11

below xxxx450

xxxx4 33	• Bug removed which resulted in an error when gridcode "VDE-AR-N 4105:2011-08, external NS protection" is selected. Up till now this error has been seen on Multi Compacts only but it cannot be ruled out that other units display the same error. When a Multi/Quattro does not display this behavior, there is no need to update it.
xxxx4 32	• MultiPlus-II / MultiGrid only: Bug removed. When the unit is in AES it will not switch to grid when grid is connected.
xxxx4 31	• Added automatic power reduction when internal temperature rises. (Same as in 452) • Added SOC low shut-down functionality
xxxx4 30	• Added new MultiPlus-II model with option for 50A external current sensor • Enabled parallel/3-phase for 500VA models.
~~xxxx4 29~~	• The number 429 is skipped
xxxx4 28	• Changed for Multigrid / MultiPlus-II only. When selected GridCode='None' the dedicated relay tests required for certain grid codes are skipped and the device behaves more or less the same as an MultiPlus. • Multigrid-II/MultiPlus-II only: fix parallel and 3-phase not working because of false E11. (This error was introduced in version xx25425)
xxxx4 27	• Added TOR-D4 without reactive power regulation. • Minor bug removed from implementation of grid codes: UTE C15-712-1, RD1699/2011 and C10/11 (France, Spain and Belgium) *(Bug was only apparent when ESS was **not** used. In that case, PowerAssist did not work.)*
xxxx4 26	• Changed default LOM setting to 'Type B' for most model/gridcode combinations.
xxxx4 25	• Adapted for MultiPlus-II model only. Changed in order to comply with AS/NZS 4777.

xxxx4 24	• Added option to 'lock' on short circuit.
	• Some Virtual Switch options disabled on inverters.
	• Multigrid:
	  o added French, Spanish and Belgium gridcodes
	  o relay test will be postponed until Invert is possible
	  o Improvement in Power ramp up for AS/NZS4777

xxxx4 23	• New PowerAssist method introduced in all models except the 500Va compacts. (Note that the new 1200VA Compacts did already have the new PowerAssist method) • Some minor improvements.
xxxx4 22	• Timout on remote voltage sense and temperature sense is separated from timeout on the battery operational limits.

	This 'sense' timeout is set to 60s. • Multigrid only: A delayed relay test in a parallel system will now work correctly. (Previous versions switched off in that case)
xxxx4 21	• Valid UBat Sense range limited. (UBat sense send via VE.Bus) Sense voltages which deviate more than approx ±5V from the UBat measurement on the input clamps of the Multi are ignored.
~~xxxx4 20~~	The number 420 is skipped

xxxx4 19	• Added UBat sense and TBat sense via VE.Bus
	• Improved RMS measurement of grid when inverter frequency and grid frequency differ.
	• 48V models now accept DC inputs up to 66V
	• Improved feedin/charge regulations. (prevents 'low charge current' with ESS under certain circumstances)
	• For Multigrid only:
	   o An assistant can now defer the relay test.
	   o Improved startup with weak batteries
	   o AS/NZS 4777: DRM0 functionality default disabled (+ password removed)
	   o Added NRS097 (South Africa) for Multigrid
	• Under the hood improvements

xxxx4 18	• Bug repair (Strange error codes in remote VEConfigure)
xxxx4 17	• Supports weak LOM setting
xxxx4 16	• Introduction of new 1200VA Compacts
xxxx4 15	• Remote on/off state is stored in EEPROM. This will prevent deadlocks which could occur in Lithium systems with low cell voltage. • Added BOL (Battery Operational Limits)mechanism. This makes it possible to act on the battery state as reported by the battery. • Extended temperature compensation to -20°C • Removed password from 'other: Not compliant to any grid code standard' • Prevents Error code 7 which could occur during startup in Multi compacts when used with a VE.Bus BMS • The Multifunctional, Break, K1 and K2 relays will not be driven when the device is switched off.
xxxx4 14	• AS/NZS4777 compliance on a Multigrid 24V model • Subversion mechanism added
xxxx4 13	• Improved LOM detection mechanism for multi phase systems. Reduces the chance for a false LOM detection on weak grids.
xxxx4 12	• Introduction of AS/NZS 4777 grid code • A lot of 'under the hood' changes/improvements.
xxxx4 11	• PowerAssist adjustment for Compact 12/2000/80-30
xxxx4 10	• Introduction of MultiGrid models • Added VDE-AR-N 4105:2011-08 grid code for MultiGrid models. (no external protection relay required)
xxxx4 09	• Introduction of 500VA models
xxxx4	• Removed bug which in Hub4 could result in very high charge current

08	(and permanent switch off) when Dynamic Cut-Off is not configured correctly. (Bug is introduced in version xxxx402) • Better performance in HUB-4 for PMains powers and set points > $\pm16K$
xxxx4 07	• Added support for "VDE-AR-N 4105:2011-08" grid code i.c.w. external protection relay. (See also declaration of conformity)
xxxx4 06	• Bug removed. Charger could stay in equalization mode for an extended period of time. (This was a bug in all 3xx and 4xx firmwares) • With the introduction of grid code compatibility, a new test on the grid stability had been implemented. This resulted in a limited acceptable RoCoF (rate of change of frequency). It proved that this limited RoCoF could be problematic on small generators. Therefore this limitation is lifted when FeedIn is disabled.
xxxx4 05	• Improved stability for FeedIn regulation
xxxx4 04	• Added support for CEI grid code icw Ziehl relay. (certified for the 3000VA models)
xxxx4 03	• Erroneous 'Device must be reset' message prevented. • Devices can still work in parallel or 3-phase when with UK Grid code is selected. • Incidental Low bat pre-alarm i.c.w. dynamic cut-off suppressed.
xxxx4 02	• Internal Changes for HUB-1 • Improvement for 48V 8K/10K. (Sine wave shape during higher loads)
xxxx4 01	• Bug removed from Virtual Switch. (Ignore AC input did not function)
xxxx4 00	• Version derived from 307 • Added Loss of Mains detection. (Some models already certified for UK) • Virtual Switch re-introduced again. User can choose between using Virtual Switch or using Assistants • Bu fix which resulted in overload errors in certain 3–phase HUb2 systems • Some (basic) settings can be done with the dipswitches again

Change log of xxxx3xx firmware versions

xxxx3xx firmware is only available for the new processor. It supports assistants only and does not support Virtual Switch.

It is advised not to use 3xx firmware anymore but use its successor xxxx4xx since that one supports both assistants and Virtual Switch. (Development on 3xx will cease)

xxx30 7	• Added feature for supporting Hub-4 • Added some features for assistants in general
xxxx3 06	• Corrected power measurements in a slave • Slave will indicate VE.Bus error 19 when master wants to close the BF relay and the slave does not detect AC input voltage. (This indicates an installation error)
xxxx3 05	• Fan regulation for compact changed to prevent unnecessary switch on. • Fan regulation for All Multi/Quattro/Inverter (non Compact) models

	with new processor changed to reduce overall fan activity.
xxxx3 04	• Fixed a bug in for Compact models (The bug caused the SOC to be lost when the Compact is switched off with a remote panel or VE.Bus BMS.) • Fixed bug in the Bulk time measurement. When IDC was 0 this was erroneously considered as Bulk time. • Several self-consumption hubs related algorithm improvements
xxxx3 03	• New PowerAssist constants for the 2609 and 2622 models
xxxx3 02	• Added features used by the Hub-2 assistant
xxxx3 01	• Fixed bug in charge state (float, absorption, bulk, etcetera) indication.
xxxx3 00	• Initial version

Change log of xxxx2xx firmware versions

xxxx2xx firmware supports assistants only and does not support Virtual Switch. Use only in old micros. New micros should use the xxxx4xx which supports both.

xxxx2 09	• Corrected power measurements in a slave • Slave will indicate VE.Bus error 19 when master wants to close the BF relay and the slave does not detect AC input voltage. (This indicates an installation error)
xxxx2 08	• Fan regulation for compact changed to prevent unnecessary switch on. • Fan regulation for All Multi/Quattro/Inverter (non Compact) models with new processor changed to reduce overall fan activity.
xxxx2 07	• Improved switching to net in case of an overload. (Prevented the overload action to continuously interfere with switch to net) • Fixed a bug in the with compact firmware, which caused the SOC to be lost when the Compact is switched off with a remote panel or VE.Bus BMS • Fixed a bug which prevented forcing charge states by toggling the front switch.
xxxx2 06	• Added functions which are necessary for the Silence fan assistant • Code shrinked, there is now more space for assistants • Hub-2: improved regulation of PV energy used during charge, in systems with inductive and capacitive loads • Bugfix: a master in a parallel system could, under special circumstances, switch on without the slaves switching on.
xxxx2 05	• Added GridAssist: do not shut down on overload while ignoring AC input, switch back to AC input instead • Added kWh counters: used by the new VRM dashboard (only new microprocessors, 26xxxxx and 27xxxxx)[1] • Internal changes necessary for the new 'Self-consumption Hub-2 v2' assistant • Improved Battery Monitor functionality: added setting for charge efficiency • AC Input current reported to control panels is now signed: when power is fed back to grid, this is shown on the Color Control GX. The BPP2, VGR2 and VER do not support this, and will show an erroneous value which is too far too high when power is being fed back to grid.

xxxx2 04	• A product that is on, will no longer switch off when a MK2.2b or BPP is plugged in • The Grid Support assistant can use temperature compensation in the charge profile.
xxxx2 03	• Bug fixed in the LED handling by the "Grid Converter support" assistant in a Compact.
xxxx2 02	• Improvements in writing and reading the assistants with VEConfigure3. The VE.Bus device will no longer switch off when reading the Assistants configuration. • Both writing and reading speed is increased.
xxxx2 01	• Dipswitch configuration support removed, to create space for more assistants.
xxxx2 00	• Initial version that includes Assistant functionality. Note that this removes the Virtual Switch functionality.

Change log of xxxx1xx firmware versions

xxxx1xx firmware supports virtual switch only and does not support assistants. Use only in old micros. New micros should use the xxxx4xx which supports both.

xxxx1 61	• For 48V 8K/10K only. Sine wave shape during higher loads now correctly improved. (erroneously, 160 was not different from 159)
xxxx1 60	• Improvement for 48V 8K/10K. (Sine wave shape during higher loads)
xxxx1 59	• Corrected power measurements in a slave • Slave will indicate VE.Bus error 19 when master wants to close the BF relay and the slave does not detect AC input voltage. (This indicates an installation error)
xxxx1 58	• Fan regulation for All Multi/Quattro/Inverter (non Compact) models with new processor changed to reduce overall fan activity.
xxxx1 57	• For compacts: FAN regulation changed to prevent unnecessary switch on.
xxxx1 56	• Fixed a bug in for Compact models (The bug caused the SOC to be lost when the Compact is switched off with a remote panel or VE.Bus BMS.) • Improved switching to net in case of overload. • 1959/2659 model also adapted for the change in xxxx155.
xxxx1 55	• Prevent output loss when switching to net while DC low on Multis/Quattros with a special brand BF relay.
xxxx1 54	• Bug removed. During Invert, the reported IMains was erroneously unequal to zero. (This bug does not have influence on the function of the Multi. Only the reported IMains was in error.)
xxxx1 53	• Improved Bulk protection mechanism. (made equal to the one in the 2xx version) • Reported IMains is made signed. (The direction of the power on AC input can now correctly be displayed) • Power, State and SOC are reported for display on a panel. • Added kWh counters: used by the new VRM dashboard (only new microprocessors, 26xxxxx and 27xxxxx)[1] • Supports changed compact hardware which results in shorter switch to mains times.

xxxx152	• Introduction of new model • Removed bug from PowerAssist which resulted in less accuracy • Improved Input current regulation during charge
xxxx151	• Code changed to prevent a Multi/Quattro to switch off the moment a remote panel or MK2 is connected.
xxxx150	• First firmware suitable for both new and old processor. Derived from xxxx143 (the last firmware which is only suitable for the 'old' processor)

Notes:

1) Note that this dashboard works only with the Color Control GX, not with VGR2 and VER