

G100 Declaration Victron Energy ESS

www.victronenergy.com

1. Introduction

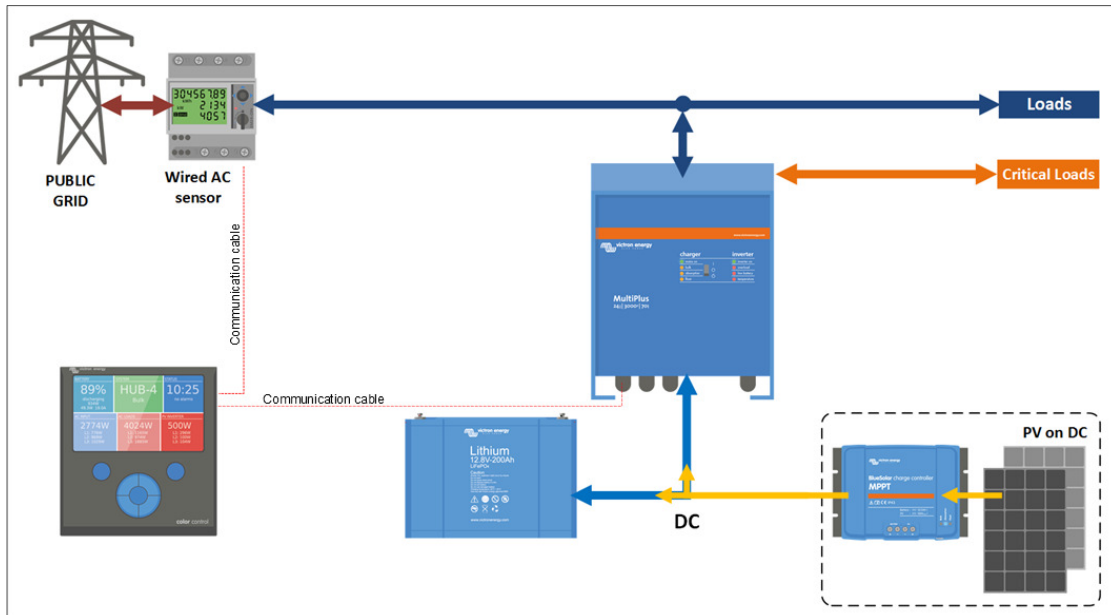
Engineering Recommendation G100: *Technical Guidance for Customer Export Limiting Schemes*, published by the ENA, “defines the technical design requirements for Export Limitation Schemes which limit the net site export to below an agreed maximum and are installed on the Customer’s side of the Connection Point”.

2. Description

G100 Requirement:

A description of the scheme, its settings, and a single line diagram should be permanently displayed on site.

When a MultiPlus, Quattro or MultiGrid is installed with a ColorControl and Wired AC sensor, the system operates in “Solar self consumption mode”.



Victron Energy ESS system is formed by 3 elements:

- MultiPlus, Quattro or MultiGrid
- Wired AC Sensor (it is advised that the CT is installed either within the distribution board or the CCGX be installed immediately adjacent to the board to prevent the CT being exposed).
- Color Control CCGX
- Optional MPPT solar charge controller

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3. Fail safe Operation

G100 requirement:

Where discrete units are used they should preferably be interconnected using metallic or fibre optic cables. Alternatively the units may be interconnected using secure radio links but where this is the case these links should be licensed (by OFCOM) and have a planned availability of 99.9% or higher.

Irrespective of the media used for interconnecting between the discrete units, if the communication path fails the generation output should be reduced to a nominal value stipulated by the DNO within a set response time to prevent the Agreed Export Capacity from being exceeded.

System fail safe test				
No	Test	Response	time	Pass/Fail
1	Remove communication from Wired AC Sensor	Systems stops delivering power to Public Grid	3.6sec	Pass
2	Remove Power from ColorControl	System stop delivering power to Public Grid	2.1sec	Pass

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4. Response Time

G100 requirement

The ELS must detect an excursion and reduce the export to the Agreed Export Capacity or less within 5 seconds.

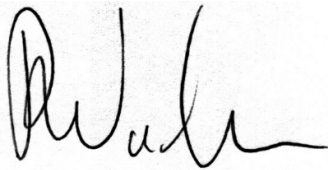
- The response time under loss of communications, or loss of power, response time is less than 3s

5. Password Protection

G100 requirement:

Once installed and commissioned, the scheme settings should not be capable of being readily altered by the Customer and should only be changed with the written agreement of the DNO.

- The MultiPlus system settings are password protected.



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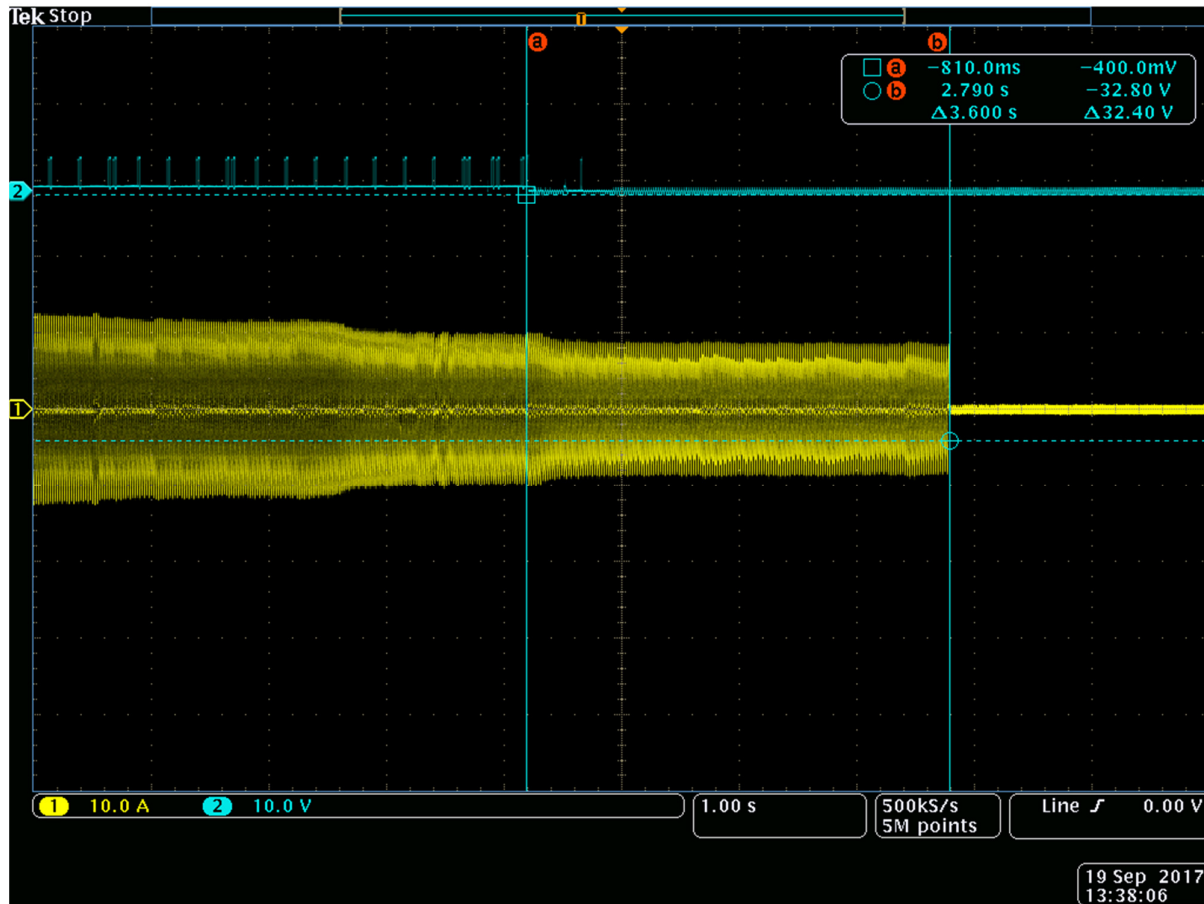
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Appendix A: Remove communication between Gridmeter to CCGX

Test: Remove one wire of the communication between Gridmeter and ColorControl

Result: The current fed into the mains goes to zero in 3.6sec. G100 requirement is less than 5 sec.



Remove communication meter -->CCGX

	Communication pulses
	Current to Grid

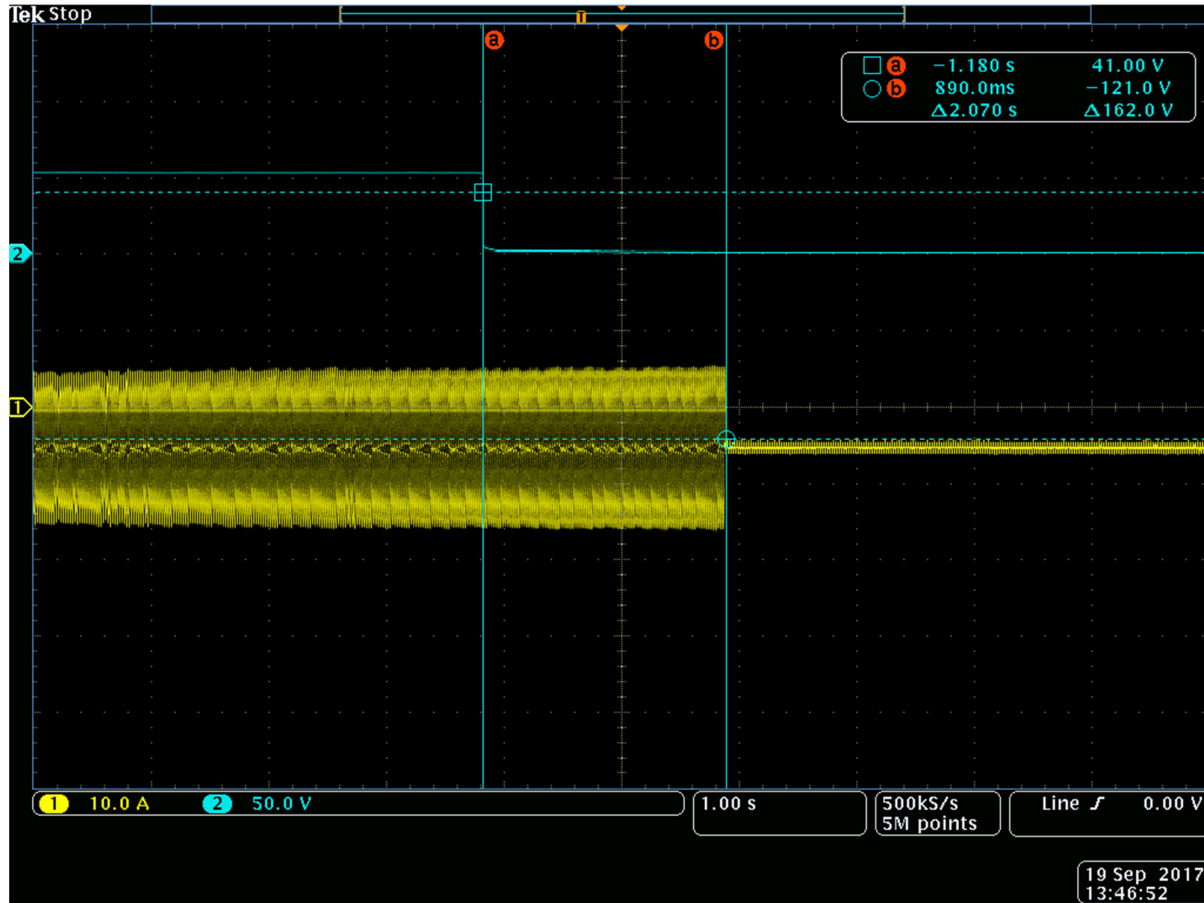
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Appendix B Remove power from CCGX

Test: Remove the powersupply of the ColorControl

Result: The current fed into the mains goes to zero in 2.1sec. G100 requirement is less than 5 sec.



Remove power from CCGX

	Voltage on CCGX
	Current to Grid