This table provides a summary of the information received by ALoMCP from inverter manufacturers to date.

Date: 04/05/20

Please provide any feedback, especially if you know of a manufacturer who is not shown below, to Lossofmain@energynetworks.org

Manufacturer	Status
ABB	ABB state that their inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on ABB inverters. It is the owner's responsibility to confirm this. ABB have published this information and a list of their inverter types. It is attached here.
AEI	No response from manufacturer
Danfoss	Taken over by SMA. Awaiting SMA information.
Delta Electronics	Delta Electronic inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on Delta Electronic's inverters. It is the owner's responsibility to confirm this.
Enercon	State that inverters do not use VS or RoCoF. However many (but not all) Enercon devices have a separate relay which provides LoM functions and will need to confirmed compliant and/ or reset by a competent person. Enercon can be contacted to advise on what is required at each installation.
Fronius	Fronius inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on Fronius inverters. It is the owner's responsibility to confirm this.
Ginlong (Solis)	Ginlong inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on Ginlong inverters. It is the owner's responsibility to confirm this. Ginlong have published this information, and it is attached here.
Goodwe	Goodwe inverters do not use RoCoF or VS loss of mains. ALoMCP believes there is no adjustment to make on Goodwe inverters. It is the owner's responsibility to confirm this. Goodwe have published this information, and it is attached here.
Growatt	Awaiting information from manufacturer
Huawei	Huawei confirm that RoCoF switched off by default, and no VS. Owners will need to confirm that RoCoF remains switch off, or is set to correct values. Waiting to be confirmed by Huawei
Power Electronics	The manufacturer has confirmed that RoCoF setting is an option, and that vector shift is not used. All units for GB are thought to have been shipped with RoCoF set to off.

inverter manufacturer information v1.26.docx

	The manufacturer has confirmed that it is possible to confirm on site by interrogating the inverter – please contact the manufacturer for details. It is the owner's responsibility to confirm the compliance of these inverters with G59.
Power One Aurora	Taken over by ABB – included in ABB information above.
Refusol	No response from manufacturer
Schneider	Awaiting response from manufacturer
Siemens	Awaiting response from manufacturer
SMA	SMA states that its inverters have not used RoCoF or VS loss for of mains. Some SMA badged inverters (originally made by Danfoss) do have RoCoF settings. Currently awaiting further information from SMA. ALoMCP believes there is no adjustment to make on SMA inverters (apart from the ex-Danfoss models). It is the owner's responsibility to confirm this. SMA have provided relevant information for owners of SMA inverters here.
Solar Edge	SolarEdge photovoltaic inverters connected under G59 do need to be updated with new settings. This can be done by the original installer or any SolarEdge agent. SolarEdge will be contacting owners of affected equipment about these changes. Domestic type inverters connected under G83 are not affected by the programme and need no changes
Solarmax	No response from manufacturer
Sungrow	Sungrow state that the majority of its inverters do not use RoCoF or VS protection. More information can be found here. It is the owner's responsibility to confirm this
Sunways	Models NT10000, 11000, 12000 EU should be set by default to GB in which case RoCoF and VS settings are believed to be deactivated. It is the owner's responsibility to confirm this.
Tesla	TBC
Zeversolar	Zeversolar is owned/managed by SMA. SMA states that Zeversolar inverters have not used RoCoF or VS loss for of mains.

DECLARATION ON LOSS OF MAINS WITH REGARDS TO ROCOF AND VECTOR-SHIFT THREE PHASE ABB INVERTERS

ABB/Power-One Italy S.p.A declares that inverters listed below in TABLE 1, when grid-code G59 is selected, do not make use of AC Rate-Of-Change-Of-Frequency (ROCOF) nor Phases-Vector-Shift - under a condition of "Loss of Mains" - to perform the tripping/disconnection from the grid.

TABLE 1

Inverter model:	Grid code:
TRIO-5.8/7.5/8.5-TL-OUTD-x[1]	G59
PVI-10.0/12.5-TL-OUTD-x[1]	G59
TRIO-20.0/27.6-TL-OUTD-x[1]	G59
TRIO-50.0-TL-x[1]	G59
TRIO-TM-50.0-x[1]	G59
PVS-50/60-TL-x[1]	G59
PVS-100/120-TL-x[1]	G59

Note [1] : every possible model variant

Terranuova Bracciolini (Arezzo) - Italy
January 24th, 2020

Paolo Casini

R&D and Technology manager
EP Power and Electric Vehicle
Infrastructure
Product Group Solar

Roberto Galuppi

Local BU Manager
EP Power and Electric Vehicle
Infrastructure
Product Group Solar

Manufacturer's Declaration

To Whom It May Concern:

Ginlong Solis, as the manufacturer of Solis inverters, declares that:

All Solis inverters are capable of detecting the loss of main situations and stop generating within the time threshold required by G99 and G98 regulations.

Instead of using passive detection methods like detecting Vector Shift or RoCoF, Solis inverters utilize active frequency shift method (Sandia Frequency Shift).

Once start generating, Solis inverters will introduce small perturbations in the AC output current. The injected perturbations produce insignificant variations in the grid frequency when the inverter is grid-connected, whereas significantly larger variations in grid frequency can be observed when the inverter is islanded.

As an active frequency shift method, the Sandia Frequency Shift can achieve a much more accurate protection as the passive detection methods can be greatly influenced when a large load or generator is switched on or off thus leading to a false tripping. Meanwhile, the slight current distortion introduced by the Sandia Frequency Shift is well controlled by the algorithm of the Solis inverters while the effect on the inverter output power quality is negligible.

Manufacture Stamp	Date and Place	Zhang Kun
宁波禧浪新能源科技有限公司 NINGBO GINLONG TECHNOLOGIES CO., LTD.	Ningbo 2020-03-24	Zhang Kun

Ningbo Ginlong Technologies Co., Ltd
No.57 Jintong Road, Seafront (Binhai)
Industrial Park, Xiangshan, Ningbo, Zhejiang.
315712, P.R. China
Tel: (+86)57465803377

To whom it may concern:

Sungrow hereby confirms that the following PV inverter models do not employ Rate of Chance of Frequency (RoCoF) or Vector Shift (VS) techniques for islanding detection and disconnection purposes:

SG36KTL-M

SG60KTL
- RoCoF/VS not supported
  (for firmware versions dated June 2017 onwards)
- RoCoF/VS functionality can be manually deactivated
  (for firmware versions dated prior to June 2017)

SG33CX
SG40CX
SG50CX
SG110CX
SG250HX

Hefei, P.R. China

7 April 2020

Sean Li
System Solution Manager of
EMEA team
Sungrow Power Supply Co., Ltd.

DECLARATION LETTER

We hereby declare that GoodWe three-phase inverters as listed in the below table, when grid code G59 is selected, do not make use of AC Rate-of-Change-Frequency (RoCoF) nor Phase-Vector-Shift under a condition of "Loss of Mains" to perform the tripping/disconnecting from the Grid.

Inverter Model	Grid Code
MT series	G59
SMT series	G59
DT series	G59
SDT G1 series	G59
SDT G2 series	G59

Declared by Jiangsu GoodWe Power Supply Technology Co., ltd

Authorized Signature:

Date: April 10, 2020