For Great Britain only: Compliance with Accelerated Loss of Mains Change Programme (ALoMCP)



## Sunny Highpower Peak1(SHP 75-10) / Sunny Tripower 60 (STP 60-10)

### 1 Contents

This manual describes how the Rate of Change of Frequency (RoCoF) settings in STP 60-10/ SHP 75-10 systems are changed via the LCS-Tool.

Only qualified persons are allowed to set the parameters. Basic knowledge in using the LCS-Tool is required.

An SMA Grid Guard Code is necessary for accessing the parameters to be changed.

Following a manual parameter change, "modified" and the change date are added to the country data set name. The figure shown below shows an example with the standard country data set "UK\_G59-3\_230V".

A large number of standard country data sets can be selected during the commissioning procedure, but a customer-specific JSON file can also be selected instead.

ID: 256

 Key:
 GBR-ERECG59-230V Version:
 260117

 MLX
 Name:
 UK\_G59-3\_230V\_modified\_2020-02-25
 13:55:21

#### 

# Danger to life due to electric shock when live components or cables of the inverter are touched

High voltages are present in the conductive components or cables of the inverter. Touching live parts and cables of the inverter results in death or lethal injuries due to electric shock.

- Disconnect the inverter from voltage sources and make sure it cannot be reconnected before working on the device.
- Once disconnected from voltage sources, wait five minutes before touching any parts of the PV system or the inverter.
- Wear suitable personal protective equipment for all work on the product.
- Do not touch non-insulated parts or cables.

## 2 Procedure

After opening the LCS-Tool, all STP 60-10/SHP 75-10 inverter managers in the network are listed.

@ LCS			-		×
Local Commissioning & Service Tool			B	本語	i
Inverter Managers 0		S	earching	•	0
		Sort by:	Serial nur	nber 🕶	
<b>▲ 139F0215073301N395</b> IP: 10.61.2.207 Version: 1:1.91.001-2	Inverter Network:	2/2	0 🔳	0	

- 1. Double-click the inverter manager you want to modify.
- 2. Select User group: Installer and enter the Password.

@ LCS				>	×
Local Commission	ning & Service Tool			日本語	
Inverter Man	Login			Searching 🗘 🔞	)
Fille Contraction	Inverter Manager '139F02150	73301N395'		Serial number -	
♣ 139F02150733	User group	Installer	۲		
IP: 10.61.2.207	Password			0 0 0	
	Forgot password?		Login Cancel		

3. Click Login.



4. Call up the menu Service.

:s												-		
cal Commissionir	ng & Service Tool												日本語	
<ul> <li>4 139F02150</li> </ul>	73301N395										U	JserLev	el: Installer	
👁 Status 🛛 🖉 Logs	Reports 🕫	\$ Setup	🖌 Service											
Commission Software Update Grid Guard	Notice! If replacing inverter network.	g an inverte	er, first physica	cally	exchange	e it, and	then us	se the	Repla	ice but	on to	o upd	ate the	
Commission Software Update Grid Guard	Notice! If replacing inverter network.	g an invert∉	er, first physica	cally	exchang	e it, and	then us	se the	Repla	Sort t	on to	o upda Serial	ate the number -	
Commission Software Update Grid Guard	Notice! If replacing inverter network.	g an inverte 111N045	er, first physic	cally	exchang	e it, and	then us	se the	Repla	Sort t	on to	o upd Serial	number <del>-</del> Remove	

5. Enter your SMA Grid Guard code in the field Individual access code under Grid Guard.

©ιcs				- 🗆 ×
Local Commissioni	ng & Service Tool			日本語
< 👬 139F02150	73301N395			UserLevel: Installer
👁 Status 🖉 Loga	Reports 🗞 Setup 🖌 Se	Service		
Commission Software Update	Grid Guard			
Grid Guard	Individual acces	ess code		
			Save	

6. After entering the Grid Guard code, click **Save**.

7. Call up the menu **Setup**.

© LCS						-		×
Local Commissioning	g & Service 1	ool					日本語	i
< 🚠 139F021507	3301N395				<del>5</del> 9-	UserLev	el: Installer	
👁 Status 🛛 🖉 Logs	Reports	os Setup	🖌 Service					
General	Current time z	one		Current date and time				
Date and Time	Europe/Copen	hagen		25.02.2020 13:50:18				
Naming	Change time	zone		Change date and time				
Ftp Upload								
Portal Upload								
Network Settings								
Limited Export								
Plant fallback								
Operation mode								
Password								
Inverter Parameter								

8. Call up the sub-menu Inverter parameter.

cal Commissioning	& Service Tool				
< 📩 139F021507	3301N395			UserLevel Installer	
👁 Status 🛛 🖉 Logs	Reports OS Setup & Service				
Date and Time Naming	Key: GBR-ERECG59-230V-MLX Name: UK_G59-3_230V	Version: 260117	ID: 256		
Portal Upload	Protection settings				
Limited Export	Support settings				
Plant fallback Operation mode		Save			
Password					
Inverter Parameter					

9. Select Protection settings.

) ICS					-	٥	Х
Local Commissioning	& Service Tool						
139F021507	3301N395				UserLevel Installer		
👁 Status 🛛 🖉 Logs	Reports Of Setup	& Service					
Date and Time Naming	Key: GBR-ERECG59-230V- Name: UK_G59-3_230V	MLX	Version: 260117	ID: 256			
Portal Upload	• Protection settings						l
Limited Export	Nominal values      Voltage disconnection						l
Operation mode	Frequency disconnection	n					l
Inverter Parameter	• (re-) connection						L
	Loss of mains						L
	Disconnection						I
	Protection settings						I
	Support settings						l

10. Select Frequency disconnection.

@ LCS			- a ×
Local Commissioning	& Service Tool		
< 📩 139F0215073	301N395	\$	UserLoveit Installer
👁 Status 🖉 Logs	Reports Of Setup & Service		
General Date and Time	Key: GBR-ERECG59-230V-MLX Version: 260117 Name: UK_G59-3_230V	ID: 256	
Ftp Upload	• Protection settings		
Network Settings	Nominal values		
Limited Export	Voltage disconnection		
Plant fallback Operation mode	▼ Frequency disconnection		
Password	Under frequency stage 2 (far) (FMIN2)	47	(45 - 45 59 [942])
Inverter Parameter	Trip time for under frequency stage 2 (T_FMIN2)	0,5	(0.05 - 30.0)
	Under frequency stage 1 (near) (FMIN1)	47,5	(45 - 45 59 (245)
	Trip time for under frequency stage 1 (T_FMIN1)	20	(0.06 - 90 (M)
	Over frequency stage 1 (near) (FMAX1)	51,5	(50.01 - 55 (%12)
	Trip time for over frequency stage 1 (T_FMAX1)	90	(0.05 - 90 (M)
	Over frequency stage 2 (far) (FMAX2)	52	(50.01 - 55 (Put))

11. If necessary scroll in order to have all required frequency-relevant parameters displayed.



6

- 12. The parameter setting differs, depending on whether the system is equipped with a "G59 relay" or not:
  - If the system is **equipped with** "G59 relay":

Besturiu     Elegonia     Desporta     C Setup     A Service       General     Key: GBR-ERECGS9-230V.MLX     Version: 260117     ID: 256       Date and Time     Name: UK_GS9-230V.MLX     Version: 260117     ID: 256       Naming     Ferquency disconnection     Image: UK_GS9-230V.MLX     Version: 260117       Potal Upload     Image: UK_GS9-230V.MLX     Version: 260117     ID: 256       Naming     Image: UK_GS9-230V.MLX     Version: 260117     ID: 256       Potal Upload     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX       Version: Id: Upload     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX       Version: Id: Upload     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX       Version: Id: Upload     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX       Version: Id: Upload     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX     Image: UK_GS9-230V.MLX       Version: I	139P021507	3301N395		*	UserLovet Installer
General         Key: GBR.EREC0359-200-MLX         Version: 260117         ID: 256           Date and Time         Name: UK_059-3_230V         Version: 260117         ID: 256           Naming         Fig. Upload         Fig. Upload         Imited Export         If requency disconnection           Network Settings         Under frequency stage 2 (1/r) (FMIN2)         47         sist-srippin           Limited Export         Trip time for under frequency stage 2 (T_FMIN2)         50         sist-srippin           Plant fatback         Under frequency stage 1 (near) (FMIN1)         47         sist-srippin           Password         Over frequency stage 1 (near) (FMIN1)         50         sist-srippin	Status 🖉 Logs	Reports 0% Setup & Service			
Naming Fip Upload Fip Upload Fip Upload First Upload First Upload First Under frequency stage 2 (far) (FMIN2) First Stage 2 (T_FMIN2) First Stage 2 (T	eneral ate and Time	Key: GBR-ERECG59-230V-MLX Name: UK_G59-3_230V	Version: 260117	ID: 256	
Network Settings         Under frequency stage 2 (thr) (FMN2)         47         01.01117           Linited Export         Trip time for under frequency stage 2 (T_FMN2)         80         615.111           Plant failback         Under frequency stage 1 (near) (FMN1)         47         61.01117           Operation mode         Trip time for under frequency stage 1 (T_FMN1)         80         615.1111           Password         Over frequency stage 1 (near) (FMNX1)         82         615.1112	aming p Upload ortal Upload	Frequency disconnection			
Limited Export         Trip time for under frequency stage 2 (T_FMIN2)         B0         cdd:::::::::::::::::::::::::::::::::::	etwork Settings	Under frequency stage 2 (far) (FMIN2)		47	(45-49.99.952)
Nant failback         Under frequency stage 1 (near) (FMIN1)         47         In	mited Export	Trip time for under frequency stage 2 (T_F	MIN2)	90	(0.05 - 90 (s))
Operation mode         Trip time for under frequency stage 1 (T_FMIN1)         B0         cmini + (p)           Assevord         Over frequency stage 1 (mar) (FMAX1)         52         cmini + (p)	ant fallback	Under frequency stage 1 (near) (FMIN1)		47	(45-49.99) (42)
Password Over frequency stage 1 (near) (FMAX1) 52 52	peration mode	Trip time for under frequency stage 1 (T_F	MIN1)	90	(0.05 - 90 (s))
	assword	Over frequency stage 1 (near) (FMAX1)		52	(50.01 - 56.0-12)
nverter Parameter Trip time for over frequency stage 1 (T_FMAX1) 90 00000	verter Parameter	Trip time for over frequency stage 1 (T_FN	(AX1)	90	(0.05 - 90.05)
Over frequency stage 2 (far) (FMAX2) 52 00 01-30 page		Over frequency stage 2 (far) (FMAX2)		52	(50.01 - 56 p-sg)
Trip time for over frequency stage 2 (T_FMAX2) 80 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Trip time for over frequency stage 2 (T_FN	(AX2)	90	(0.05 - 90 jsj)
+ (re-) connection					

- Click into the field whose value is to be changed and change the value accordingly:

Frequency Disconnection	Value
Under frequency stage 2 (FMIN2)	47 Hz
Trip time for under frequency stage2 (T_FMIN2)	90 s
Under frequency stage 1 (FMIN1)	47 Hz
Trip time for under frequency stage1 (T_FMIN1)	90 s
Over frequency stage 1 (FMAX1)	52 Hz
Trip time for over frequency stage 1 (T_FMAX1)	90 s
Over frequency stage 2 (FMAX2)	52 Hz
Trip time for over frequency stage 2 (T_FMAX2)	90 s

• If the system is **not equipped with** "G59 relay":

s			- 0
cal Commissioning	& Service Tool		日本語
139F0215073	3301N395	۶ ر	JserLevel Installer
🕏 Status 🛛 🖉 Logs	Reports OC Setup / Service		
Seneral Date and Time	Key: GBR-ERECG59-230V-MLX Version: 200117 Name: UK_G59-3_230V	ID: 256	
tp Upload	Frequency disconnection		
Vetwork Settings	Under frequency stage 2 (far) (FMIN2)	47	(45 - 43.99 (+92)
imited Export	Trip time for under frequency stage 2 (T_FMIN2)	0,5	(n. ns so. ju)
fant fallback	Under frequency stage 1 (near) (FMIN1)	47,5	(45 - 49.99 (FS2)
peration mode	Trip time for under frequency stage 1 (T_FMIN1)	20	(0.05 - 50 (k))
assword	Over frequency stage 1 (near) (FMAX1)	52	(50.01 - 56 psp)
werter Parameter	Trip time for over frequency stage 1 (T_FMAX1)	0,5	(0.05 - 90 (N)
	Over frequency stage 2 (far) (FMAX2)	52,5	(50.01 - 55 P-12)
	Trip time for over frequency stage 2 (T_FMAX2)	0.5 ‡	(0.05 - 50 (s))
	+ (re-) connection		
	+ Loss of mains		
	> Disconnection		

- Click into the field whose value is to be changed and change the value accordingly:

Frequency Disconnection	Value
Under frequency stage 2 (FMIN2)	47 Hz
Trip time for under frequency stage2 (T_FMIN2)	0.5 s
Under frequency stage 1 (FMIN1)	47.5 Hz
Trip time for under frequency stage1 (T_FMIN1)	20 s
Over frequency stage 1 (FMAX1)	52 Hz
Trip time for over frequency stage 1 (T_FMAX1)	0.5 s
Over frequency stage 2 (FMAX2)	52.5 Hz
Trip time for over frequency stage 2 (T_FMAX2)	0.5 s

13. Scroll down and click Loss of mains.

cal Commissioning	& Service Tool			日本語
139F0215073301N395			50	UserLevel Installer
🖻 Status 🛛 🖉 Logs	Reports Of Setup & Service			
Seneral Date and Time	Key: GBR-ERECG59-230V-MLX Name: UK_G59-3_230V	Version: 260117	ID: 256	
p Upload	+ (re-) connection			
ortal Upload	# Loss of mains			
etwork Settings mited Export	Active frequency shift offset (k0) (LOM_F_SHF_K0)		0,005	(0+1)
ant fallback	Active frequency shift feedback (k1) (LOM_F_SHF_K1)		0,25	(0 - 1 )
peration mode	Actime LOM - trip time (T_LOM_ACTIVE)			(9.2 - 5 (6))
assword	Open Phase detection mode. (1: on, 0: off) (OPEN_PH_DETECT_MOD)		0	(1 - 0)
Inverter Parameter	Rate Of Change Of Frequency (ROCOF) (LC	DM_ROC)	t	(0 - 10 (%55))
	Trip time for ROCOF (T_LOM_ROC)		0,5	(0 - 1800 (H))
	RoCoF threshold (LOM_ROC_THR)		0	(0 - 5 p-tr))
	Disconnection			
	Protection settings			

14. Click into the field whose value is to be changed (only the last three parameters) and change the value accordingly:

Frequency Disconnection	Value
Rate of Change of Frequency (ROCOF) (LOM_ROC)	1 Hz/s
Trip time for RoCoF (T_LOM_ROC)	0.5 s
RoCoF threshold (LOM_ROC_THR)	0 Hz

15. Scroll down and select **Save** to save the changes.