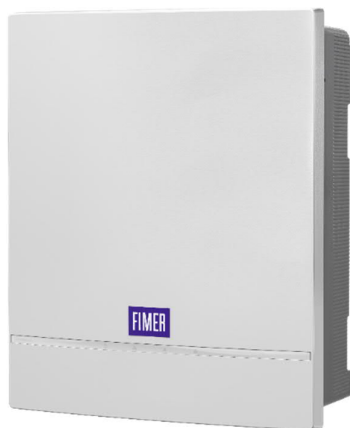


FIMER INVERTERS PVS-10/12.5/15/20/30/33

PARAMETERS SETTING TO MEET REQUIREMENTS OF DENMARK
ACCORDING DANSK ENERGI GUIDE FOR CONNECTION OF POWER-GENERATING PLANTS
TO THE LOW VOLTAGE GRID (≤ 1 kV)
(Guide Version 1.1. - December 2019)

PLANTS TYPE A (≤ 125 kW)

DOCUMENT REVISION: FEB. 09-2022

Summary:

1. Applicability
2. Notes about Denmark Grid-code for Power-Generating plants Type A
3. Setting of the Grid-code variant: DK1
4. Setting of the Grid-code variant: DK2

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1. Applicability

Inverter type	Model	Firmware
Transformerless three phase	PVS-10/12.5/20-TL ⁽¹⁾	≥ 2146C
	PVS-20/30/33-TL ⁽¹⁾	≥ 2146A (≥ 2146B for models PVS-20-SX/SY 2 MPPTs)

Note⁽¹⁾: Every possible model variant.

2. Notes about Denmark Grid-code for Power-Generating plants Type A

In Denmark two grid-code variants are requested:

- 1) DK1 (Western Denmark)
- 2) DK2 (Eastern Denmark)

Differences:

-) Start-up and reconnection of Power-Generating plant - AC frequency ranges (Guide par. 4.2.):

- 1) DK1 (Western Denmark) => 47.5 Hz 50.2 HZ
- 2) DK2 (Eastern Denmark) => 47.5 Hz 50.5 HZ

-) Power response to overfrequency (LFSM-O) – Frequency threshold fro (Guide par. 5.3.1):

- 1) DK1 (Western Denmark) => 50.2 HZ
- 2) DK2 (Eastern Denmark) => 50.5 HZ

-) Power response to overfrequency (LFSM-O) – Droop (Guide par. 5.3.1):

- 1) DK1 (Western Denmark) => 5%
- 2) DK2 (Eastern Denmark) => 4%

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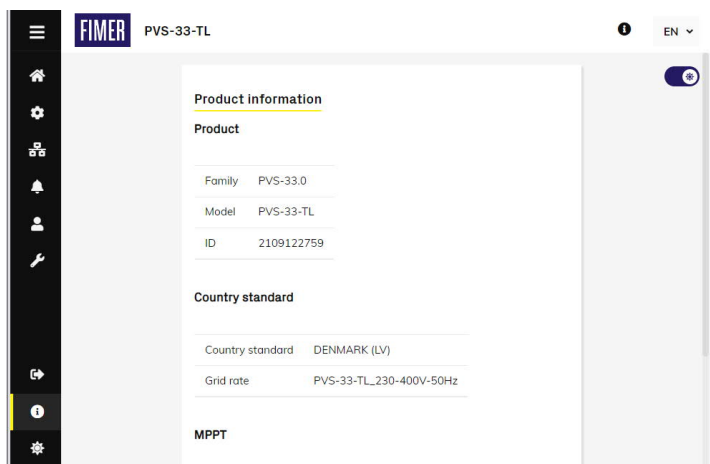
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3. Setting of the Grid-code variant: DK1

Printscreens examples refer to inverter PVS-33.

Select, during inverters commissioning, the grid-code: "DENMARK LV" ; see also product manual. Inverter will automatically apply the parameters related to grid-code variant DK1.



4. Setting of the Grid-code variant: DK2

Printscreens examples refer to inverter PVS-33.

Select, during inverters commissioning, the grid-code: "DENMARK LV".

Change manually via Web-User-Interface (see products manual) the following 3 parameters (Steps 1, 2, 3):

REQUIRED:

- Admin account password (crated during inverter commissioning)
- Admin-plus token (service password) downloaded by web-site:

<https://registration.solar.fimer.com/index.php> (it is necessary to know inverter's Serial-Number and Production-week showed in product identification label or in its Web-User-Interface).

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PROCEDURE:

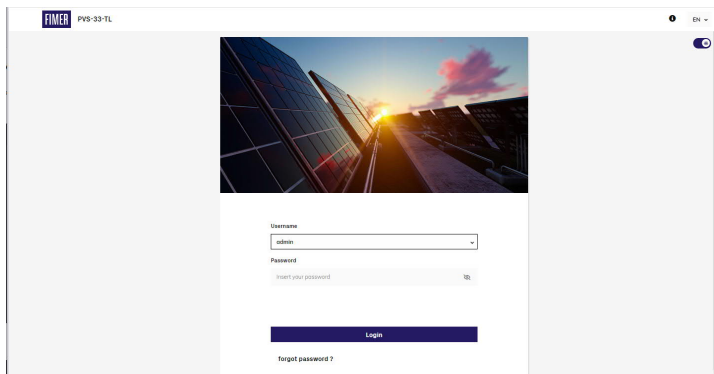
Step 0

Connect the networking device to the same WiFi or LAN of the Inverter.

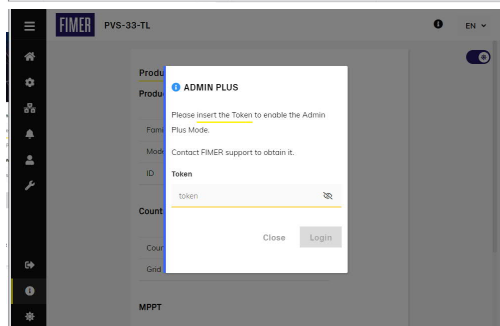
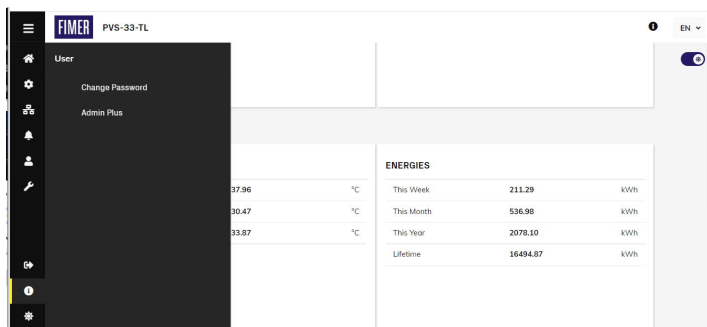
Open a browser and insert the inverter IP address on the browser address bar.

Login to the inverter entering:

- "admin account" (fig. a)
- "admin-plus" token (fig. b)



(fig.a)



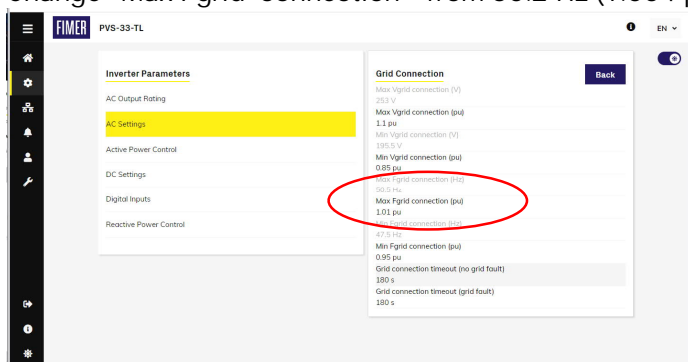
(fig.b)

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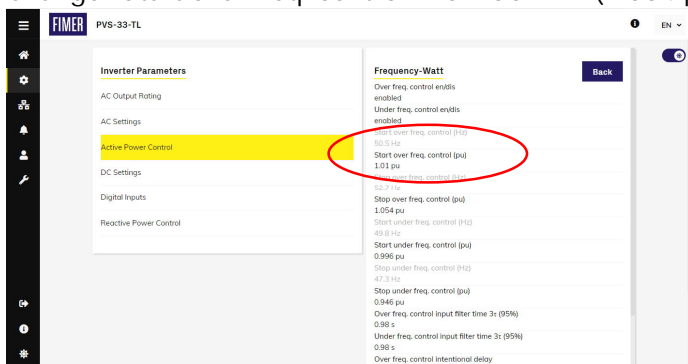
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Step 1 (adjustment of Start-up and reconnectio-AC frequency range= 47.5Hz...50.5 Hz)
 Change "Max Fgrid connection" from 50.2 Hz (1.004 pu) to 50.5 Hz (1.01 pu) ; see fig. 1.



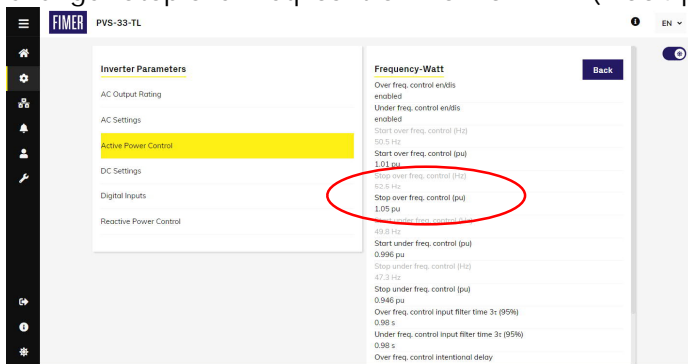
(fig. 1)

Step 2 (adjustment Power response to overfrequency–Frequency threshold fro= 50.5 Hz)
 Change "Start over freq. control" from 50.2 Hz (1.004 pu) to 50.5 Hz (1.01 pu) ; see fig. 2.



(fig.2)

Step 3 (adjustment Power response to overfrequency (LFSM-O)–Droop= 4%)
 Change "Stop over freq. control" from 52.7 Hz (1.054 pu) to 52.5 Hz (1.05 pu) ; see fig. 3



(fig.3)

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