



## DECLARATION OF CONFORMITY

This is to declare that Tigo Energy Inc. inverter meets;

- EN 50549-1: 2019 Requirements for generating plants to be connected in parallel with distribution networks - Part 1: Connection to a LV distribution network - Generating plants upto and including Type B
- PPDS 2021 př.č. 4, part of Czech Republic grid protection settings

Therefore, Tigo Energy declares the following products below listed are compliant to the below described properties required by RFG regulation 2016/631(EU) described in EN50549-1:2019 and fulfill requirements of Czech Republic grid regulations authorities according to the distribution system operation rules, PPDS 2021 př.č. 4:

### Tigo Energy Inverter models;

<b>TSI-6K3A</b>	<b>TSI-5K3D</b>
<b>TSI-8K3A</b>	<b>TSI-6K3D</b>
<b>TSI-10K3A</b>	<b>TSI-8K3D</b>
<b>TSI-15K3A</b>	<b>TSI-10K3D</b>
	<b>TSI-12K3D</b>
	<b>TSI-15K3D</b>

A) GRID PROTECTION SETTINGS according to PPDS 2021 př.č. 4, section 8.1 plant with phase currents up to 16 A

<b>Parameter</b>	<b>Maximum Switch off time [s]</b>	<b>Shutdown settings</b>
Overvoltage 1st stage (1)	3.0	230V + 10%
Overvoltage 2nd stage	1.0	230V + 15%
Overvoltage 3rd stage	0,1	230V +20%
Undervoltage	1,5	230V – 15%
Over-frequency	0,5	52 Hz
Under-frequency	0,5	47.5 Hz

(1) 10min value corresponding to EN50160. The calculation of the 10-min value shall comply with the 10min aggregation of EN61000-4-30, class S. The function shall be based on the calculation of on the average rms value of the voltage over a 10-minute interval. In deviation from EN61000-4-30 a moving window shall be used. The calculation of tripping limit of new 10min value at least every 3s is sufficient.

B) FREQUENCY STABILITY according to PPDS 2021 př.č. 4, section 9.1.1

Inverters is not allowed to disconnect from grid within changes of frequency specified with a RoCoF immunity of at least +/- 2Hz/s

The minimum time for operating in under-frequency and over-frequency situations:

Frequency range	Minimum operating time
47.5 - 48.5 Hz	30 min
48.5 – 49 Hz	90 min
49 – 51 Hz	Unlimited
51 – 51,5 Hz	30 min

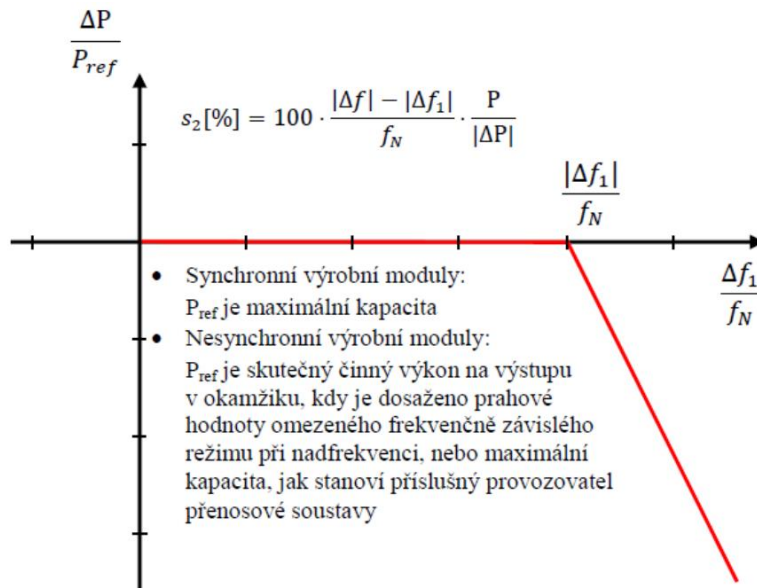
C) VOLTAGE STABILITY according to PPDS 2021 př.č. 4, section 9.1.2.

The continuous operating voltage range is defined for the inverter within the range of 85% Un to 110% Un at the point of connection.

D) POWER RESPONSE TO OVERFREQUENCY according to PPDS 2021 př.č. 4, section 9.3.1

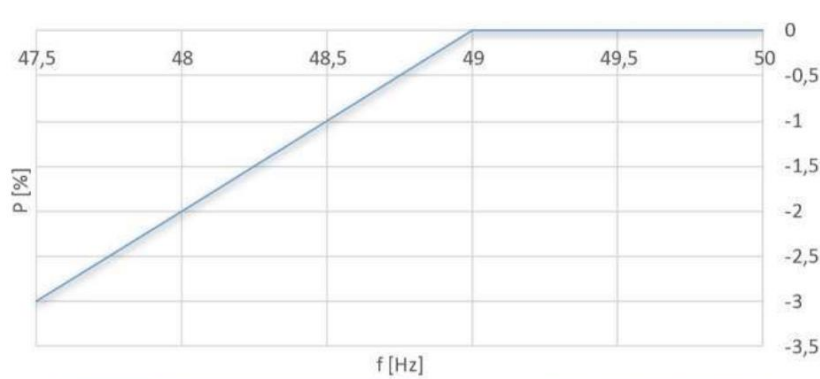
Inverter is capable of activating active power response to over-frequency at a frequency threshold  $f_1$  at least between 50,05 Hz and 50,5 Hz inclusive; the static setting must be between 4% and 10%.

Default values for threshold frequency in Czech Republic is 50,2 Hz, statics  $s_2 = 5\%$



E) POWER RESPONSE TO UNDERFREQUENCY according to PPDS 2021 př.č. 4, section 9.3.2

Inverter maximum allowed decrease in power is characterized by a maximum reduction rate of 2% Pmax/Hz for network frequency below 49 Hz.



F) DIGITAL INPUT TO THE STOP SUPPLY OF POWER according to PPDS 2021 př.č. 4, section 5.1

Inverter equipped with an EPO port to allow transfer trip and stop immediately the power feeding to the grid

G) AUTOMATIC RECONNECTION AFTER TRIPPING according to PPDS 2021 př.č. 4, section 9.5

Inverter, disconnected from grid by the protections, will automatically re-connect,

1. If voltage and frequency is observed for 300s (5mins) in the range of:

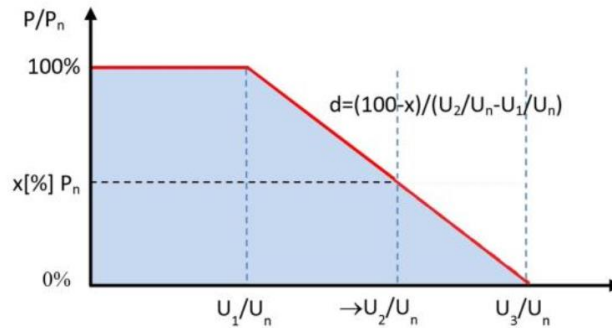
Voltage: 85-110 % of its nominal value  
 Frequency: 47,5-50,05 Hz

2. With ramp up curve of 10% Pn per minute

Note: In an out-of-range event, the observation time of 300s will start from the beginning.

H) VOLTAGE RELATED ACTIVE POWER REDUCTION according to PPDS 2021 př.č. 4, section 9.3.3

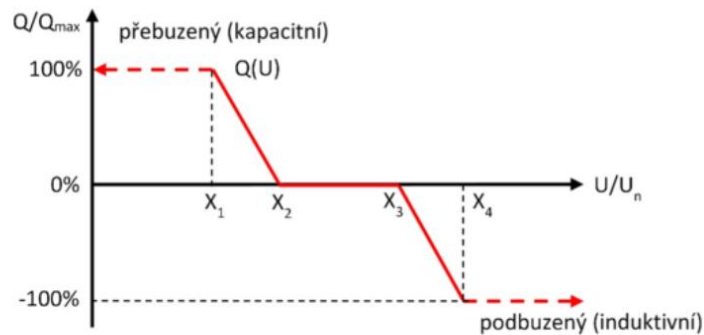
Inverter is able to follow the above-mentioned required function. The default values are as written below. For activation or further information



$$U_1/U_n = 109\%; U_2/U_n = 110\%; U_3/U_n = 111\%$$

I) VOLTAGE SUPPORT BY REACTIVE POWER according to PPDS 2021 př.č. 4, section 9.4.2

Inverter is able to follow the above-mentioned required function. The default values are as written below. For activation or further information



$$x_1 = 0,94; x_2 = 0,97; x_3 = 1,05; x_4 = 1,08$$

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