



Manufacturer's Declaration

Romanian Technical Standard: Technical Conditions for Connection of the Photovoltaic Power Plants to Public Electrical Grids (ANRE 30)

SMA hereby declares that the listed inverters meets the following requirements of the technical standard: Technical Conditions for Connection of Photovoltaic Power Plants to Public Electrical Grids published under "official Gazette of Romania, Part I, No. 312/30.05.2013 (ANRE 30)" by ANRE (National Regulatory Authority in the field of Energy).

1. Article 6: The inverters are able to operate indefinitely (with active and reactive power corresponding to the maximum weather conditions) in the frequency range 49.5 Hz to 50.5Hz and the admissible voltage range.
2. Article 7: The inverters has the capability
 - a. to remain connected to the grid and operate continuously (without time limit) in the frequency range 47.5 Hz to 52.0 Hz
 - b. to remain connected to the grid when there are variations in the frequency (up to 1Hz/s)
 - c. to continuously operate in a voltage range of 0.9 Vn to 1.1 Vn (nominal voltage)
3. Article 8: The inverters remains in operation in case of voltage gaps and variations. During these voltage gaps the inverter is able to inject maximum reactive current for at least 3s. The compliance with this requirement is certified by an accredited test laboratory in accordance with the German technical guideline "Generation plant connected to the medium-voltage grid" issued by BDEW (German Association of Energy and Water Industries) in 2008. The requirement "disconnection" in figure 1 of this article requires a minimum firmware version 2.60.02 for STP xx000TL-10, 2.61.06 for STP xx000TLEE-10, 2.82.03 for STP xx000TL-30, 2.15 for FLX Pro 1x or 1.50 for STP 60-10.
4. Article 10: The generated active power can be limited to prescribed values (set locally or by remote command). The accuracy of $\pm 5\%$ is fulfilled and certified by an accredited test laboratory according to the above mentioned German technical guideline.
5. Article 11: The inverters is equipped with a reliable and secure protection system.
6. Article 13: The reactive power of inverters can be adjusted in the range 0.8 capacitive to 0.8 inductive (set locally or by remote command to realize a defined value at point of common coupling).
7. Article 15: The inverters is equipped with "Loss of Mains" detection to protect against islanding.

The parameters have to be set in accordance with the above mentioned requirements. Whether Sunny Tripower inverters were delivered with this setting by default can be obtained via the entry "ANRE-30" in the document "Default Settings" which is enclosed with each inverter. If this is not the case, a qualified person can configure the parameters on-site. Please refer to the document "Romania_ANRE-30_ROS250_SG_en" on how to configure the parameters.

For the FLX Pro 1x inverters select the setting in the drop down menu, first Romania and then "medium voltage". This setting is in accordance with the above mentioned requirements.

For the STP 60-10 inverters please get a project specific file with the Romanian settings in accordance with the above mentioned requirements from the SMA Service. From the firmware version 1.60, this setting will be available in the drop down menu.

SUNNY TRIPOWER	FLX PRO
without transformer	without transformer
STP 8000TL-10	FLX Pro 15
STP 10000TL-10	FLX Pro 17
STP 12000TL-10	
STP 15000TL-10	
STP 17000TL-10	
STP 15000TLEE-10	
STP 20000TLEE-10	
STP 20000TL-30	
STP 25000TL-30	
STP 60-10	

Niestetal, 03.11.2015

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