

Wels, September 4<sup>th</sup> 2014

## COMPATIBILITY WITH ORDIN NR.30 OF ANRE-ROMANIA

### Fronius International GmbH

hereby certifies that the inverters

#### / Fronius Symo 10.0 – Fronius Symo 20.0

fulfil the inverter requirements given in Ordin 30 “Conditii tehnice de racordare la retelele electrice de interes public pentru centralele electrice fotovoltaice” (ref.nr. 312/30.V2013). The corresponding setting in the inverter is “Setup RO” which refers to parameters and functions according to the requirements given in the above mentioned guideline.

This includes the following parameters:

Name	Explanation	Range	Romanian Setting
U <sub>Inner Limit max</sub>	AC voltage maximum Inner Limit	150 V – 280 V	264,5 V
U <sub>IL-max Trip Time</sub>	AC voltage maximum Inner Limit trip time	0 – 50000 cycles	250 = 5s
U <sub>Inner Limit min</sub>	AC voltage minimum Inner Limit	150 V – 280 V	184 V
U <sub>IL-min Trip Time</sub>	AC voltage minimum Inner Limit trip time	0 – 50000 cycles	150 = 3s
U <sub>Outer Limit max</sub>	AC voltage maximum Outer Limit	150 V – 280 V	264,5 V
U <sub>OL-max Trip Time</sub>	AC voltage maximum Outer Limit trip time	0 – 50000 cycles	Not used
U <sub>Outer Limit min</sub>	AC voltage minimum Outer Limit	150 V – 280 V	150 V
U <sub>OL-min Trip Time</sub>	AC voltage minimum Outer Limit trip time	0 – 50000 cycles	100 = 2s
Freq <sub>Inner Limit max</sub>	Frequency maximum Inner Limit	45 Hz – 65 Hz	52,0 Hz
Freq <sub>IL-max Trip Time</sub>	Frequency maximum Inner Limit trip time	0 – 50000 cycles	4 = 80ms
Freq <sub>Inner Limit min</sub>	Frequency minimum Inner Limit	45 Hz – 65 Hz	47,5 Hz
Freq <sub>IL-min Trip Time</sub>	Frequency minimum Inner Limit trip time	0 – 50000 cycles	4 = 80ms
Freq <sub>Reconnect max</sub>	Frequency maximum Reconnection	45 Hz – 65 Hz	52,0 Hz
Freq <sub>Reconnect min</sub>	Frequency minimum Reconnection	45 Hz – 65 Hz	47,5 Hz
Initial Start Time	Startup time	1 sec – 900 sec	30s
Reconnect Time	Reconnection time	1 sec – 900 sec	30s
AGF> GFPR	Frequency dependent power reduction (starting at	ON – OFF	ON



SHIFTING THE LIMITS

	50,2 Hz)		
- GFDPR Value	Power reduction gradient	0,01 – 100%/Hz	40%/Hz
- GFDPR return Gradient	Power up gradient after frequency switch off	0,01 – 100% of Pnom/s	10% of Pnom/s
Low V Ride Through	Low Voltage Ride Through	ON – OFF	ON

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