Fronius
SHIFTING THE LIMITS

Wels, March 10th 2017

REQUIREMENTS OF INTERCONNECTION IN SRI LANKA

The document “Manual for Interconnection of Micro Scale Renewable Energy Base Power Generating Facilities at Low Voltage Consumer feeders of National Grid (August 2016)” requests specific behavior of the inverter.

Fronius International GmbH

hereby confirms that the inverters

- **Fronius Primo 3.0-1 – 8.2-1**
- **Fronius Galvo 1.5-1 – 3.1-1**
- **Fronius Symo 3.0-3-M – 20.3-3-M**
- **Fronius Symo Hybrid 3.0-3-S – 5.0-3-S**
- **Fronius Eco 25.0 – 27.0**

meet the requirements for Total Harmonic Distortion (THD) and Current Harmonic Limits listed in Table 1, chapter 7.7 of the Interconnection document. Anti Islanding requirements defined in chapter 7.2.4 of the Interconnection document are fulfilled by GB Setup as well.

Fronius International GmbH confirms that by using the GB setup, the following functions defined in the “Schedule of Technical Particulars for Grid Connected Inverter (21.05.2017)” of “Lanka Electricity Company (Private) Limited” are possible and adjustable:

Function	**Requirement according to Lanka Electricity Company (Private) Limited**	**GB Setup**
Clearing time to abnormal voltages (% of base voltage):		
U_{AC} outer min. limit	115 V	184 V (adjustable)
U_{AC} outer min. tripping time	0,2 s	0,5 s (adjustable)
U_{AC} inner min. limit	202,4 V	200,1 V (adjustable)
U_{AC} inner min. tripping time	2,0 s	2,5 s (adjustable)
U_{AC} inner max. limit	253 V	262,2 V (adjustable)
U_{AC} inner max. tripping time	1,0 s	1,0 s (adjustable)
U_{AC} outer max. limit	276 V	273,7 V (adjustable)
U_{AC} outer max. tripping time	0,2 s	0,5 s (adjustable)
Clearing time to abnormal frequencies ≤ 30 kW:		
>52 Hz	0,2 s	0,5 s (adjustable)
<47 Hz	0,2 s	0,5 s (adjustable)
Clearing time to abnormal frequencies > 30 kW:		
>52 Hz	0,2 s	0,5 s (adjustable)
<47 Hz	0,2 s	0,5 s (adjustable)
Reconnection time	180 s	20 s (adjustable)
Limitation of DC-injection current with regards to full rated output current at the point of DR connection	0,5 %	0,5 %
Output voltage waveform	50 Hz, sinusoidal	50 Hz, sinusoidal

Furthermore Fronius International GmbH confirms that the inverters

- **Fronius Primo 3.0-1 – 8.2-1**
- **Fronius Galvo 1.5-1 – 3.1-1**
- **Fronius Symo 3.0-3-M – 20.3-3-M**
- **Fronius Symo Hybrid 3.0-3-S – 5.0-3-S**

meet the requirements of IEC 61000-3-2, IEC 61000-3-3, IEC 61000-6-2 and IEC 61000-6-3, and the inverters

- **Fronius Eco 25.0 – 27.0**
- **Fronius Symo 10.0-3-M – 20.3-3-M**

meet the requirements of IEC 61000-3-11, IEC 61000-3-12, IEC 61000-6-2 and IEC 61000-6-3.

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