



BUREAU OF STANDARDS JAMAICA

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TEST REPORT No. TESR/21/2014/4388

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Customer Name	New Leaf Power & Conservation Solutions Limited	Reference:	Service Contract
Address:	2A Caledonia Crescent Kingston 5	Date Received:	2014-11-12
Manufacturer:	See Table 1	Date Assessed:	2014-11-13 to 2014-11-15
Product:	Photovoltaic Grid-tie Inverter	Serial No. / ID No.:	N/A
Test Method:	--	Specification(s):	See Table 2
Ambient Conditions:	N/A	Test Uncertainty:	N/A
Standard(s) Used:	--	Traceability:	N/A

New Leaf Power & Conservation Solutions Limited submitted documents related to the photovoltaic grid-tie inverter described in Table 1, to the Electrical/Electronics Department of the Bureau of Standards Jamaica (BSJ) for product approval. The following documents were submitted: Product Specifications, SGS Certificates numbers 2613/0865/2Cer and 2613/0702/IEC2116-6, EC Declaration of Conformity (dated 2014-01-27) and Fronius Test Report number TR 21214.

Summary of Assessment

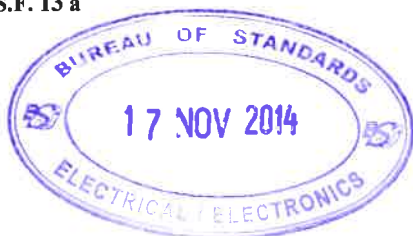
Based on the assessment and verification of the information submitted, the BSJ grants approval for the installation of the Fronius inverters described in Table 1.

Further details are given in the body of the report.

Circulation: Client	Remarks:	Prepared by:	Approved by:
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		Name: <i>for</i> Duaine Douglas	Name: Garfield Morgan
		Post: Technician	Post: Team Leader
File		Date: 2014-11-17	Date: 2014-11-17

B.S.F. 13 a

Page 1 of 3 Pages



TEST REPORT No. **TESR/21/2014/4388****Table 1: Product Description**

Solar Inverter					
BRAND NAME:	Fronius				
MANUFACTURER:	Fronius International GmbH				
COUNTRY OF ORIGIN:	Austria				
MODEL NUMBER:	SYMO 3.0-3-S/M	SYMO 3.7-3-S/M	SYMO 4.5-3-S/M	SYMO 6.0-3-M	SYMO 7.0-3-M
INPUT VOLTAGE	595V _{dc} (nominal)				
INPUT CURRENT	16 A _{dc max}				
OUTPUT VOLTAGE	230V				
OUTPUT CURRENT	4.8 A _{max}	5.9 A _{max}	7.2 A _{max}	9.6 A _{max}	11.2 A _{max}
OUTPUT POWER	3000W	3700W	4500W	6000W	7000W
FREQUENCY	50Hz				
MODEL NUMBER:	SYMO 10.0-3-M	SYMO 12.5-3-M	SYMO 15.0-3-M	SYMO 17.5-3-M	SYMO 20.0-3-M
INPUT VOLTAGE	600V _{dc} (nominal)				
INPUT CURRENT	27.0A _{dc max}		33.0A _{dc}		
OUTPUT VOLTAGE	230V				
OUTPUT CURRENT	16 A _{max}	19.9 A _{max}	23.9 A _{max}	27.9 A _{max}	31.9 A _{max}
OUTPUT POWER	10,000 W	12,500 W	15,000 W	17,500 W	20,000 W
FREQUENCY	50Hz				

Findings

The documents submitted indicate that the Fronius inverters described in Table 1 were tested and found to be in compliance with the requirements of the standards listed in Table 2. Below are some of the areas under which the inverters were assessed:

- electrical safety;
- electromagnetic compatibility (EMC);
- compatibility with electrical installations;
- power factor;
- harmonic;
- voltage fluctuation and flicker;
- impulse protection;
- transient voltage limits;
- voltage and frequency limits; and
- anti-islanding protection

**Table 2: Applicable Standards**

STANDARD	STANDARD DESCRIPTIONS
IEC 62109-1:2010	International Electro technical Commission (IEC) standard for: Safety of power converters for use in photovoltaic power systems- Part 1: General requirements.
IEC 62109-2:2011	International Electro technical Commission (IEC) standard for: Safety of power converters for use in photovoltaic power systems- Part 2: Particular requirements for inverters.
EN 61000-6-2:2005, EN 61000-6-3:2007, EN 62233:2008, EN 61000-3-2:2006, EN 61000-3-3	Electromagnetic compatibility (EMC) Standards.
EN 50438:2007	Requirement for the connection of micro-generators in parallel with public low-voltage distribution networks.

TEST REPORT No. TESR/21/2014/4388

Conclusion

Based on internet research and evaluation of the information submitted, the BSJ grants approval for the use of the following models of Fronius inverter: **SYMO 3.0-3-S/M, SYMO 3.7-3-S/M, SYMO 4.5-3-S/M, SYMO 6.0-3-M, SYMO 7.0-3-M, SYMO 10.0-3-M, SYMO 12.5-3-M, SYMO 15.0-3-M, SYMO 17.5-3-M and SYMO 20.0-3-M**, under the following provisions:

- a) The BSJ reserves the right to withdraw the approval of the product if the quality and/or safety features of future market samples are found to have significantly diminished so as to cause a violation to any relevant safety standard.
- b) The BSJ reserves the right to request a retest or reassessment of the product at any time deemed necessary by the BSJ.

END OF REPORT

