



# Letter of Attestation

**Document:** 80203040

**Master Contract:** 203213

**Project:** 80203040

**Date Issued:** May 22, 2024

**Issued to: Fronius International GmbH**  
**Guenter Fronius Strasse 1**  
**Wels-Thalheim Upper Austria 4600**  
**Austria**  
**Attention: Josef Feichtinger**

*CSA Group hereby confirms that it has completed an evaluation of:  
Photovoltaic Rapid Shutdown Equipment integral to the following Interactive PV Inverters Models:*

- 1. PVRSE IPN6K V1.1 as an integral part of the models Primo GEN24 3.8 208-240, Primo GEN24 3.8 208-240 Plus, Primo GEN24 5.0 208-240, Primo GEN24 5.0 208-240 Plus, Primo GEN24 6.0 208-240, Primo GEN24 6.0 208-240 Plus*
- 2. PVRSE IPN10K V0.6 as an integral part of the models: Primo GEN24 7.7 208-240, Primo GEN24 7.7 208-240 Plus, Primo GEN24 10.0 208-240, Primo GEN24 10.0 208-240 Plus*

*CSA Group hereby attests that the products identified above and described in test reports:  
80203040*

*complies with the following standards/tests, to the extent applicable:*

*Communication Signal for Rapid Shutdown SunSpec Interoperability Specification (Rev. April 20, 2021, Ver. 40) with reference to Communication Signal for Rapid Shutdown Test Specification (REV. April 20, 2021\_Ver 19):*

- 2.2.1. Modulation accuracy test*
- 2.2.2. Transmitter output level test and transmitter output impedance test*
- 2.2.3. Transmitter in band spurious emission test*
- 2.2.4. Transmitter out of band spurious emission test*

*EduardoSaldana*  
**Issued by:** Eduardo Saldana

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**CSA Group**



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***THIS LETTER OF ATTESTATION DOES NOT AUTHORIZE THE USE OF THE CSA MARK ON THE SUBJECT PRODUCTS.***

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# Descriptive Report

**MASTER CONTRACT:** 203213

**REPORT:** 80203040

**PROJECT:** 80203040

**Edition 1:** May 22, 2024; Project 80203040 - Kunshan  
Prepared By: Eduardo Saldana  
Authorized By: Peter Lim

Contents: Letter of Attestation – 2 Pages  
Description and Tests – 6 Pages  
Attachment 1 – CSA Test Pack – (8 Pages)  
Attachment 2 – Sunspec PICS Report  
Annex A – Rating (3 Pages)

## PRODUCTS

Photovoltaic Rapid Shutdown System Equipment (PVRSE) as an integral part of the following Interactive PV Inverters:

PVRSE Communication Device Model: 1PN6K Version 1.1 with associated Transformerless Special Purpose Grid Support Interactive Inverter:

- Primo GEN24 3.8 208-240
- Primo GEN24 3.8 208-240 Plus
- Primo GEN24 5.0 208-240
- Primo GEN24 5.0 208-240 Plus
- Primo GEN24 6.0 208-240
- Primo GEN24 6.0 208-240 Plus

PVRSE Communication Device Model: 1PN10K Version 0.6 with associated Transformerless Special Purpose Grid Support Interactive Inverter:

- Primo GEN24 7.7 208-240
- Primo GEN24 7.7 208-240 Plus
- Primo GEN24 10.0 208-240
- Primo GEN24 10.0 208-240 Plus

For detailed information regarding ratings and notes, please refer to Attachment Annex A Ratings.

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Telephone: (86) 21 8186 8885 Fax: (86) 21 3368 8122 [www.csagroup.org](http://www.csagroup.org)

Software Version	Control Devises	Primo GEN24 3.8 208-240 Primo GEN24 3.8 208-240 Plus	Primo GEN24 5.0 208-240 Primo GEN24 5.0 208-240 Plus	Primo GEN24 6.0 208-240 Primo GEN24 6.0 208-240 Plus	Primo GEN24 7.7 208-240 Primo GEN24 7.7 208-240 Plus	Primo GEN24 10.0 208-240 Primo GEN24 10.0 208-240 Plus
ZEUS	ST Microelectronics / STM32F765NGH7 (U20)	V2.10.2 (release date 24/01/2020) V2.28.5 (release date 23/02/2024)			V2.28.5 (release date 23/02/2024)	
KRONOS	ST Microelectronics / STM32F765NGH7 (U1)	V2.16.2 (release date 24/01/2020) V2.36.6 (release date 23/02/2024)			V2.36.6 (release date 23/02/2024)	
Check-Sum ZEUS	ST Microelectronics / STM32F765NGH7 (U20)	0x57a62a64 (release date 24/01/2020) 0xe5b98a5d (release date 23/02/2024)			0xe5b98a5d (release date 23/02/2024)	
Check-Sum KRONOS	ST Microelectronics / STM32F765NGH7 (U1)	0xbab5e48f (release date 24/01/2020) 0x95013193 (release date 23/02/2024)			0x95013193 (release date 23/02/2024)	

**APPLICABLE REQUIREMENTS**

Test of Photovoltaic Rapid Shutdown System Equipment to meet Communication Signal for Rapid Shutdown SunSpec Interoperability Specification of the following requirements:

Communication Signal for Rapid Shutdown SunSpec Interoperability Specification (Rev. April 20, 2021, VER. 40) with reference to Communication Signal for Rapid Shutdown Test Specification (Rev. April 20, 2021, VER. 19).

Limited to the following clauses:

- 2.2.1. Modulation accuracy test
- 2.2.2. Transmitter output level test and transmitter output impedance test
- 2.2.3. Transmitter in band spurious emission test
- 2.2.4. Transmitter out of band spurious emission test

Notes:

1. The models listed in this report are described on CSA reports 80034168 and 80203034 to following standards: CSA C22.2 No.107.1-16 (Reaffirmed 2021), CSA C22.2 No.330-23, UL 1741, UL 1741 CRD, UL 1699B.
2. The PVRSE communication devices Model: 1PN6K Version 1.1 for the 3.8KW to 6 KW models were evaluated on reports 80041092 and this current report 80203040 covers 7.7KW and 10KW models.
3. The PVRSE module is an integral part of the inverter.

**MARKINGS**

This letter of attestation does not authorize the use of the CSA mark on the subject products. Quotations from the test report or the use of the name CSA group or its registered trademark, in any way, is not permitted without prior written consent of CSA Group Testing & Certification Inc.

**ALTERATIONS**

None

**FACTORY TESTS**

Not Applicable

**DESCRIPTION**

Primo GEN24 3.8 208-240, Primo GEN24 3.8 208-240 Plus, Primo, GEN24 5.0 208-240, Primo GEN24 5.0 208-240 Plus, Primo GEN24 6.0 208-240, Primo GEN24 6.0 208-240 Plus, Primo GEN24 7.7 208-240, Primo GEN24 7.7 208-240 Plus; Primo GEN24 10.0 208-240 and Primo GEN24 10.0 208-240 Plus. Models ranging from 3.8KW to 6KW share the same construction, and those from 7.7KW to 10KW are constructed identically. Different ac voltages (208, 220 & 240) and power levels are controlled by firmware.

PVRSE 1PN6K, V1.1 is embedded in models ranging from 3.8KW to 6KW

PVRSE 1PN10K, V0.6 is embedded in models ranging from 7KW to 10KW

**TEST HISTORY**

Edition: 1 (Project 80203040)

Include previously evaluated models under Attestation Report 80041092.

Attestation of a PVRSE P.N. 1PN10K, V0.6 integral to the following Interactive PV Inverter Series:

Primo GEN24 7.7 208-240  
Primo GEN24 7.7 208-240 Plus  
Primo GEN24 10.0 208-240  
Primo GEN24 10.0 208-240 Plus.

The subject matter was evaluated on the representative model Primo GEN24 10.0 208-240 with satisfactory results, according to following specifications:

SUNSPEC Alliance – Communication Signal for Rapid Shutdown Test Specification - Version 19 (April 20, 2021)

Clause	Test
2.2.1.	Modulation accuracy test
2.2.2.	Transmitter output level test and transmitter output impedance
2.2.3.	Transmitter in band spurious emission test
2.2.4.	Transmitter out of band spurious emission test

The tests were witnessed and conducted under the CSA SMTC program at the client’s facility:

Fronius International GmbH  
Guenter Fronius Strasse 1  
Wels-Thalheim Upper Austria 4600  
Austria

A copy of the original Sunspec Test Report is stored in the Project Folder in CSA Group.

---End of Report---