



Technical Information Service Report

TIS Report : 80122710
Date: June 9, 2022

CLIENT: SolaX Power Network Technology (Zhe jiang) Co., Ltd.
No. 288 Shizhu Road, Tonglu Economic Development Zone
Tonglu City, Zhejiang, 310000
China

Attention: Jason Shen

Issued by: Xueji Dong

SUBJECT: SunSpec IEEE2030.5/CSIP Conformance Test for Resolution E-5000 & E-5036

APPLICABLE REQUIREMENTS:

1. Common Smart Inverter Profile V2.1
2. SunSpec Common Smart Inverter Profile(CSIP) Conformance Test Procedures V1.2
3. Resolution E-5000 & E-5036

ASSESSMENT:

Please supply a copy of this information when filing an application for CSA Certification related to the SUBJECT, as it may aid the investigation.

1. Test Summary

As the gateway used by customer is certified by SunSpec, the compatibility testing is as part of IEEE2030.5 conformance testing of the gateway. According to the Resolution E-5000 & E-5036, the following SunSpec CSIP test procedures on the gateway while it is connected to the inverter. The test was conducted using the QualityLogic IEEE 2030.5 Test Harness which implements the test cases that are described in the CSIP Test Procedures document.

Device(s) Under Test Identification

Gateway Information:

Product Type	CA Rule 21/CSIP DER Client
Product Name	Fuda Data Collector

THIS REPORT DOES NOT AUTHORIZE THE USE OF THE CSA MARK ON THE SUBJECT PRODUCTS.

The completion of this form does not imply certification or approval of the "SUBJECT" product nor any features or components thereof.

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Product Model	VCB-5103
Product Object ID	1.3.6.1.4.1.2254.12.1.1
Software Operation Environment Type	Physical device
Software Name	DX2030Client
Software Version	1.0.2
Software Checksum	5596db8bb07e70c54b4b618df05d19b8
Operating System	FreeRTOS
Operating System Version	8.2.0

Inverter information:

Power Conversion System (PCS)	
Model	A1-HYB-7.6K-G2
PV input terminal:	
V _{max} PV (Vdc)	550
I _{sc} PV (A _{dc})	20 / 20 / 20
No. of MPPT / Strings per MPPT	3 / 1
Max. input voltage (Vdc)	550
Nominal input voltage (Vdc)	360
Range of PV operating voltage (Vdc)	90 - 500
MPPT range (Vdc)	90 - 500
Range of PV voltage@ full output (Vdc)	235 - 500
Input start voltage (Vdc)	120
Max. PV input current (A _{dc})	16 / 16 / 16
Max input power per MPPT (W)	5000 / 5000 / 5000
Max. PV input power, total (W)	11400
Max. Backupfeed current (A _{dc})	27 A _{rms} / 1 cycle, 400 A _{peak} / 0.02 ms
Grid terminal (bidirectional):	
Nominal AC voltage (Vac)	120/240 V, (L1, L2, N)
Operating AC output voltage range (Vac)	211.2 V – 264 V @ 240 V
Nominal AC frequency (Hz)	60
Operating AC frequency range, reconnect (Hz)	59.3 - 60.5
Output power factor rating	Default >0.99 (Adjustable +/-0.8)
Nominal AC output current (A _{ac})	31.7
Max. Continuous AC output current (A _{ac})	31.7
Nominal AC output power @ 240 V, (W)	7608
Max. Continuous AC output power @ 240 V, (VA)	7608
Max. Continuous AC input current (A _{ac})	31.7
Nominal AC input power (W)	7608
Max. Continuous AC input power (VA)	7608
Max. overcurrent protection (amps), Branch Circuit breaker, (A)	40 A, 2P
Max. AC output fault current and duration, output/inject to Grid	48 A _{rms} / 1 cycle, 515 A _{peak} / 0.38 ms
Battery terminal (bidirectional):	
Battery Type	Li-ion
Nominal voltage (Vdc)	150
Range of DC operating voltage (Vdc)	75 - 450
Max. charging/output current (A _{dc})	54

Max. charging/output power (W)	7608
Max. discharging/input current (Adc)	54
Max. discharging/input power (W)	8094
Max. overcurrent protection device, (A)	80 A, 2P
Max. DC output fault current and duration	75.5 A _{rms} / 1 cycle, 1195 A _{peak} / 0.026 ms
Others	
Normal operation temperature range (°C)	-25 °C to +60 °C, no derating below 45 °C.
Enclosure Type	Type 4X
Altitude	< 3000 m
Over Voltage Category	OVC IV

Test Tool information:

Tool Company	QualityLogic
Tool Name	IEEE 2030.5/1547.1 Functional Test Suite
Tool Version	V3.93

2. Test Configuration

Test Scope

The following tests were performed on inverter. For detailed test cases, refer to section 3.

- Inverter Status (BASIC-028)
- Inverter Meter Reading (BASIC-029)
- Basic Inverter Control – Volt/Var (BASIC-006)
- Basic Inverter Control – Fixed Power Factor (BASIC-008)
- Basic Inverter Control – Volt-Watt (BASIC -011)

Test Environment

Temperature in the range 15°C to 35°C	Yes
Relative humidity in the range 20% to 75%	Yes

Test Procedures

The test has been run on December 17, 2021 with QualityLogic Inc. IEEE2030.5 Conformance Test Program. The SunSpec approved QualityLogic Test tools used was the Version 3.93 release of Functional Test Suit Client Tester.

3. Test Result

Summary Convention

The following "Result" convention is used in this summary.

Result Items	Description
PASS	All test cases that have been executed have passed.
FAIL	At least one test case has failed.
NO APPLICATION	The test case was not applicable to device under test

Summary of Test Results

Test Name	Test Description	Test Result
BASIC-006	Basic Inverter Control (Volt/Var) [C, A, S]	PASS
BASIC-008	Basic Inverter Control (Fixed Power Factor) [C, A, S]	PASS
BASIC-011	Basic Inverter Control (Volt-Watt) [C, A, S]	PASS
BASIC-028	Inverter Status [C, A, S]	PASS
BASIC-029	Inverter Meter Reading [C, A, S]	PASS

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