There are four options for Testing: (1) **Fully Type Tested**(≤ 50 kW), (2) **Type Tested** product, (3) one-off installation, (4) tested on site at time of commissioning. The check box below indicates which tests in this Form have been completed for each of the options. With the exception of **Fully Type Tested PGM**s tests may be carried out at the time of commissioning (Form A4). **Type Tested** status is suitable for devices > 50 kW where the power quality aspects need consideration on a site by site basis in accordance with EREC G5 and EREC P28.
Insert Document reference(s) for **Manufacturers' Information**

Tested option:	**1. Fully Type Tested**	**2. Type Tested product**	**3. One-off Manufacturers' Info.**	**4. Tested on Site at time of Commissioning**
0. **Fully Type Tested** - all tests detailed below completed and evidence attached to this submission	**Yes**	**N/A**	**N/A**	**N/A**
1. Operating Range				
2. PQ – Harmonics				
3. PQ – Voltage Fluctuation and Flicker				
4. PQ – DC Injection (**Power Park Module**s only)				
5. **Power Factor** (PF)				
6. Frequency protection trip and ride through tests				
7. Voltage protection trip and ride through tests				
8. Protection – Loss of Mains Test, Vector Shift and RoCoF Stability Test				
9. **LFSM-O** Test				
10. Protection – Reconnection Timer				
11. Fault Level Contribution				

There are four options for Testing: (1) **Fully Type Tested**(≤ 50 kW), (2) **Type Tested** product, (3) one-off installation, (4) tested on site at time of commissioning. The check box below indicates which tests in this Form have been completed for each of the options. With the exception of **Fully Type Tested PGM**s tests may be carried out at the time of commissioning (Form A4). **Type Tested** status is suitable for devices > 50 kW where the power quality aspects need consideration on a site by site basis in accordance with EREC G5 and EREC P28.
Insert Document reference(s) for **Manufacturers' Information**

Tested option:	**1. Fully Type Tested**	**2. Type Tested product**	**3. One-off Manufacturers' Info.**	**4. Tested on Site at time of Commissioning**
12. Self-monitoring Solid State Switch				
13. Wiring functional tests if required by para 15.2.1 (attach relevant schedule of tests)				
14. Logic Interface (input port)				
15. Cyber security				

Manufacturer's reference number: 2022_07_0017

Micro-generator technology: R5-4K-S2-15 Grid-connected PV Inverter, Non-isolated, Input: 80V-600Vdc, 15/15A, Output: 230Vac, 17.4A, 4000W.

Manufacturer compliance declaration. - I certify that all products supplied by the company with the above **Type Tested Manufacturer**'s reference number will be manufactured and tested to ensure that they perform as stated in this document, prior to shipment to site and that no site **Modification**s are required to ensure that the product meets all the requirements of EREC G99.

Signed	潘子权 2022-7-30	On behalf of	Guangzhou Sanjing Electric Co., Ltd.

Note that testing can be done by the **Manufacturer** of an individual component or by an external test house.

Where parts of the testing are carried out by persons or organisations other than the **Manufacturer** then that person or organisation shall keep copies of all test records and results supplied to them to verify that the testing has been carried out by people with sufficient technical competency to carry out the tests.

A2-3 Compliance Verification Report –Tests for Type A Inverter Connected Power Generating Modules – test record

1. Operating Range: Tests should be carried with the **Power Generating Module** operating at **Registered Capacity** and connected to a suitable test supply or grid simulation set. The power supplied by the primary source shall be kept stable within ± 5 % of the apparent power value set for the entire duration of each test sequence.

Frequency, voltage and **Active Power** measurements at the output terminals of the **Power Generating Module** shall be recorded every second. The tests will verify that the **Power Generating Module** can operate within the required ranges for the specified period of time.

The **Interface Protection** shall be disabled during the tests.

In case of a PV **Power Park Module** the PV primary source may be replaced by a DC source.

In case of a full converter **Power Park Module** (eg wind) the primary source and the prime mover I**nverter**/rectifier may be replaced by a DC source.

Pass or failure of the test should be indicated in the fields below (right hand side), for example with the statement “Pass”, “No disconnection occurs”, etc. Graphical evidence is preferred.

Note that the value of voltage stated in brackets assumes a **LV** connection. This should be adjusted for **HV** as required.

Test 1 Voltage = 85% of nominal (195.5 V), Frequency = 47 Hz, **Power Factor** = 1, Period of test 20 s	Test results: Passed
Test 2 Voltage = 85% of nominal (195.5 V), Frequency = 47.5 Hz, **Power Factor** = 1, Period of test 90 minutes	Test results: Passed
Test 3 Voltage = 110% of nominal (253 V)., Frequency = 51.5 Hz, **Power Factor** = 1, Period of test 90 minutes	Test results: Passed
Test 4 Voltage = 110% of nominal (253 V), Frequency = 52.0 Hz, **Power Factor** = 1, Period of test 15 minutes	Test results: Passed
Test 5 Voltage = 100% of nominal (230 V),	Test results: Passed

Frequency = 50.0 Hz, **Power Factor** = 1, Period of test = 90 minutes	
Test 6 RoCoF withstand Confirm that the **Power Generating Module** is capable of staying connected to the **Distribution Network** and operate at rates of change of frequency up to 1 Hzs^{-1} as measured over a period of 500 ms. Note that this is not expected to be demonstrated on site.	Test results: Passed

2. Power Quality – Harmonics:

For **Power Generating Module**s of **Registered Capacity** of less than 75 A per phase (ie 50 kW) the test requirements are specified in Annex A.7.1.5. These tests should be carried out as specified in BS EN 61000-3-12, and measurements for the 2^{nd} – 13^{th} harmonics should be provided. The results need to comply with the limits of Table 2 of BS EN 61000-3-12 for single phase equipment and Table 3 of BS EN 610000-3-12 for three phase equipment. For three phase **Power Generating Module**s, measurements for all phases should be provided.

For **Power Generating Module**s of **Registered Capacity** of greater than 75 A per phase (ie 50 kW) the installation shall be designed in accordance with EREC G5.

The rating of the **Power Generating Module** (per phase) should be provided below, and the Total Harmonic Distortion (THD) and Partial Weighted Harmonic Distortion (PWHD) should be provided at the bottom of this section.

Power Generating Module tested to BS EN 61000-3-12

Power Generating Module rating per phase (rpp)			**4**			**kVA**	**Harmonic % = Measured Value (A) x 23/rating per phase (kVA)**	
Single or three phase measurements (for single phase measurements, only complete L1 columns below).								
Harmonic	At 45-55% of **Registered Capacity**						Limit in BS EN 61000-3-12	
	Measured Value (MV) in Amps			Measured Value (MV) in %				
	L1	L2	L3	L1	L2	L3	1 phase	3 phase
2	0.068	--	--	0.389	--	--	8%	8%
3	0.076	--	--	0.439	--	--	21.6%	Not stated
4	0.051	--	--	0.295	--	--	4%	4%
5	0.043	--	--	0.247	--	--	10.7%	10.7%

6	0.006	--	--	0.032	--	--	2.67%	2.67%
7	0.134	--	--	0.768	--	--	7.2%	7.2%
8	0.045	--	--	0.258	--	--	2%	2%
9	0.102	--	--	0.585	--	--	3.8%	Not stated
10	0.018	--	--	0.102	--	--	1.6%	1.6%
11	0.108	--	--	0.619	--	--	3.1%	3.1%
12	0.010	--	--	0.059	--	--	1.33%	1.33%
13	0.081	--	--	0.466	--	--	2%	2%
THD	1.838	--	--	--	--	--	23%	13%
PWHD	4.716	--	--	--	--	--	23%	22%
Harmonic	At 100% of **Registered Capacity**						Limit in BS EN 61000-3-12	
	Measured value (MV) in Amps			Measured value (MV) in %				
	L1	L2	L3	L1	L2	L3	1 phase	3 phase
2	0.225	--	--	1.293	--	--	8%	8%
3	0.117	--	--	0.672	--	--	21.6%	Not stated
4	0.038	--	--	0.217	--	--	4%	4%
5	0.108	--	--	0.621	--	--	10.7%	10.7%
6	0.022	--	--	0.126	--	--	2.67%	2.67%
7	0.185	--	--	1.065	--	--	7.2%	7.2%
8	0.043	--	--	0.246	--	--	2%	2%
9	0.127	--	--	0.728	--	--	3.8%	Not stated
10	0.018	--	--	0.106	--	--	1.6%	1.6%
11	0.190	--	--	1.095	--	--	3.1%	3.1%
12	0.012	--	--	0.069	--	--	1.33%	.33%
13	0.125	--	--	0.720	--	--	2%	2%
THD	1.557	--	--	--	--	--	23%	13%
PWHD	3.729	--	--	--	--	--	23%	22%

3. Power Quality – Voltage fluctuations and Flicker:

For **Power Generating Module**s of **Registered Capacity** of less than 75 A per phase (ie 50 kW) these tests should be undertaken in accordance with Annex A.7.1.4.3. Results should be normalised to a standard source impedance, or if this results in figures above the limits set in BS EN 61000-3-11 to a suitable Maximum Impedance.

For **Power Generating Module**s of **Registered Capacity** of greater than 75 A per phase (ie 50 kW) the installation shall be designed in accordance with EREC P28.

The standard test impedance is 0.4 Ω for a single phase **Power Generating Module** (and for a two phase unit in a three phase system) and 0.24 Ω for a three phase **Power Generating Module** (and for a two phase unit in a split phase system). Please ensure that both test and standard impedance are completed on this form. If the test impedance (or the measured impedance) is different to the standard impedance, it must be normalised to the standard impedance as follows (where the **Power Factor** of the generation output is 0.98 or above):

d max normalised value = (Standard impedance / Measured impedance) x Measured value.

Where the **Power Factor** of the output is under 0.98 then the X to R ratio of the test impedance should be close to that of the standard impedance.

The stopping test should be a trip from full load operation.

The duration of these tests needs to comply with the particular requirements set out in the testing notes for the technology under test.

The test date and location must be declared.

Test start date		2022-5-8			Test end date			2022-5-8	
Test location		Guangzhou Sanjing Electric Co., Ltd.							
		Starting			Stopping			Running	
		d max	d c	d(t)	d max	d c	d(t)	P st	P lt 2 hours
Measured Values at test impedance	L1	0.431	0.283	0.000	0.430	0.293	0.000	0.215	0.199
	L2	--	--	--	--	--	--	--	--
	L3	--	--	--	--	--	--	--	--

Normalised to standard impedance	L1	0.431	0.283	0.000	0.430	0.293	0.000	0.215	0.199
	L2	--	--	--	--	--	--	--	--
	L3	--	--	--	--	--	--	--	--
Normalised to required maximum impedance	L1	--	--	--	--	--	--	--	--
	L2	--	--	--	--	--	--	--	--
	L3	--	--	--	--	--	--	--	--
Limits set under BS EN 61000-3-11		4%	3.3%	3.3%	4%	3.3%	3.3%	1.0	0.65

Test Impedance	R	0.4	Ω	Xl	0.25	Ω
Standard Impedance	R	0.24 * 0.4 ^	Ω	Xl	0.15 * 0.25 ^	Ω
Maximum Impedance	R	--	Ω	Xl	--	Ω

* Applies to three phase and split single phase **Power Generating Module**s. Delete as appropriate.

^ Applies to single phase **Power Generating Module** and **Power Generating Module**s using two phases on a three phase system. Delete as appropriate.

4. Power quality – DC injection: The tests should be carried out on a single **Generating Unit**. Tests are to be carried out at three defined power levels ±5%. At 230 V a 50 kW three phase **Inverter** has a current output of 217 A so DC limit is 543 mA. These tests should be undertaken in accordance with Annex A.7.1.4.4.

The % DC injection ("as % of rated AC current" below) is calculated as follows:

% DC injection = Recorded DC value in Amps / Base current

where the base current is the **Registered Capacity** (W) / Vphase. The % DC injection should not be greater than 0.25%.

Test power level	10%	55%	100%
Recorded DC value in Amps	0.038	0.041	0.04
as % of rated AC current	0.22	0.24	0.23
Limit	0.25%	0.25%	0.25%

5. Power Factor: The tests should be carried out on a single **Power Generating Module**. Tests are to be carried out at three voltage levels and at **Registered Capacity** and the measured **Power Factor** must be greater than 0.95 to pass. Voltage to be maintained within ±1.5% of the stated level during the test. These tests should be undertaken in accordance with Annex A.7.1.4.2.

Note that the value of voltage stated in brackets assumes a **LV** connection. This should be adjusted for **HV** as required.

Voltage	0.94 pu (216.2 V)	1 pu (230 V)	1.1 pu (253 V)
Measured value	0.988	0.998	0.998
Power Factor Limit	>0.95	>0.95	>0.95

6. Protection – Frequency tests: These tests should be carried out in accordance with the Annex A.7.1.2.3. For trip tests, frequency and time delay should be stated. For "no trip tests", "no trip" can be stated.

Function	Setting		Trip test		"No trip tests"	
	Frequency	Time delay	Frequency	Time delay	Frequency /time	Confirm no trip
U/F stage 1	47.5 Hz	20 s	47.51 Hz	20.12 s	47.7 Hz 30 s	No trip
U/F stage 2	47 Hz	0.5 s	47.00 Hz	0.514 s	47.2 Hz 19.5 s	No trip
					46.8 Hz 0.45 s	No trip
O/F	52 Hz	0.5 s	52.01 Hz	0.51 s	51.8 Hz 120.0 s	No trip
					52.2 Hz 0.45 s	No trip

Note. For frequency trip tests the frequency required to trip is the setting ± 0.1 Hz. In order to measure the time delay a larger deviation than the minimum required to operate the projection can be used. The "No trip tests" need to be carried out at the setting ± 0.2 Hz and for the relevant times as shown in the table above to ensure that the protection will not trip in error.

7. Protection – Voltage tests: These tests should be carried out in accordance with Annex A.7.1.2.2. For trip tests, voltage and time delay should be stated. For "no trip tests", "no trip" can be stated.

Note that the value of voltage stated below assumes a **LV** connection This should be adjusted for **HV** taking account of the VT ratio as required.

Function	Setting		Trip test		"No trip tests"	
	Voltage	Time delay	Voltage	Time delay	Voltage /time	Confirm no trip
U/V	0.8 pu (184 V)	2.5 s	184.3 V	2.53 s	188 V 5.0 s	No trip

					180 V 2.45 s	No trip
O/V stage 1	1.14 pu (262.2 V)	1.0 s	262.4 V	1.03 s	258.2 V 5.0 s	No trip
O/V stage 2	1.19 pu (273.7 V)	0.5 s	272.6 V	0.53 s	269.7 V 0.95 s	No trip
					277.7 V 0.45 s	No trip

Note for Voltage tests the Voltage required to trip is the setting ±3.45 V. The time delay can be measured at a larger deviation than the minimum required to operate the protection. The No trip tests need to be carried out at the setting ±4 V and for the relevant times as shown in the table above to ensure that the protection will not trip in error.

8.Protection – Loss of Mains test: These tests should be carried out in accordance with BS EN 62116. Annex A.7.1.2.4.

The following sub set of tests should be recorded in the following table.

Test Power and imbalance	33% -5% Q Test 22	66% -5% Q Test 12	100% -5% P Test 5	33% +5% Q Test 31	66% +5% Q Test 21	100% +5% P Test 10
Trip time. Limit is 0.5s	156 s	208 s	224 s	218 s	234 s	240 s

Loss of Mains Protection, Vector Shift Stability test: This test should be carried out in accordance with Annex A.7.1.2.6. Confirmation is required that the **Power Generating Module** does not trip under positive / negative vector shift.

	Start Frequency	Change	Confirm no trip
Positive Vector Shift	49.5 Hz	+50 degrees	No trip
Negative Vector Shift	50.5 Hz	- 50 degrees	No trip

Loss of Mains Protection, RoCoF Stability test: This test should be carried out in accordance with Annex A.7.1.2.6. Confirmation is required that the **Power Generating Module** does not trip for the duration of the ramp up and ramp down test.

Ramp range	Test frequency ramp:	Test Duration	Confirm no trip
49.0 Hz to 51.0 Hz	+0.95 Hzs^{-1}	2.1 s	No trip
51.0 Hz to 49.0 Hz	-0.95 Hzs^{-1}	2.1 s	No trip

9. Limited Frequency Sensitive Mode – Overfrequency test: The test should be carried out using the specific threshold frequency of 50.4 Hz and **Droop** of 10%. This test should be carried out in accordance with Annex A.7.1.3, which also contains the measurement tolerances.	
Active Power response to rising frequency/time plots are attached if frequency injection tests are undertaken in accordance with Annex A.7.2.4. **Pref=Registered Capacity**	Y
Alternatively, test results should be noted below:	

Test sequence at **Registered Capacity** >80%	Measured Active Power (W)	Frequency Output (Hz)	Primary Power Source (W)	Active Power Gradient(**Droop**)
Step a) 50.00Hz±0.01Hz	3999.2	50.00	4120.0	--
Step b) 50.45Hz±0.05Hz	3959.2	50.45	4078.8	20%Pref/Hz
Step c) 50.70Hz±0.10Hz	3758.9	50.70	3872.8	20%Pref/Hz
Step d) 51.15Hz±0.05Hz	3399.0	51.15	3502.0	20%Pref/Hz
Step e) 50.70Hz±0.10Hz	3758.9	50.70	3872.8	20%Pref/Hz
Step f) 50.45Hz±0.05Hz	3958.8	50.45	4078.8	20%Pref/Hz
Step g) 50.00Hz±0.01Hz	3999.6	50.00	4120.0	--
Test sequence at **Registered Capacity** 40% -60%	Measured Active Power (W)	Frequency Output (Hz)	Primary Power Source (W)	Active Power Gradient(**Droop**)
Step a) 50.00Hz±0.01Hz	1998.4	50.00	2060.0	--
Step b) 50.45Hz±0.05Hz	1959.4	50.45	2039.4	20%Pref/Hz
Step c) 50.70Hz±0.10Hz	1759.3	50.70	1936.4	20%Pref/Hz
Step d) 51.15Hz±0.05Hz	1398.9	51.15	1751.0	20%Pref/Hz
Step e) 50.70Hz±0.10Hz	1759.6	50.70	1936.4	20%Pref/Hz
Step f) 50.45Hz±0.05Hz	1959.2	50.45	2032.4	20%Pref/Hz
Step g) 50.00Hz±0.01Hz	1998.0	50.00	2061.0	--

10. Protection – Re-connection timer

Test should prove that the reconnection sequence starts after a minimum delay of 20 s for restoration of voltage and frequency to within the stage 1 settings of Table 10.1. Both the time delay setting and the measured delay should be provided in this form; both should be greater than 20 s to pass. Confirmation should be provided that the **Power Generating Module** does not reconnect at the voltage and frequency settings below; a statement of "no reconnection" can be made.

Time delay setting	Measured delay	Checks on no reconnection when voltage or frequency is brought to just outside stage 1 limits of Table 10.1.			
60 s	63 s	At 1.16 pu (266.2 V **LV** connection, ~~127.6 V **HV** connection assuming 110 V ph -ph VT~~)	At 0.78 pu (180.0 V **LV** connection, ~~85.8 V **HV** connection assuming 110 V ph-ph VT~~)	At 47.4 Hz	At 52.1 Hz
Confirmation that the **Power Generating Module** does not re-connect.		No reconnection	No reconnection	No reconnection	No reconnection

11. Fault level contribution: These tests shall be carried out in accordance with EREC G99 Annex A.7.1.5. Please complete each entry, even if the contribution to the fault level is zero.

For **Inverter** output

Time after fault	Volts	Amps
20ms	39.9 V	2.37 A
100ms	14.7 V	0.68 A
250ms	0.8 V	0.18 A
500ms	0.5 V	0.12 A
Time to trip	0.05	In seconds

12. Self-Monitoring solid state switching: No specified test requirements. Refer to Annex A.7.1.6.

It has been verified that in the event of the solid state switching device failing to disconnect the **Power Park Module**, the voltage on the output side of the switching device is reduced to a value below 50 volts within 0.5 s.	NA

13. Wiring functional tests: If required by para 15.2.1.

Confirm that the relevant test schedule is attached (tests to be undertaken at time of commissioning)	NA
14. Logic interface (input port)	
Confirm that an input port is provided and can be used to shut down the module	Yes
Provide high level description of logic interface, e.g. details in 11.1.3.1 such as AC or DC signal (the additional comments box below can be used)	Yes
15. Cyber security	
Confirm that the **Power Generating Module** has been designed to comply with cyber security requirements, as detailed in 9.1.7.	Yes
Additional comments.	
Logic Interface (input port): The DNO logic interface will take the form of a simple binary output that can be operated by the switch. When the switch is turned off the Power Generating Module can operate normally. When the switch is turned on the Power Generating Module will reduce its Active Power to zero within 5 s. The signal from the Power Generating Module that is being switched is DC (maximum value 3.3Vdc). **Cyber security:** See attached statement.	

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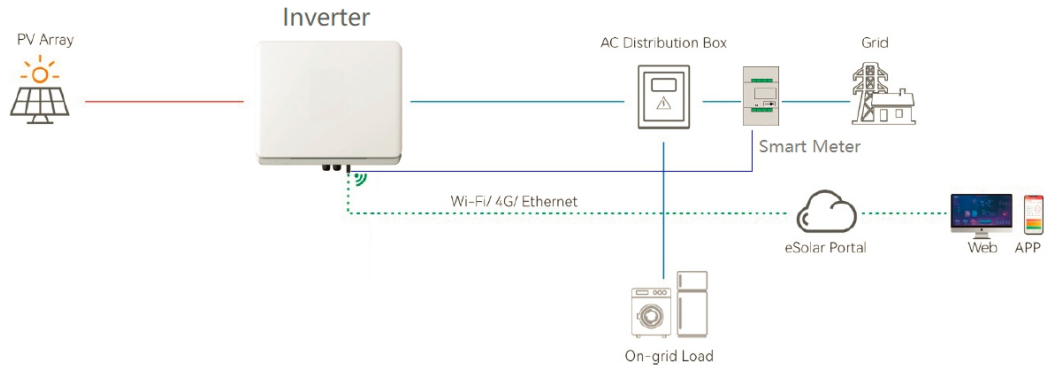
DECLARATION OF CONFORMITY

We Guangzhou Sanjing Electric Co., Ltd.
No.9, Lizhishan Road, Science City, Guangzhou High-tech Zone, Guangdong, P.R.China

Declare under our own responsibility that the product:
R5, R6, H2, H1 series Inverter comply with G98-Amd. 6 (2021-09) Standard Sec.s 9.7.1, 9.7.2 and G99-Amd. 8 (2021-09) Standard Sec.s 9.1.7, 9.1.8 on "cybersecurity" requirements.

The SAJ cybersecurity statement is described as follows:
SAJ Inverter and external logic communications as summarized in the following scheme:



Where the main components involved and their main functions are explained in the following table:

Acronym/ name	Means and devices	Operations
PV Array	**--**	**Convert light energy to direct current energy**
Inverter	**--**	**an apparatus which converts direct current into alternating current.**
Wi-Fi/ 4G/ Ethernet	**Communication module**	**transmission of data to cloud server, reception of commands/settings from external stakeholder**
Meter	**External Power Meter(s) (one or two)**	**Power measures**

and the subjects/parties involved in communications with the SAJ Inverter listed in the following table, together with the purposes of the respective communications:

acronym/ name	meaning	function
Web/App	**mobile device (via App), PC (via web portal)**	**monitoring of instantaneous and historical data, settings for special functions**

1. **All communication between the inverter and the external power meter is over the appropriate serial line (RS485, CanBus) and is not directly connected to any device or system other than the inverter.**

2. **The only communication port between the inverter and the outside is constituted by the Communication module on the machine, the communication between inverter and the outside world can take place via an Ethernet line, WiFi or GPRS router according to the customer's request. An saj inverter is a not-constrained customer IoT device according to the definitions in ETSI EN 303 645 sec. 3.1.**

3. **The direct recipients/senders of communications with the inverter are:**
   a. **in all cases the in-cloud server of SAJ －the communication is made secure by the use of Transport Layer Security techology on Communication module, and by the use of Secure Sockets Layer technology on User’s device side and Installer/ service web-tools side;**

   b. **Third-party field devices, communication modules not provided by SAJ. – To communicate between the inverter and the third-party equipment on site, SAJ needs the communication protocol provided by the third-party, and has reached an agreement with the SAJ inverter. The data transmission can be protected by Transport Layer Security techology or Secure Sockets Layer technology ; The network security between third-party devices and third-party servers/clouds will be the responsibility of the third-party itself.**

4. **All communications between the esolar portal in-cloud server and the subjects/parties are cyber-protected by Secure Sockets Layer technology.**

5. **The cyber-security assessment of the SAJ Inverter was performed according to the ETSI EN 303 645 standard, and it is reported according to the Table B.1 form of the same standard:**

Clause number and title			
Reference	**Status**	**Support**	**Detail**
5.1 No universal default passwords			
Provision 5.1-1	M C (1)	yes	Customer-definable password
Provision 5.1-2	M C (2)	yes	Log in by obtaining random verification code through mobile phone SMS
Provision 5.1-3	M	yes	Request a dynamic password containing a 6-digit random number in the form of a mobile phone text message
Provision 5.1-4	M C (8)	yes	It can only be reset by requesting a dynamic password containing a 6-digit random number through the user's own mobile phone number in the form of a mobile phone text message
Provision 5.1-5	M C (5)	yes	
5.2 Implement a means to manage reports of vulnerabilities			
Provision 5.2-1	M	yes	
Provision 5.2-2	R	yes	
Provision 5.2-3	R	yes	
5.3 Keep software updated			
Provision 5.3-1	R	yes	
Provision 5.3-2	M C (5)	yes	
Provision 5.3-3	M C (12)	N/A	The final user cann't update any sw component: only manufacturer assistance service personnel can do it remotely
Provision 5.3-4	R C (12)	yes	The manufacturer manages the updates of the systems by means of remote automatisms, selectively by type of machine or by activating special functions at the request of the user

Clause number and title			
Reference	**Status**	**Support**	**Detail**
Provision 5.3-5	R C (12)	N/A	See note at 5.3-4
Provision 5.3-6	R C (9, 12)	N/A	See note at 5.3-4
Provision 5.3-7	M C (12)	Yes	
Provision 5.3-8	M C (12)	N/A	See note at 5.3-4
Provision 5.3-9	R C (12)	N/A	
Provision 5.3-10	M (11, 12)	Yes	Confirmation by the user
Provision 5.3-11	R C (12)	Yes	
Provision 5.3-12	R C (12)	N/A	
Provision 5.3-13	M	Yes	
Provision 5.3-14	R C (3, 4)	N/A	No constrained device
Provision 5.3-15	R C (3, 4)	N/A	No constrained device
Provision 5.3-16	M	Yes	
5.4 Securely store sensitive security parameters			
Provision 5.4-1	M	Yes	
Provision 5.4-2	M C (10)	Yes	
Provision 5.4-3	M	N/A	Hard-coded identity not used in source code
Provision 5.4-4	M	Yes	
5.5 Communicate securely			
Provision 5.5-1	M	Yes	
Provision 5.5-2	R	Yes	
Provision 5.5-3	R	Yes	

Clause number and title			
Reference	**Status**	**Support**	**Detail**
Provision 5.5-4	R	N/A	
Provision 5.5-5	M	Yes	
Provision 5.5-6	R	Yes	
Provision 5.5-7	M	Yes	
Provision 5.5-8	M	Yes	
5.6 Minimize exposed attack surfaces			
Provision 5.6-1	M	Yes	
Provision 5.6-2	M	Yes	
Provision 5.6-3	R	Yes	
Provision 5.6-4	M C (13)	N/A	No debug interface accessible
Provision 5.6-5	R	Yes	
Provision 5.6-6	R	Yes	
Provision 5.6-7	R	Yes	
Provision 5.6-8	R	N/A	
Provision 5.6-9	R	Yes	
5.7 Ensure software integrity			
Provision 5.7-1	R	N/A	
Provision 5.7-2	R	N/A	
5.8 Ensure that personal data is secure			
Provision 5.8-1	R	N/A	No personal data transit through hw/sw
Provision 5.8-2	M	N/A	

Clause number and title			
Reference	**Status**	**Support**	**Detail**
Provision 5.8-3	M	N/A	
5.9 Make systems resilient to outages			
Provision 5.9-1	R	Yes	
Provision 5.9-2	R	Yes	
Provision 5.9-3	R	Yes	
5.10 Examine system telemetry data			
Provision 5.10-1	R C (6)	N/A	
5.11 Make it easy for users to delete user data			
Provision 5.11-1	M	N/A	No personal data are stored
Provision 5.11-2	R	N/A	No personal data are stored
Provision 5.11-3	R	N/A	No personal data are stored
Provision 5.11-4	R	N/A	No personal data are stored
5.12 Make installation and maintenance of devices easy			
Provision 5.12-1	R	Yes	The manufacturer or service personnel will assist the user to complete the installation on site
Provision 5.12-2	R	Yes	The manufacturer or service personnel will assist the user to complete the installation on site
Provision 5.12-3	R	Yes	The manufacturer or service personnel will assist the user to complete the installation on site
5.13 Validate input data			
Provision 5.13-1	M	Yes	
6 Data protection provisions for consumer IoT			

Clause number and title			
Reference	**Status**	**Support**	**Detail**
Provision 6.1	M	Yes	It only applies to the server/cloud side of the service
Provision 6.2	M C (7)	Yes	It only applies to the server/cloud side of the service
Provision 6.3	M	Yes	It only applies to the server/cloud side of the service
Provision 6.4	R C (6)	Yes	No personal data are stored
Provision 6.5	M C (6)	Yes	No personal data are stored

Conditions

1) passwords are used;
2) pre-installed passwords are used;
3) software components are not updateable;
4) the device is constrained;
5) the device is not constrained;
6) telemetry data being collected;
7) personal data is processed on the basis of consumers' consent;
8) the device allowing user authentication;
9) the device supports automatic updates and/or update notifications;
10) a hard-coded unique per device identity is used for security purposes;
11) updates are delivered over a network interface;
12) an update mechanism is implemented;
13) a debug interface is physically accessible.

Status' Column:

M: Mandatory provision
R: Recommended provision
M C: Mandatory and conditional provision
R C: Recommended and conditional provision

Support' Column:

Yes: Implemented
N/A: Not applicable

September 16, 2022
Date

潘宁权
Signature