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Test Report

Product number type..... : _____

Name of the product..... : _____

Inspection category..... : IEC60146

Applicant..... : EverExceed Industrial Co.,Ltd.

Sample Information

1.Sample information description

(1) Product model: _____

(2) Capacity:_____

(3) Input and Output voltage:_____

2.Key material information for the sample:

See table 2.1 of the annex

3. Sample photos

(1) Filming location:_____

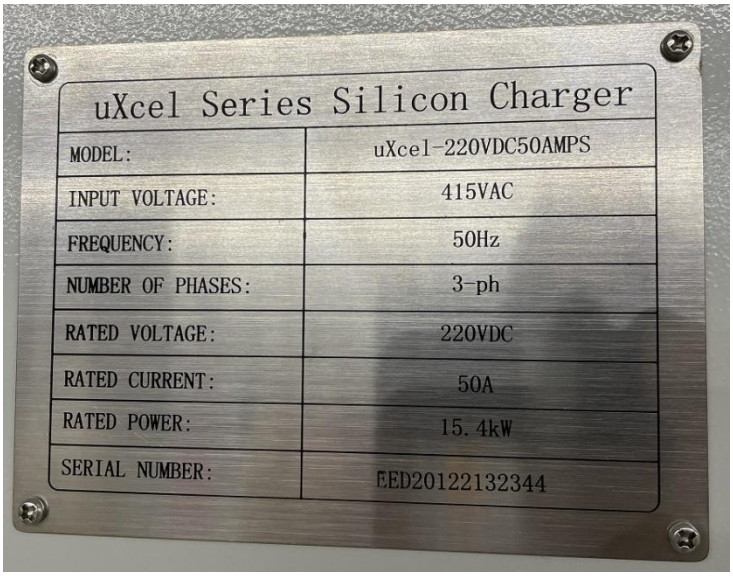
(2) Filming date:_____

Front door

Backdoor

Front door open-1

Front door open-2



Product model

A list of inspections

No.	Test items	Routine test	Optional test	Specification sub-clause
1	Visual inspection	★		
2	Insulation test	★		IEC60146-1-1:2009-7.2
3	Light load and functional test	★		IEC60146-1-1:2009-7.3.1
4	Rated current test	★		IEC60146-1-1:2009-7.3.2
5	Over-current capability test		★	IEC60146-1-1:2009-7.3.3
6	Measurement of the inherent voltage regulation	★		IEC60146-1-1:2009-7.3.4
7	Measurement of ripple voltage and current		★	IEC60146-1-1:2009-7.3.5
8	Measurement of harmonic current		★	IEC60146-1-1:2009-7.3.6
9	Efficiency test	★		IEC60146-1-1:2009-7.4.1
10	Temperature rise test	★		IEC60146-1-1:2009-7.4.2
11	Power factor measurement		★	IEC60146-1-1:2009-7.4.3
12	Checking of auxiliary devices	★		IEC60146-1-1:2009-7.5.1
13	Checking of properties of the control equipment	★		IEC60146-1-1:2009-7.5.2
14	Checking the protective devices	★		IEC60146-1-1:2009-7.5.3
15	Immunity test		★	IEC60146-1-1:2009-7.6.1
16	Radio frequency radiated and conducted disturbances		★	IEC60146-1-1:2009-7.6.2
17	Measurement of audible noise		★	IEC60146-1-1:2009-7.7
18	Additional tests		★	IEC60146-1-1:2009-7.7

Results

No.	Inspected items	Standard requirements	Result of the test	Conclusion
1	Appearance and structure	The coating of the chassis is firm and the paint surface is symmetrical, without peeling, corrosion and cracks		
		The surface of the cabinet shall be flat, and all standard, marking and text shall be clear,		

		correct and tidy			
		All kinds of switches are easy to operate, flexible and reliable			
2	Insulation routine tests	Insulation resistance: the input and output to the housing, apply 500V dc voltage, insulation resistance should be greater than 1M			
		Insulation strength: the input and output side to the ground to apply 50Hz, 2000V AC voltage 1min, should not break through, no arc, leakage current is less than 10mA.			
3	Light load and functional test	a) Light-duty test: When the current ≤ 5A, test the input voltage maximum and minimum values respectively to verify that all parts of the electrical wiring and cooling parts are operating properly			
		b) Functional test:	Charger overvoltage protection: Turn off the charger output when the voltage exceeds the set protection value		
			Charger over-current protection: Turn off the charger output when the current exceeds the set protection value		
			Charger over temperature protection: analog temperature on and off close, when the temperature is exceeded, turn off the charging machine output		
			Ground fault alarm: When the ground resistance is less than the set value, the charging machine sends an alarm signal		
			Overvoltage alarm: When the charger voltage exceeds the set value, the charger sends an alarm signal		
			Constant voltage setting charging: When the charging machine mode is set to constant voltage, the voltage		

			needs to remain stable		
			Constant current setting charging: When the charging machine mode is set to constant current, the current needs to remain stable		
4	Rated current test	In the input voltage range, when the output is rated voltage_____, the charger operates normally at the rated current of _____			
5	Over-current capability test	In the input voltage range, when the output is rated voltage _____, the charger can operate normally at 110% rated current _____ for 10min			
6	Measurement of the inherent voltage regulation	In the case of constant AC voltage, change the load current, measure the DC voltage value at different values, the voltage accuracy is less than 1%			
7	Measurement of ripple voltage	At the output rated voltage of_____, the AC ripple voltage superimposed by DC measurement is not greater than 3%			
8	Measurement of harmonic current	The input voltage and frequency are rated and the output is rated load, and the total harmonic composition of 3-39 times is not greater than 35%			
9	Efficiency test	When the output voltage current is rated and the output is 100% rated, the system efficiency should be greater than 88%			
		When the output voltage current is rated and the output is 50% rated, the system efficiency should be greater than 85%			
10	Temperature rise test	In the case of rated loads, measure the temperature rise of key components: transformers, resistors, and SCR modules within 8 hours, See attached table 3.2 for details			
11	Power factor measurement	The input voltage and frequency are rated and the input power factor is not less than 0.6 when the output is rated for load			
12	Checking of auxiliary devices	Check whether auxiliary equipment such as contactors, fan and relays can function properly			
13	Checking of properties of	Detects that the main board pulse control signal is correct			

	the control equipment			
14	Inspection of the protective devices	Rating of the over current protection device		
		Check the correct action of fast fuse and fast switch		
		Check the performance of overvoltage protection device		
		Check for safe grounding		
15	Immunity test			
16	Radio frequency radiated and conducted disturbances			
17	Audible noise measurements	The input voltage is rated and the audio noise measured when the output is rated for a resistive load is no greater than 65dB		
18	The communication interface	Chargers should have RS485 or RS232, RS422, Ethernet, USB standard communication interface (at least one of them) and provide communication cables or various warning signal output terminals to use with the communication interface		
19	Remote communication	The content of the charger remote measurement is: the output voltage and output current of the charger; the content of the remote control signal is: the charger alarm signal		
20	Output voltage regulation accuracy	The output is no-load and rated resistive load. When the input voltage is adjusted to the upper and lower limits of the charger, its voltage regulation accuracy should be less than 1%.		
21	Output steady current accuracy	When the output is a resistive load, and the input voltage is adjusted to the upper and lower limits of the charger, its steady current accuracy should be less than 1%.		
22	Transport test	After the test, the charger should not be mechanically damaged, the fasteners should not be loose, and it should be able to work normally after being energized.		

Table 3.2 Temperature rise test

On-load running Time	10min	30min	1hour	3hour	5hour	8hour
The measured voltage	299.9VDC	300.01VDC	300.06VDC	300.06DC	300.09VDC	300.13VDC
Current display	50.05A	50.02A	50.05A	50.07A	50.06A	50.05A
The measured current	50.01A	50.01A	49.97A	49.99A	50.02A	50.02A
Transformer Temperature	36.2℃	41.8℃	53.1℃	58.1℃	59.6℃	59.4℃
L Temperature	37℃	46.7℃	51.7℃	55.2℃	60.9℃	60.3℃
SCR module Temperature	37.3℃	40.9℃	41.8℃	42.2℃	42.6℃	42℃
Environment Temperature:	30℃		**Input AC:**		AC380V	

Use of test equipment

NO.	Equipment	Model	Calibration date	Valid period
1	Power quality analyzer	FLUKE-430-II series	2021.6.10	2022.6.9
2	Digital oscilloscope	DSO-X3014A	2021.6.10	2022.6.9
3	Digital multi-meter	FLUKE 15B+	2021.6.10	2022.6.9
4	Digital Clamp Meter	FLUKE 317	2021.6.10	2022.6.9
5	Insulation withstand voltage tester	RS2672AM	2021.6.10	2022.6.9
6	Ground Resistance Tester	AR907A+	2021.6.10	2022.6.9
7	AC voltage regulator	TSGC2J	2021.6.10	2022.6.9
8	DC load box	VILVA-AC380V/ DC300V-100KW-R	2021.6.10	2022.6.9
9	Multi-channel temperature tester	SH-X	2021.6.10	2022.6.9

Inspection instructions:

1. Subcontract inspection agency involved in this inspection: none.

2. Other matters that need to be explained: none.

Testing venue			
Testing time			
Test environment	Temperature: (20-25)℃	Relative humidity: (30-60)%	
Inspector		Verifier	