

中国认可  
国际互认  
检测  
TESTING  
CNAS L4463



2024WT0434

Report No.: \_\_\_\_\_

## TEST REPORT

Name of products: Medium Voltage Drive

Type Specification: HC1000-100/07000

Consign Unit: Hiconics Eco-energy Drive Technology  
Co., Ltd

Kind of test: Type test

China National Center for Quality Inspection and Testing of  
Electrical Control and Distribution Equipment (CCDT)

Tianjin Tianchuan Electric Control Equipment Test Co.,Ltd.



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|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                 |        |                        |            |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------|------------------------|------------|
| <b>Name of products</b>        | Medium Voltage Drive                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |        | <b>Trade mark</b>      | /          |
| <b>Type specification</b>      | HC1000-100/07000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                 |        | <b>Kind of test</b>    | Type test  |
| <b>Main technical data</b>     | Rated input voltage: 10kV; Rated output voltage: 10kV; Output frequency range: 0-150Hz;<br>Rated capacity: 7000kVA; Rated current: 395A; Protection level: IP30.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                 |        |                        |            |
| <b>Consign unit</b>            | Hiconics Eco-energy Drive Technology Co., Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                 |        |                        |            |
| <b>Address of consign unit</b> | No.3 Boxing 2nd RoadBeijing Economic and Technological Development Zone100176<br>BeijingPEOPLE'S REPUBLIC OF CHINA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |        |                        |            |
| <b>Factory</b>                 | Hiconics Eco-energy Drive Technology Co., Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                 |        |                        |            |
| <b>Address of factory</b>      | No.3 Boxing 2nd RoadBeijing Economic and Technological Development Zone100176<br>BeijingPEOPLE'S REPUBLIC OF CHINA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |        |                        |            |
| <b>Sampling site</b>           | /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                 |        | <b>Sampling date</b>   | /          |
| <b>Sampling people</b>         | /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Sampling cardinal number</b> | /      | <b>Sampling people</b> | /          |
| <b>Delivery people</b>         | Xin Liu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Delivery number</b>          | 1      | <b>Arrived date</b>    | Field Test |
| <b>Sample No.</b>              | 2024WG0420                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Sample state</b>             | Normal | <b>Production date</b> | /          |
| <b>Test address</b>            | No.3 Boxing 2nd RoadBeijing Economic and Technological Development Zone100176<br>BeijingPEOPLE'S REPUBLIC OF CHINA, No.6 ,Xintong Road Dongli Development District Tianjin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                 |        |                        |            |
| <b>Test basis</b>              | GB/T 12668.4-2006/IEC 61800-4: 2002 《Adjustable speed electrical power drive systems — Part 4:General requirements — Rating specifications for a, c. power drive systems above 1 000 V a. c. and not exceeding 35 kV》, GB/T 30843.1-2014 《Variable-frequency drive above 1 kV and not exceeding 35 kV-Part 1:Technical conditions》; GB/T 30843.2-2014 《Variable-frequency drive above 1 kV and not exceeding 35 kVPart 2 :Test methods》; GB/T 12668.501-2013/IEC 61800-5-1:2007 《Adjustable speed electrical power drive systemsPart 5-1:Safety requirementsElectrical, thermal and energy》; GB/T 12668.502-2013/IEC 61800-5-2:2007 《Adjustable speed electrical power drive systemsPart 5-2 :Safety requirementsFunctional》; GB/T 3859.1-2013/IEC 60146-1-1:2009/IEC 60146-1-1:2009 《Semiconductor converters-General requirements and line commutated converters-Part 1-1;Specification of basic requirements》; Technical conditions |                                 |        |                        |            |
| <b>Test date</b>               | March 28, to April 18, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |        |                        |            |
| <b>Test conclusion</b>         | After 26 tests, the test results are in compliance with the requirements of test, and the tests are qualified.<br>Issue date: April 19, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |        |                        |            |
| <b>Note</b>                    | The inspection basis “Technical conditions” has not been approved.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                 |        |                        |            |

Tested by: 高启文 Reviewed by: 何丽薇 Approved by: 卢林

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Test Item summary table

| Sequence | Test item                                               |                       | Test basis                                                                                                                                                                | Test conclusion | Page |
|----------|---------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|
| 1        | External inspection                                     |                       | GB/T 30843.1-2014 7.1<br>GB/T 30843.2-2014 5.1<br>GB/T 3859.1-2013 7.1.3                                                                                                  | Pass            | 5    |
| 2        | Insulation test                                         | Insulation resistance | GB/T 12668.4-2006/IEC 61800-4 : 2002 10.2.2.1<br>GB/T 30843.1-2014 7.2.1<br>GB/T 30843.2-2014 5.3.2<br>GB/T 3859.1-2013 7.2<br>GB/T 12668.501-2013/IEC 61800-5-1:2007 4.3 | Pass            | 6    |
| 3        |                                                         | Dielectric properties | GB/T 12668.4-2006/IEC 61800-4 : 2002 10.2.2.1<br>GB/T 30843.1-2014 7.2.2<br>GB/T 30843.2-2014 5.3.3<br>GB/T 3859.1-2013 7.2                                               | Pass            | 7    |
| 4        | Light load and running test (Continuous operation test) |                       | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.1<br>GB/T 3859.1-2013 7.3.1<br>GB/T30843.1-2014 7.14<br>GB/T30843.2-2014 5.16                                         | Pass            | 8    |
| 5        | Rated current test                                      |                       | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 3859.1-2013 7.3.2                                                                                                    | Pass            | 9    |
| 6        | Overload capacity test                                  |                       | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 3859.1-2013 7.3.3                                                                                                    | Pass            | 10   |
| 7        | Efficiency test                                         |                       | GB/T 30843.1-2014 7.10<br>GB/T 30843.2-2014 5.12<br>GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.6; Technical conditions                                           | Pass            | 11   |
| 8        | Measurement of power factor                             |                       | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.8; Technical conditions<br>GB/T 3859.1-2013 7.4.3                                                                     | Pass            | 12   |
| 9        | Determination of power loss                             |                       | GB/T 12668.4-2006/IEC 61800-4: 2002 10.3.3.6; Technical conditions<br>GB/T 3859.1-2013 7.4.1                                                                              | Pass            | 13   |
| 10       | Temperature rise test                                   |                       | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 30843.1-2014 7.11<br>GB/T 30843.2-2014 5.13<br>GB/T 3859.1-2013 7.4.2                                                | Pass            | 14   |

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| Test Item summary table |                                      |                                                                   |                                                                                                                                                                        |                 |       |
|-------------------------|--------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------|
| Sequence                | Test item                            |                                                                   | Test basis                                                                                                                                                             | Test conclusion | Page  |
| 11                      | Auxiliary equipment inspection       | Starting characteristics (starting and stopping performance test) | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.1<br>GB/T 3859.1-2013 7.5.1                                                                                        | Pass            | 15~16 |
| 12                      |                                      | Starting characteristics (free stop performance test)             | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.1<br>GB/T 3859.1-2013 7.5.1                                                                                        | Pass            | 17    |
| 13                      | Control device characteristics check | Input current relative harmonic content test                      | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.7<br>GB/T 3859.1-2013 7.3.6 7.5.2<br>Technical conditions                                                          | Pass            | 18    |
| 14                      |                                      | Output voltage relative harmonic content test                     | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.7<br>GB/T 30843.1-2014 7.6<br>GB/T 30843.2-2014 5.9<br>Technical conditions                                        | Pass            | 19    |
| 15                      |                                      | Output voltage range and asymmetry rate                           | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 30843.1-2014 7.7<br>GB/T 30843.2-2014 5.10                                                                        | Pass            | 20    |
| 16                      |                                      | Output current range and imbalance                                | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 30843.1-2014 7.7<br>GB/T 30843.2-2014 5.10                                                                        | Pass            | 21    |
| 17                      |                                      | Frequency stability accuracy test                                 | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 30843.1-2014 7.8<br>GB/T 3859.1-2013 6.4.3                                                                        | Pass            | 22    |
| 18                      |                                      | Frequency output range test, frequency resolution test            | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 30843.1-2014 7.9<br>GB/T 30843.2-2014 5.11                                                                        | Pass            | 23    |
| 19                      |                                      | Voltage-frequency ratio test                                      | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 30843.1-2014 7.8 7.9                                                                                              | Pass            | 24    |
| 20                      | Protection function check            |                                                                   | GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1<br>GB/T 3859.1-2013 7.5.3<br>GB/T 30843.1-2014 7.5<br>GB/T 30843.2-2014 5.8<br>GB/T 12668.502-2013/IEC 61800-5-2:2007 6.3 | Pass            | 25~26 |

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Test Item summary table

| Sequence | Test item                                | Test basis                                                                                                                | Test conclusion | Page  |
|----------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------|-------|
| 21       | Noise test                               | GB/T 12668.4-2006/IEC 61800-4:<br>2002 10.2.2.1<br>GB/T 3859.1-2013 7.7<br>GB/T 30843.1-2014 7.4<br>GB/T 30843.2-2014 5.7 | Pass            | 27    |
| 22       | Degrees of protection                    | GB/T 12668.4-2006/IEC 61800-4:<br>2002 8.3.2.1<br>GB/T 30843.1-2014 7.3<br>GB/T 30843.2-2014 5.6                          | Pass            | 28    |
| 23       | Electromagnetic compatibility test       | GB/T 12668.4-2006/IEC 61800-4:<br>2002 10.3.3.16<br>GB/T 30843.1-2014 7.17<br>GB/T 30843.2-2014 5.19                      | Pass            | 29~33 |
| 24       | Minimum clearance and creepage distances | GB/T 30843.1-2014 7.2.3<br>GB/T 30843.2-2014 5.4                                                                          | Pass            | 34    |
| 25       | Ground protection continuity             | GB/T 30843.1-2014 7.2.4<br>GB/T 30843.2-2014 5.5                                                                          | Pass            | 35    |
| 26       | Control power supply stability           | GB/T 30843.1-2014 7.15<br>GB/T 30843.2-2014 5.17                                                                          | Pass            | 36    |
|          | Test Equipment List                      | /                                                                                                                         | /               | 37    |
|          | EMC Test Equipment List                  | /                                                                                                                         | /               | 38    |
|          | Test equipment connection diagram        | /                                                                                                                         | /               | 39~40 |
|          | Test instrument layout diagram           | /                                                                                                                         | /               | 41~43 |
|          | Sample Photo                             | /                                                                                                                         | /               | 44    |
|          | Blank below                              |                                                                                                                           |                 |       |
|          |                                          |                                                                                                                           |                 |       |
|          |                                          |                                                                                                                           |                 |       |
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|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| External inspection                                                                                               | Sample No.: March 28, 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                                                                                                   | Test date: 2024WG0420                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Test basis: GB/T 30843.1-2014 7.1; GB/T 30843.2-2014 5.1; GB/T 3859.1-2013 7.1.3                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test equipment/No: Steel tape (21-03) ; Thermometer (18-07) ; Empty box air pressure gauge (15-52)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>I. Test data:</b>                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        ) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Temperature: 16°C    Relative Humidity: 46%                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Item                                                                                                              | Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Cabinet inspection                                                                                                | Cabinet color: Main color RAL7035, auxiliary color RAL7042, surface electrostatic spraying treatment; the device is split installation, front and rear double-sided maintenance;<br>Length: control cabinet + unit cabinet 262cm, unit cabinet 131.5cm, transformer cabinet 271.5cm;<br>Depth: control cabinet + unit cabinet/unit cabinet 140.5cm, transformer cabinet 160.5cm;<br>Height: 285cm (including fan)/245cm (excluding fan);<br>The appearance of the device is normal, the nameplate is clear, and the grounding is good, which complies with the provisions of relevant standards or technical documents. |
| Blank below.                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>II. Conclusion:</b> Pass.                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------------------|----------------------------|----------------|
| Insulation test<br>(Insulation resistance)                                                                                                                                          |                             |                       | Sample No.: March 28, 2024 |                |
|                                                                                                                                                                                     |                             |                       | Test date: 2024WG0420      |                |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.2.1;<br>GB/T 30843.2-2014 5.3.2 ; GB/T 3859.1-2013 7.2;<br>GB/T 12668.501-2013/IEC 61800-5-1:2007 4.3 |                             |                       |                            |                |
| Test equipment/No: Insulation resistance tester (HKY873) 、 Multifunctional operation box (HKGY0058) 、 Thermometer (18-07)                                                           |                             |                       |                            |                |
| <b>I. Test data:</b>                                                                                                                                                                |                             |                       |                            |                |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                                   |                             |                       |                            |                |
| Temperature: 16°C    Relative Humidity: 46%                                                                                                                                         |                             |                       |                            |                |
| No.                                                                                                                                                                                 | Applied position            | Rated voltage<br>(kV) | Insulation resistance (MΩ) |                |
|                                                                                                                                                                                     |                             |                       | Allowable value            | Measured value |
| 1                                                                                                                                                                                   | Inverter input -<br>ground  | 10                    | ≥1                         | >100           |
| 2                                                                                                                                                                                   | Inverter output -<br>ground | 10                    | ≥1                         | >100           |
| Note: Use 2500V megohmmeter to measure insulation resistance before and after the main circuit withstand voltage test.<br>Blank below.                                              |                             |                       |                            |                |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                        |                             |                       |                            |                |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|----------------------------|----------------|---------------------------------------|
| Insulation test<br>(Dielectric properties)                                                                                                                       |                          |                    | Sample No.: March 28, 2024 |                |                                       |
|                                                                                                                                                                  |                          |                    | Test date: 2024WG0420      |                |                                       |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.2.2;<br>GB/T 30843.2-2014 5.3.3 ; GB/T 3859.1-2013 7.2                             |                          |                    |                            |                |                                       |
| Test equipment/No: Insulation resistance tester (HKY873) 、 Multifunctional operation box (HKGY0058) 、 Thermometer (18-07)                                        |                          |                    |                            |                |                                       |
| <b>I. Test data:</b>                                                                                                                                             |                          |                    |                            |                |                                       |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )<br>Temperature: 16°C    Relative Humidity: 46% |                          |                    |                            |                |                                       |
| Before and after the main circuit withstand voltage test, use a 2500V megohmmeter to measure the insulation resistance.                                          |                          |                    |                            |                |                                       |
| No.                                                                                                                                                              | Applied position         | Rated voltage (kV) | Test voltage (V)           | Apply time (s) | Result                                |
| 1                                                                                                                                                                | Inverter input - ground  | 10                 | 28                         | 60             | No breakdown and flashover phenomenon |
| 2                                                                                                                                                                | Inverter output - ground | 10                 | 28                         | 60             | No breakdown and flashover phenomenon |
| Blank below.                                                                                                                                                     |                          |                    |                            |                |                                       |
| <b>II. Conclusion:</b> Pass.                                                                                                                                     |                          |                    |                            |                |                                       |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------|----------------------|
| Light load and running test<br>(Continuous operation test)                                                                                                                                                                                                                                                                  | Sample No.: March 28~31, 2024 |                   |                      |
|                                                                                                                                                                                                                                                                                                                             | Test date: 2024WG0420         |                   |                      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.1; GB/T 3859.1-2013 7.3.1; GB/T30843.1-2014 7.14; GB/T30843.2-2014 5.16                                                                                                                                                                                     |                               |                   |                      |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                                                                                                                                                                        |                               |                   |                      |
| <b>I. Test data:</b>                                                                                                                                                                                                                                                                                                        |                               |                   |                      |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                                                                                                                                                                           |                               |                   |                      |
| Light load test: The device is operated with a 1600kW unit under light load at an input voltage of 10kV. The test data are as follows:                                                                                                                                                                                      |                               |                   |                      |
| Input voltage (kV)                                                                                                                                                                                                                                                                                                          | Output voltage (kV)           | Output current(A) | Output frequency(Hz) |
| 10.088                                                                                                                                                                                                                                                                                                                      | 9.911                         | 33.47             | 50                   |
| The device operated normally during the test.                                                                                                                                                                                                                                                                               |                               |                   |                      |
| Continuous operation test: The device operated with reactance at an input rated voltage of 10kV, an output voltage of 10kV, an output current of 395A, an output frequency of 50Hz, and operated continuously for 72 hours. During the entire operation process, various actions, functions and programs operated normally. |                               |                   |                      |
| Blank below.                                                                                                                                                                                                                                                                                                                |                               |                   |                      |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                                                                |                               |                   |                      |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------|----------------|-----------------------|--------------------|--------------------------------|
| Rated current test                                                                                                                                                                                                                                                            | Sample No.: March 29, 2024 |                |                |                       |                    |                                |
|                                                                                                                                                                                                                                                                               | Test date: 2024WG0420      |                |                |                       |                    |                                |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 3859.1-2013 7.3.2                                                                                                                                                                                              |                            |                |                |                       |                    |                                |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)、Digital Oscilloscope (MY50340430)                                                                                                                                                                                        |                            |                |                |                       |                    |                                |
| <b>I. Test data:</b><br><b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )<br>The device is input with rated voltage and runs at full load with reactance for 20 minutes. The test data are as follows: |                            |                |                |                       |                    |                                |
| Input voltage (kV)                                                                                                                                                                                                                                                            | Output current (A)         |                |                | Output frequency (Hz) | Running time (min) | Operating status               |
|                                                                                                                                                                                                                                                                               | I <sub>A</sub>             | I <sub>B</sub> | I <sub>C</sub> |                       |                    |                                |
| 10.253                                                                                                                                                                                                                                                                        | 398.9                      | 398.8          | 395.4          | 50                    | 20                 | The device is running normally |
| Blank below.                                                                                                                                                                                                                                                                  |                            |                |                |                       |                    |                                |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                  |                            |                |                |                       |                    |                                |

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## Overload capacity test

Sample No.: March 29, 2024

Test date: 2024WG0420

Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 3859.1-2013 7.3.3

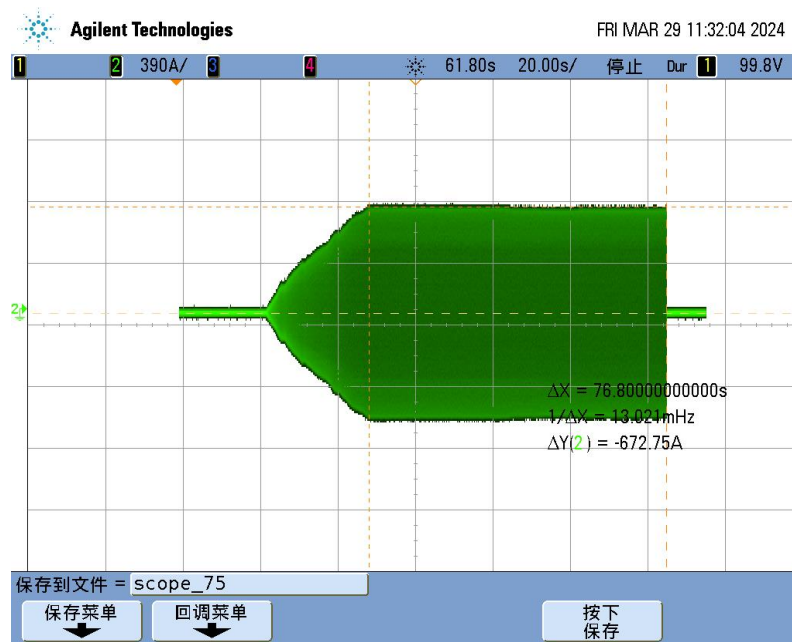
Test equipment/No: Digital Oscilloscope (MY50340430)

### I. Test data:

**Test Object:** ☒ All ☐ Sample/Part(Name: / )

The device has an input voltage of 10kV and operates with reactance. When the output current is 475.78A, the device can continue to operate for no less than 60s. The test data are as follows:

| Output current (A) |                                 | Overload time (s) |              |
|--------------------|---------------------------------|-------------------|--------------|
| Specified value    | Actual value                    | Specified value   | Actual value |
| 120%I <sub>e</sub> | 475.78 (120.45%I <sub>e</sub> ) | ≥60               | 76.8         |



Note: Channel 2 is the output current instantaneous value waveform, the transformation ratio is 1mV/1A, I<sub>e</sub>=395A.  
Blank below.

**II. Conclusion:** Pass.

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------|
| Efficiency test                                                                                                                                                                                                                                                                    | Sample No.: March 29, 2024 |              |
|                                                                                                                                                                                                                                                                                    | Test date: 2024WG0420      |              |
| Test basis: GB/T 30843.1-2014 7.10; GB/T 30843.2-2014 5.12;<br>GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.6; Technical conditions                                                                                                                                         |                            |              |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                                                                                                                               |                            |              |
| <b>I. Test data:</b>                                                                                                                                                                                                                                                               |                            |              |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                                                                                                                                  |                            |              |
| The device operates at full load with an input voltage of 10kV. The efficiency test data is as follows:                                                                                                                                                                            |                            |              |
| Test items                                                                                                                                                                                                                                                                         | Specified value            | Actual value |
| Efficiency measurement (%)                                                                                                                                                                                                                                                         | ≥95                        | 97.183       |
| The efficiency calculation method is as follows:<br>Inverter efficiency = (transformer capacity - transformer no-load loss - transformer load loss - unit loss - fan loss) / transformer capacity = [7000-18.315-65.79-(0.69*395*0.015)*24-2.5*6] / 7000 = 97.183%<br>Blank below. |                            |              |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                       |                            |              |

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|                                                                                                                                                                                                                                                                                                       |                            |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------|
| Measurement of power factor                                                                                                                                                                                                                                                                           | Sample No.: March 29, 2024 |                      |
|                                                                                                                                                                                                                                                                                                       | Test date: 2024WG0420      |                      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.8; GB/T 3859.1-2013 7.4.3; Technical conditions                                                                                                                                                                                       |                            |                      |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                                                                                                                                                  |                            |                      |
| <b>I. Test data:</b><br><br>Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )<br><br>The device runs with a 1600kW motor at an input voltage of 10kV, with an output current of 81.29A.<br>The power factor test data are as follows: |                            |                      |
| Test items                                                                                                                                                                                                                                                                                            | Specified value            | Actual value         |
| Power factor determination                                                                                                                                                                                                                                                                            | Specified value (input)    | Actual value (input) |
|                                                                                                                                                                                                                                                                                                       | >0.95                      | 0.97                 |
| Blank below.                                                                                                                                                                                                                                                                                          |                            |                      |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                                          |                            |                      |

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|                                                                                                                                                                                                                                                                          |                            |                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------|
| Determination of power loss                                                                                                                                                                                                                                              | Sample No.: March 29, 2024 |                 |
|                                                                                                                                                                                                                                                                          | Test date: 2024WG0420      |                 |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.3.3.6; GB/T 3859.1-2013 7.4.1; Technical conditions                                                                                                                                                                   |                            |                 |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                                                                                                                     |                            |                 |
| <b>I. Test data:</b><br><b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )<br>The device is running at full load with an input voltage of 10kV, and the power loss measurement data is as follows: |                            |                 |
| Input power (MW)                                                                                                                                                                                                                                                         | Output power (MW)          | Power loss (MW) |
| 7000                                                                                                                                                                                                                                                                     | 6802.777                   | 197.223         |
| Blank below.                                                                                                                                                                                                                                                             |                            |                 |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                             |                            |                 |

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|                                                                                                                                     |                              |                      |                            |      |      |       |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------|----------------------------|------|------|-------|
| Temperature rise test                                                                                                               |                              |                      | Sample No.: March 29, 2024 |      |      |       |
|                                                                                                                                     |                              |                      | Test date: 2024WG0420      |      |      |       |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.11;<br>GB/T 30843.2-2014 5.13; GB/T 3859.1-2013 7.4.2 |                              |                      |                            |      |      |       |
| Test equipment/No: Infrared thermometer（9-N12）、Digital Power Meter（HKGYIQC0012）、<br>Thermometer（18-07）                              |                              |                      |                            |      |      |       |
| <b>I. Test data:</b>                                                                                                                |                              |                      |                            |      |      |       |
| <b>Test Object:</b> ■All     ■Sample/Part(Name:            Power Unit            )                                                  |                              |                      |                            |      |      |       |
| Main circuit current value:395A<br>f=50Hz <span style="float:right;">Temperature: 18℃ Relative Humidity: 48%</span>                 |                              |                      |                            |      |      |       |
| No.                                                                                                                                 | Test point                   | Temperature rise (K) |                            |      |      |       |
|                                                                                                                                     |                              | Allowable value      | Actual value               |      |      |       |
|                                                                                                                                     |                              |                      | A                          | B    | C    | Other |
| 1                                                                                                                                   | Power unit heat sink         | ≤45                  | /                          | /    | /    | 39.4  |
| 2                                                                                                                                   | Power unit surface           | ≤45                  | /                          | /    | /    | 37.9  |
| 3                                                                                                                                   | Power unit busbar connection | ≤45                  | /                          | /    | /    | 35.8  |
| 4                                                                                                                                   | Machine line                 | ≤35                  | 28.3                       | 29.6 | 27.1 | /     |
| 5                                                                                                                                   | Whole machine outlet         | ≤35                  | 27.3                       | 28.6 | 27.9 | /     |
| Note: The device operates at full load with reactor under input voltage of 10kV and the fan of the device starts.<br>Blank below.   |                              |                      |                            |      |      |       |
| <b>II. Conclusion:</b> Pass.                                                                                                        |                              |                      |                            |      |      |       |

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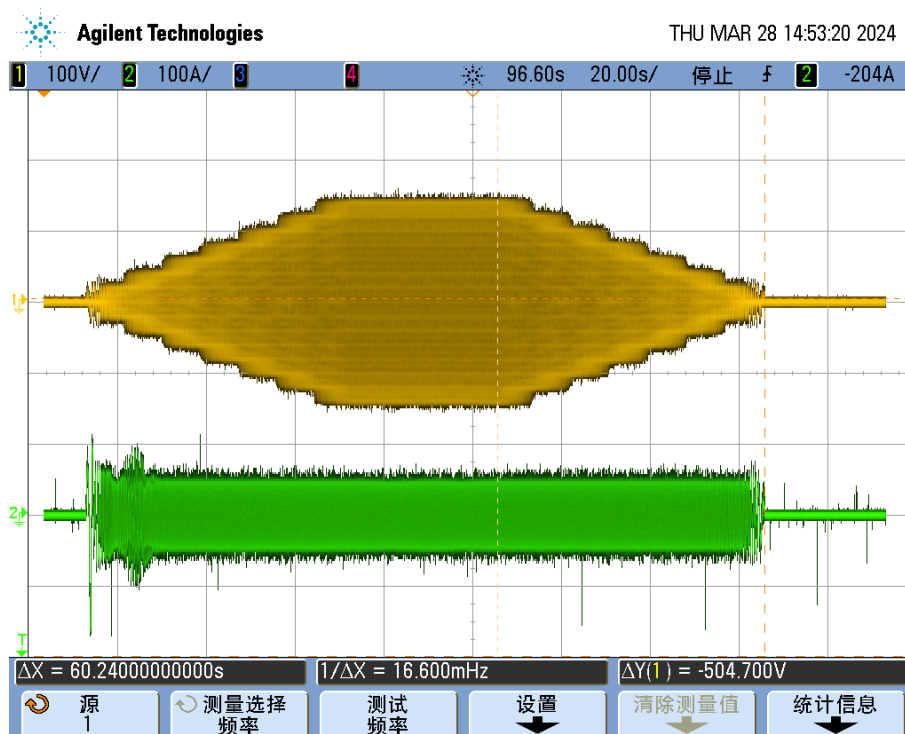
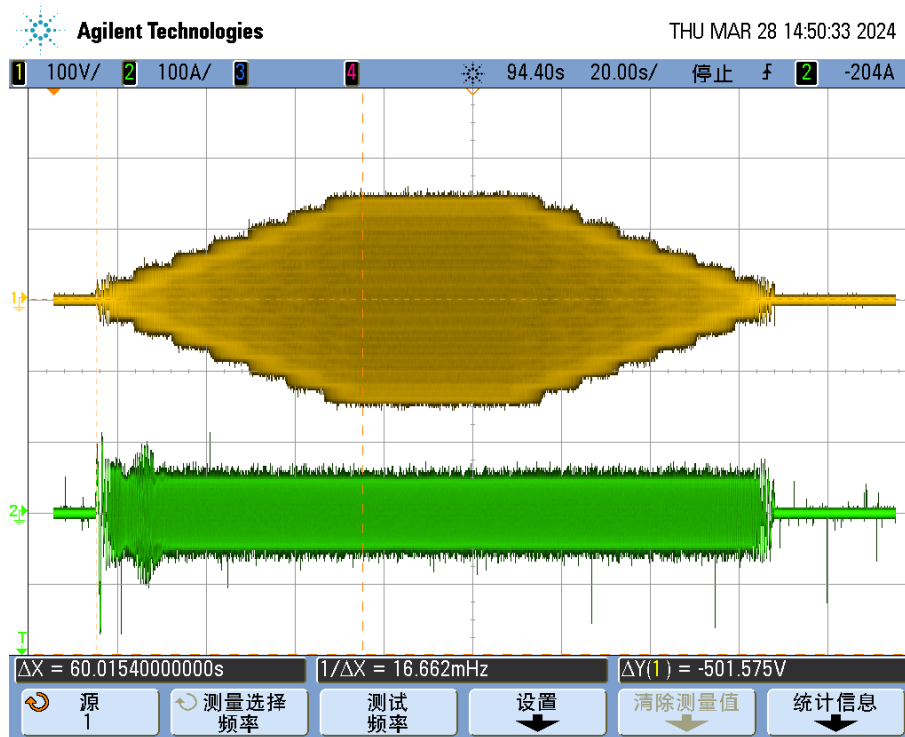
|                                                                                                                                                                                                                                                                           |                            |              |                  |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------|------------------|--------------|
| Auxiliary equipment inspection<br>Starting characteristics (starting and<br>stopping performance test)                                                                                                                                                                    | Sample No.: March 28, 2024 |              |                  |              |
|                                                                                                                                                                                                                                                                           | Test date: 2024WG0420      |              |                  |              |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.1; GB/T 3859.1-2013 7.5.1                                                                                                                                                                                 |                            |              |                  |              |
| Test equipment/No: Digital Oscilloscope (MY50340430)、Digital Power Meter (HKGYIQC0012)                                                                                                                                                                                    |                            |              |                  |              |
| <b>I. Test data:</b><br><br>Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )<br><br>The device starts and stops with a light load on the unit at input voltage Un, and the measured data are as follows: |                            |              |                  |              |
| Input voltage (V)                                                                                                                                                                                                                                                         | Starting time (s)          |              | Parking time (s) |              |
|                                                                                                                                                                                                                                                                           | Set value                  | Actual value | Set value        | Actual value |
| Un                                                                                                                                                                                                                                                                        | 60                         | 60.02        | 60               | 60.24        |
| Note: The device works normally during startup, stable operation and shutdown. See page 16 for the waveform diagram.<br>Blank below.                                                                                                                                      |                            |              |                  |              |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                              |                            |              |                  |              |

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## Starting and stopping performance test waveform diagram (Un)



Note: Channel 1 is the output voltage instantaneous value waveform, with a transformation ratio of 100:1; Channel 2 is the output current instantaneous value waveform, with a transformation ratio of 1mV/1A.

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Auxiliary equipment inspection  
Starting characteristics (free stop  
performance test)

Sample No.: March 28, 2024

Test date: 2024WG0420

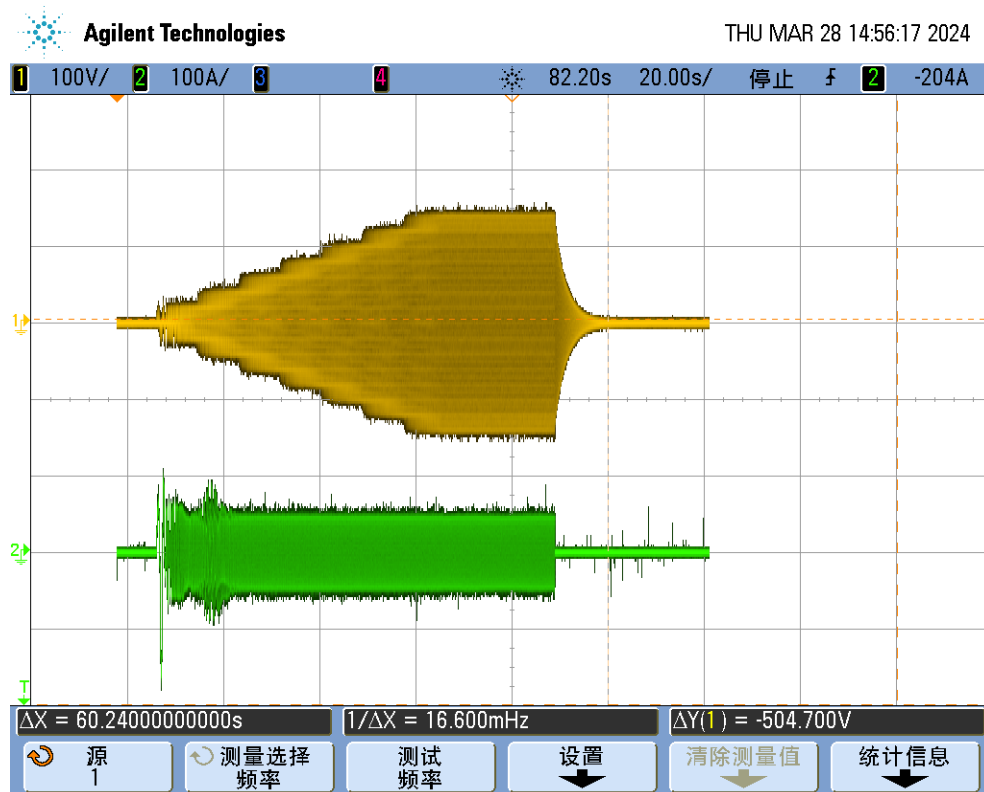
Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.1; GB/T 3859.1-2013 7.5.1

Test equipment/No: Digital Oscilloscope (MY50340430)

## I. Test data:

**Test Object:** ☒ All ☐ Sample/Part(Name: / )

The device input voltage is 10kV, and the unit is running under light load. The free stop waveform is as follows:



Note: Channel 1 is the output voltage instantaneous value waveform, with a transformation ratio of 100:1; Channel 2 is the output current instantaneous value waveform, with a transformation ratio of 1mV/1A.

Blank below.

**II. Conclusion:** Pass.

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| Control device characteristics check<br>(Input current relative harmonic content test)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample No.: March 29, 2024                      |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------|----------------|----------------|-------------------------------------------------|-------------------------------------------------|----------------|-------|-------------------------------------------------|--|--|----------------|----------------|----------------|----------------|----------------|----------------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Test date: 2024WG0420                           |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.7; GB/T 3859.1-2013 7.3.6 7.5.2; Technical conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| I. Test data:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| The device is running with a 1600kW motor at an input voltage of 10kV, an output current of 81A, and an output frequency of 50Hz. The relative harmonic content of the input current of the device is measured as follows:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Total input current harmonic distortion rate (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Allowance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Actual value                                    |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Phase A                                         | Phase B        | Phase C        |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| ≤4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3.57                                            | 2.43           | 3.18           |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| <table><tr><th rowspan="2">Times</th><th colspan="3">Harmonic current content rate of each order (%)</th><th rowspan="2">Times</th><th colspan="3">Harmonic current content rate of each order (%)</th></tr><tr><th>I<sub>A</sub></th><th>I<sub>B</sub></th><th>I<sub>C</sub></th><th>I<sub>A</sub></th><th>I<sub>B</sub></th><th>I<sub>C</sub></th></tr><tr><td>2</td><td>0.97</td><td>0.85</td><td>0.88</td><td>14</td><td>0.03</td><td>0.03</td><td>0.01</td></tr><tr><td>3</td><td>0.91</td><td>0.53</td><td>1.25</td><td>15</td><td>0.15</td><td>0.10</td><td>0.11</td></tr><tr><td>4</td><td>0.27</td><td>0.29</td><td>0.10</td><td>16</td><td>0.05</td><td>0.02</td><td>0.02</td></tr><tr><td>5</td><td>2.82</td><td>1.84</td><td>2.35</td><td>17</td><td>0.12</td><td>0.16</td><td>0.06</td></tr><tr><td>6</td><td>0.28</td><td>0.17</td><td>0.12</td><td>18</td><td>0.02</td><td>0.01</td><td>0.03</td></tr><tr><td>7</td><td>1.29</td><td>0.73</td><td>0.97</td><td>19</td><td>0.18</td><td>0.17</td><td>0.19</td></tr><tr><td>8</td><td>0.07</td><td>0.10</td><td>0.05</td><td>20</td><td>0.02</td><td>0.02</td><td>0.01</td></tr><tr><td>9</td><td>0.32</td><td>0.17</td><td>0.14</td><td>21</td><td>0.02</td><td>0.06</td><td>0.04</td></tr><tr><td>10</td><td>0.04</td><td>0.03</td><td>0.00</td><td>22</td><td>0.01</td><td>0.01</td><td>0.00</td></tr><tr><td>11</td><td>0.74</td><td>0.56</td><td>0.69</td><td>23</td><td>0.11</td><td>0.12</td><td>0.12</td></tr><tr><td>12</td><td>0.03</td><td>0.02</td><td>0.02</td><td>24</td><td>0.02</td><td>0.03</td><td>0.04</td></tr><tr><td>13</td><td>0.68</td><td>0.63</td><td>0.83</td><td>25</td><td>0.13</td><td>0.10</td><td>0.14</td></tr></table> |                                                 |                |                | Times          | Harmonic current content rate of each order (%) |                                                 |                | Times | Harmonic current content rate of each order (%) |  |  | I <sub>A</sub> | I <sub>B</sub> | I <sub>C</sub> | I <sub>A</sub> | I <sub>B</sub> | I <sub>C</sub> | 2 | 0.97 | 0.85 | 0.88 | 14 | 0.03 | 0.03 | 0.01 | 3 | 0.91 | 0.53 | 1.25 | 15 | 0.15 | 0.10 | 0.11 | 4 | 0.27 | 0.29 | 0.10 | 16 | 0.05 | 0.02 | 0.02 | 5 | 2.82 | 1.84 | 2.35 | 17 | 0.12 | 0.16 | 0.06 | 6 | 0.28 | 0.17 | 0.12 | 18 | 0.02 | 0.01 | 0.03 | 7 | 1.29 | 0.73 | 0.97 | 19 | 0.18 | 0.17 | 0.19 | 8 | 0.07 | 0.10 | 0.05 | 20 | 0.02 | 0.02 | 0.01 | 9 | 0.32 | 0.17 | 0.14 | 21 | 0.02 | 0.06 | 0.04 | 10 | 0.04 | 0.03 | 0.00 | 22 | 0.01 | 0.01 | 0.00 | 11 | 0.74 | 0.56 | 0.69 | 23 | 0.11 | 0.12 | 0.12 | 12 | 0.03 | 0.02 | 0.02 | 24 | 0.02 | 0.03 | 0.04 | 13 | 0.68 | 0.63 | 0.83 | 25 | 0.13 | 0.10 | 0.14 |
| Times                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Harmonic current content rate of each order (%) |                |                |                | Times                                           | Harmonic current content rate of each order (%) |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I <sub>A</sub>                                  | I <sub>B</sub> | I <sub>C</sub> | I <sub>A</sub> |                                                 | I <sub>B</sub>                                  | I <sub>C</sub> |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.97                                            | 0.85           | 0.88           | 14             | 0.03                                            | 0.03                                            | 0.01           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.91                                            | 0.53           | 1.25           | 15             | 0.15                                            | 0.10                                            | 0.11           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.27                                            | 0.29           | 0.10           | 16             | 0.05                                            | 0.02                                            | 0.02           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2.82                                            | 1.84           | 2.35           | 17             | 0.12                                            | 0.16                                            | 0.06           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.28                                            | 0.17           | 0.12           | 18             | 0.02                                            | 0.01                                            | 0.03           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.29                                            | 0.73           | 0.97           | 19             | 0.18                                            | 0.17                                            | 0.19           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.07                                            | 0.10           | 0.05           | 20             | 0.02                                            | 0.02                                            | 0.01           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.32                                            | 0.17           | 0.14           | 21             | 0.02                                            | 0.06                                            | 0.04           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.04                                            | 0.03           | 0.00           | 22             | 0.01                                            | 0.01                                            | 0.00           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.74                                            | 0.56           | 0.69           | 23             | 0.11                                            | 0.12                                            | 0.12           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.03                                            | 0.02           | 0.02           | 24             | 0.02                                            | 0.03                                            | 0.04           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.68                                            | 0.63           | 0.83           | 25             | 0.13                                            | 0.10                                            | 0.14           |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Blank below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| II. Conclusion: Pass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                |                |                |                                                 |                                                 |                |       |                                                 |  |  |                |                |                |                |                |                |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |

# Test Report

Report No.: 2024WT0434

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| Control device characteristics check<br>(Output voltage relative harmonic content test)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sample No.: March 29, 2024                      |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------|-----------------|-----------------|-------------------------------------------------|-------------------------------------------------|-----------------|-------|-------------------------------------------------|--|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|---|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|----|------|------|------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Test date: 2024WG0420                           |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1 10.3.3.7; GB/T 30843.1-2014 7.6 ; GB/T 30843.2-2014 5.9; Technical conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| <b>I. Test data:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| <b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| The device is running with a 1600kW motor at an input voltage of 10kV, an output current of 81A, and an output frequency of 50Hz. The relative harmonic content of the output voltage of the device is measured as follows:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Output voltage harmonic total distortion rate (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Actual value                                    |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | U <sub>AB</sub>                                 | U <sub>BC</sub> | U <sub>AC</sub> |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| ≤4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.31                                            | 0.32            | 0.23            |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| <table><tr><th rowspan="2">Times</th><th colspan="3">Harmonic voltage content rate of each order (%)</th><th rowspan="2">Times</th><th colspan="3">Harmonic voltage content rate of each order (%)</th></tr><tr><th>U<sub>ab</sub></th><th>U<sub>ab</sub></th><th>U<sub>ab</sub></th><th>U<sub>ab</sub></th><th>U<sub>ab</sub></th><th>U<sub>ab</sub></th></tr><tr><td>2</td><td>0.07</td><td>0.09</td><td>0.05</td><td>14</td><td>0.02</td><td>0.04</td><td>0.02</td></tr><tr><td>3</td><td>0.04</td><td>0.15</td><td>0.05</td><td>15</td><td>0.05</td><td>0.04</td><td>0.03</td></tr><tr><td>4</td><td>0.05</td><td>0.04</td><td>0.05</td><td>16</td><td>0.07</td><td>0.05</td><td>0.03</td></tr><tr><td>5</td><td>0.14</td><td>0.06</td><td>0.05</td><td>17</td><td>0.11</td><td>0.09</td><td>0.01</td></tr><tr><td>6</td><td>0.04</td><td>0.01</td><td>0.05</td><td>18</td><td>0.06</td><td>0.08</td><td>0.06</td></tr><tr><td>7</td><td>0.07</td><td>0.06</td><td>0.07</td><td>19</td><td>0.04</td><td>0.01</td><td>0.02</td></tr><tr><td>8</td><td>0.05</td><td>0.03</td><td>0.02</td><td>20</td><td>0.02</td><td>0.06</td><td>0.02</td></tr><tr><td>9</td><td>0.04</td><td>0.01</td><td>0.06</td><td>21</td><td>0.05</td><td>0.03</td><td>0.05</td></tr><tr><td>10</td><td>0.06</td><td>0.03</td><td>0.02</td><td>22</td><td>0.05</td><td>0.02</td><td>0.06</td></tr><tr><td>11</td><td>0.08</td><td>0.08</td><td>0.05</td><td>23</td><td>0.04</td><td>0.06</td><td>0.04</td></tr><tr><td>12</td><td>0.07</td><td>0.09</td><td>0.05</td><td>24</td><td>0.07</td><td>0.06</td><td>0.03</td></tr><tr><td>13</td><td>0.05</td><td>0.10</td><td>0.07</td><td>25</td><td>0.05</td><td>0.04</td><td>0.08</td></tr></table> |                                                 |                 |                 | Times           | Harmonic voltage content rate of each order (%) |                                                 |                 | Times | Harmonic voltage content rate of each order (%) |  |  | U <sub>ab</sub> | U <sub>ab</sub> | U <sub>ab</sub> | U <sub>ab</sub> | U <sub>ab</sub> | U <sub>ab</sub> | 2 | 0.07 | 0.09 | 0.05 | 14 | 0.02 | 0.04 | 0.02 | 3 | 0.04 | 0.15 | 0.05 | 15 | 0.05 | 0.04 | 0.03 | 4 | 0.05 | 0.04 | 0.05 | 16 | 0.07 | 0.05 | 0.03 | 5 | 0.14 | 0.06 | 0.05 | 17 | 0.11 | 0.09 | 0.01 | 6 | 0.04 | 0.01 | 0.05 | 18 | 0.06 | 0.08 | 0.06 | 7 | 0.07 | 0.06 | 0.07 | 19 | 0.04 | 0.01 | 0.02 | 8 | 0.05 | 0.03 | 0.02 | 20 | 0.02 | 0.06 | 0.02 | 9 | 0.04 | 0.01 | 0.06 | 21 | 0.05 | 0.03 | 0.05 | 10 | 0.06 | 0.03 | 0.02 | 22 | 0.05 | 0.02 | 0.06 | 11 | 0.08 | 0.08 | 0.05 | 23 | 0.04 | 0.06 | 0.04 | 12 | 0.07 | 0.09 | 0.05 | 24 | 0.07 | 0.06 | 0.03 | 13 | 0.05 | 0.10 | 0.07 | 25 | 0.05 | 0.04 | 0.08 |
| Times                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Harmonic voltage content rate of each order (%) |                 |                 |                 | Times                                           | Harmonic voltage content rate of each order (%) |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | U <sub>ab</sub>                                 | U <sub>ab</sub> | U <sub>ab</sub> | U <sub>ab</sub> |                                                 | U <sub>ab</sub>                                 | U <sub>ab</sub> |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.07                                            | 0.09            | 0.05            | 14              | 0.02                                            | 0.04                                            | 0.02            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.04                                            | 0.15            | 0.05            | 15              | 0.05                                            | 0.04                                            | 0.03            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.05                                            | 0.04            | 0.05            | 16              | 0.07                                            | 0.05                                            | 0.03            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.14                                            | 0.06            | 0.05            | 17              | 0.11                                            | 0.09                                            | 0.01            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.04                                            | 0.01            | 0.05            | 18              | 0.06                                            | 0.08                                            | 0.06            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.07                                            | 0.06            | 0.07            | 19              | 0.04                                            | 0.01                                            | 0.02            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.05                                            | 0.03            | 0.02            | 20              | 0.02                                            | 0.06                                            | 0.02            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.04                                            | 0.01            | 0.06            | 21              | 0.05                                            | 0.03                                            | 0.05            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.06                                            | 0.03            | 0.02            | 22              | 0.05                                            | 0.02                                            | 0.06            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.08                                            | 0.08            | 0.05            | 23              | 0.04                                            | 0.06                                            | 0.04            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.07                                            | 0.09            | 0.05            | 24              | 0.07                                            | 0.06                                            | 0.03            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| 13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.05                                            | 0.10            | 0.07            | 25              | 0.05                                            | 0.04                                            | 0.08            |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| Blank below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 |                 |                 |                 |                                                 |                                                 |                 |       |                                                 |  |  |                 |                 |                 |                 |                 |                 |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |   |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |    |      |      |      |

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|                                                                                                                                                                          |                            |                     |                 |                 |                              |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------|-----------------|-----------------|------------------------------|--------------|
| Control device characteristics check<br>(Output voltage range and asymmetry rate)                                                                                        | Sample No.: March 28, 2024 |                     |                 |                 |                              |              |
|                                                                                                                                                                          | Test date: 2024WG0420      |                     |                 |                 |                              |              |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.7 ;<br>GB/T 30843.2-2014 5.10                                                              |                            |                     |                 |                 |                              |              |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                     |                            |                     |                 |                 |                              |              |
| <b>I. Test data:</b>                                                                                                                                                     |                            |                     |                 |                 |                              |              |
| <b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                 |                            |                     |                 |                 |                              |              |
| The device is running with the unit at an input voltage of 10kV and an output frequency of 50Hz. The output voltage asymmetry data of the device is measured as follows: |                            |                     |                 |                 |                              |              |
| Input voltage (kV)                                                                                                                                                       | Output voltage range (kV)  | Output voltage (kV) |                 |                 | Output voltage asymmetry (%) |              |
|                                                                                                                                                                          |                            | U <sub>AB</sub>     | U <sub>BC</sub> | U <sub>CA</sub> | Specified value              | Actual value |
| 10.100                                                                                                                                                                   | 0~10                       | 9.939               | 9.928           | 9.929           | ≤5                           | 0.07         |
| Blank below.                                                                                                                                                             |                            |                     |                 |                 |                              |              |
| <b>II. Conclusion:</b> Pass                                                                                                                                              |                            |                     |                 |                 |                              |              |

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|                                                                                                                                                                                |                                |                    |                |                |                              |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------|----------------|----------------|------------------------------|--------------|
| Control device characteristics check<br>(Output current range and imbalance)                                                                                                   | Sample No.: March 28, 2024     |                    |                |                |                              |              |
|                                                                                                                                                                                | Test date: 2024WG0420          |                    |                |                |                              |              |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.7 ;<br>GB/T 30843.2-2014 5.10                                                                    |                                |                    |                |                |                              |              |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                           |                                |                    |                |                |                              |              |
| <b>I. Test data:</b>                                                                                                                                                           |                                |                    |                |                |                              |              |
| <b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                       |                                |                    |                |                |                              |              |
| The device is operated with reactance at an input voltage of 10kV and an output frequency of 50Hz.<br>The measured output current imbalance data of the device are as follows: |                                |                    |                |                |                              |              |
| Input<br>voltage (kV)                                                                                                                                                          | Output<br>current<br>range (A) | Output current (A) |                |                | Output current imbalance (%) |              |
|                                                                                                                                                                                |                                | I <sub>A</sub>     | I <sub>B</sub> | I <sub>C</sub> | Specified value              | Actual value |
| 10.253                                                                                                                                                                         | 0~395                          | 398.9              | 398.8          | 395.4          | ≤5                           | 0.22         |
| $\text{Current imbalance} = \frac{\text{Maximum current value} - \text{Minimum current value}}{\text{Current average value}} \times 100\%$<br>Blank below.                     |                                |                    |                |                |                              |              |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                   |                                |                    |                |                |                              |              |

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|                                                                                                                                                                                   |                            |                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------|
| Control device characteristics check<br>(Frequency stability accuracy test)                                                                                                       | Sample No.: March 28, 2024 |                       |
|                                                                                                                                                                                   | Test date: 2024WG0420      |                       |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.8;<br>GB/T 3859.1-2013 6.4.3                                                                        |                            |                       |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                                                              |                            |                       |
| <b>I. Test data:</b>                                                                                                                                                              |                            |                       |
| <b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                          |                            |                       |
| The device is running with light load and output frequency of 50Hz at input voltage of 10kV. The output frequency data are measured every 5 minutes within 30 minutes as follows: |                            |                       |
| Input voltage (kV)                                                                                                                                                                | Testing time               | Output frequency (Hz) |
| 10                                                                                                                                                                                | 14:00                      | 49.99                 |
|                                                                                                                                                                                   | 14:05                      | 50.01                 |
|                                                                                                                                                                                   | 14:10                      | 49.99                 |
|                                                                                                                                                                                   | 14:15                      | 49.99                 |
|                                                                                                                                                                                   | 14:20                      | 50.00                 |
|                                                                                                                                                                                   | 14:25                      | 50.00                 |
|                                                                                                                                                                                   | 14:30                      | 50.00                 |
| Blank below.                                                                                                                                                                      |                            |                       |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                      |                            |                       |

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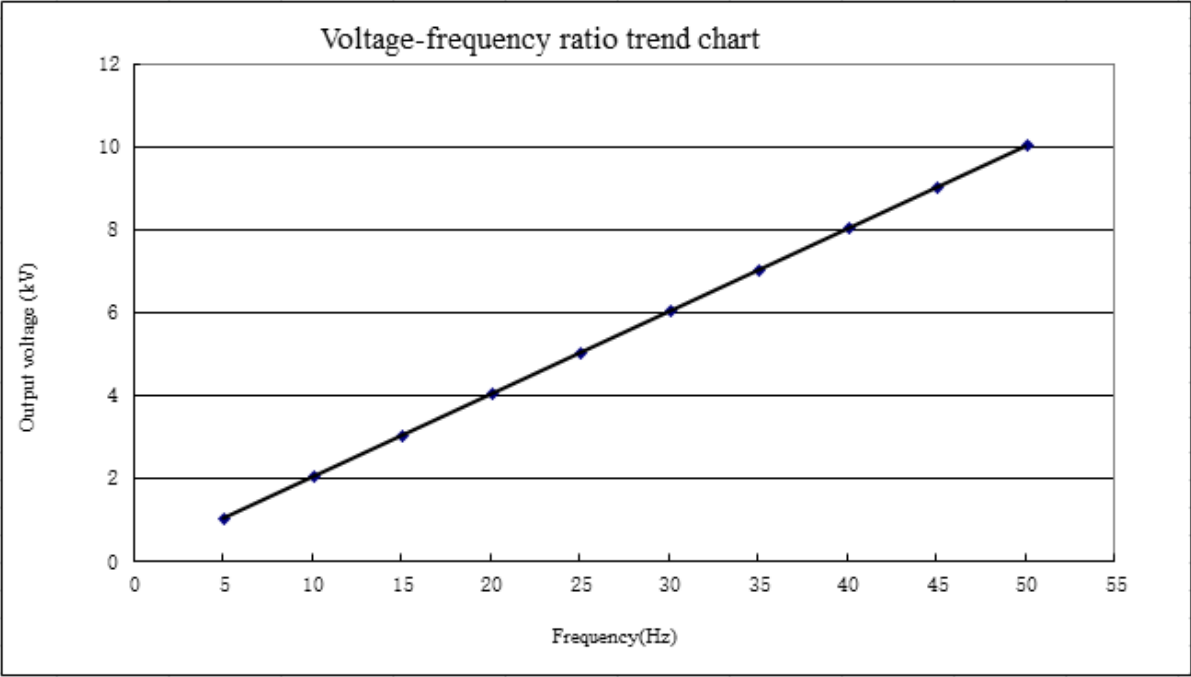
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|                                                                                                                                                                                                                                                                                  |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Control device characteristics check<br>(Frequency output range test,<br>frequency resolution test)                                                                                                                                                                              | Sample No.: March 28, 2024 |
|                                                                                                                                                                                                                                                                                  | Test date: 2024WG0420      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.9;<br>GB/T 30843.2-2014 5.11                                                                                                                                                                       |                            |
| Test equipment/No: /                                                                                                                                                                                                                                                             |                            |
| <b>I. Test data:</b><br><br><b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:         /         )<br><br>The device can set the output frequency range: 0~150Hz; the display frequency resolution is: 0.01.<br>Blank below. |                            |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                     |                            |

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|                                                                                                                                           |                            |       |       |       |       |
|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------|-------|-------|-------|
| Control device characteristics check<br>(Voltage-frequency ratio test)                                                                    | Sample No.: March 28, 2024 |       |       |       |       |
|                                                                                                                                           | Test date: 2024WG0420      |       |       |       |       |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 30843.1-2014 7.8 7.9                                                       |                            |       |       |       |       |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)                                                                                      |                            |       |       |       |       |
| <b>I. Test data:</b>                                                                                                                      |                            |       |       |       |       |
| <b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                  |                            |       |       |       |       |
| The device is running with light load under the input voltage of 10kV, and the voltage-frequency ratio is measured as follows:            |                            |       |       |       |       |
| Output frequency (Hz)                                                                                                                     | 5                          | 10    | 15    | 20    | 25    |
| Output voltage (kV)                                                                                                                       | 1.251                      | 2.114 | 3.027 | 4.047 | 5.028 |
| Output frequency (Hz)                                                                                                                     | 30                         | 35    | 40    | 45    | 50    |
| Output voltage (kV)                                                                                                                       | 5.994                      | 6.988 | 7.969 | 8.951 | 9.932 |
| <div><p>Voltage-frequency ratio trend chart</p></div> |                            |       |       |       |       |
| Blank below.                                                                                                                              |                            |       |       |       |       |
| <b>II. Conclusion:</b> Pass.                                                                                                              |                            |       |       |       |       |

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|                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Protection function check                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sample No.: March 28, 2024 |
|                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Test date: 2024WG0420      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 3859.1-2013 7.5.3;<br>GB/T 30843.1-2014 7.5; GB/T 30843.2-2014 5.8;<br>GB/T 12668.502-2013/IEC 61800-5-2:2007 6.3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |
| Test equipment/No: Digital Power Meter (HKGYIQC0012)、Digital Oscilloscope (MY50340430)                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |
| I. Test data:                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |
| Conservation Project                                                                                                                                                             | Protection function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |
| Power unit overvoltage protection                                                                                                                                                | The rated DC voltage of the power unit is 975V. During operation, the power unit voltage is increased to 1100V, and the device reports a first-level overvoltage minor fault. When the voltage rises to 1230V, the device shuts down for protection, the fault light comes on, and "unit fault" is displayed on the touch screen, and "B1 unit overvoltage fault" is displayed in the status information.                                                                                                                    |                            |
| Power unit undervoltage protection                                                                                                                                               | The rated DC voltage of the power unit is 975V. During operation, the power unit voltage is reduced to 680V, and the device reports a first-level undervoltage minor fault. When the voltage drops to 520V, the device shuts down for protection, the fault light comes on, and "unit fault" is displayed on the touch screen, and "B1 unit undervoltage fault" is displayed in the status information.                                                                                                                      |                            |
| Transformer over-temperature protection                                                                                                                                          | When the device is running with motor load at 10kV input voltage and the temperature detection point of the transformer is heated to 80℃, the device alarms and the touch screen displays "Transformer cabinet overheat alarm". When the temperature detection point of the transformer is heated to 130℃, the device shuts down for protection and the touch screen displays "Transformer cabinet overheat trip".                                                                                                           |                            |
| Unit failure alarm                                                                                                                                                               | Unplug the A8 unit's downstream communication optical fiber, and the alarm displays "unit failure". After inserting the optical fiber, manually perform a reset operation on the touch screen or DCS and it returns to normal.                                                                                                                                                                                                                                                                                               |                            |
| Phase loss protection                                                                                                                                                            | A simulated test was conducted on the power unit of the device. The B phase of the A5 unit fuse was unplugged. The touch screen displayed "A5 unit alarm minor fault" and the status information displayed "A5 unit B phase is missing".                                                                                                                                                                                                                                                                                     |                            |
| Overcurrent protection                                                                                                                                                           | Set the overcurrent protection value of the device to 150%In (In=395A). When the device is loaded and running, and the output current rises to 603.43A (152.77%In), the device reports a fault and shuts down for protection. For the overcurrent protection test, see page 26.                                                                                                                                                                                                                                              |                            |
| Accidental door opening alarm protection                                                                                                                                         | The device input rated voltage is 10kV, the motor is running without load, and the cabinet door is set to light or heavy fault. When it is set to light fault, the cabinet door is opened manually, and the device touch screen displays "unit cabinet door alarm" and an alarm is sounded. The alarm disappears after the cabinet door is closed; when it is set to heavy fault, the touch screen displays "unit cabinet door heavy fault" and the machine is shut down for protection.                                     |                            |
| Operation interruption high voltage                                                                                                                                              | When the device is running with motor load at an input voltage of 10kV and the high voltage is disconnected for more than 5s during operation, the device shuts down for protection and "high voltage power failure" is displayed on the touch screen.                                                                                                                                                                                                                                                                       |                            |
| Power unit overheat protection                                                                                                                                                   | A simulated test was conducted on the power unit of the device. The temperature control detection lines XS5/XS6 of the power unit were short-circuited. The device was shut down for protection, the fault light came on, and "rectifier bridge overtemperature/IGBT overtemperature" was displayed on the touch screen. "B1 overheat fault" was displayed in the status information.                                                                                                                                        |                            |
| Communication failure                                                                                                                                                            | Unplug the communication cable between the touch screen and the main control component, and the touch screen displays "IO board upstream communication failure", which is a serious fault; unplug the communication cable between the touch screen and the interface board, and the touch screen displays "IO board downstream communication failure", which is a serious fault; unplug the network cable of the main control board, and the touch screen displays "touch screen not communicating", which is a minor fault. |                            |
| II. Conclusion: Pass.                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |

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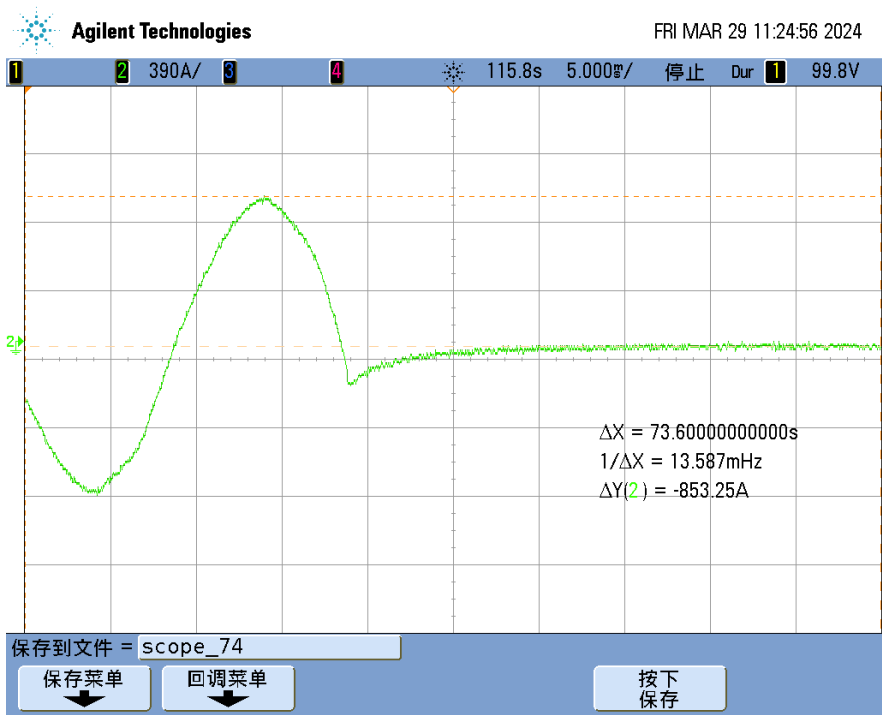
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|                                                                                                                                                                                  |                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Protection function check<br>(Overcurrent protection test)                                                                                                                       | Sample No.: March 29, 2024 |
|                                                                                                                                                                                  | Test date: 2024WG0420      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 3859.1-2013 7.5.3;<br>GB/T 30843.1-2014 7.5; GB/T 30843.2-2014 5.8;<br>GB/T 12668.502-2013/IEC 61800-5-2:2007 6.3 |                            |
| Test equipment/No: Digital Oscilloscope (MY50340430)                                                                                                                             |                            |

## I. Test data:

Test Object: ☒All    ☐Sample/Part(Name:        /        )

The device input voltage is 10kV, and it runs with a reactor. The overcurrent protection limit is set to 592.5A (150%In). When the device starts running and the output current is 603.43A (152.77%In), the unit reports a fault and shuts down for protection. The waveform is as follows:



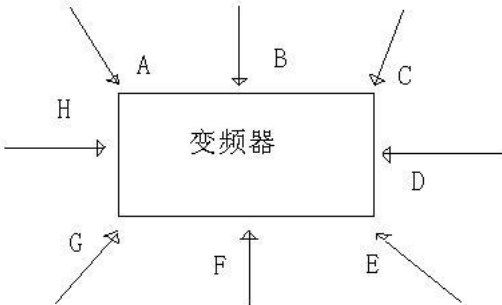
Note: Channel 2 is the output current instantaneous value waveform, with a transformation ratio of 1mV/1A.  
Blank below.

II. Conclusion: Pass.

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |      |      |      |      |      |      |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------|------|------|------|------|------|------|
| Noise test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sample No.: March 28, 2024 |      |      |      |      |      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Test date: 2024WG0420      |      |      |      |      |      |      |      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.2.2.1; GB/T 3859.1-2013 7.7;<br>GB/T 30843.1-2014 7.4 ; GB/T 30843.2-2014 5.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |      |      |      |      |      |      |      |
| Test equipment/No: Sound level meter (4G-s01)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |      |      |      |      |      |      |      |
| <b>I. Test data:</b><br><br><b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )<br><br>The device is running at full load with reactance at an input voltage of 10kV and an output frequency of 50Hz. The noise is measured at a distance of 1m from the device and at a position of 1/2 the height of the device as follows:<br><br><div style="text-align: center;"></div><br><br>A weighting: (Sound pressure level) <span style="float: right;">(dB)</span> |                            |      |      |      |      |      |      |      |
| Allowance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Actual value               |      |      |      |      |      |      |      |
| ≤85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | A                          | B    | C    | D    | E    | F    | G    | H    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 81.3                       | 83.8 | 80.8 | 77.6 | 77.1 | 77.4 | 80.3 | 79.8 |
| Background noise: 39.6dB<br>Blank below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |      |      |      |      |      |      |      |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |      |      |      |      |      |      |      |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Degrees of protection                                                                                                                                                                                                                                                                                                                                                                                                                         | Sample No.: March 28, 2024 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                               | Test date: 2024WG0420      |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 8.3.2.1; GB/T 30843.1-2014 7.3; GB/T 30843.2-2014 5.6                                                                                                                                                                                                                                                                                                                                         |                            |
| Test equipment/No: Enclosure protection test fixture C rigid test bar (G-S01-3/6) ; Pointer push-pull force gauge (HQ-10) ; Thermometer (18-07) ; Empty box air pressure gauge (15-50)                                                                                                                                                                                                                                                        |                            |
| <b>I. Test data:</b><br><br><b>Test Object:</b> <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:       /       )<br><br>Temperature: 18°C Relative Humidity: 46% Atmosphere: 100.8kPa<br><br>A Φ2.5mm test rod was used to apply a force of 3N to check the gap in the test case, but the test rod failed to enter.<br><br>The protection level of the case meets the IP30 requirement.<br><br>Blank below. |                            |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |

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|                                                                                                                          |                           |                            |                  |                     |                                   |                     |                             |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------------|------------------|---------------------|-----------------------------------|---------------------|-----------------------------|
| Electromagnetic compatibility test<br>(Electrostatic discharge immunity test)                                            | Sample No.: April 2, 2024 |                            |                  |                     |                                   |                     |                             |
|                                                                                                                          | Test date: 2024WG0420     |                            |                  |                     |                                   |                     |                             |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.3.3.16; GB/T 30843.1-2014 7.17; GB/T 30843.2-2014 5.19                |                           |                            |                  |                     |                                   |                     |                             |
| Test equipment/No: Electrostatic Discharge Generator (18-28)、Thermometer (18-12)、Empty box air pressure gauge (15-55)    |                           |                            |                  |                     |                                   |                     |                             |
| <b>I. Test data:</b>                                                                                                     |                           |                            |                  |                     |                                   |                     |                             |
| <b>Test Object:</b> <input type="checkbox"/> All <input checked="" type="checkbox"/> Sample/Part(Name: Control section ) |                           |                            |                  |                     |                                   |                     |                             |
| Temperature: 15.3℃    Relative Humidity: 35.5%    Atmosphere: 101.8kPa                                                   |                           |                            |                  |                     |                                   |                     |                             |
| The device runs without load, and the test sequence is from low level to high level:                                     |                           |                            |                  |                     |                                   |                     |                             |
| Application site                                                                                                         | Test voltage (kV)         | Discharge voltage polarity | Discharge method | discharge frequency | Discharge twice time interval (s) | Discharge selection | Experimental implementation |
| Shell, Coupling plate                                                                                                    | 4                         | +、-                        | 1                | 10                  | 1                                 | contact discharge   | direct/indirect             |
| Display, buttons                                                                                                         | 8                         | +、-                        | 1                | 10                  | 1                                 | air discharge       | direct                      |
| The device displays and works normally and meets performance criterion A.<br>Blank below.                                |                           |                            |                  |                     |                                   |                     |                             |
| <b>II. Conclusion:</b> Pass.                                                                                             |                           |                            |                  |                     |                                   |                     |                             |

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|                                                                                                                                             |                  |                           |              |                            |                      |                   |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------|--------------|----------------------------|----------------------|-------------------|
| Electromagnetic compatibility test<br>(Surge immunity test)                                                                                 |                  | Sample No.: April 2, 2024 |              |                            |                      |                   |
|                                                                                                                                             |                  | Test date: 2024WG0420     |              |                            |                      |                   |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.3.3.16; GB/T 30843.1-2014 7.17; GB/T 30843.2-2014 5.19                                   |                  |                           |              |                            |                      |                   |
| Test equipment/No: Combined anti-interference simulator (19-20/19-21)、High voltage probe (P6015A)、Oscilloscope (4B-N04)、Thermometer (18-12) |                  |                           |              |                            |                      |                   |
| <b>I. Test data:</b>                                                                                                                        |                  |                           |              |                            |                      |                   |
| <b>Test Object:</b> <input type="checkbox"/> All <input checked="" type="checkbox"/> Sample/Part(Name: Control section )                    |                  |                           |              |                            |                      |                   |
| Temperature: 15.3℃    Relative Humidity: 35.5%                                                                                              |                  |                           |              |                            |                      |                   |
| The test instrument verified that the output signal was normal.                                                                             |                  |                           |              |                            |                      |                   |
| The device was running without load, and the test sequence was from low level to high level:                                                |                  |                           |              |                            |                      |                   |
| Application site                                                                                                                            | Application site | Discharge type            | Phase (°)    | Discharge voltage polarity | Number of discharges | Time interval (s) |
| L-N                                                                                                                                         | 1                | Differential mode         | 0、90、180、270 | +、-                        | 5                    | 30                |
| The device displays and works normally and meets performance criterion A.                                                                   |                  |                           |              |                            |                      |                   |
| Blank below.                                                                                                                                |                  |                           |              |                            |                      |                   |
| <b>II. Conclusion:</b> Pass.                                                                                                                |                  |                           |              |                            |                      |                   |

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|                                                                                                                                                                               |                           |          |                        |                 |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------|------------------------|-----------------|----------------|
| Electromagnetic compatibility test<br>(Electrical Fast Transient Burst Immunity)                                                                                              | Sample No.: April 2, 2024 |          |                        |                 |                |
|                                                                                                                                                                               | Test date: 2024WG0420     |          |                        |                 |                |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.3.3.16; GB/T 30843.1-2014 7.17; GB/T 30843.2-2014 5.19                                                                     |                           |          |                        |                 |                |
| Test equipment/No: Combined anti-interference simulator (19-20/19-21)、Pulse Group Attenuator (19-01)、Pulse Group Attenuator (19-02)、Oscilloscope (4B-N04)、Thermometer (18-12) |                           |          |                        |                 |                |
| <b>I. Test data:</b>                                                                                                                                                          |                           |          |                        |                 |                |
| <b>Test Object:</b> <input type="checkbox"/> All <input checked="" type="checkbox"/> Sample/Part(Name: Control section )                                                      |                           |          |                        |                 |                |
| Temperature: 15.3℃      Relative Humidity: 35.5%                                                                                                                              |                           |          |                        |                 |                |
| The test instrument verified that the output signal was normal.                                                                                                               |                           |          |                        |                 |                |
| Device no-load operation:                                                                                                                                                     |                           |          |                        |                 |                |
| Application site                                                                                                                                                              | Voltage (kV)              | Polarity | Repeat frequency (kHz) | Duration/period | Apply time (s) |
| L、N                                                                                                                                                                           | 2                         | +、-      | 5                      | 15ms/300ms      | 60             |
| The device displays and works normally and meets performance criterion A.                                                                                                     |                           |          |                        |                 |                |
| Blank below.                                                                                                                                                                  |                           |          |                        |                 |                |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                  |                           |          |                        |                 |                |

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|                                                                                                                                       |                 |                           |                |                                    |             |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------|----------------|------------------------------------|-------------|
| Electromagnetic compatibility test<br>(Radiated immunity test)                                                                        |                 | Sample No.: April 2, 2024 |                |                                    |             |
|                                                                                                                                       |                 | Test date: 2024WG0420     |                |                                    |             |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.3.3.16; GB/T 30843.1-2014 7.17; GB/T 30843.2-2014 5.19                             |                 |                           |                |                                    |             |
| Test equipment/No: Thermometer (18-12)、Signal Generator (GSXT-01)、Transmitting antenna (GSXT-08)、Power Amplifier (GSXT-04)            |                 |                           |                |                                    |             |
| <b>I. Test data:</b>                                                                                                                  |                 |                           |                |                                    |             |
| <b>Test Object:</b> <input type="checkbox"/> All <input checked="" type="checkbox"/> Sample/Part(Name: Control section )              |                 |                           |                |                                    |             |
| Temperature: 15.3℃    Relative Humidity: 35.5%                                                                                        |                 |                           |                |                                    |             |
| Device no-load operation:                                                                                                             |                 |                           |                |                                    |             |
| Application site                                                                                                                      | Frequency Range | Test level                | Frequency step | Dwell time of each frequency point | Sample type |
| Shell                                                                                                                                 | 80-1000         | 3                         | Baseband 1%    | 1s                                 | Desktop     |
| The device displays and works normally, meeting performance criterion A.<br>Note: Test software name: DC-EMC, version number: V01.27. |                 |                           |                |                                    |             |
| Blank below.                                                                                                                          |                 |                           |                |                                    |             |
| <b>II. Conclusion:</b> Pass.                                                                                                          |                 |                           |                |                                    |             |

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|                                                                                                                                                             |                 |            |                           |                                    |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|---------------------------|------------------------------------|-------------|
| Electromagnetic compatibility test<br>(Conducted disturbance immunity test)                                                                                 |                 |            | Sample No.: April 2, 2024 |                                    |             |
|                                                                                                                                                             |                 |            | Test date: 2024WG0420     |                                    |             |
| Test basis: GB/T 12668.4-2006/IEC 61800-4: 2002 10.3.3.16; GB/T 30843.1-2014 7.17; GB/T 30843.2-2014 5.19                                                   |                 |            |                           |                                    |             |
| Test equipment/No: Thermometer (18-12)、Signal Generator (GSXT-01)、Coupling and Decoupling Networks (GSXT-17)、Power Amplifier (GSXT-03)、Attenuator (GSXT-18) |                 |            |                           |                                    |             |
| <b>I. Test data:</b>                                                                                                                                        |                 |            |                           |                                    |             |
| <b>Test Object:</b> <input type="checkbox"/> All <input checked="" type="checkbox"/> Sample/Part(Name: Control section )                                    |                 |            |                           |                                    |             |
| Temperature: 15.3℃    Relative Humidity: 35.5%                                                                                                              |                 |            |                           |                                    |             |
| Device no-load operation:                                                                                                                                   |                 |            |                           |                                    |             |
| Application site                                                                                                                                            | Frequency Range | Test level | Frequency step            | Dwell time of each frequency point | Sample type |
| L、N                                                                                                                                                         | 150kHz-80MHz    | 10V        | Baseband 1%               | 1s                                 | Desktop     |
| The device displays and works normally, meeting performance criterion A.<br>Note: Test software name: DC-EMC, version number: V01.27.                       |                 |            |                           |                                    |             |
| Blank below.                                                                                                                                                |                 |            |                           |                                    |             |
| <b>II. Conclusion:</b> Pass.                                                                                                                                |                 |            |                           |                                    |             |

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|                                                                                                                     |                            |                |                        |                |
|---------------------------------------------------------------------------------------------------------------------|----------------------------|----------------|------------------------|----------------|
| Minimum clearance and creepage distances                                                                            | Sample No.: March 28, 2024 |                |                        |                |
|                                                                                                                     | Test date: 2024WG0420      |                |                        |                |
| Test basis: GB/T 30843.1-2014 7.2.3 、GB/T 30843.2-2014 5.4                                                          |                            |                |                        |                |
| Test equipment/No: Vernier caliper (YK <sub>2</sub> 250) 、Thermometer (18-07) 、Empty box air pressure gauge (15-53) |                            |                |                        |                |
| <b>I. Test data:</b>                                                                                                |                            |                |                        |                |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )   |                            |                |                        |                |
| Temperature: 16°C    Relative Humidity: 46%    Atmosphere: 101.4kPa                                                 |                            |                |                        |                |
| Test site                                                                                                           | Electrical clearance (mm)  |                | Creepage distance (mm) |                |
|                                                                                                                     | Allowed values             | Measured value | Allowed values         | Measured value |
| Device outlet terminal A-B                                                                                          | ≥90                        | 140            | ≥160                   | 520            |
| Device outlet terminal A-ground                                                                                     | ≥90                        | 130            | ≥160                   | 260            |
| Blank below.                                                                                                        |                            |                |                        |                |
| <b>II. Conclusion:</b> Pass.                                                                                        |                            |                |                        |                |

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|                                                                                                                                                        |                                  |                        |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------|----------------|
| Ground protection continuity                                                                                                                           | Sample No.: March 28, 2024       |                        |                |
|                                                                                                                                                        | Test date: 2024WG0420            |                        |                |
| Test basis: GB/T 30843.1-2014 7.2.4、GB/T 30843.2-2014 5.5                                                                                              |                                  |                        |                |
| Test equipment/No: Intelligent fully automatic ground continuity measuring instrument (BJ-01)、Thermometer (18-07)、Empty box air pressure gauge (15-53) |                                  |                        |                |
| I. Test data:                                                                                                                                          |                                  |                        |                |
| Test Object: <input checked="" type="checkbox"/> All <input type="checkbox"/> Sample/Part(Name:        /        )                                      |                                  |                        |                |
| Temperature: 16°C    Relative Humidity: 46%    Atmosphere: 101.4kPa                                                                                    |                                  |                        |                |
| No.                                                                                                                                                    | Test site                        | Ground resistance (mΩ) |                |
|                                                                                                                                                        |                                  | Allowed values         | Measured value |
| 1                                                                                                                                                      | Unit cabinet door lock—PE        | ≤100                   | <100           |
| 2                                                                                                                                                      | Transformer cabinet door lock—PE | ≤100                   | <100           |
| 3                                                                                                                                                      | Control cabinet door lock—PE     | ≤100                   | <100           |
| 4                                                                                                                                                      | Fan housing—PE                   | ≤100                   | <100           |
| Blank below.                                                                                                                                           |                                  |                        |                |
| II. Conclusion: Pass.                                                                                                                                  |                                  |                        |                |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Control power supply stability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sample No.: March 28, 2024 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Test date: 2024WG0420      |
| Test basis: GB/T 30843.1-2014 7.15 、GB/T 30843.2-2014 5.17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |
| Test equipment/No: Digital Power Meter（HKGYIQC0012）                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |
| <b>I. Test data:</b><br><br><b>Test Object:</b> ■All     □Sample/Part(Name:       /       )<br><br>The device inputs a rated voltage of 10kV, and runs with a 1600kW motor at no-load. The external control power supply (220V) is disconnected, and the transformer auxiliary winding power supply is automatically cut in. The external control power supply (220V) is re-supplied, and the transformer auxiliary winding power supply is automatically disconnected. During this process, the inverter operates normally.<br><br>Blank below. |                            |
| <b>II. Conclusion:</b> Pass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |

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| Test Equipment List |                                                                    |                |                     |                      |
|---------------------|--------------------------------------------------------------------|----------------|---------------------|----------------------|
| Sequence            | Name                                                               | Model          | No.                 | Calibration validity |
| 1                   | Steel tape                                                         | 7.5m           | 21-03               | 2024-12-24           |
| 2                   | Insulation resistance tester                                       | 3455-20        | HKY873              | 2024-08-02           |
| 3                   | Multifunctional operation box                                      | SR-10000       | HKGY0058            | 2025-02-25           |
| 4                   | Digital Power Meter                                                | WT1600         | HKGYIQC0012         | 2025-03-07           |
| 5                   | Digital Oscilloscope                                               | DSO7054B       | MY50340430          | 2024-11-26           |
| 6                   | Infrared thermometer                                               | ST80           | 9-N12               | 2024-06-30           |
| 7                   | Sound level meter                                                  | AWA5661        | 4G-s01              | 2024-12-24           |
| 8                   | Enclosure protection test fixture C steel test rod                 | TFSJ2.5*100    | G-S01-3/6           | 2024-12-26           |
| 9                   | Pointer push-pull force gauge                                      | SN-10          | HQ-10               | 2024-12-26           |
| 10                  | Thermometer                                                        | TH101B         | 18-07               | 2024-12-25           |
| 11                  | Empty box air pressure gauge                                       | DYM3           | 15-53               | 2024-12-25           |
| 12                  | Vernier caliper                                                    | 81333(19-2930) | YK <sub>2</sub> 250 | 2024-06-03           |
| 13                  | Intelligent fully automatic ground continuity measuring instrument | AN9611M        | BJ-01               | 2024-07-15           |
|                     | Blank below                                                        |                |                     |                      |
|                     |                                                                    |                |                     |                      |
|                     |                                                                    |                |                     |                      |
|                     |                                                                    |                |                     |                      |
|                     |                                                                    |                |                     |                      |
|                     |                                                                    |                |                     |                      |
|                     |                                                                    |                |                     |                      |
|                     |                                                                    |                |                     |                      |
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# Test Report

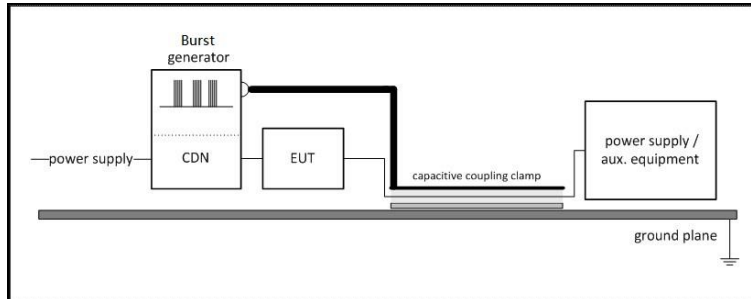
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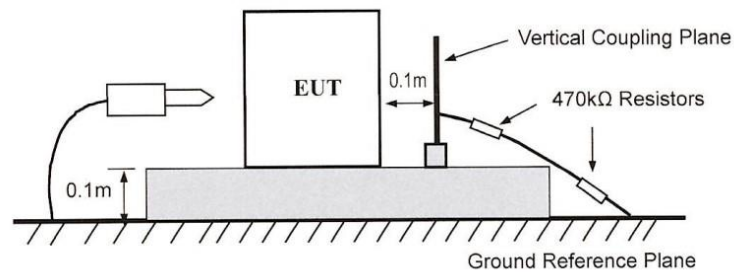
## EMC Test Equipment List

| Sequence | Name                                 | Model          | No.         | Calibration validity |
|----------|--------------------------------------|----------------|-------------|----------------------|
| 1        | Electrostatic Discharge Generator    | esd NX30       | 18-28       | 2024-07-12           |
| 2        | Combined anti-interference simulator | Compact NX5    | 19-20/19-21 | 2024-07-02           |
| 3        | Pulse Group Attenuator               | KW50           | 19-01       | 2024-12-24           |
| 4        | Pulse Group Attenuator               | KW1000         | 19-02       | 2024-12-24           |
| 5        | High voltage probe                   | P6015A         | P6015A      | 2024-12-24           |
| 6        | Oscilloscope                         | MDO3012        | 4B-N04      | 2024-05-21           |
| 7        | Signal Generator                     | N5181A         | GSXT-01     | 2024-12-17           |
| 8        | Coupling and Decoupling Networks     | CDN L801 M2/M3 | GSXT-17     | 2024-12-17           |
| 9        | Transmitting antenna                 | STLP9128E      | GSXT-08     | /                    |
| 10       | Power Amplifier                      | CBA1G-250      | GSXT-04     | 2024-07-02           |
| 11       | Attenuator                           | DGA9553BNC     | GSXT-18     | 2024-12-17           |
| 12       | Power Amplifier                      | CBA230M-080    | GSXT-03     | /                    |
| 13       | Thermometer                          | TH101B         | 18-12       | 2024-12-25           |
| 14       | Empty box air pressure gauge         | DYM3           | 15-55       | 2024-12-25           |
|          | Blank below                          |                |             |                      |
|          |                                      |                |             |                      |
|          |                                      |                |             |                      |
|          |                                      |                |             |                      |
|          |                                      |                |             |                      |
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|          |                                      |                |             |                      |

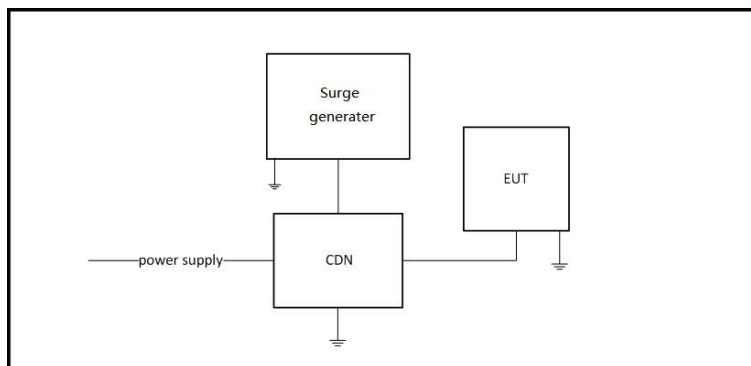
## Test equipment connection diagram



Electrical Fast Transient Burst Immunity test

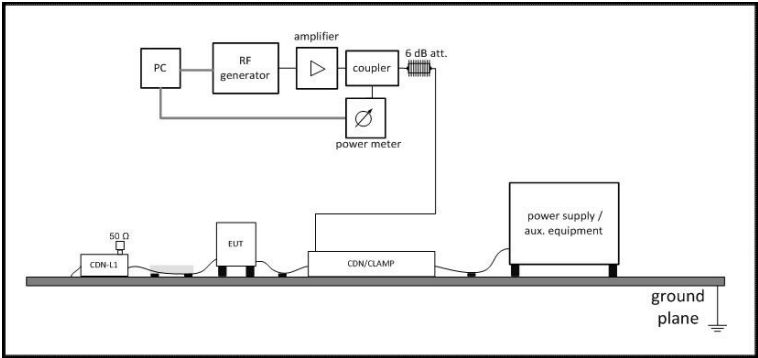


Electrostatic discharge immunity test

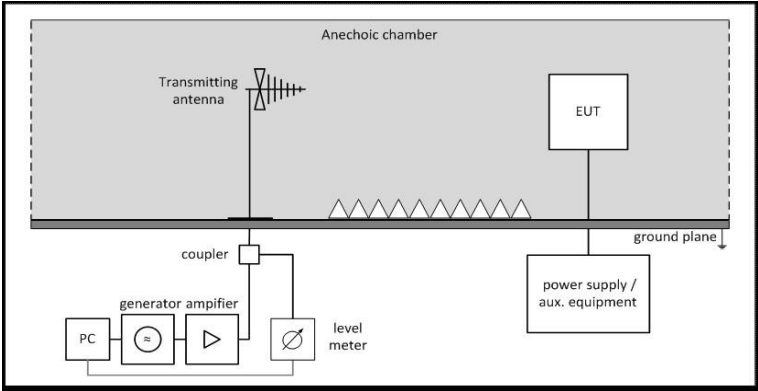


Surge Immunity test

Test instrument layout diagram



Conducted Immunity Test



Electromagnetic radiation immunity test

## Test instrument layout diagram

Test instrument layout diagram



Electrical Fast Transient Burst Immunity test



## Test instrument layout diagram

Electromagnetic radiation immunity test



Surge Immunity test



## Test instrument layout diagram

### Conducted Immunity Test

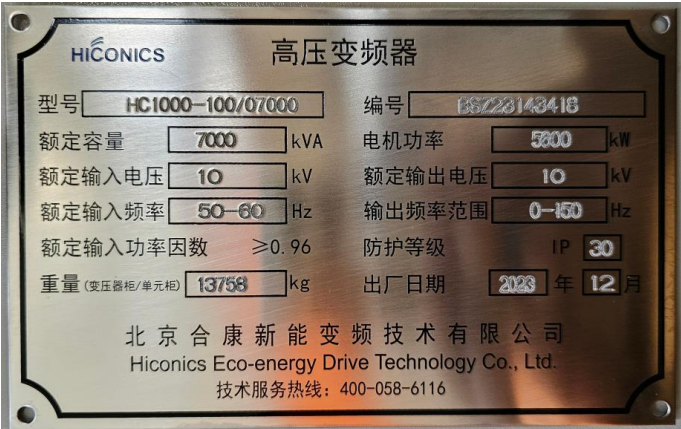


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## Sample photo



## Notice

- 1.The test report without the “Special Seal for Test” or the official seal of the test unit that performs the test will be invalid.
- 2.Any replicate without the original Special Seal for Test or official seal of the test unit that performs the test will be invalid.
- 3.The test report without signatures of the staff that perform the work of preparation, check and approval respectively will be invalid.
- 4.The test report will be invalid if altered.
- 5.The test result is only responsible for samples.
- 6.The samples will be treated in accordance with relevant regulations. Those with reasonable loss will not be returned.
- 7.Any partial replicate will be invalid.
8. If there is any objection in this report, please submit it within 15 days from the date of receipt of the report.

|          |                                                                    |            |              |
|----------|--------------------------------------------------------------------|------------|--------------|
| Address: | No.6 ,Xintong Road<br>Dongli Development District<br>Tianjin China | Post code: | 300300       |
| Tel:     | 022-84376026                                                       | Fax:       | 022-84376023 |