



**BUREAU  
VERITAS**

# Declaration of conformity

## to the requirements of the Standard CEI 0-21

**CERTIFICATION  
ORGANIZATION:**

**Bureau Veritas Consumer Products Services Germany GmbH**  
Accreditation DAkkS, D-ZE-12024-01-00, Rif. DIN EN ISO/IEC 17065  
Data validity: 15-October-2020

**STANDARD / GUIDE:**

**CEI 0-21: 2012-06**  
**CEI 0-21; V1: 2012-12 Edition December 2012**  
**CEI 0-21; V2: 2013-12 Edition December 2013**  
**CEI 0-21: 2014-09**  
**CEI 0-21; V1: 2014-12 Edition December 2014**  
**CEI 0-21: 2016-07**  
**CEI 0-21; V1: 2017-07 Edition July 2017**

Technical reference rule for the connection of active and passive users to the LV electricity distribution networks of companies

**TYPE OF SYSTEM DECLARED:**

| INTERFACE DEVICE | PROTECTION INTERFACE | STATIC ELECTRONIC INVERTER | ROTATING GENERATION MACHINE |
|------------------|----------------------|----------------------------|-----------------------------|
| X                | X                    | X                          |                             |

**MANUFACTURER:**

**Huawei Technologies Co., Ltd.**  
Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District, Shenzhen, 518129,  
P.R.C

| PRODUCT TYPE:  | Photovoltaic Inverter |                  |                  |                  |                  |                  |
|----------------|-----------------------|------------------|------------------|------------------|------------------|------------------|
| MODEL:         | SUN2000-8KTL-M0       | SUN2000-10KTL-M0 | SUN2000-12KTL-M0 | SUN2000-15KTL-M0 | SUN2000-17KTL-M0 | SUN2000-20KTL-M0 |
| NOMINAL POWER: | 8 kW                  | 10 kW            | 12 kW            | 15 kW            | 17 kW            | 20 kW            |

**FIRMWARE VERSION:**

**V100R001 and above**

**PHASE NUMBER:**

**three-phase**

**NOTE:**

The device is able to limit the Idc to 0.5% of the nominal current.

The device is for plants of each power.

The inverters of Huawei have a maximum apparent power limit. In the case where a system should be able to reach in every working condition a determined power factor, it is necessary to set the maximum active power in such a way, that you can reach at any time the cos-phi wanted.

**LABORATORY THAT HAS DONE THE TESTING:**

**Bureau Veritas Consumer Products Services Germany GmbH**  
Accreditation DAkkS, D-PL-12024-03-03, Rif. DIN EN ISO/IEC 17025

After reviewing the ISO 9001 Manufacturer's No. FM 669363, issued by bsi, the ISO 9001 Manufacturer's No. 064-17-Q-1267-R1-M, issued by Beijing Standard Certification Centre, reviewing the test-reports with No. 19TH0316-CEI 0-21\_0, issued by the laboratory Bureau Veritas Consumer Products Services Germany GmbH and reviewing the manufacturer's CE declaration of conformity with the relevant test report No. SYBH(E)05083256EA issued by the laboratory of Huawei Technologies with recognized accreditation by a CNAS (No. L0310). The indicated product is declared to comply with the provisions of CEI 0-21: 2012-06, CEI 0-21; V1: 2012-12, CEI 0-21; V2: 2013-12, CEI 0-21: 2014-09, CEI 0-21; V1: 2014-12, CEI 0-21: 2016-07, CEI 0-21; V1: 2017-07.

**Certificate number:**

**U19-0343**

**Data of issue:**

**2019-06-05**

**Certification body**

Holger Schaffer

Certification body Bureau Veritas Consumer Products Services Germany GmbH  
Accreditation to DIN EN ISO/IEC 17065

**Table Interface Protection System (SPI)**

Extract of the test report No. 19TH0316-CEI 0-21\_0

**Interface Protection System (SPI)**

|   |   |                  |                  |                  |                  |                  |
|---|---|------------------|------------------|------------------|------------------|------------------|
| <b>Manufacturer:</b>                                | Huawei Technologies Co., Ltd.<br>Administration Building, Headquarters of Huawei Technologies Co., Ltd.,<br>Bantian, Longgang District, Shenzhen, 518129<br>P.R.C |                  |                  |                  |                  |                  |
| <b>Model:</b>                                       | SUN2000-8KTL-M0   | SUN2000-10KTL-M0 | SUN2000-12KTL-M0 | SUN2000-15KTL-M0 | SUN2000-17KTL-M0 | SUN2000-20KTL-M0 |
| <b>Nominal Power:</b>                               | 8 kW  | 10 kW            | 12 kW            | 15 kW            | 17 kW            | 20 kW            |
| <b>Firmware version:</b>                            | V100R001  |                  |                  |                  |                  |                  |
| <b>Number of phases (single-phase/three-phase):</b> | Three-phase   |                  |                  |                  |                  |                  |

| Temperature<br>-25 °C |     | Intervention thresholds |                    | Time of intervention |                | Reset Ratio |                 | Time of relapse |                |
|-----------------------|-----|-------------------------|--------------------|----------------------|----------------|-------------|-----------------|-----------------|----------------|
|                       |     | Detected [V]            | Requested [V] ± 1% | Detected [ms]        | Requested [ms] | Detected    | Requested       | Detected [ms]   | Requested [ms] |
| Voltage Threshold     | Min | 196,9                   | 195,5              | 413                  | 400 ± 20 ms    | N/A         | 1,03 ≤ r ≤ 1,05 | N/A             | 40 ≤ tr ≤ 100  |
|                       | Max | 263,7                   | 264,5              | 219                  | 200 ± 20 ms    | N/A         | 0,95 ≥ r ≥ 0,97 | N/A             | 40 ≤ tr ≤ 100  |

| Temperature<br>Ambient |     | Intervention thresholds |                    | Time of intervention |                | Reset Ratio |                 | Time of relapse |                |
|------------------------|-----|-------------------------|--------------------|----------------------|----------------|-------------|-----------------|-----------------|----------------|
|                        |     | Detected [V]            | Requested [V] ± 1% | Detected [ms]        | Requested [ms] | Detected    | Requested       | Detected [ms]   | Requested [ms] |
| Voltage Threshold      | Min | 196,8                   | 195,5              | 416                  | 400 ± 20 ms    | N/A         | 1,03 ≤ r ≤ 1,05 | N/A             | 40 ≤ tr ≤ 100  |
|                        | Max | 263,2                   | 264,5              | 212                  | 200 ± 20 ms    | N/A         | 0,95 ≥ r ≥ 0,97 | N/A             | 40 ≤ tr ≤ 100  |

| Temperature<br>+60 °C |     | Intervention thresholds |                    | Time of intervention |                | Reset Ratio |                 | Time of relapse |                |
|-----------------------|-----|-------------------------|--------------------|----------------------|----------------|-------------|-----------------|-----------------|----------------|
|                       |     | Detected [V]            | Requested [V] ± 1% | Detected [ms]        | Requested [ms] | Detected    | Requested       | Detected [ms]   | Requested [ms] |
| Voltage Threshold     | Min | 196,9                   | 195,5              | 416                  | 400 ± 20 ms    | N/A         | 1,03 ≤ r ≤ 1,05 | N/A             | 40 ≤ tr ≤ 100  |
|                       | Max | 263,8                   | 264,5              | 216                  | 200 ± 20 ms    | N/A         | 0,95 ≥ r ≥ 0,97 | N/A             | 40 ≤ tr ≤ 100  |

**Note:**  
 ≤ 1 % for the voltage thresholds  
 ≤ 3 % ± 20 ms for the times of intervention  
 variation of the error during the repetition of the tests  
 ≤ 2 % for the tensions  
 ≤ 1 % ± 20 ms for the times of intervention

**Table Interface Protection System (SPI)**

Extract of the test report

No. 19TH0316-CEI 0-21\_0

**Frequency 49,5Hz ... 50,5Hz**

| Temperature<br>-25 °C |     | Intervention thresholds |                         | Time of intervention |                | Reset Ratio |                   | Time of relapse |                |
|-----------------------|-----|-------------------------|-------------------------|----------------------|----------------|-------------|-------------------|-----------------|----------------|
|                       |     | Detected [Hz]           | Requested [Hz] ± 20 mHz | Detected [ms]        | Requested [ms] | Detected    | Requested         | Detected [ms]   | Requested [ms] |
| Frequency Threshold   | Min | 49,48                   | 49,5                    | 119                  | 100 ± 20 ms    | N/A         | 1,001 ≤ r ≤ 1,003 | N/A             | 40 ≤ tr ≤ 100  |
|                       | Max | 50,49                   | 50,5                    | 116                  | 100 ± 20 ms    | N/A         | 0,997 ≥ r ≥ 0,999 | N/A             | 40 ≤ tr ≤ 100  |

| Temperature<br>Ambient |     | Intervention thresholds |                         | Time of intervention |                | Reset Ratio   |                         | Time of relapse |                |
|------------------------|-----|-------------------------|-------------------------|----------------------|----------------|---------------|-------------------------|-----------------|----------------|
|                        |     | Detected [Hz]           | Requested [Hz] ± 20 mHz | Detected [ms]        | Requested [ms] | Detected [Hz] | Requested [Hz] ± 20 mHz | Detected [ms]   | Requested [ms] |
| Frequency Threshold    | Min | 49,49                   | 49,5                    | 119                  | 100 ± 20 ms    | N/A           | 1,001 ≤ r ≤ 1,003       | N/A             | 40 ≤ tr ≤ 100  |
|                        | Max | 50,50                   | 50,5                    | 119                  | 100 ± 20 ms    | N/A           | 0,997 ≥ r ≥ 0,999       | N/A             | 40 ≤ tr ≤ 100  |

| Temperature<br>+60 °C |     | Intervention thresholds |                         | Time of intervention |                | Reset Ratio   |                         | Time of relapse |                |
|-----------------------|-----|-------------------------|-------------------------|----------------------|----------------|---------------|-------------------------|-----------------|----------------|
|                       |     | Detected [Hz]           | Requested [Hz] ± 20 mHz | Detected [ms]        | Requested [ms] | Detected [Hz] | Requested [Hz] ± 20 mHz | Detected [ms]   | Requested [ms] |
| Frequency Threshold   | Min | 49,49                   | 49,5                    | 116                  | 100 ± 20 ms    | N/A           | 1,001 ≤ r ≤ 1,003       | N/A             | 40 ≤ tr ≤ 100  |
|                       | Max | 50,51                   | 50,5                    | 118                  | 100 ± 20 ms    | N/A           | 0,997 ≥ r ≥ 0,999       | N/A             | 40 ≤ tr ≤ 100  |

**Frequency 47,5Hz ... 51,5Hz**

| Temperature<br>-25 °C |     | Intervention thresholds |                         | Time of intervention |                | Reset Ratio   |                         | Time of relapse |                |
|-----------------------|-----|-------------------------|-------------------------|----------------------|----------------|---------------|-------------------------|-----------------|----------------|
|                       |     | Detected [Hz]           | Requested [Hz] ± 20 mHz | Detected [ms]        | Requested [ms] | Detected [Hz] | Requested [Hz] ± 20 mHz | Detected [ms]   | Requested [ms] |
| Frequency Threshold   | Min | 47,49                   | 47,5                    | 99                   | 100 ± 20 ms    | N/A           | 1,001 ≤ r ≤ 1,003       | N/A             | 40 ≤ tr ≤ 100  |
|                       | Max | 51,49                   | 51,5                    | 120                  | 100 ± 20 ms    | N/A           | 0,997 ≥ r ≥ 0,999       | N/A             | 40 ≤ tr ≤ 100  |

| Temperature<br>Ambient |     | Intervention thresholds |                         | Time of intervention |                | Reset Ratio   |                         | Time of relapse |                |
|------------------------|-----|-------------------------|-------------------------|----------------------|----------------|---------------|-------------------------|-----------------|----------------|
|                        |     | Detected [Hz]           | Requested [Hz] ± 20 mHz | Detected [ms]        | Requested [ms] | Detected [Hz] | Requested [Hz] ± 20 mHz | Detected [ms]   | Requested [ms] |
| Frequency Threshold    | Min | 47,49                   | 47,5                    | 120                  | 100 ± 20 ms    | N/A           | 1,001 ≤ r ≤ 1,003       | N/A             | 40 ≤ tr ≤ 100  |
|                        | Max | 51,50                   | 51,5                    | 119                  | 100 ± 20 ms    | N/A           | 0,997 ≥ r ≥ 0,999       | N/A             | 40 ≤ tr ≤ 100  |

| Temperature<br>+60 °C |     | Intervention thresholds |                         | Time of intervention |                | Reset Ratio   |                         | Time of relapse |                |
|-----------------------|-----|-------------------------|-------------------------|----------------------|----------------|---------------|-------------------------|-----------------|----------------|
|                       |     | Detected [Hz]           | Requested [Hz] ± 20 mHz | Detected [ms]        | Requested [ms] | Detected [Hz] | Requested [Hz] ± 20 mHz | Detected [ms]   | Requested [ms] |
| Frequency Threshold   | Min | 47,49                   | 47,5                    | 117                  | 100 ± 20 ms    | N/A           | 1,001 ≤ r ≤ 1,003       | N/A             | 40 ≤ tr ≤ 100  |
|                       | Max | 51,49                   | 51,5                    | 114                  | 100 ± 20 ms    | N/A           | 0,997 ≥ r ≥ 0,999       | N/A             | 40 ≤ tr ≤ 100  |

**Nota:**

- ± 20 mHz for the frequency thresholds
- ≤ 3 % ± 20 ms for the times of intervention
- variation of the error during the repetition of the tests
- ≤ 1 % ± 20 ms for the times of intervention