Test Report issued under the responsibility of:

# TEST REPORT
## EN 60 947-6-1
## Low-voltage switchgear and controlgear
## Part 6-1: Multiple function equipment - Transfer switching equipment

| | |
|---|---|
| **Report Reference No.** ..... : | 03601-A-14D0070-S |
| Date of issue ..... : | 2015-02-10 |
| Total number of pages ..... | 33 |
| **CB Testing Laboratory** ..... : | Suzhou Electrical Apparatus Science Research Institute Stock Co., Ltd. |
| Address ..... : | No.7 Yonghe Street, Binghe Road, New District, Suzhou |
| **Applicant's name** ..... : | Suzhou Feiteng Appliance Co.,Ltd. |
| Address ..... : | Yongwu Road,Lingfeng Village,Beiqiao Town,Xiangcheng District.Suzhou City |
| **Test specification:** | |
| Standard ..... : | ■ EN60 947-6-1:2005 with<br>■ EN60947-1:2004 |
| Test procedure ..... : | CCA |
| Non-standard test method ..... : | N/A |
| **Test Report Form No.** ..... : | EN60947_6_1A |
| Test Report Form(s) Originator ..... : | CQC-TILVA |
| Master TRF ..... : | Dated 2013-01 |

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**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

| | |
|---|---|
| **Test item description** ..... : | AUTOMATIC TRANSFER SWITCH EQUIPMENT |
| Trade Mark ..... : | N/A |
| Manufacturer ..... : | Suzhou Feiteng Appliance Co.,Ltd. |
| Model/Type reference ..... : | W2H-125A 2F,W2H-125A 2B,W2H-125A 3F,W2H-125A 3B, W2H-125A 4F,W2H-125A 4B |
| Ratings ..... : | Ue:AC400V;Ui:690V;<br>Ith:125A; Ie:16A,20A,25A,32A,40A,50A,63A,80A,100A,125A;<br>AC-33iA; Iq: 100kA;<br>ATSE; PC: 2P,3P,4P. |

**Testing procedure and testing location:**

☒ **CB Testing Laboratory**: Suzhou Electrical Apparatus Science Research Institute Stock Co., Ltd.(EETI)

Testing location/ address.....: No.7 Yonghe Street, Binhe Road, New District, Suzhou, China

☐ **Associated CB Laboratory:**

Testing location/ address.....:

Tested by (name + signature).....: Dai Weiqiang 戴维强

Approved by (+ signature) .....: Hu Delin 胡德霖

☐ Testing procedure: TMP

Tested by (name + signature).....:

Approved by (+ signature) .....:

Testing location/ address.....:

☐ Testing procedure: WMT

Tested by (name + signature).....:

Witnessed by (+ signature).....:

Approved by (+ signature) .....:

Testing location/ address.....:

☐ Testing procedure: SMT

Tested by (name + signature).....:

Approved by (+ signature) .....:

Supervised by (+ signature).....:

Testing location/ address.....:

☐ Testing procedure: RMT

Tested by (name + signature).....:

Approved by (+ signature) .....:

Supervised by (+ signature).....:

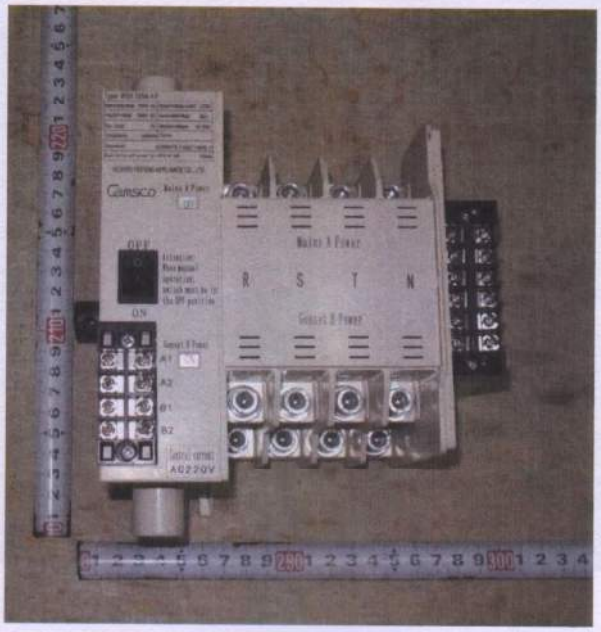
Testing location/ address.....:

**Summary of testing:**

| **Tests performed (name of test and test clause):** | **Testing location:** |
|---|---|
| **Test sequence Ⅰ: W2H-125A 4F 125A**<br>**W2H-125A 2F 125A**<br>**Test sequence Ⅱ: W2H-125A 4F 125A**<br>**W2H-125A 2F 125A**<br>**Test sequence Ⅲ: W2H-125A 4F 16A**<br>**W2H-125A 2F 16A**<br>**Test sequence Ⅳ: W2H-125A 4F 125A** | No.7 Yonghe Street, Binhe Road, New District, Suzhou, China |

**Summary of compliance with National Differences: N/A**

**Copy of marking plate**



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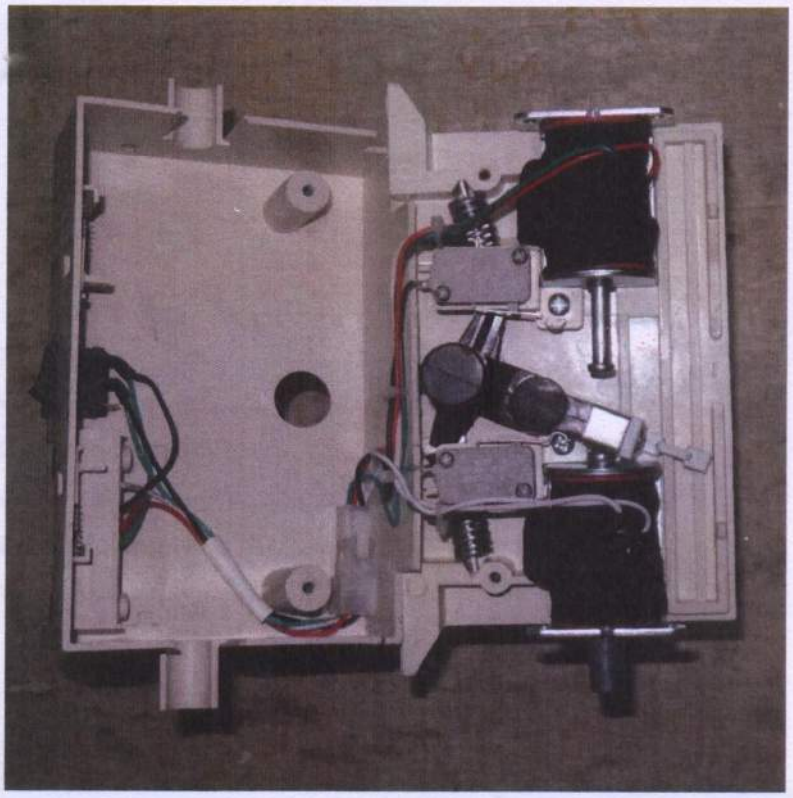
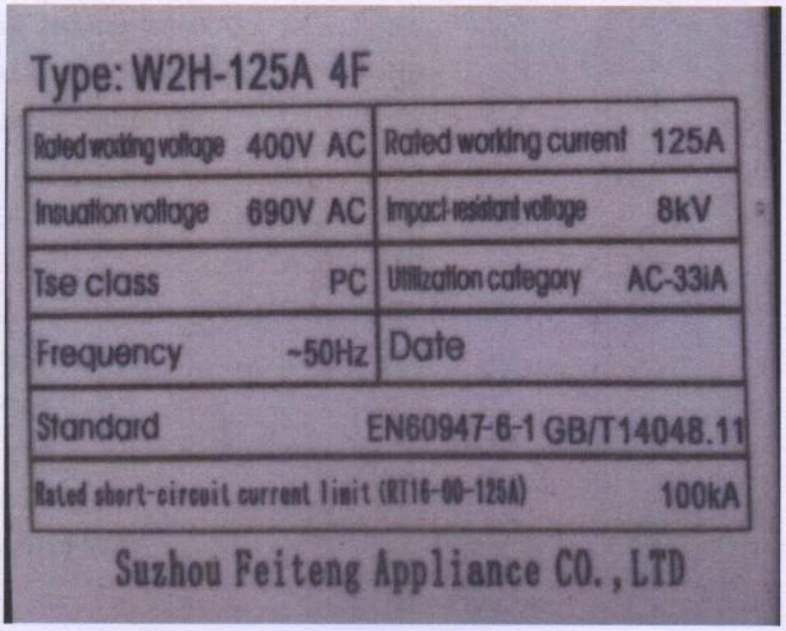




Type: W2H-125A 4F

| | | | |
|---|---|---|---|
| Rated working voltage | 400V AC | Rated working current | 125A |
| Insuation voltage | 690V AC | Impact-resistant voltage | 8kV |
| Tse class | PC | Utilization category | AC-33iA |
| Frequency | ~50Hz | Date | |
| Standard | | EN60947-6-1 GB/T14048.11 | |
| Rated short-circuit current limit (RT16-00-125A) | | | 100kA |

Suzhou Feiteng Appliance CO., LTD

| Test item particulars: | |
|---|---|
| Type of equipment: | ATSE |
| -class of equipment: | PC |
| -method of controlling: | ATSE |
| -number of poles: | 2P,3P,4P |
| -kind of current: | AC |
| -operating sequence: | I-II/II-I |
| -pollution degree | 3 |
| -EMC environment | B |
| Rated voltages: | AC400 |
| -rated operational voltage Ue (V): | AC400 |
| -rated insulation voltage Ui (V): | 690 |
| -rated impulse withstand voltage Uimp (kV): | 8 |
| Conventional free air thermal current Ith (A): | 125 |
| Conventional enclosed thermal current Ithe (A): | N/A |
| Rated operational current Ie (A): | 16,20,25,32,40,50,63,80,100,125 |
| Rated frequency (Hz): | 50 |
| Uninterrupted duty: | N/A |
| Utilization category: | AC-33iA |
| Short-circuit characteristic: | |
| -rated short-time withstand current Icw (kA): | N/A |
| -rated short-circuit making capacity Icm (kA): | N/A |
| -rated short-circuit breaking capacity Icn (kA) | N/A |
| -rated conditional short-circuit current (kA): | 100kA |
| | |
| Control circuits: | 220 |
| -kind of current: | AC |
| -rated frequency (Hz): | 50 |
| -rated control circuit voltage Uc (V): | N/A |
| -rated control supply voltage Us (V): | 220 |
| | |
| Transfer control devices: | N/A |
| -monitored supply deviation of ATSE: | 85～110%Ue |
| -voltage deviation: | 85～110%Ue |
| -frequency deviation: | N/A |
| -contact transfer time (ms): | <1s |
| -operating transfer time (ms): | <1s |

| | |
|---|---|
| -total operating time (ms) | N/A |
| -return transfer time (ms) | <1s |
| -off time (ms) | <100ms(Delay time 0s-250s ) |
| Auxiliary circuits | N/A |
| -rated operational voltage (V) | N/A |
| -rated frequency (Hz) | N/A |
| -number of circuits | N/A |
| -number and kind of contact elements | N/A |

**Possible test case verdicts:**

| | |
|---|---|
| - test case does not apply to the test object | N/A |
| - test object does meet the requirement | P (Pass) |
| - test object does not meet the requirement | F (Fail) |

**Testing**

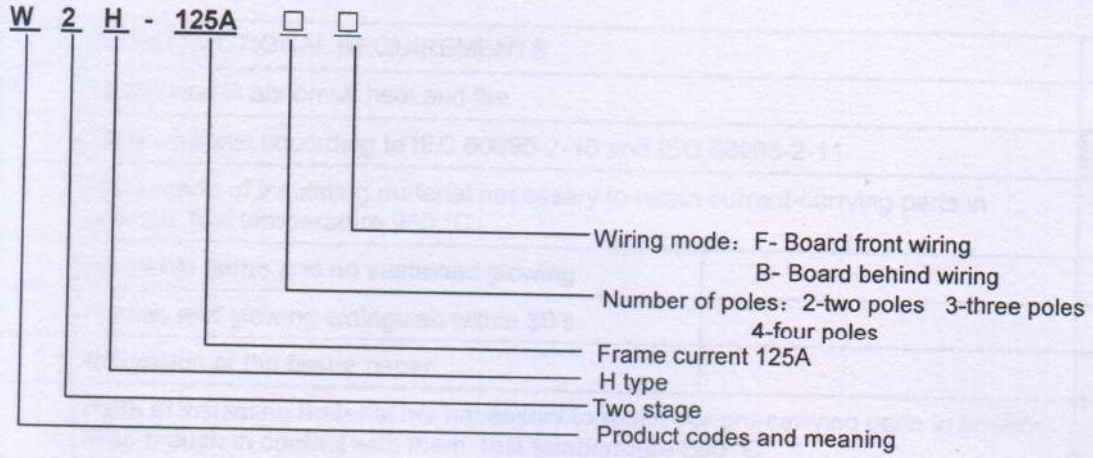
| | |
|---|---|
| Date of receipt of test item | 2014-01-14，2014-02-18，2015-01-22 |
| Date (s) of performance of tests | 2014-01-18～2014-01-29,2014-02-21～2014-02-27 |

**General remarks:**

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

General product information:



| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 6.2 | MARKING | | |
| | Marking on equipment itself or on nameplate or nameplates attached to the equipment and legible when the equipment is installed | | P |
| | -manufacturer's name or trademark.....: | Suzhou Feiteng Appliance Co.,Ltd. | P |
| | -type designation or serial number .....: | W2H-125A 4F | P |
| | -class of equipment.....: | PC | P |
| | -rated operational voltage .....: | AC400V | P |
| | -rated operational current.....: | 125A | P |
| | -utilization category .....: | AC-33iA | P |
| | -rated frequency.....: | 50Hz | P |
| | -rated short-circuit making capacity for class PC/CC: | | N/A |
| | -rated short-circuit withstand current and duration..: | | N/A |
| | -rated impulse withstand voltage .....: | 8kV | P |
| | Data which may be marked on the equipment and shall given in the manufacturer's literature | | |
| | -number of main contact positions .....: | 4 | P |
| | -monitored supply deviation and operating limits ....: | 85～110%Ue | P |
| | -operating sequence and time delays.....: | 0s～250s | P |
| | -environment A or B.....: | B | P |
| | .-off-time for derived TSE.....: | ＜100ms(Delay time 0s-250s ) | P |

| | | | |
|---|---|---|---|
| 8.1 | CONSTRUCTIONAL REQUIREMENTS | | |
| 8.1.1.1 | Resistance to abnormal heat and fire | | P |
| | Glow-wire test according to IEC 60695-2-10 and IEC 60695-2-11 | | — |
| | Parts made of insulating material necessary to retain current-carrying parts in position: test temperature 950 °C | | P |
| | No visible flame and no sustained glowing | | P |
| | Flames and glowing extinguish within 30 s | | N/A |
| | No ignition of the tissue paper | | N/A |
| | Parts of insulating material not necessary to retain current-carrying parts in position, even though in contact with them: test temperature 650 °C | | N/A |
| | No visible flame and no sustained glowing | | N/A |
| | Flames and glowing extinguish within 30 s | | N/A |
| | No ignition of the tissue paper | | N/A |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 7.1.2 of Part 1 | Current-carrying parts and their connection | | P |
| 7.1.3 of Part 3 | Clearances ..... : | | P |
| | Creepage distances ..... : | | P |
| | Pollution degree ..... : | 3 | — |
| | Comparative tracking index (V) ..... : | 600 | — |
| | Material group ..... : | I | — |
| 7.1.4 of Part 3 | Actuator | | N/A |
| 7.1.4.1 of Part 1 | Insulation | | N/A |
| | Actuator insulated from live parts for | | — |
| | -rated insulation voltage | | N/A |
| | -rated impulse withstand voltage | | N/A |
| | Actuator made of metal | | N/A |
| | - connected to a protective conductor or provided with an additional insulation | | N/A |
| | Actuator made of or covered by insulating material : | | N/A |
| | - internal metal parts, which might become accessible in the event of an insulation failure, are also insulated from live parts for the rated insulation voltage | | N/A |
| 7.1.4.2 of Part 1 | Direction of movement | | N/A |
| | The direction of operation for actuators shall where applicable conform to IEC 60447 | | N/A |
| | There is no doubt of the "I" and "O" position and the direction of operation | | N/A |
| 7.1.5 of Part 1 | Indication of contact position | | N/A |
| 7.1.5.1 of Part 1 | Indicating means | | N/A |
| 7.1.5.2 of Part 1 | Indication by the actuator | | N/A |
| 7.1.6 of Part 1 | Additional safety requirements for equipment suitable for isolation | | N/A |
| 7.1.6.1 of Part 1 | Additional constructional requirements for equipment suitable for isolation (Ue > 50 V) | | N/A |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | -marking according to 5.2.1b of part 3 | | N/A |
| | -indication of the position of the contacts | | N/A |
| | -construction of the actuating mechanism | | N/A |
| | -minimum clearances across open contacts (see Table XII, Part 1) (mm) .....: | | — |
| | -measured clearances (mm) .....: | | N/A |
| | -test Uimp across gap (kV) .....: | | N/A |
| 7.1.6.2 of Part 1 | Supplementary requirements for equipment with provision for electrical interlocking with contactors or circuit-breakers | | N/A |
| | Auxiliary switch is rated according to IEC 60947-5 (unless the equipment is rated AC-23) | | N/A |
| | Time interval between opening of the contacts of the auxiliary contact and the contacts of the main poles: ≥20 ms .....: | | — |
| | Measured time interval (ms) .....: | | N/A |
| | During the closing operation the contacts of the auxiliary switch closes after or simultaneously with the contacts of the main poles | | N/A |
| 7.1.6.3 of Part 1 | Supplementary requirements for equipment provided with means for padlocking the open position: | | N/A |
| | The locking means is so designed that it cannot be removed with the appropriate padlock(s) installed | | N/A |
| | Test force F applied to the actuator in an attempt to operate to the closed position (N) .....: | | — |
| | Rated impulse withstand voltage (kV) .....: | | — |
| | Test Uimp on open main contacts at the test force | | N/A |
| 7.1.7 of Part 1 | Terminals | | P |
| 7.1.7.1 of Part 1 | All parts of terminals which maintain contact and carry current are of metal having adequate mechanical strength | | P |
| | Terminal connections are such that necessary contact pressure is maintained | | P |
| | Terminals are so constructed that the conductor is clamped between suitable surfaces without damage to the conductor and terminal | | P |
| | Terminals do not allow the conductor to be displaced or to be displaced themselves in a manner detrimental to the operator of equipment and the insulation voltage is not reduced below the rated value | | P |

# CE TEST REPORT

**Application No.: CE2014CQC0304-006946**

**Report Ref. No.: 03601-A-14D0070-S**

**Name of product: AUTOMATIC TRANSFER SWITCH EQUIPMENT**

**Model: W2H-125A 2F,W2H-125A 2B,W2H-125A 3F, W2H-125A 3B, W2H-125A 4F, W2H-125A 4B**

**Name of Laboratory: Suzhou Electrical Apparatus Science Research Institute Stock Co., Ltd.**

*CHINA QUALITY CERTIFICATION CENTRE*

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 8.2.4 of Part 1 | Mechanical properties of terminals | | P |
| | Mechanical strength of terminals | | P |
| | Maximum cross-sectional area of conductor (mm²) : | 50 | — |
| | Diameter of thread (mm) .....: | M8 | — |
| | Torque (Nm) .....: | 6.0 | — |
| | 5 times on 2 separate clamping units | | P |
| | Testing for damage to and accidental loosening of conductor (flexion test) | | N/A |
| | Conductor of the smallest cross-sectional area (mm²) .....: | | — |
| | Number of conductor of the smallest cross section : | | — |
| | Diameter of bushing hole (mm) .....: | | — |
| | Height between the equipment and the platen .....: | | — |
| | Mass at the conductor(s) (kg) .....: | | — |
| | 135 continuous revolutions: the conductor neither slips out of the terminal nor breaks near the clamping unit | | N/A |
| | Pull-out test | | N/A |
| | Force (N), applied for 1 min. .....: | | — |
| | During the test, the conductor neither slips out of the terminal nor breaks near the clamping unit | | N/A |
| | Conductor of the largest cross-sectional area (mm²) .....: | | — |
| | Number of conductor of the largest cross section .: | | — |
| | Diameter of bushing hole (mm) .....: | | — |
| | Height between the equipment and the platen .....: | | — |
| | Mass at the conductor(s) (kg) .....: | | — |
| | 135 continuous revolutions: the conductor neither slips out of the terminal nor breaks near the clamping unit | | N/A |
| | Pull-out test | | N/A |
| | Force (N), applied for 1 min. .....: | | — |
| | During the test, the conductor neither slips out of the terminal nor breaks near the clamping unit | | N/A |
| | Conductor of the largest and smallest cross-sectional area (mm²) .....: | | — |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Number of conductor of the smallest cross section, number of conductor of the largest cross section ..: | | — |
| | Diameter of bushing hole (mm) .....: | | — |
| | Height between the equipment and the platen .....: | | — |
| | Mass at the conductor(s) (kg) .....: | | — |
| | 135 continuous revolutions: the conductor neither slips out of the terminal nor breaks near the clamping unit | | N/A |
| | Pull-out test | | N/A |
| | Force (N), applied for 1 min. .....: | | — |
| | During the test, the conductor neither slips out of the terminal nor breaks near the clamping unit | | N/A |
| 7.1.7.2 of Part 1 | Connection capacity | | N/A |
| | Type of conductors .....: | rigid | — |
| | Minimum cross-sectional area of conductor (mm²) : | | — |
| | Maximum cross-sectional area of conductor (mm²) : | 50 | — |
| | Number of conductors simultaneously connectable to the terminal .....: | 1 | — |
| 7.1.7.3 of Part 1 | Connection | | P |
| | Terminals for connection to external conductors are readily accessible during installation | | P |
| | Clamping screws and nuts do not serve to fix any other component | | P |
| 7.1.7.4 of Part 1 | Terminal identification and marking | | P |
| | Terminal intended exclusively for the neutral conductor | | P |
| | Protective earth terminal | | N/A |
| | Other terminals | | N/A |
| 7.1.8 of Part 1 | Additional requirements for equipment provided with a neutral pole | | P |
| | Equipment provided with a pole intended for the connection of neutral, this pole shall be clearly marked by the letter "N" | | N/A |
| | The switched neutral pole does not break before and does not make after the other poles except | | N/A |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | - a pole having the appropriate short-circuit breaking and making capacity is used as neutral pole, all poles may operate together | | N/A |
| | Conventional thermal current of neutral pole | | N/A |
| 7.1.9 of Part 1 | Provisions for protective earthing | | N/A |
| 7.1.9.1 of Part 1 | The exposed conductive parts are electrically interconnected and connected to a protective earth terminal | | N/A |
| 7.1.9.2 of Part 1 | Protective earth terminal is readily accessible | | N/A |
| | Protective earth terminal is suitably protected against corrosion | | N/A |
| | Electrical continuity between the exposed conductive parts of the protective earth terminal and the metal sheathing of connecting conductors | | N/A |
| | Protective earth terminal has no other functions | | N/A |
| 7.1.9.3 of Part 1 | Protective earth terminal marking and identification | | N/A |
| 7.1.10 of Part 1 | Enclosure for equipment | | N/A |
| 7.1.10.1 of Part 1 | Design | | N/A |
| | When the enclosure is opened, all parts requiring access for installation and maintenance are readily accessible | | N/A |
| | Sufficient space is provided inside the enclosure | | N/A |
| | The fixed parts of a metal enclosure are electrically connected to the other exposed conductive parts of the equipment and connected to a terminal which enables them to be earthed or connected to a protective conductor | | N/A |
| | Under no circumstances a removable metal part of the enclosure is insulated from the part carrying the earth terminal when the removable part is in place | | N/A |
| | The removable parts of the enclosure are firmly secured to the fixed parts by a device such that they cannot be accidentally loosened or detached owing to the effects of operation of the equipment or vibrations | | N/A |
| | When an enclosure is so designed as to allow the covers to be opened without the use of tools, means is provided to prevent loss of the fastening devices | | N/A |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | If the enclosure is used for mounting push-buttons, it is not possible to remove the buttons from the outside of the enclosure | | N/A |
| 7.1.10.2 of Part 1 | Insulation | | N/A |
| | If, in order to prevent accidental contact between a metallic enclosure and live parts, the enclosure is partly or completely lined with insulating material, then this lining is securely fixed to the enclosure | | N/A |
| 7.1.11 of Part 1 | Degree of protection of enclosed equipment | | N/A |
| | Degree of protection .....: | IP | N/A |
| 9.3.3 | TEST SEQUENCE I: PERFORMANCE UNDER NO-LOAD, NORMAL LOUD AND OVERLOUD CONDITION | | P |
| 9.3.3.1 | Operation of the operating mechanism | | P |
| | The equipment is capable of operating for all conditions of its marked intended performance | | P |
| | The operating mechanism prevents simultaneous connection to both normal and alternative supplies | | P |
| 9.3.3.2 | Controls, sequence and limits of operation | | P |
| 9.3.3.2.2 | Overvoltage condition | | P |
| 9.3.3.2.3 | Undervoltage condition of electromagnetic voltage sensing relays | | N/A |
| 9.3.3.2.4 | Operation on loss of supply voltage | Table 1 | P |
| 9.3.3.2.5 | Operation on reduction of supply voltage | Table 2 | P |
| 9.3.3.2.6 | Transfer on availability of alternative voltage | Table 3 | P |
| 9.3.3.3 | Temperature-rise | | |
| | ambient temperature 10 – 40 $^0$C .....: | 17 | — |
| | test enclosure W x H x D (mm x mm x mm) .....: | | — |
| | material of enclosure.....: | | — |
| | Main circuits, test conditions: | | |
| | -conventional thermal current Ith (A) .....: | 125 | — |
| | -conventional enclosed thermal current Ithe (A) .....: | | N/A |
| | -cable / busbar cross-section (mm$^2$) / length (mm).: | 50/2000 | — |
| | Fuse-link details (fuse-combination units only): | | N/A |
| | -manufacturer's name, trademark or identification mark .....: | Suzhou Feiteng Appliance Co.,Ltd. | — |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | -manufacturer's model or type reference ..... : | W2H-125A 4F | — |
| | -rated current (A)..... : | 125 | — |
| | -power loss (W)..... : | N/A | — |
| | -rated breaking capacity (kA)..... : | N/A | — |
| | Measured temperature-rise ..... : | Table 4 | P |
| | Auxiliary circuits, test conditions: | | N/A |
| | -rated operation current (A) ..... : | | — |
| | -cable cross-section ($mm^2$) ..... : | | — |
| | Measured temperature-rise Max. K..... : | | N/A |
| 9.3.3.4 | Dielectric properties | | |
| | -rated impulse withstand voltage (kV) ..... : | 8 | — |
| | -test Uimp main circuits (kV) ..... : | 9.8 | P |
| | -test Uimp auxiliary circuits (kV) ..... : | 4.8 | P |
| | -test Uimp on open main contacts (equipment suitable for isolating) (kV) ..... : | | N/A |
| | Test of dielectric properties, dielectric withstand voltage (Uimp not indicated): | | |
| | -rated insulation voltage Ui (V)..... : | 690 | — |
| | -main circuits, test voltage for 1 min. (V) ..... : | 1890 | P |
| | -control and auxiliary circuits, test voltage for 1 min. (V)..... : | 1500 | P |
| | Equipment suitable for isolation, leakage current not exceed 0,5 mA | | N/A |
| | :Test voltage 1,1×415 Ue (V) ..... : | | — |
| | Measured leakage current (mA) ..... : | | N/A |
| 9.3.3 | TEST SEQUENCE I: PERFORMANCE UNDER NO-LOAD, NORMAL LOUD AND OVERLOUD CONDITION | | P |
| 9.3.3.1 | Operation of the operating mechanism | | P |
| | The equipment is capable of operating for all conditions of its marked intended performance | | P |
| | The operating mechanism prevents simultaneous connection to both normal and alternative supplies | | P |
| 9.3.3.2 | Controls, sequence and limits of operation | | P |
| 9.3.3.2.2 | Overvoltage condition | | P |
| 9.3.3.2.3 | Undervoltage condition of electromagnetic voltage sensing relays | | N/A |
| 9.3.3.2.4 | Operation on loss of supply voltage | Table 5 | P |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 9.3.3.2.5 | Operation on reduction of supply voltage | Table 6 | P |
| 9.3.3.2.6 | Transfer on availability of alternative voltage | Table 7 | P |
| 9.3.3.3 | Temperature-rise | | |
| | ambient temperature 10 – 40 $^0$C ..... : | 17 | — |
| | test enclosure W x H x D (mm x mm x mm) ..... : | | — |
| | material of enclosure..... : | | — |
| | Main circuits, test conditions: | | |
| | -conventional thermal current Ith (A) ..... : | 125 | — |
| | -conventional enclosed thermal current Ithe (A) ..... : | | — |
| | -cable / busbar cross-section (mm$^2$) / length (mm). : | 50/2000 | — |
| | Fuse-link details (fuse-combination units only): | | N/A |
| | -manufacturer's name, trademark or identification mark ..... : | Suzhou Feiteng Appliance Co.,Ltd. | — |
| | -manufacturer's model or type reference ..... : | W2H-125A 2F | — |
| | -rated current (A)..... : | 125 | — |
| | -power loss (W)..... : | N/A | — |
| | -rated breaking capacity (kA)..... : | N/A | — |
| | Measured temperature-rise ..... : | Table 8 | P |
| | Auxiliary circuits, test conditions: | | N/A |
| | -rated operation current (A) ..... : | | — |
| | -cable cross-section (mm$^2$) ..... : | | — |
| | Measured temperature-rise Max. K..... : | | N/A |
| 9.3.3.4 | Dielectric properties | | |
| | -rated impulse withstand voltage (kV) ..... : | 8 | — |
| | -test Uimp main circuits (kV) ..... : | 9.8 | P |
| | -test Uimp auxiliary circuits (kV) ..... : | 4.8 | P |
| | -test Uimp on open main contacts (equipment suitable for isolating) (kV) ..... : | | N/A |
| | Test of dielectric properties, dielectric withstand voltage (Uimp not indicated): | | |
| | -rated insulation voltage Ui (V)..... : | 690 | — |
| | -main circuits, test voltage for 1 min. (V)..... : | 1890 | P |
| | -control and auxiliary circuits, test voltage for 1 min. (V)..... : | 1500 | P |
| | Equipment suitable for isolation, leakage current not exceed 0,5 mA | | N/A |
| | :Test voltage 1,1 Ue (V) ..... : | | — |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Measured leakage current (mA) ..... : | | N/A |
| | TEST SEQUENCE II: OPERATING PERFORMANCE | | |
| 9.3.3.5 | Making and breaking capacities | | P |
| | -utilization category ..... : | AC-33iA | — |
| | -rated operational voltage Ue (V)..... : | 400 | — |
| | -rated operational current Ie (A)..... : | 125 | — |
| | Test conditions, make/break operations | | |
| | -test voltage, U = 1,05 x Ue (V) ..... : | 427 | — |
| | -test current, I = 6 x Ie (A) ..... : | 770 | — |
| | -power factor ..... : | 0.53 | — |
| | -transient recovery voltage (V) ..... : | | P |
| | -current duration (ms) ..... : | 261 | — |
| | -time interval between operation (s) ..... : | 60 | — |
| | Number of make/break operations..... : | 50 | — |
| | Number of make/break operations with both supplies operated simultaneously..... : | 10 | P |
| | -measured transfer time (ms)..... : | 126 | — |
| | -measured time delay (ms) ..... : | 0 | — |
| | -measured off-time (ms) ..... : | 68 | — |
| | Characteristic of transient recovery voltage | | P |
| | -oscillatory frequency (kHz) ..... : | | |
| | -measured oscillatory frequency (kHz) ..... : | | N/A |
| | -factor γ..... : | | N/A |
| 9.3.3.5.4 | Behaviour of the equipment during making and breaking capacity tests | | P |
| 9.3.3.5.4 | Condition of the equipment after making and breaking capacity tests | | P |
| 9.3.3.6 | Operational performance capability | | P |
| | utilization category..... : | AC-33iA | — |
| | rated operational voltage Ue (V)..... : | 400 | — |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | rated operational current Ie (A) ..... : | 125 | — |
| 9.3.3.6.2 | Test conditions electrical performance cycles | | P |
| | -test voltage, U = 1,05 x Ue (V) ..... : | 427/427 | — |
| | -test current, I = 1 x Ie (A) / 2 x Ie (A) ..... : | 127/256 | — |
| | -power factor ..... : | 0.83/0.83 | — |
| | Number of cycles with current ..... : | 3000/3000 | P |
| | Duration of operating cycles ..... : | 1min | P |
| 9.3.3.6.2 | Behaviour of the equipment during operational performance tests | | P |
| | Condition of the equipment after operational performance tests | | P |
| 9.3.3.4 | Dielectric verification | | |
| | test voltage (2 x Ue) for 1min (V) (min.1000V) ..... : | 1000V | — |
| | No breakdown or flashover | | P |
| 9.3.3.4 | Leakage current | | N/A |
| | test voltage (1,1 x Ue) (V) ..... : | | — |
| | Leakage current ≤ 2 mA / pole ..... : | | N/A |
| 9.3.3.3 of Part 1 | Temperature-rise verification | | |
| | -conductor cross-section ($mm^2$) | 50 | — |
| | -test current Ie (A) | 125 | — |
| | Temperature-rise of main circuit terminals Max. 80 K | 22 | P |
| | | 20 | P |
| 9.3.3.6.3 | Test conditions mechanical performance cycles | | N/A |
| | Number of cycles without current ..... : | | N/A |
| | Duration of operating cycles ..... : | | N/A |
| 9.3.3.6.3 | Condition of the equipment after mechanical performance tests | | N/A |
| 9.3.3.2.4 | Operation on loss of power supply voltage..... : | | N/A |
| | Measured transfer time (ms) ..... : | | N/A |

| | | | |
|---|---|---|---|
| | TEST SEQUENCE II: OPERATING PERFORMANCE | | |
| 9.3.3.5 | Making and breaking capacities | | P |
| | -utilization category ..... : | AC-33iA | — |
| | -rated operational voltage Ue (V)..... : | 400 | — |
| | -rated operational current Ie (A)..... : | 125 | — |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Test conditions, make/break operations | | |
| | -test voltage, U = 1,05 x Ue (V) ..... : | 427 | — |
| | -test current, I = 6 x Ie (A) ..... : | 770 | — |
| | -power factor ..... : | 0.53 | — |
| | -transient recovery voltage (V) ..... : | | P |
| | -current duration (ms) ..... : | 260 | — |
| | -time interval between operation (s) ..... : | 60 | — |
| | Number of make/break operations..... : | 50 | — |
| | Number of make/break operations with both supplies operated simultaneously..... : | 10 | P |
| | -measured transfer time (ms)..... : | 109 | — |
| | -measured time delay (ms) ..... : | 0 | — |
| | -measured off-time (ms) ..... : | 63 | — |
| | Characteristic of transient recovery voltage | | P |
| | -oscillatory frequency (kHz) ..... : | | |
| | -measured oscillatory frequency (kHz) ..... : | | N/A |
| | -factor γ..... : | | N/A |
| 9.3.3.5.4 | Behaviour of the equipment during making and breaking capacity tests | | P |
| 9.3.3.5.4 | Condition of the equipment after making and breaking capacity tests | | P |
| 9.3.3.6 | Operational performance capability | | P |
| | utilization category..... : | AC-33iA | — |
| | rated operational voltage Ue (V)..... : | 400 | — |
| | rated operational current Ie (A)..... : | 125 | — |
| 9.3.3.6.2 | Test conditions electrical performance cycles | | P |
| | -test voltage, U = 1,05 x Ue (V) ..... : | 427/427 | — |
| | -test current, I = 1 x Ie (A) / 2 x Ie (A) ..... : | 127/256 | — |
| | -power factor ..... : | 0.83/0.83 | — |
| | Number of cycles with current ..... : | 3000/3000 | P |
| | Duration of operating cycles ..... : | 1min | P |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 9.3.3.6.2 | Behaviour of the equipment during operational performance tests | | P |
| | Condition of the equipment after operational performance tests | | P |
| 9.3.3.4 | Dielectric verification | | |
| | test voltage (2 x Ue) for 1min (V) (min.1000V) .....: | 1000V | — |
| | No breakdown or flashover | | P |
| 9.3.3.4 | Leakage current | | N/A |
| | test voltage (1,1 x Ue) (V) .....: | | — |
| | Leakage current ≤ 2 mA / pole .....: | | N/A |
| 9.3.3.3 of Part 1 | Temperature-rise verification | | |
| | -conductor cross-section ($mm^2$) | 50 | — |
| | -test current Ie (A) | 125 | — |
| | Temperature-rise of main circuit terminals Max. 80 K | 19 | P |
| | | 17 | P |
| 9.3.3.6.3 | Test conditions mechanical performance cycles | | N/A |
| | Number of cycles without current .....: | | N/A |
| | Duration of operating cycles .....: | | N/A |
| 9.3.3.6.3 | Condition of the equipment after mechanical performance tests | | N/A |
| 9.3.3.2.4 | Operation on loss of power supply voltage.....: | | N/A |
| | Measured transfer time (ms) .....: | | N/A |

| | | | |
|---|---|---|---|
| | TEST SEQUENCE III: VERIFICATION OF SHORT CIRCUIT CAPABILITIES | | |
| 9.3.4 | Performance under short circuit conditions | | P |
| | | | |
| 9.3.4.2.2 | Short-circuit making capacity | (Circuit diagram No ) | N/A |
| | Rated short-circuit making capacity Icm (kA) .....: | | N/A |
| | -test voltage (V).....: | | N/A |
| | -r.m.s test current (kA).....: | | N/A |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | -power factor ..... : | | N/A |
| | -current duration (s) ..... : | | N/A |
| | Maximum peak test current (kA) ..... : | | N/A |
| | Time interval between the cycles..... : | | N/A |
| | Behaviour of the equipment during the test | | N/A |
| 9.3.4.3 c) | Conditions of the equipment after the test | | N/A |
| 9.3.3.4 | Dielectric verification | | N/A |
| | test voltage (2 x Ue) for 1min (V) (min.1000V) ..... : | | N/A |
| | No breakdown or flashover | | N/A |
| 9.3.3.4 | Leakage current | | N/A |
| | test voltage (1,1 x Ue) (V) ..... : | | N/A |
| | Leakage current ≤ 2 mA / pole ..... : | | N/A |
| 9.3.3.3 of Part 1 | Temperature-rise verification | | N/A |
| | -conductor cross-section ($mm^2$) | | N/A |
| | -test current Ie (A) | | N/A |
| | Temperature-rise of main circuit terminals Max. K: | | N/A |
| | | | |
| 9.3.4.2.3 | Short-circuit breaking capacity | | N/A |
| | Rated short-circuit breaking capacity Icn (kA) ..... : | | N/A |
| | -test voltage (V)..... : | | N/A |
| | -r.m.s test current (kA)..... : | | N/A |
| | -power factor ..... : | | N/A |
| | -current duration (s) ..... : | | N/A |
| | Maximum peak test current (kA) ..... : | | N/A |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | Time interval between the cycles.....: | | N/A |
| | Behaviour of the equipment during the test | | N/A |
| 9.3.4.3 c) | Conditions of the equipment after the test | | N/A |
| 9.3.3.4 | Dielectric verification | | N/A |
| | test voltage (2 x Ue) for 1min (V) (min.1000V) .....: | | N/A |
| | No breakdown or flashover | | N/A |
| 9.3.3.4 | Leakage current | | N/A |
| | test voltage (1,1 x Ue) (V) .....: | | N/A |
| | Leakage current ≤ 2 mA / pole .....: | | N/A |
| 9.3.3.3 of Part 1 | Temperature-rise verification | | N/A |
| | -conductor cross-section ($mm^2$) | | N/A |
| | -test current Ie (A) | | N/A |
| | Temperature-rise of main circuit terminals. Max. K .....: | | N/A |
| | | | |
| 9.3.4.3 | Short-time withstand current | (Circuit diagram No ) | N/A |
| | Rated short-time withstand current Icw (kA) .....: | | N/A |
| | -test voltage (V).....: | | N/A |
| | -r.m.s test current (kA).....: | | N/A |
| | -peak test current (kA).....: | | N/A |
| | -power factor .....: | | N/A |
| | -current duration (s) .....: | | N/A |
| | Behaviour of the equipment during the test | | N/A |
| 9.3.4..3 c) | Conditions of the equipment after the test | | N/A |
| 9.3.3.4 | Dielectric verification | | N/A |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | test voltage (2 x Ue) for 1min (V) (min.1000V) ..... : | | N/A |
| | No breakdown or flashover | | N/A |
| 9.3.3.4 | Leakage current | | N/A |
| | test voltage (1,1 x Ue) (V) ..... : | | N/A |
| | Leakage current ≤ 2 mA / pole ..... : | | N/A |
| 9.3.3.3 of Part 1 | Temperature-rise verification | | N/A |
| | -conductor cross-section ($mm^2$) | | N/A |
| | -test current Ie (A) | | N/A |
| | Temperature-rise of main circuit terminals . Max. K: | | N/A |
| | | | N/A |
| 9.3.4.4 | Conditional short-circuit current | (Circuit diagram No ) | P |
| | Short-circuit protective device (SCPD) details | | |
| | -manufacturer's name, trademark or identification mark ..... : | Suzhou Feiteng Appliance Co.,Ltd. | — |
| | -manufacturer's model or type reference ..... : | W2H-125 4F | — |
| | -rated voltage (V) ..... : | 400 | — |
| | -rated current (A)..... : | 16 | — |
| | -rated breaking capacity (kA)..... : | 100 | — |
| | SCPD protective short-circuit | | P |
| | -test voltage (V)..... : | 429 | — |
| | -r.m.s test current (kA) ..... : | 102 | — |
| | -power factor ..... : | 0.18 | — |
| | SCPD protective short-circuit withstand | | P |
| | -max. let-through current (kA)..... : | 3.450 | — |
| | -joule integral $i^2dt$ ($kA^2s$)..... : | 16.19 | — |
| | SCPD protective short-circuit making | | P |
| | -max. let-through current (kA)..... : | 3.426 | — |

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|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | -joule integral $i^2dt$ ($kA^2s$)..... : | 10.00 | — |
| | Behaviour of the equipment during the test | | P |
| 9.3.4.3 c) | Conditions of the equipment after the test | | P |
| 9.3.3.4 | Dielectric verification | | P |
| | test voltage (2 x Ue) for 1min (V) (min.1000V) ..... : | 1000 | — |
| | No breakdown or flashover | | P |
| 9.3.3.4 | Leakage current | | N/A |
| | test voltage (1,1 x Ue) (V) ..... : | | — |
| | Leakage current ≤ 2 mA / pole ..... : | | N/A |
| 9.3.3.3 of Part 1 | Temperature-rise verification | | P |
| | -conductor cross-section ($mm^2$) | 50 | — |
| | -test current Ie (A) | 125 | — |
| | Temperature-rise of main circuit terminals Max. K | 19 | P |
| 9.3.4.4 | Conditional short-circuit current | (Circuit diagram No ) | P |
| | Short-circuit protective device (SCPD) details | | |
| | -manufacturer's name, trademark or identification mark ..... : | Suzhou Feiteng Appliance Co.,Ltd. | — |
| | -manufacturer's model or type reference ..... : | W2H-125 2F | — |
| | -rated voltage (V) ..... : | 400 | — |
| | -rated current (A)..... : | 16 | — |
| | -rated breaking capacity (kA)..... : | 100 | — |
| | SCPD protective short-circuit | | P |
| | -test voltage (V)..... : | 430 | — |
| | -r.m.s test current (kA)..... : | 102 | — |
| | -power factor ..... : | 0.18 | — |
| | SCPD protective short-circuit withstand | | P |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| | -max. let-through current (kA)..... : | 3.544 | — |
| | -joule integral $i^2dt$ ($kA^2s$)..... : | 14.19 | — |
| | SCPD protective short-circuit making | | P |
| | -max. let-through current (kA)..... : | 3.473 | — |
| | -joule integral $i^2dt$ ($kA^2s$)..... : | 10.41 | — |
| | Behaviour of the equipment during the test | | P |
| 9.3.4.3 c) | Conditions of the equipment after the test | | P |
| 9.3.3.4 | Dielectric verification | | P |
| | test voltage (2 x Ue) for 1min (V) (min.1000V) ..... : | 1000 | — |
| | No breakdown or flashover | | P |
| 9.3.3.4 | Leakage current | | N/A |
| | test voltage (1,1 x Ue) (V) ..... : | | — |
| | Leakage current ≤ 2 mA / pole ..... : | | N/A |
| 9.3.3.3 of Part 1 | Temperature-rise verification | | P |
| | -conductor cross-section ($mm^2$) | 50 | — |
| | -test current Ie (A) | 125 | — |
| | Temperature-rise of main circuit terminals Max. K | 19 | P |

| | | | |
|---|---|---|---|
| | TEST SEQUENCE IV: ENVIROMENTAL TESTS | | |
| 9.5 | Electromagnetic compatibility | | P |
| 9.5.1 | General | | — |
| | Product is classified to be used in environment..... : | B | P |
| 9.5.2 | Immunity tests | | — |
| | Test / Generic Standard | Level | |
| 9.5.2.2 | Electrostatic discharge immunity test/ IEC 61000-4-2 | 8 kV / air discharge<br>4 kV / contact discharge | P |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 9.5.2.3 | Conducted radio-frequency immunity test<br>IEC 61000-4-6 | 10 $V_{rms}$ /<br>150 kHz to 80 MHz | P |
| | Radiated radio-frequency electromagnetic field immunity test/<br>IEC 61000-4-3 | 10 V/m /<br>80 MHz to 1 GHz | P |
| 9.5.2.4 | Electrical fast transient/burst immunity test/<br>IEC 61000-4-4 | 2 kV on power ports<br>1 kV on signal ports | P |
| 9.5.2.5 | 1,2/50 µs – 8/20 µs surge immunity test/<br>IEC 61000-4-5 | 2 kV (line to earth)<br>1 kV (line to line) | P |
| 9.5.2.7 | Voltage dips and interruptions immunity test<br>IEC 61000-4-11 | 30 % reduction for 0,5 cycle<br>60 % reduction for 5 and 50 cycles<br>100 % reduction for 250 cycles | N/A |
| 9.5.3 | Emissions tests | | — |
| 9.5.3.1 | General | | — |
| 9.5.3.2 | Conducted radiofrequency emission tests | | — |
| | The product does not exceed the limits specified in the standard CISPR 11 for the appropriate environment indicated in clause 8.3.1. | | P |
| 9.5.3.3 | Radiated radiofrequency emission tests | | — |
| | The product does not exceed the limits specified in the standard CISPR 11 for the appropriate environment indicated in clause 8.3.1. | | P |

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| Clause | Requirement + Test | Result - Remark | Verdict |
|---|---|---|---|

3.3.2.4 **TABLE 1: Operation on loss of supply voltage**

Ambient (°C): 16

| Test No | Test case: Rated voltage V | Control supply voltage V | Frequency Hz | Threshold % | Ts s | Number of phases | N connection Yes/No | Tested phases L1/L2/L3 | Operating times: Step Disconnet/ Reconnect | CTT | TOT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1# | 400 | 220 | 50 | | 0 | 3P+N | Yes | L1 | I - II | | | OK |
| | 400 | 220 | 50 | | 0 | 3P+N | Yes | L1 | II - I | | | OK |
| | 400 | 220 | 50 | | 0 | 3P+N | Yes | L2 | I - II | | | OK |
| | 400 | 220 | 50 | | 0 | 3P+N | Yes | L2 | II - I | | | OK |
| | 400 | 220 | 50 | | 0 | 3P+N | Yes | L3 | I - II | | | OK |
| | 400 | 220 | 50 | | 0 | 3P+N | Yes | L3 | II - I | | | OK |

Supplementary information:

CTT: Contact Transfer Time ( I - II/II - I)

TOT: Total operating time (including Ts)

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 9.3.3.2.5 | **TABLE 2: Operation on reduction of supply voltage** | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ambient (°C) | | | | | | | | | 16 | | | | | | |
| | Specified accuracy: % | | | | | | | | | | | | | | | |
| | Test case | | | | | | | | | Reference value | | | ATS measurement errors | | | |
| Test No | Rated phase voltage V | Frequency Hz | Threshold % | Ts s | Number of phases | N connection Yes/No | Limit value V | Tested phases L1/L2/L3 | Step Reduce/ restore | L1 V | L2 V | L3 V | L1 % | L2 % | L3 % | Verdict |
| 1# | 230 | 50 | | 0 | 3P+N | Yes | 196 | L1 | 151/196V | 230 | 230 | 230 | | | | OK |
| | 230 | 50 | | 0 | 3P+N | Yes | 196 | L2 | 149/196V | 230 | 230 | 230 | | | | OK |
| | 230 | 50 | | 0 | 3P+N | Yes | 196 | L3 | 151/196V | 230 | 230 | 230 | | | | OK |
| | 230 | 50 | | 0 | 3P+N | Yes | 196 | L1/L2/L3 | 151/196V 150/196V 153/196V | 230 | 230 | 230 | | | | OK |
| Supplementary information: | | | | | | | | | | | | | | | | |

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 9.3.3.2.6 | **TABLE 3: Transfer on availability of alternative voltage or voltage-frequency** | 16 | |
| | Ambient (°C) | | |
| | Specified accuracy (U): % | | |
| | Specified accuracy (f): % | | |

| | Test case | | | | | | | | | Reference value | | | | ATS measurement errors | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Test No | Sensing 1), 2) | Rated phase voltage V | Rated Frequency Hz | Threshold % | Ts s | Number of phases | N connection Yes/No | Limit value V/Hz | Tested phases L1/L2/L3 | L1 V | L2 V | L3 V | f Hz | L1 % | L2 % | L3 % | f % | Verdict |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
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Supplementary information:

1) 60947-6-1, 9.3.3.2.6 b) 1)

2) 60947-6-1, 9.3.3.2.6 b) 2)

| Clause | Requirement + Test | Result - Remark | Verdict |
|---|---|---|---|
| | EN 60 947-6-1 | | |

9.3.3.2.4 **TABLE 5: Operation on loss of supply voltage**

Ambient (°C): 16

| Test No | Rated voltage V | Control supply voltage V | Frequency Hz | Threshold % | Ts s | Number of phases | N connection Yes/No | Tested phases L1/L2/L3 | Step Disconnet/ Reconnect | CTT | TOT | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Test case | | | | | | | | Operating times | | | |
| 4# | 400 | 220 | 50 | | 0 | 2P | | L1 | I - II | | | OK |
| | 400 | 220 | 50 | | 0 | 2P | | L1 | II - I | | | OK |
| | 400 | 220 | 50 | | 0 | 2P | | L2 | I - II | | | OK |
| | 400 | 220 | 50 | | 0 | 2P | | L2 | II - I | | | OK |

Supplementary information:

CTT: Contact Transfer Time ( I - II/II - I)

TOT: Total operating time (including Ts)

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| 9.3.3.2.5 | TABLE 6: Operation on reduction of supply voltage | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ambient (°C) | | | | | | | | | 16 | | | | | | |
| | Specified accuracy: % | | | | | | | | | | | | | | | |
| | Test case | | | | | | | | | Reference value | | | ATS measurement errors | | | |
| Test No | Rated phase voltage V | Frequency Hz | Threshold % | Ts s | Number of phases | N connection Yes/No | Limit value V | Tested phases L1/L2/L3 | Step Reduce/ restore | L1 V | L2 V | L3 V | L1 % | L2 % | L3 % | Verdict |
| 4# | 230 | 50 | | 0 | 2P | | 196 | L1 | 150/196V | 230 | 230 | 230 | | | | OK |
| | 230 | 50 | | 0 | 2P | | 196 | L2 | 151/196V | 230 | 230 | 230 | | | | OK |

Supplementary information:

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |
| 9.3.3.2.6 | **TABLE 7: Transfer on availability of alternative voltage or voltage-frequency** | 16 | |
| | Ambient (°C) | | |
| | Specified accuracy (U): % | | |
| | Specified accuracy (f): % | | |

| | Test case | | | | | | | | | Reference value | | | | ATS measurement errors | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Test No | Sensing 1), 2) | Rated phase voltage V | Rated Frequency Hz | Threshold % | Ts s | Number of phases | N connection Yes/No | Limit value V/Hz | Tested phases L1/L2/L3 | L1 V | L2 V | L3 V | f Hz | L1 % | L2 % | L3 % | f % | Verdict |
| | | | | | | | | | | | | | | | | | | |
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Supplementary information:
1) 60947-6-1, 9.3.3.2.6 b) 1)
2) 60947-6-1, 9.3.3.2.6 b) 2)

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| Table 4: Temperature-rise test | | | |
|---|---|---|---|
| Test sample: #01 | Ith/Ithe: 125A | | Verdict |
| Test voltage (V): | Ambient temperature ($^0$C) 17 | | P |
| Thermocouple Locations | Phase | Measured dT (K) | Max. temperature limit dT (K) |
| Terminals/in | L1 | 14 | 70 |
| | L2 | 16 | 70 |
| | L3 | 15 | 70 |
| | N | 14 | 70 |
| Terminals/out | L1 | 14 | 70 |
| | L2 | 18 | 70 |
| | L3 | 14 | 70 |
| | N | 13 | 70 |
| Enclosure | / | 10 | 50 |
| Components: Operation handle | / | 2 | 25 |
| | | | |
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Test arrangements for temperature-rise test.

| EN 60 947-6-1 | | | |
|---|---|---|---|
| Clause | Requirement + Test | Result - Remark | Verdict |

| Table 8: Temperature-rise test | | | |
|---|---|---|---|
| Test sample #04 | Ith/Ithe 125A | | Verdict |
| Test voltage (V) | Ambient temperature ($^0$C) 17 | | P |
| Thermocouple Locations | Phase | Measured dT (K) | Max. temperature limit dT (K) |
| Terminals/in | L1<br>N | 14<br>13 | 70 |
| Terminals/out | L1<br>N | 15<br>14 | 70 |
| Enclosure | | 7 | 50 |
| Components: Operation handle | / | 1 | 25 |
| | | | |
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Test arrangements for temperature-rise test.