TESTING
CNAS L3258

2011002903Z

TEST REPORT
IEC 60947-3
Low-voltage switchgear and controlgear
Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units

Report Reference No.:V160013		
Tested by (name + signature).....:	LIN SHIFANG/CHEN ZHOU	
Approved by (name + signature).....:	WANG JIANXIN	
Date of issue: Aug. 7, 2012		
IEC 60947-3:2008 (Third Edition) + A1:2012 in conjunction with IEC 60947-1:2007 (Fifth Edition) + A1:2010		
Test conclusion :	Refer to the content of the report.	
Testing Laboratory.....:	Low-voltage Apparatus Laboratory (Wenzhou) of Zhejiang Academy of Science and Technology for Inspection and Quarantine	
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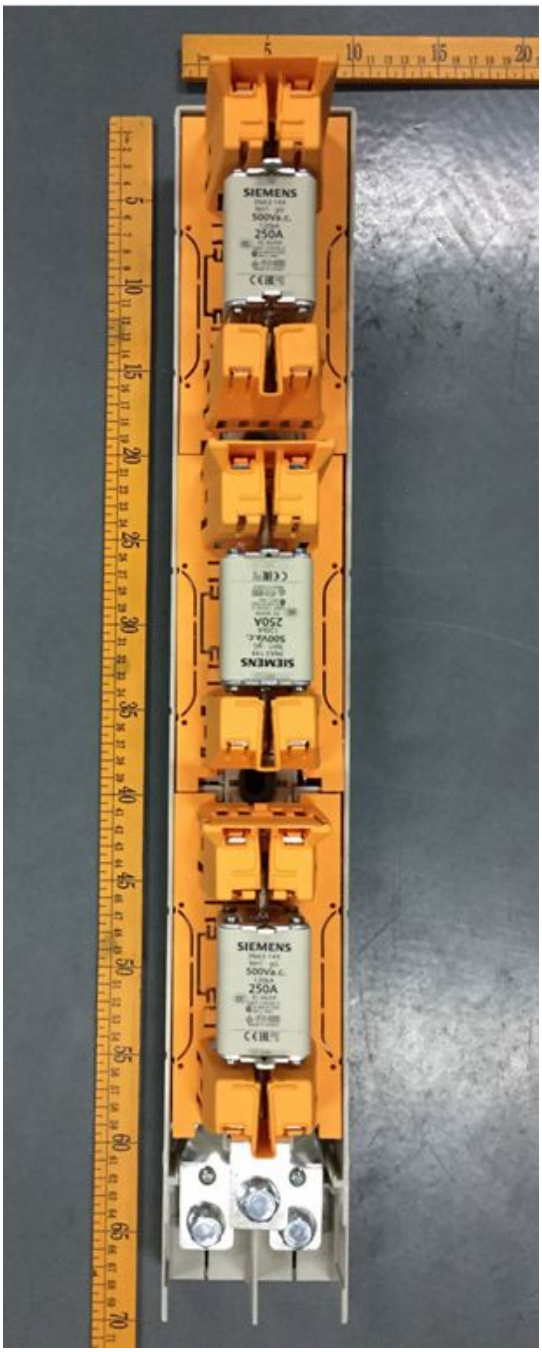
Email	ddsys@wz.ziq.gov.cn	
Applicant's Name .....:	Barfuse Electric Co.,Ltd.	
Address .....:	No. 15, Yonghe 3rd Road, Industry Function Zone, Chengdong St., Yueqing, Zhejiang, China	
Test item description		
Trademark .....:	/	
Manufacturer	Barfuse Electric Co.,Ltd.	
Model and/or type reference .....:	/	

General remarks

This report is not valid without official seal and signatures.
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.
Any objection should be raised to the testing laboratory in 15 days since the day this report be received.

Photos:


SIEMENS
500Va.c.
250A


SIEMENS
3NA3 144
NH1 - gG
500Va.c.
120kA
250A
IEC 60269
GB/T 13539.2
Made in Greece

Summary of testing:

The following tests were done on the samples.

	Sub-clause	Sample number
Test according to sub-clause	**8.3.7.1**	**#1**
	8.3.7.2	**#1**
	8.3.7.3	**#1**
	8.3.7.4	**#1**

Test item particulars..... :	
- method of operation..... :	Single pole operated three pole switches
- suitability for isolation..... :	suitable
- degree of protection..... :	/
- number of poles..... :	3
- kind of current..... :	AC
-in the case of a.c., number of phases and rated frequency..... :	3/50Hz
- number of positions of the main contacts (if more than two)..... :	/
-breaking arrangement for fused devices..... :	single break
Rated and limiting values, main circuit..... :	/
- rated operational voltage U_e (V)..... :	415
- rated insulation voltage U_i (V)..... :	/
- rated impulse withstand voltage U_{imp} (kV)..... :	/
- conventional free air thermal current I_{th} (A)..... :	250
- conventional enclosed thermal current I_{the} (A)..... :	/
- rated operational current I_e (A)..... :	250
- rated uninterrupted current I_u (A)..... :	/
- rated frequency (Hz)..... :	50Hz
- utilization category..... :	/
Short-circuit characteristic..... :	/
- rated short-time withstand current I_{cw} (kA)..... :	/
- rated short-time making capacity I_{cm} (kA)..... :	/
- rated conditional short-circuit current..... :	80kA
Control circuits..... :	/
Auxiliary circuits..... :	/
Relays and releases..... :	/
Co-ordination with short-circuit protective devices..... :	/
- kind of protective device..... :	/

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..... : 2016-12-13

Date (s) of performance of tests..... : 2016-12-14

General remarks:

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"(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.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :

☐ **Yes**

☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies)..... :

General product information:

Ue=AC415V
Ie=AC250V

IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.7	TEST SEQUENCE V: OVERLOAD PERFORMANCE CAPABILITY		
8.3.7.1	Overload test		P
	ambient temperature 10-40 °C ..... :	20°C	—
	test enclosure W x H x D (mm x mm x mm) ..... :		—
	material of enclosure ..... :		—
	test current 1,6xIthe or 1,6xIth (A) ..... :	401.3A	—
	cable/busbar cross-section (mm²) / length (mm) ... :	120mm² / 2000mm	—
	Fuse-link details:		P
	- manufacturer's name, trademark or identification mark ..... :	SIEMENS	—
	- rated current (A) ..... :	250A	—
	- power loss (W) ..... :	/	—
	- rated breaking capacity (kA) ..... :	120kA	—
	- time duration of the overload test (s) ..... :	31.5s	—
	Within 3 to 5 min after the fuse(s) has(have) operated (or 1 h), the equipment has been operated once, i.e. opened and closed		P
	Required opening force not greater than the test force of 8.2.5.2 and table 17 of IEC 60947-1		P
	The equipment has not undergone any impairment hindering such operation		P
8.3.7.2	Dielectric verification		P
	test voltage: 2*Ue with a minimum of 1000V~..... :	1000V	—
	No flashover or breakdown		P
8.3.7.3	Leakage current		P
	test voltage (1,1 Ue) (V) ..... :	457.0V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole ..... :		N/A
	Leakage current (other utilization categories) ≤ 2 mA)/pole ..... :	0.005mA	P
8.3.7.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark ..... :	SIEMENS	—
	- manufacturer's model or type reference ..... :	NH1-gG	—
	- rated current (A) ..... :	250A	—

IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
	- power loss (W) ..... :	/	—
	- rated breaking capacity (kA) .....:	120kA	—
	Fuse links aged during the overload test are replaced by new fuse-links.....:		P
	- conductor cross-section (mm²) ..... :	120mm²	—
	- test current Ie (A) ..... :	250A	—
	Measured temperature-rise.....:	see appended table 8.3.7.4	P

8.3.7.4	**TABLE: Temperature-rise (measurements)**		
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		38.6	80
Manual operating means: metallic / non-metallic		/	/
Parts intended to be touched but not hand-held: metallic / non-metallic		/	/
Parts which need not be touched during normal operation		33.3	60
supplementary information:			

List of test equipment used:
(Note: This is an example of the required attachment. Other forms with a different layout but containing similar information are also acceptable.)

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
8.3.7.1	Overload test	63KVA three phases muti-magnetic transformer ESR080	200A-4000A	2018-1-14
		weights ESR042-02	/	2018-1-16
8.3.7.2	Dielectric verification	Withstand Voltage Device ESR070	AC Output 0.05kV~5kV; AC Leakage Current 0.01mA~110mA; DC Output 0.05kV~6kV;DC Leakage Current 0.01mA~11mA	2018-1-16
8.3.7.3	Leakage current	Withstand Voltage Device ESR070	AC Output 0.05kV~5kV; AC Leakage Current 0.01mA~110mA; DC Output 0.05kV~6kV;DC Leakage Current 0.01mA~11mA	2018-1-16
8.3.7.4	Temperature-rise verification	Data Acquisition Device(Temperature) ESR028-02	0~400℃	2018-1-14
		63KVA three phases muti-magnetic transformer ESR080	200A-4000A	2018-1-14