



China Compulsory Product Certification

Test Report

☐ New Application ☒ Alteration ☐ Supervision ☐ Recheck ☐ Others:

Application No.: A2017CCC0308-2525199

Product Name: Low-voltage Fuse (Cylindrical Cap Fuse)

Model: RT14-20

Test Organization: Zhejiang Fangyuan Testing and Certification Group Co., Ltd.

(Zhejiang Fangyuan Electrical Equipment Testing Co., Ltd.)

Special Seal for Inspection and Testing of Zhejiang Fangyuan Testing and Certification Group Co., Ltd. (Seal)



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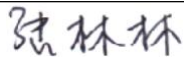


CATTI Certificate No.: 201906009370001040 Organization: E-TRANSTAR (Beijing) Information Technology Co., Ltd.

Tel: 010-60537024 Email: zhuliye@57trans.com

Organization Address: 201-212057, Zone 6, Pinggu Park, Zhongguancun Science and Technology Park, Pinggu District, Beijing

Signature: Ji Xiang di Date of Translation: August 04, 2025



Application No.: A2017CCC0308-2525199 Sample Name: Low-voltage Fuse (Cylindrical Cap Fuse) Model: RT14-20 Trademark: / Sample Quantity: 6 fuse links + 3 fuse holders Sample Source: Sent by manufacturer Receiving Date: March 11, 2017 Completion Date: March 28, 2017	Client: Ningbo Switchgear Manufacturing Co., LTD Client Address: Changfeng Industrial Zone, Yinzhou District, Ningbo City, Zhejiang Province Manufacturer: Ningbo Switchgear Manufacturing Co., LTD Manufacturer Address: Changfeng Industrial Zone, Yinzhou District, Ningbo City, Zhejiang Province Manufacturer: Ningbo Switchgear Manufacturing Co., LTD Manufacturer Address: No. 76, Lane 238, Beihai Road, Jiangbei District, Ningbo City, Zhejiang Province		
Test Conclusion: Compliant with GB/T 13539.2-2015.			
Description of the certified product models and specifications covered by this application unit: RT14-20 Fuse Link: Rated Voltage Un: 380V Rated Current In: 2A, 4A, 6A, 10A, 16A, 20A; Rated Breaking Capacity: 100kA Breaking Range and Utilization Category: gG Fuse Holder: Rated Voltage Un: 380V Rated Current In: 20A			
Tested by: Lu Linlin Signature:  Date: 2017-03-28	(Name and Seal of Testing Organization) Special Seal for Inspection and Testing of Zhejiang Fangyuan Testing and Certification Group Co., Ltd. (Seal) March 28, 2017		
Reviewed by: Yao Bo Signature:  Date: 2017-03-28			
Issued by: Wang Guozhong Signature:  Date: 2017-03-28			
Notes: This application is a alteration application. The specific alteration details are as follows:			
SN	Alteration Item	Before Alteration	After Alteration
1	Standard Revision	GB/T13539.2-2008	GB/T13539.2-2015.
2	Supplier Correction	Fujian Pingtan Jingheng Silica Sand Co., LTD	Fujian Jingheng Silica Sand Co., LTD
Original CCC Certification Details:			
Original CCC No.	2003010308029493		
Original Type Test Agency:	Shanghai Testing & Inspection Institute of Electric Equipment Co., Ltd. Low-voltage Electrical Apparatus Testing Station	Report No.	C009-A2005CCC0308-251862
Original Alteration Test Agency:	Shanghai Testing & Inspection Institute of Electric Equipment Co., Ltd.	Report No.	C009-A2010CCC0308-920927
Notes: This alteration test report must be used in conjunction with the original test report to be valid.			



Report Composition

Report Content	Included	Number of Pages	No.
Cover Page	√	1	02401-1711902513
First Page	√	1	02401-1711902513
Report Composition	√	1	02401-1711902513
Safe Type Test Report	√	16	02401-1711902513-S
EMC Type Test Report	/	/	/
Back Cover	√	1	02401-1711902513

This report consists of all items marked with √ in the table.

Judgment: P Test results meet requirements
F Test results do not meet requirements
N Requirement not applicable to the product, or test not performed



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Sample Description and Explanation**1. Description of Product Composition and Structural Features (Summary of Structure):**

The RT14-20 cylindrical cap fuse consists of a fuse link and a base (fuse holder).

The fuse link is composed of a cap, cap cover, copper fusible element, ceramic tube, arc-extinguishing filler, etc.

The fuse base consists of a socket, socket spring clip, terminal block, plastic housing, etc.

Installation methods include screw mounting and rail mounting. The socket and socket spring ring are general parts. The wiring method is frame screw crimping.

1) Product Specifications and Characteristics

Product Model and Name _____ RT14-20 Cylindrical Cap Fuse _____

Breaking Range: _____ g _____

Utilization Category: _____ G _____

2) Drawings Provided and No.:

General Assembly Drawing _____ 3NK2.225.412.1~7 _____

Fuse Holder Component Assembly Drawing _____ 3NK5.100.405; 3NK5.100.406 _____

Fuse Holder External Dimension Drawing _____ 3NK5.100.405; 3NK5.100.406 _____

Fuse Link Component Assembly Drawing _____ 3NK5.594.560.1~7 _____

Fuse Link External Dimension Drawing _____ 3NK5.594.560.1~7 _____

3) Key Structural Data:

Fuse Link

Contact Material and Plating Material _____ T-belt H68M; 60Cu Sn6 _____

Name and PTI of Plastic Parts _____ / _____

Insulated Metal Clasp: _____ ☐ Yes, ☒ No _____

Insulated Striker: _____ ☐ Yes, ☒ No _____

Fuse Holder

Terminal Block Material and Plating Material _____ Cold-rolled Sheet H68Y2 60CuSn6 _____

Name and PTI of Plastic Parts _____ / _____

Fuse Base with Screwless Terminal Blocks for External Copper Conductors _____ ☐ Yes, ☒ No _____

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Sample Description and Explanation**2. Main Technical Parameters: (Mark "/" for non-applicable items)****Classification:****1) Fuse Holder:**

Rated Voltage: _____ AC380V

Rated Voltage: _____ 20A

Rated Accepted Dissipated Power: _____ $\geq 3W$

Rated Impulse Withstand Voltage: _____ /

Number of Poles (if more than one): _____ /

Protection Class: _____ /

2) Fuse Link:

Rated Voltage: _____ AC380V

Rated Voltage: _____ 2A, 4A, 6A, 10A, 16A, 20A

Rated Dissipation Power Consumption: _____ $\leq 3W$

Rated Breaking Capacity: _____ 100kA

Overload Current: _____ 2.96A(2A) 36.8A (20A)

Overload Test Operating Time: _____ $>4000s(2A)$ 26~1260s (20A)

Sample Description and Explanation

3. Series Description and Model Explanation:

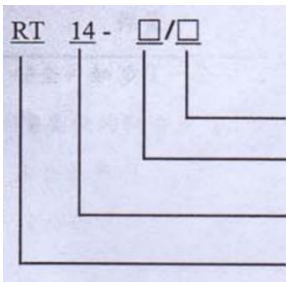
3.1 Products in This Application Unit:

- 1) Fuse Links with different rated currents differ only in their contacts; the shape and structure of the housing are identical, and the dimensions of the housing are also identical (except for the fusible element): ■ Yes □ No
- 2) Fuse Links with different rated currents have the same arc-extinguishing medium and filling degree: ■ Yes □ No
- 3) Fuse Links with different rated currents have identical fusible element materials, and the length and shape of the fusible elements are the same: ■ Yes □ No
- 4) The cross-section (which may vary along the length of the fusible element) and the number of fusible elements shall not exceed those of the fusible element with the maximum rated current: ■ Yes □ No
- 5) The minimum distance between adjacent fusible elements and between the fuse element and the inner surface of the fuse tube shall not be less than the corresponding distance in the fuse-link with the maximum rated current: ■ Yes □ No

3.2 Series Description (Comparison of Differences Between Models and Current Ratings in This Application Unit):

/

3.3 Model Explanation:



- Rated Current of Fuse Link
- Rated Current of Fuse
- Design No.
- Filled Closed Tube Fuse



Sample Description and Explanation**4. Special Structural Description (If Applicable):**

None

5. Product Certification Status:

CCC certificate first obtained on January 22, 2003, with certificate No. 2003010308029493.

6. Safety Components List:

SN	Component/Part Name	Component/Material Name	Model/Specification	Manufacturer (Factory)
1	Fuse Holder Insulating Base	Polybutylene Terephthalate	FR-PBT 301-G30	Zhoushan Dinghai Kebo Plastic Products Co., LTD Beilun Boxin Plastic Electrical Appliance Factory
2	Fuse Tube	Electrical Porcelain	Electrical Porcelain NK0.587.507	Fenghua Zhenhua Electronic Ceramics Factory Handan Rongqiang Industrial Porcelain Co., LTD
3	Fusible Element	Oxygen-free Copper Strip	Oxygen-free Copper Strip TU2Y2 NK0.501.505	Shanghai Husheng Precision Alloy Co., LTD
4	Filler	Quartz Sand	Quartz Sand NK0.503.403	Fujian Jingheng Silica Sand Co., LTD
5	Filler Curing Agent	/	/	1
6	Spring	Carbon Spring Steel Wire	1.4 Carbon Spring Steel Wire 70	Yueqing Longxin Electrical Accessories Factory Yinzhou Dongwu Xudong Electromechanical Accessories Factory

Note 1: For safety components involving more than one manufacturer (factory), the first listed manufacturer (factory) is the one that provided the safety components for the type test samples.

Note 2: The company declares that for safety components involving more than one manufacturer (factory), there are no performance differences between the safety components provided by the manufacturer (factory) selected for the type test samples and those provided by other manufacturers (factories) listed.

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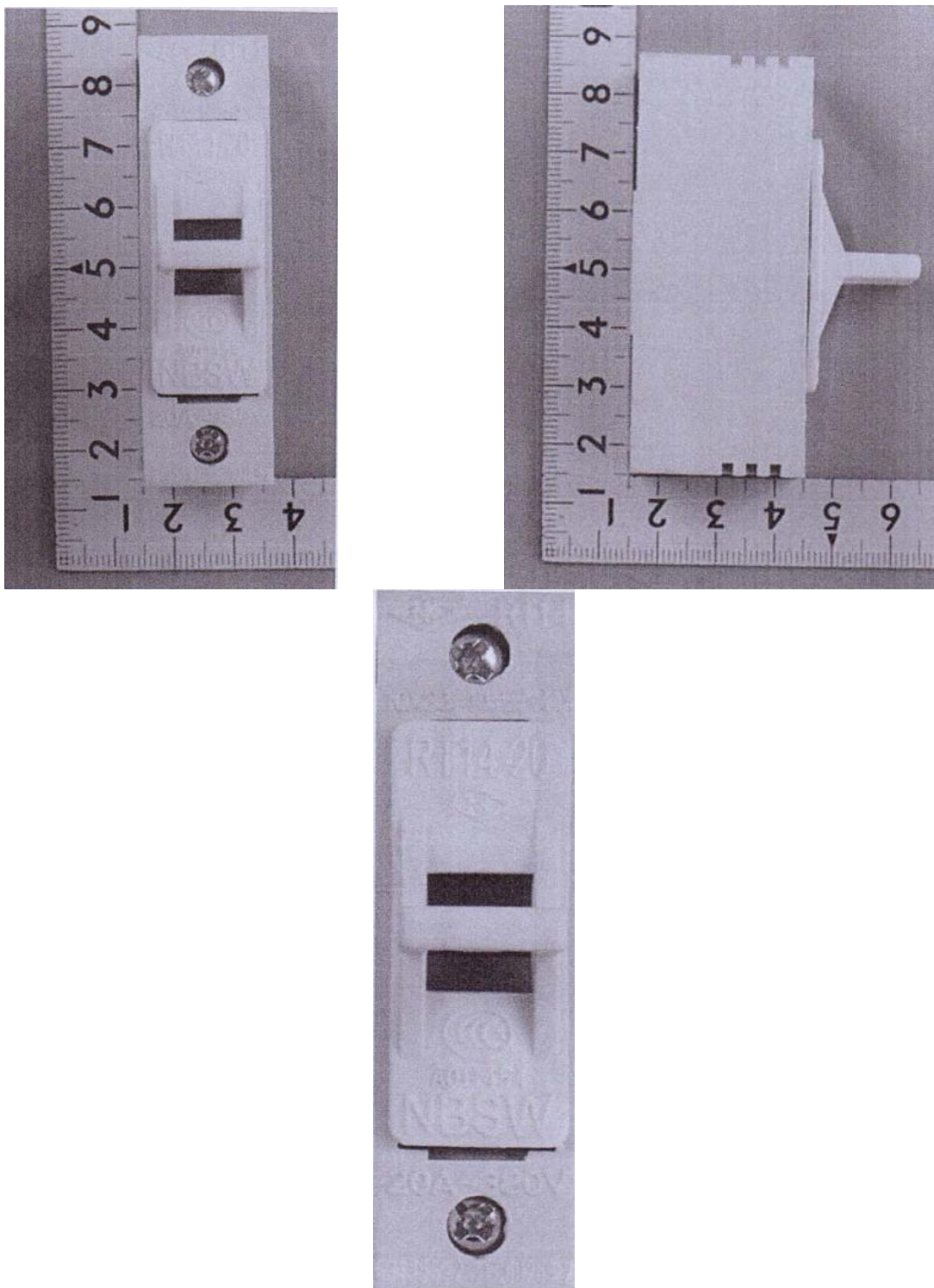
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Sample Photo

7. Product Photos (Including Exterior, Internal Structure, and Nameplate):



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Sample Photo

7. Product Photos (Including Exterior, Internal Structure, and Nameplate):



Summary Table of Inspection Items

SN	Test Items	Reference Standard Clause	Sample No.	Test Result
1	Dimensions	8.1.4	See Report C009-A2010CCC0308-920927	
2	Resistance	8.1.5.1	See Report C009-A2010CCC0308-920927	
3	Insulation Performance and Isolation Suitability	8.2	See Report C009-A2010CCC0308-920927	
4	Tracking Resistance	8.2.5	See Report C009-A2010CCC0308-920927	
5	Temperature Rise, Power Dissipation	8.3	See Report C009-A2010CCC0308-920927	
6	Conventional Non-fusing Current	8.4.3.1a)	See Report C009-A2010CCC0308-920927	
7	Conventional Fusing Current	8.4.3.1b)		
8	Rated Current	8.4.3.2	See Report C009-A2010CCC0308-920927	
9	Threshold	8.4.3.3.2	See Report C009-A2010CCC0308-920927	
10	Overload	8.4.3.4	See Report C009-A2010CCC0308-920927	
11	Striker Operation	8.4.3.6	See Report C009-A2010CCC0308-920927	
12	No. 5 Breaking Capacity (I ₅) (AC)	8.5	See Report C009-A2010CCC0308-920927	
13	No. 4 Breaking Capacity (I ₄) (AC)	8.5	See Report C009-A2010CCC0308-920927	
14	No. 3 Breaking Capacity (I ₃)(AC)	8.5	See Report C009-A2010CCC0308-920927	
15	No. 2 Breaking Capacity (I ₂) (AC)	8.5	See Report C009-A2010CCC0308-920927	
16	No. 1 Breaking Capacity (I ₁) (AC)	8.5	Fuse Link: 1#~3# 2A Fuse Link: 4#~6# 20A Fuse Holder: D-1#~D-3#	P
17	Overcurrent Selectivity	8.7.4	See Report C009-A2010CCC0308-920927	
18	Protection Class	8.8	See Report C009-A2010CCC0308-920927	
19	Heat Resistance	8.9	See Report C009-A2010CCC0308-920927	
20	Contact Non-deterioration	8.10	See Report C009-A2010CCC0308-920927	
21	Mechanical Strength of Fuse Holder	8.11.1.1	See Report C009-A2010CCC0308-920927	
22	Mechanical Strength of Fuse Base	8.11.1.2	See Report C009-A2010CCC0308-920927	
23	Stress Corrosion Cracking Resistance	8.11.2.1	See Report C009-A2010CCC0308-920927	
24	Resistance to Abnormal Heat and Fire	8.11.2.2	See Report C009-A2010CCC0308-920927	
25	Rust Resistance	8.11.2.3	See Report C009-A2010CCC0308-920927	
26	Non-deterioration of Fuse Link and Fuse Base Insulating Parts	8.11.2.4	See Report C009-A2010CCC0308-920927	

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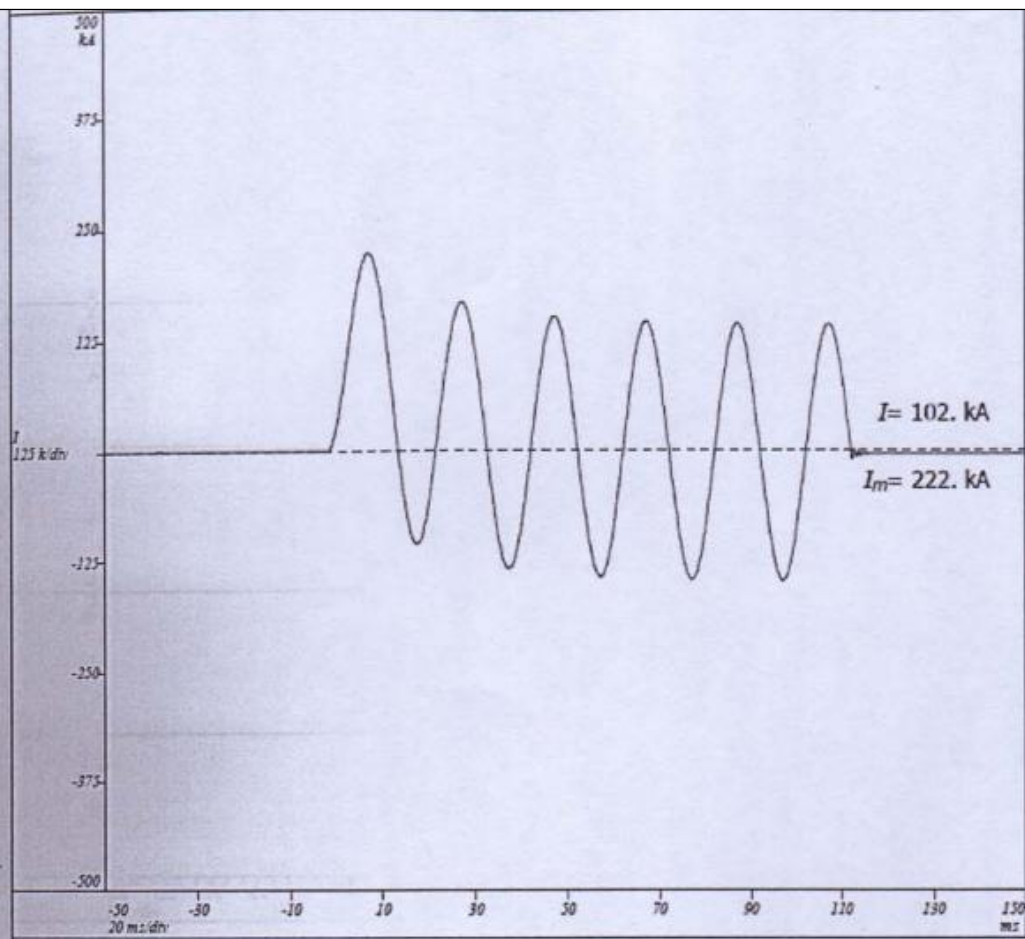
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Expected Current Oscillogram

02401-1711902513



Expected Current Oscillogram

U=420.V

I=102.kA

Im=222.kA

cosφ=0.18

Y172513001

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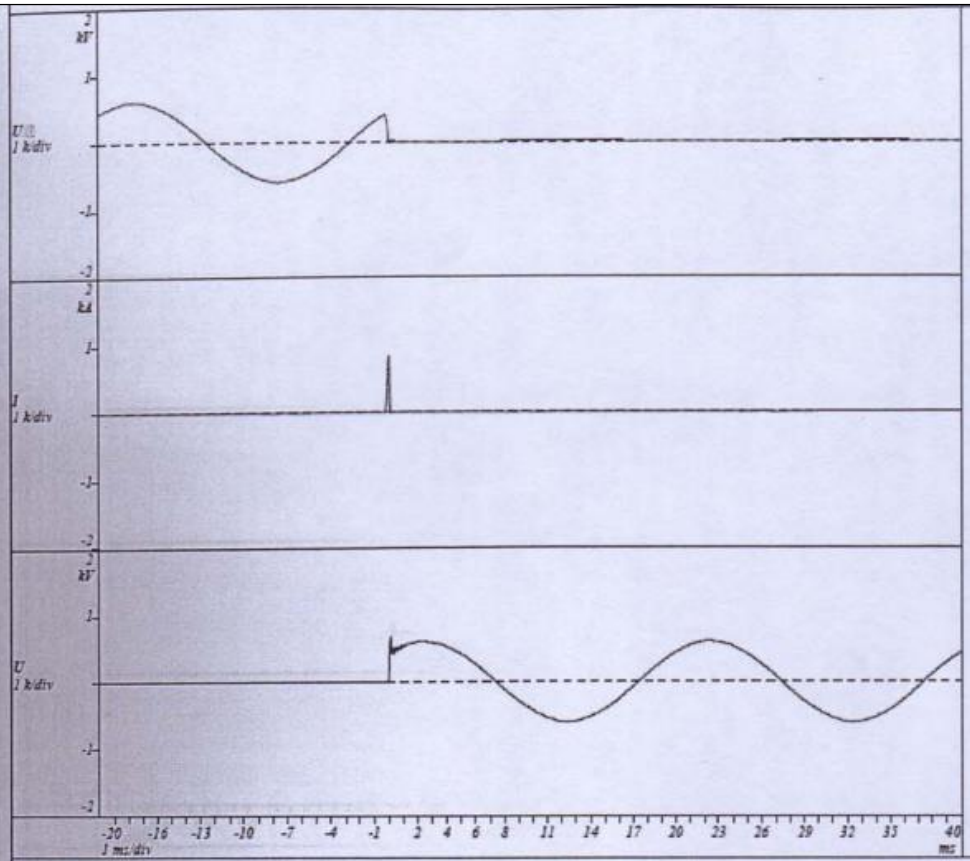
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Test Oscillogram

02401-1711902513



RT14-20
U_c: 380.V
I_n: 2A

U=420.V
I=102.kA
cosφ=0.18

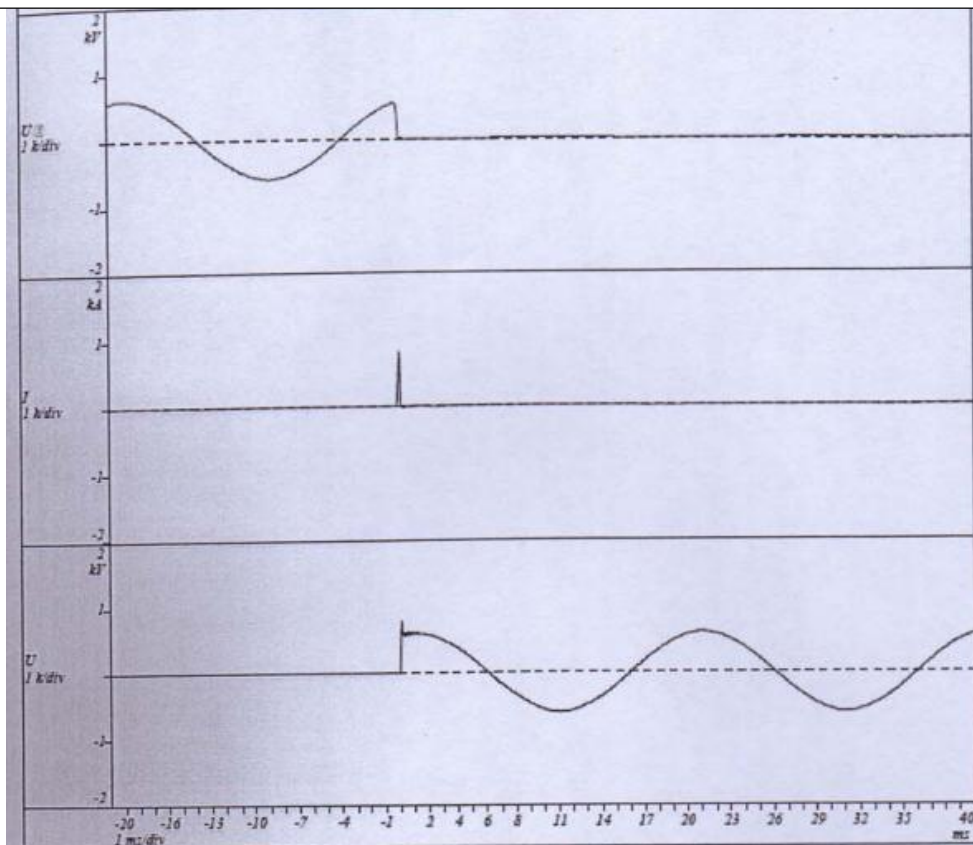
1#
O
Arc Ignition Angle 46°
I_p=836.A
Arc Voltage: 681.V
I²t(Fusing) =82.2A²s
I²t (Arc front)=15.3A²s
Fusing Time: 306.us
Arcing Time: 154.us

S172513001



Test Oscillogram

02401-1711902513



RT14-20
 U_e : 380.V
 I_n : 2A

U =420.V
 I =102.kA
 $\cos\varphi$ =0.18

2#
O
Arc Ignition Angle 70°
 I_p =806.A
Arc Voltage: 782.V
 $I^2t(\text{Fusing})$ =76.8A²s
 $I^2t(\text{Arc front})$ =8.87A²s
Fusing Time: 313.us
Arcing Time: 143.us

S172513002

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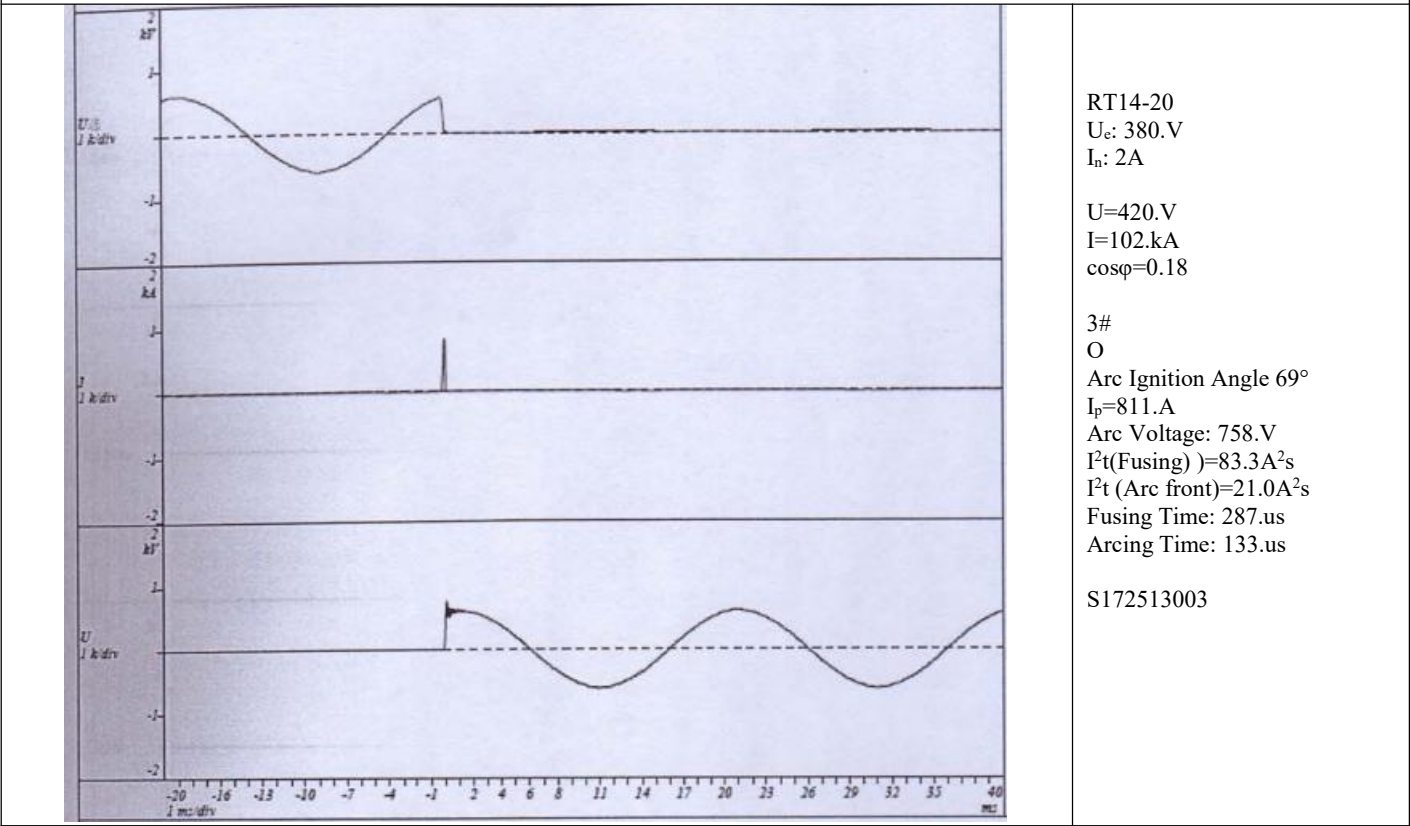
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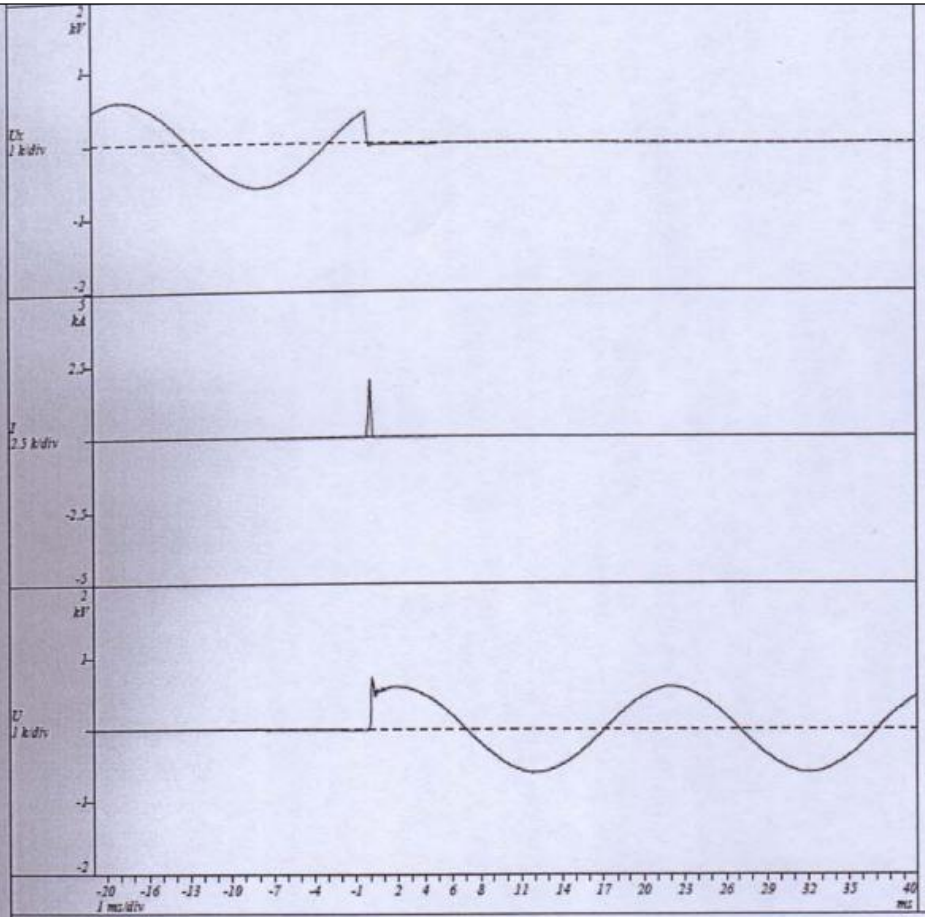
Test Oscillogram

02401-1711902513



Test Oscillogram

02401-1711902513



RT14-20
U_e: 380.V
I_n: 2A

U=420.V
I=102.kA
cosφ=0.18

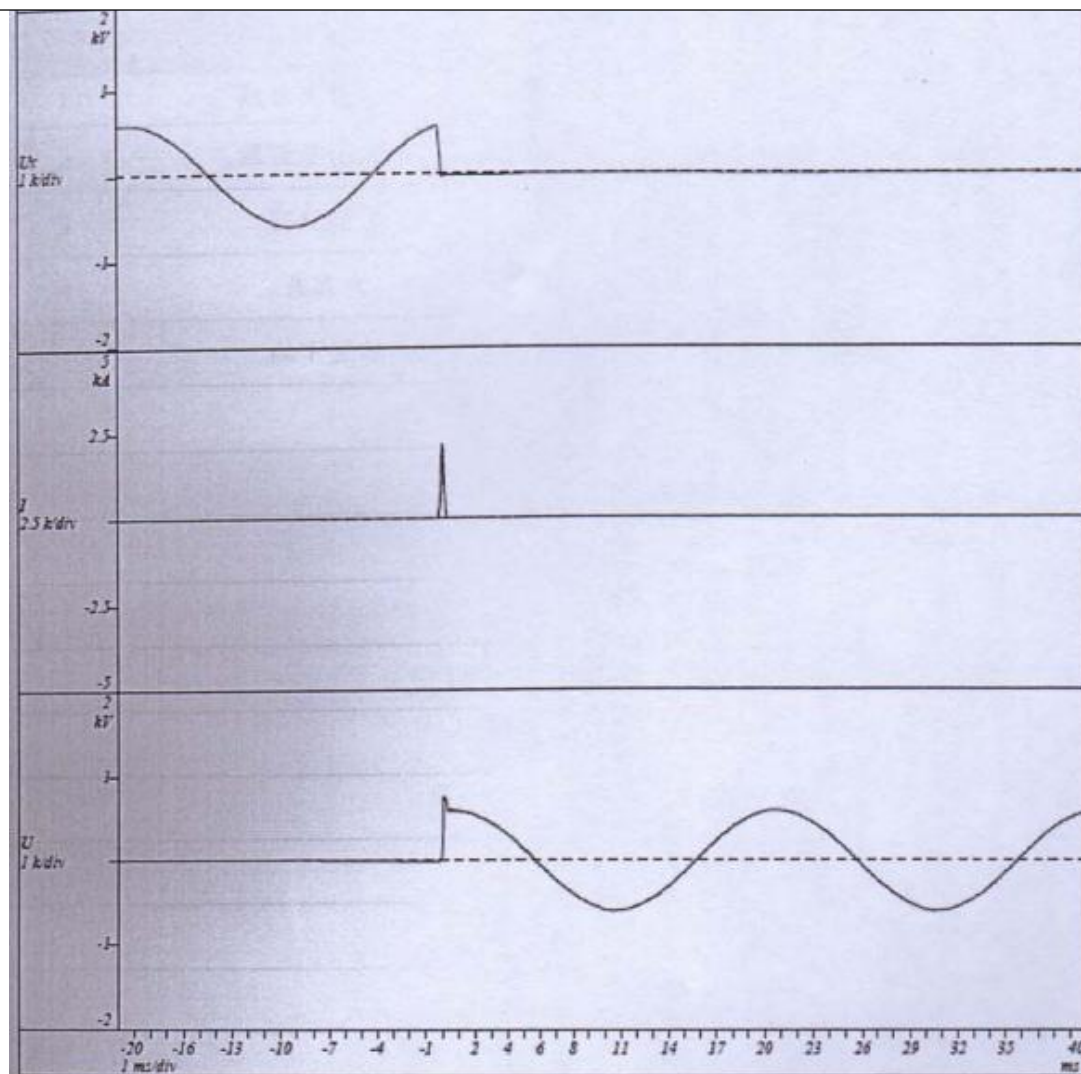
4#
Arc Ignition Angle 49°
I_p=1.95.A
Arc Voltage: 765.V
I²t(Fusing)=645.A²s
I²t (Arc front)=251.A²s
Fusing Time: 492.us
Arcing Time: 260.us

S172513004



Test Oscillogram

02401-1711902513



RT14-20
 U_e : 380.V
 I_n : 2A

$U=420.V$
 $I=102.kA$
 $\cos\phi=0.18$

6#
Arc Ignition Angle 80°
 $I_p=2.14A$
Arc Voltage: 758.V
 $I^2t(\text{Fusing})=701.A^2s$
 $I^2t(\text{Arc front})=271.A^2s$
Fusing Time: 390.us
Arcing Time: 176.us

S172513006

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List of Instruments and Equipment

[illegible]

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