

# Test Report

**Name of products:** \_\_\_\_\_ MCCB \_\_\_\_\_

**Type:** \_\_\_\_\_ BA5731 \_\_\_\_\_



**Applicant:** \_\_\_\_\_ WENZHOU HUAJIA ELECTRICAL EQUIPMENT CO., LTD \_\_\_\_\_

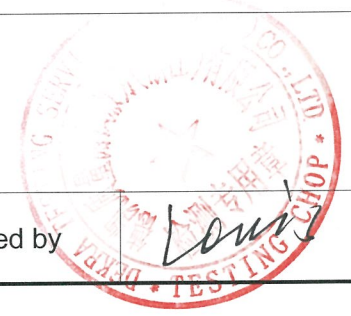
**Kind of test:** \_\_\_\_\_ Commission test \_\_\_\_\_

**DEKRA Testing Services (Zhejiang) Co., Ltd**



# Test Report

Project No.	3307892	Trade mark	/		
Name of Product	MCCB	Type	BA5731		
Rated parameters	Ue = 400 Vac, In = 25 A, Icu = 25 kA		Pole number	3P	
Applicant	Name	WENZHOU HUAJIA ELECTRICAL EQUIPMENT CO., LTD			
	Address	No.311, LATITUDE FIFTEEN ROAD, YUEQING ECONOMIC DEVELOPMENT ZONE, YUEQING ZHEJIANG, CHINA, 325600			
Manufacturer	Name	WENZHOU HUAJIA ELECTRICAL EQUIPMENT CO., LTD			
	Address	No.311, LATITUDE FIFTEEN ROAD, YUEQING ECONOMIC DEVELOPMENT ZONE, YUEQING ZHEJIANG, CHINA, 325600			
Quantity of samples	1	Contact Person	Huang Guangfa	Date of sample available	2015-05-18
Testing Location (if different from DEKRA Lab)	Testing Lab	/			
	Address	/			
Test requirements	IEC 60947-2:2006 and Commission Testing Agreement: 3307892				
Test duration	2015-05-18 to 2015-05-19				
Test result	Pass		Issue date	2015.5.20	
Remarks	/				
Tested by	Ran	Reviewed by		Tested by	



## Product Description

1. Name and type of product:

MCCB, BA5731

2. Primary technical parameters:

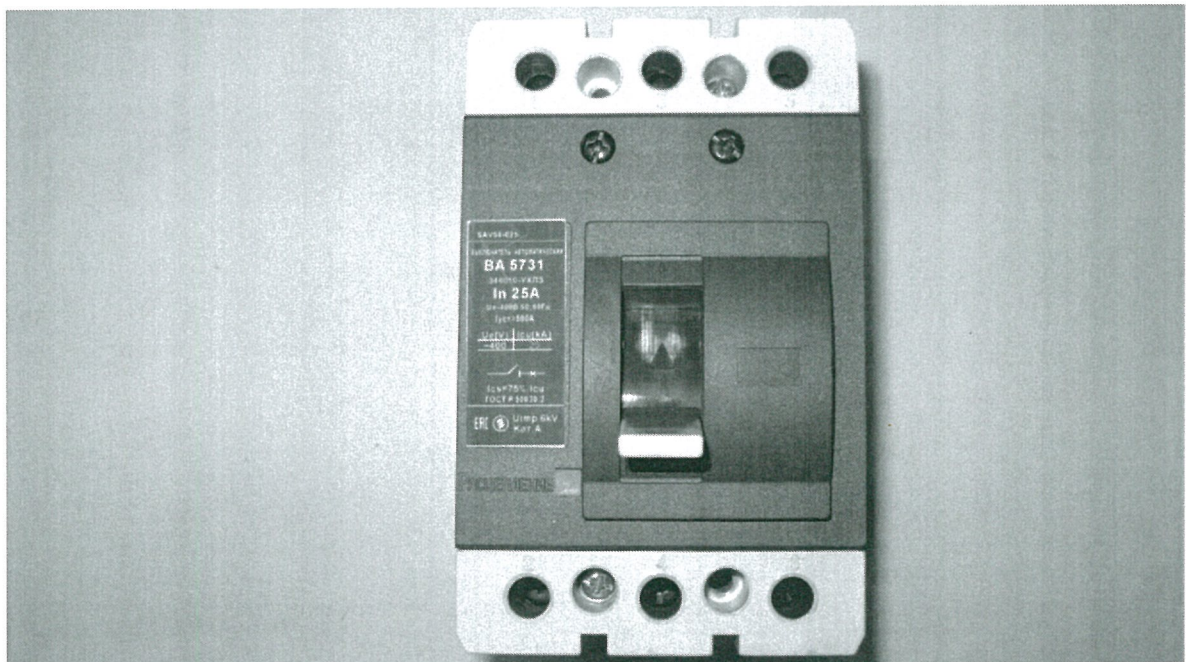
$U_e = 400 \text{ Vac}$ ,  $I_n = 25 \text{ A}$ ,  $I_{cu} = 25 \text{ kA}$ , 3P

3. Photograph of the product:

3.1 Copy of the marking plate:

/

3.2 Copy of shape of the products:



4. Test remarks

/

5. General remark:

The meaning for all the symbols used in this report:

'P': Test object does meet the standards and/or applicant's requirement;

'F': Test object does not meet standards and/or applicant's requirement;

'/': For description: not applicable or the information is not required or not provided by the applicant;

For test verdict: test case does not apply to the test object or just part of items conducted in the specified test program;

'-': Test case is not conducted as some tests in the sequence have failed already.



Clause	Requirement - test	Results-Remarks	Verdict
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8.3.5	TEST SEQUENCE III (Icu)		P
	Type designation or serial number	BA5731	
	Sample no:	4#	
	Rated current: In (A)	25 A	
	Rated operational voltage: Ue (V)	400 Vac	
	Rated ultimate short-circuit breaking capacity: (kA)	25 kA	
8.3.5.1	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		
	Test current: (A)	50 A	
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		
	Time specified by the manufacturer:	$30\text{ s} \leq t \leq 270\text{ s}$	P
	- Operation time: (s) .....L1:	47 s	P
	.....L2:	56 s	
	.....L3:	45 s	
8.3.5.2	Test of rated ultimate short-circuit breaking capacity		
	The test sequence of operations is O – t - CO		
	Test made in free air:	free air	P
	Circuit is earthed at: (load-star- or supply-star point)	supply-star point	P
	Conductor cross-sectional area (mm <sup>2</sup> ) :	4 mm <sup>2</sup>	P
	- test voltage U/Ue = 1,05 (V) .....	424,2 Vac	P
	- r.m.s. test current AC/DC: (kA).....	25,4 kA	P
	power factor/time constant : 0,20~0,25	0,24	P
	- peak test current (kAmax) :	51,9 kA	P
	Test sequence "O"		
	- max. let-through current: (kApeak).....	15,4 kA	P

Clause	Requirement - test	Results-Remarks	Verdict
	- Joule integral $I^2dt$ (kA <sup>2</sup> s) .....L1: .....L2: .....L3:	285,3 kA <sup>2</sup> s 607,1 kA <sup>2</sup> s 126,4 kA <sup>2</sup> s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA <sub>peak</sub> ) .....	15,5 kA	P
	- Joule integral $I^2dt$ (kA <sup>2</sup> s) .....L1: .....L2: .....L3:	419,6 kA <sup>2</sup> s 652,6 kA <sup>2</sup> s 653,0 kA <sup>2</sup> s	P
	Melting of the fusible element	No melting	P
	Holes in the PE-sheet for test sequence "O"	No holes	P
	Cracks observed	No cracks	P
8.3.5.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V for 60 seconds	1000 V, 60 s	P
	- In all normal positions of operation, all the terminals of the main circuit and enclosure or mounting plate. - In all normal positions of operation, between each pole and the other poles connected together and to the enclosure or mounting plate. - Between the incoming and outgoing terminals.	no breakdown and flashover	P
	- the leaking current for circuit-breaker suitable for isolation: ( $\leq 6$ mA / 1,1 U <sub>e</sub> )	440 V	P
	.....L1: .....L2: .....L3:	0,005 mA 0,630 mA 0,087 mA	P
8.3.5.4	Verification of overload releases		
	The operation of overload releases shall be verified at 2,5 times the value of their current setting on each pole separately.		
	Test current: (A)	62,5 A	

Clause	Requirement - test	Results-Remarks	Verdict
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	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		
	Time specified by the manufacturer:	t ≤ 270 s	P
	- Operation time: (s) ..... L1: ..... L2: ..... L3:	72 s 227 s 39 s	P



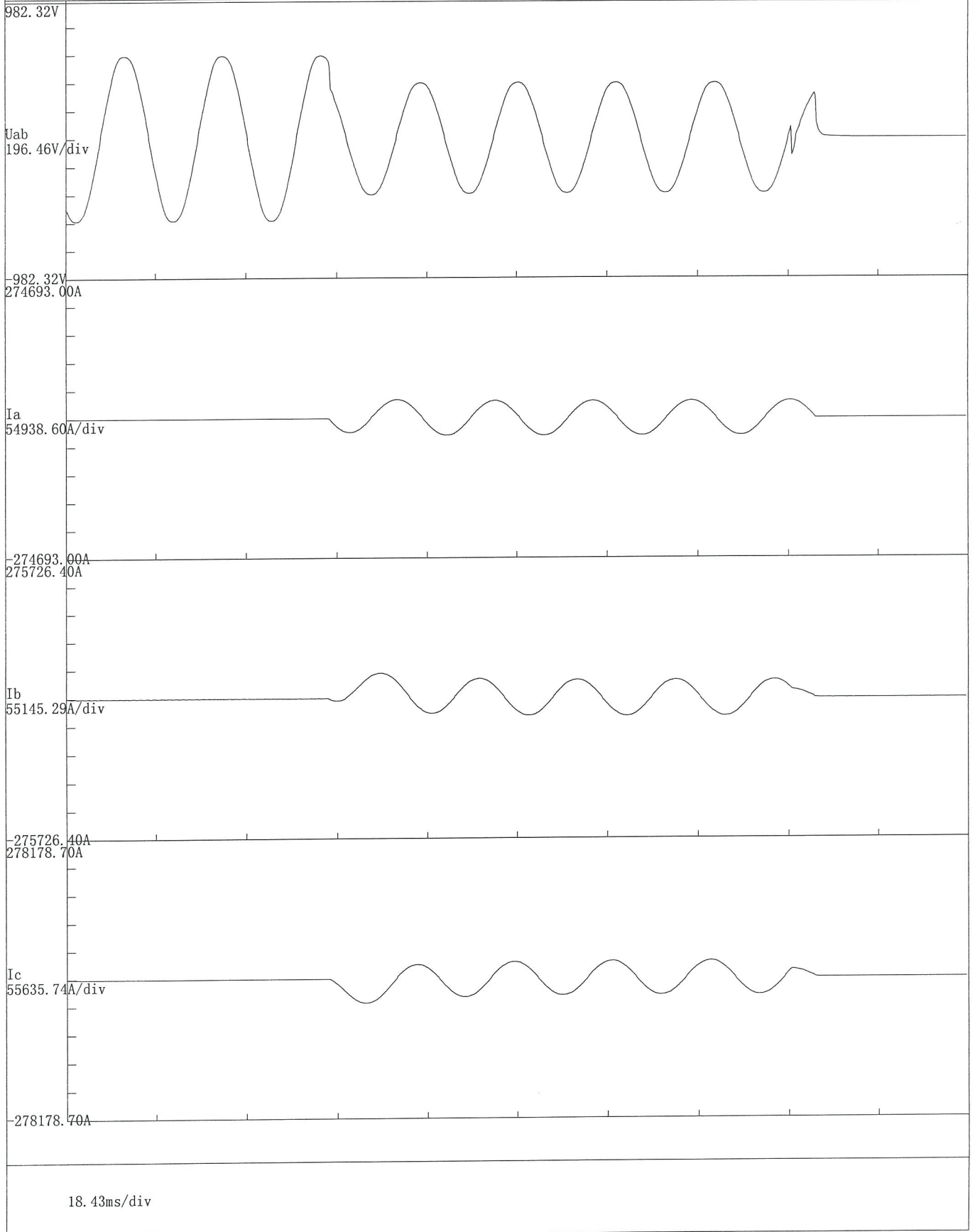
Uab三相预期波

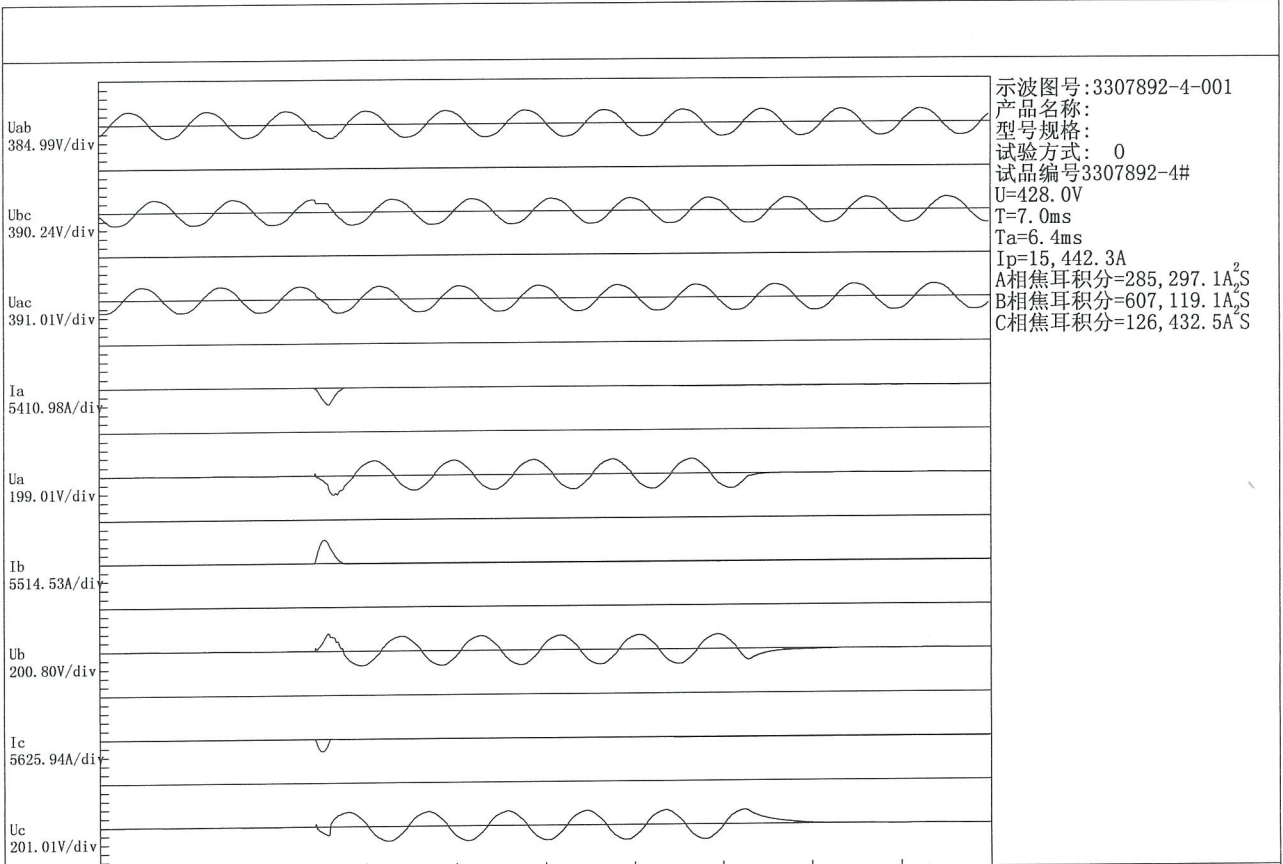
示波图号:3307892-002

U=424.2V

I=25,441.55A/ip=51,886.85A

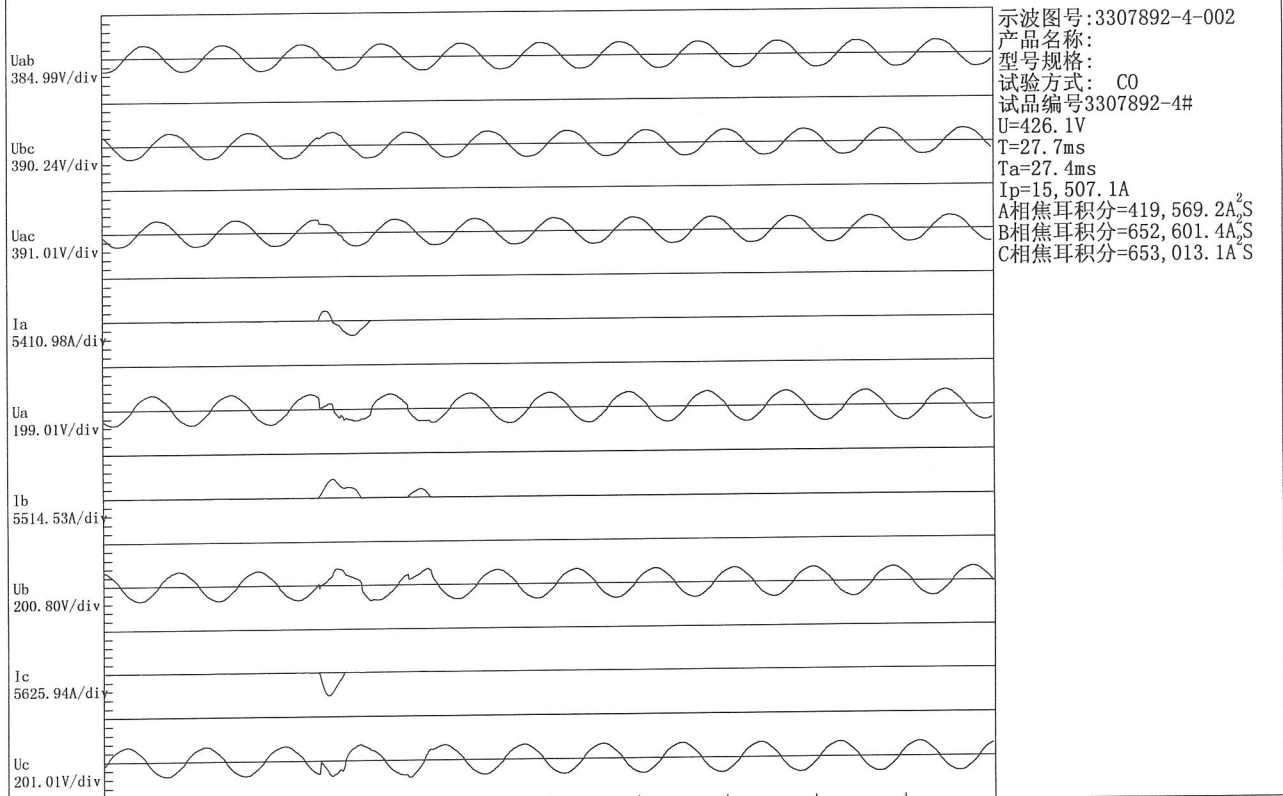
cos φ=0.24





示波图号:3307892-4-001  
 产品名称:  
 型号规格:  
 试验方式: 0  
 试品编号3307892-4#  
 U=428.0V  
 T=7.0ms  
 Ta=6.4ms  
 Ip=15,442.3A  
 A相焦耳积分=285,297.1A<sup>2</sup>S  
 B相焦耳积分=607,119.1A<sup>2</sup>S  
 C相焦耳积分=126,432.5A<sup>2</sup>S

22.526ms/div



示波图号:3307892-4-002  
 产品名称:  
 型号规格:  
 试验方式: CO  
 试品编号3307892-4#  
 U=426.1V  
 T=27.7ms  
 Ta=27.4ms  
 Ip=15,507.1A  
 A相焦耳积分=419,569.2A<sup>2</sup>S  
 B相焦耳积分=652,601.4A<sup>2</sup>S  
 C相焦耳积分=653,013.1A<sup>2</sup>S

22.526ms/div

