



**AUSTRIAN INSTITUTE
OF TECHNOLOGY**

Test Report

Project designation	Type Test according to IEC/EN 60898-1		
Product description	Circuit-breakers for Overcurrent Protection for Household and Similar Installations type ETIMAT 10		
Client	ETI Elektroelement d.d. Obrezija 5 1411 Izlake SLOVENIA		
Order from / No.	07/2013 / ---		
Project number	2.03.02769.1.0/ETIMAT10		
Date of issue	28.07.2014	Test engineer	Ing. Johann Ainetter
Total number of issues / No.	1 / 1		
Number of pages	5		
Annex: Number of pages	CB/CCA - Test Report No. 2.03.02769.1.0/ETIMAT10/CB/CCA (541 pages)		

The results relate exclusively to the items tested.

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Test item

Identification:

Circuit-breakers for overcurrent protection for household and similar installations
type ETIMAT 10

Number of poles:	1p, 1p+N, 2p, 3p, 3p+N
Instantaneous tripping currents:	B (6A to 63A), C (0,5A to 63A), D (0,5A to 63A)
Rated voltages:	AC 230V, AC 230/400V, AC 400V
Rated currents:	0,5A, 1A, 1,6A, 2A, 4A, 6A, 10A, 13A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated frequency:	50Hz
Energy limiting class:	3

Technical data and description:

See page 4

Testing location, Period of testing

Testing location:

AIT Austrian Institute of Technology GmbH
Business Unit Electric Energy Systems
Power Service Center
Giefinggasse 2
1210 Vienna
AUSTRIA

Period of testing:

10/2003 to 12/2003 and 07/2013 to 12/2013

Test(s)

Test(s) performed:

Type test

Test standard(s):

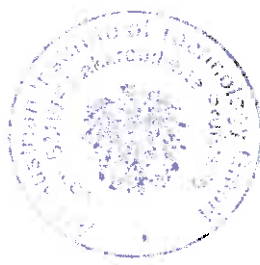
IEC 60898-1 Ed. 1.2:2003
EN 60898-1:2003+A1:2004+A11:2005+A12:2008+A13:2012

Test procedure(s):

CB Scheme and CCA Scheme

Result

The circuit-breakers for overcurrent protection for household and similar installation type ETIMAT 10 have passed the type test successfully.



Seal

Test engineer

Ing. Johann Ainetter

Responsible for the content

Ing. Karl Farthofer

Testing laboratory



ACCREDITED
according to
EN ISO/IEC 17025
confirmed by
BMWFJ
with GZ 92714/237-IV/9/00



CERTIFIED
according to
ISO 9001
confirmed by
Quality Austria
with Reg. No. 00229/1



RECOGNIZED CB TESTING LABORATORY
confirmed by
International Electrotechnical Commission
under the responsibility of
OVE
as the National Certification Body

Technical data and description

Test item	Circuit-breaker for overcurrent protection for household and similar installation
Model/Type reference	ETIMAT 10
Manufacturer	ETI Elektroelement d.d. ETI Polam Sp. z o.o.
Factory locations	Obrezija 5, SI-1411 Izlake, Slovenia Al. Jana Pawla II 18, 06-100 Pultusk, Poland
Nature of supply	AC
Number of poles	1p, 1p+N, 2p, 3p, 3p+N
Protection against external influences	Enclosed type
Degree of protection	IP20
Method of mounting	Panel board type
Method of connection	Not associated with the mechanical mounting
Method of operation	Independent manual operation
Type of terminal	Pillar terminal
Instantaneous tripping current	B-type, C-type, D-type
Rated current I_n	B-type: 6A, 10A, 13A, 16A, 20A, 25A, 32A, 40A, 50A, 63A C-type: 0,5A, 1A, 1,6A 2A, 4A, 6A, 10A, 13A, 16A, 20A, 25A, 32A, 40A, 50A, 63A D-type: 0,5A, 1A, 1,6A 2A, 4A, 6A, 10A, 13A, 16A, 20A, 25A, 32A, 40A, 50A, 63A
Rated voltage U_n	1p: 230/400V 1p+N: 230V 2p, 3p, 3p+N: 400V
Rated frequency	50Hz
Rated short-circuit capacity I_{cn}	0,5A to 40A: 10000A 50A to 63A: 6000A
Service short-circuit capacity I_{cs}	0,5A to 40A: 7500A 50A to 63A: 6000A
Energy limiting class	3
Material of insulating parts	0,5A to 40A: PA 6, 25% GF 50A to 63A: PA 46, 30% GF
Ambient air temperature	-5°C to +40°C
Altitude	≤ 2000m
Atmospheric conditions	Max. 50% relative humidity at +40°C

Measuring equipment

Measured quantity	Device	Manufacturer	Code
Voltage (tests up to 10kA)	Voltage divider 1:2000 Difference amplifier AM 502 Signal memory recorder TRA 800	AIT Tektronix W&W	- AM 502/1...3 TRA800
Current (tests up to 10kA)	Lin. Current transformer LGSSO Burden 1Ω Signal memory recorder TRA 800	Ritz AIT W&W	WLIN5000/1...3 - TRA800
Current (tests at reduced voltage)	Current transformer GE 4461 Current transformer AETt10 True-RMS amperemeter Cl. 0,5 Digital multimeter Fluke 185	Goerz Siemens Norma Fluke	WI600/1...3 WI4000/1...3 A0,5/4 FLUKE185/2
Dielectric properties	High-voltage test equipment 90-1F with measuring equipment Impulse tester 35 Impulse voltmeter 64M Oscilloscope 9430	Elabo Haefely Haefely Le Croy	HSG5KV G304 G502 G805
Leakage current	High-voltage test equipment 90-1F with measuring equipment Digital multimeter Fluke 185 Digital multimeter Fluke 187	Elabo Fluke Fluke	HSG5KV FLUKE185/2 G922
Time	Signal memory recorder TA 800 Digital stopwatch	W&W Quantum	TRA800 938-3
Temperature	Data Logger Unit 34970A Temperature meter TESTO 901	Agilent Testoterm	942 TESTO
Heat	Heating cabinet UT 6060 with measuring equipment	Heraeus	543/032/1060
Abnormal heat and fire	Glow-wire test device with measuring equipment	Friborg	GLOW
Mechanical impact	Test apparatus	PTL	MSD
Environmental tests	Environmental chamber HC7507 with measuring equipment	Heraeus	M2
Degree of protection	Test probe, dust chamber Test equipment for ingress of water	PTL, Friborg PTL, Friborg	PTL1...3 X1...X4
Ball pressure	Test equipment	AIT	KUGELDR20N
Clearances, creepage distances	Digital slide gauge	Spiral	SCHUB-1
Torque	Torque meter	Rahsol	6JY050958



Test Report issued under the responsibility of:



TEST REPORT IEC/EN 60898-1 Circuit-breakers for over current protection for household and similar installations	
Report Reference No.	2.03.02769.1.0/ETIMAT10/CB/CCA
Date of issue	28.07.2014
Total number of pages	541
CB/CCA Testing Laboratory	AIT Austrian Institute of Technology GmbH
Address	Giefinggasse 2, A-1210 Vienna, Austria
Applicant's name	ETI Elektroelement d.d.
Address	Obrezija 5, SI-1411 Izlake, Slovenia
Test specification:	
Standard	☒ IEC 60898-1:2002 (1st Edition) + A1:2002 + A2:2003 and/or ☒ EN 60898-1:2003 + A1:2004 + A11:2006 (+A12:2008)
Test procedure	CB / CCA
Non-standard test method	N/A
Test Report Form No.	IECEN60898_1C
Test Report Form(s) Originator	OVE
Master TRF	Dated 2007-12
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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.	
If this Test Report Form is used by non-CCA members, the CIG logo and the reference to the CCA Procedure shall be removed.	
This report is not valid as a CCA Test Report unless signed by an approved CCA Testing Laboratory and appended to a CCA Test Certificate issued by an NCB in accordance with CCA	
Test item description	Circuit-breakers for overcurrent protection for household and similar installations
Trade Mark	ETI
Manufacturer	ETI Elektroelement d.d., Obrezija 5, SI-1411 Izlake, Slovenia ETI Polam Sp. z o.o., Al. Jana Pawla II 18, 06-100 Pultusk, Poland
Model/Type reference	ETIMAT 10
Ratings	1p, 1p+N, 2p, 3p, 3p+N / B, C, D / 6A ... 63A (B), 0,5A ... 63A (C, D) / 230V/400V, 230V, 400V

Testing procedure and testing location:	
☒ CB/CCA Testing Laboratory:	
Testing location/ address	AIT Austrian Institute of Technology GmbH Giefinggasse 2, A-1210 Vienna, Austria
☐ Associated CB Laboratory:	
Testing location/ address	
Tested by (+ signature)	Ing.J.Ainetter
Approved by (+ signature)	Ing.K.Farthofer
	
☐ 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: A type test has been performed according to ▪ IEC 60898-1 Ed. 1.2:2003 ▪ EN 60898-1:2003+A1:2004+A11:2005+A12:2008+A13:2012. The circuit-breakers for overcurrent protection for household and similar installation ▪ ETIMAT 10 have passed the type test successfully.	Testing location: AIT Austrian Institute of Technology GmbH Business Unit Electric Energy Systems Power Service Center Giefinggasse 2 A-1210 Vienna The AIT Austrian Institute of Technology GmbH is a recognized CB/CCA Testing Laboratory under the responsibility of OVE as the National Certification Body.
Possible test case verdicts: Test case does not apply to the test object: N/A Test item does meet the requirement: P(ass) Test item does not meet the requirement: F(ail)	
Testing: Date of receipt of test item: 09/2003 and 07/2013 Date(s) of performance of test: 10/2003 to 12/2003 and 07/2013 to 12/2013	
Summary of compliance with National Differences: 	

Copy of marking plate:

ETIMAT 10
B 6
 10000
 3 C€

ETIMAT 10
B 10
 10000
 3 C€

ETIMAT 10
B 13
 10000
 2 C€

ETIMAT 10
B 16
 10000
 3 C€

ETIMAT 10
B 20
 10000
 3 C€

ETIMAT 10
B 25
 10000
 3 C€

ETIMAT 10
B 32
 10000
 3 C€

ETIMAT 10
B 40
 10000
 3 C€

ETIMAT 10
B 50
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ETIMAT 10
B 63
 5000 C€

ETIMAT 10
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 3 C€

ETIMAT 10
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 3 C€

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C 20
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ETIMAT 10
C 25
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 10000
 3 C€

ETIMAT 10
C 50
 5000 C€

ETIMAT 10
C 63
 5000 C€

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ETIMAT 10
D 1
 10000 C€

ETIMAT 10
D 1,6
 10000 C€

ETIMAT 10
D 2
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ETIMAT 10
D 4
 10000 C€

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D 6
 10000 C€

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D 10
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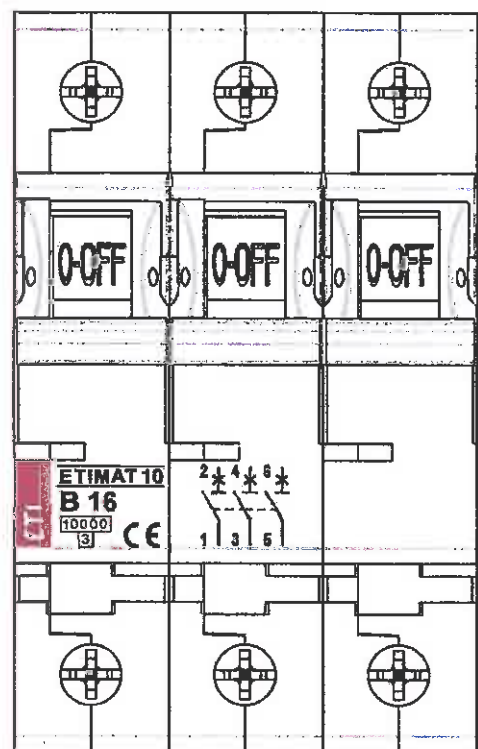
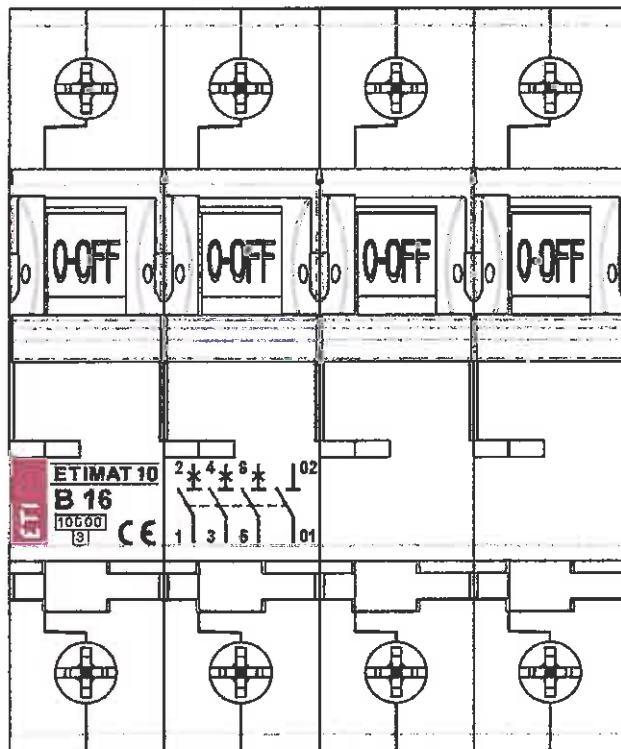
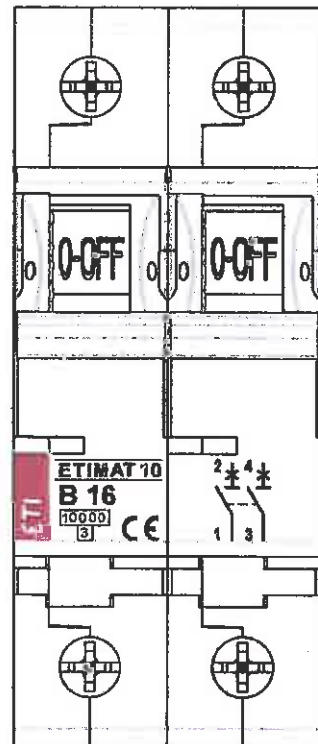
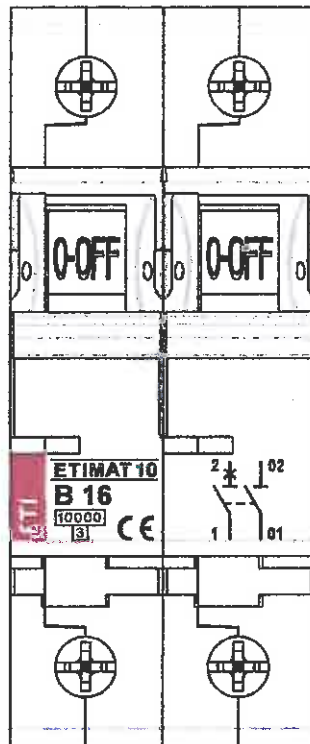
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D 32
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ETIMAT 10
D 40
 10000 C€

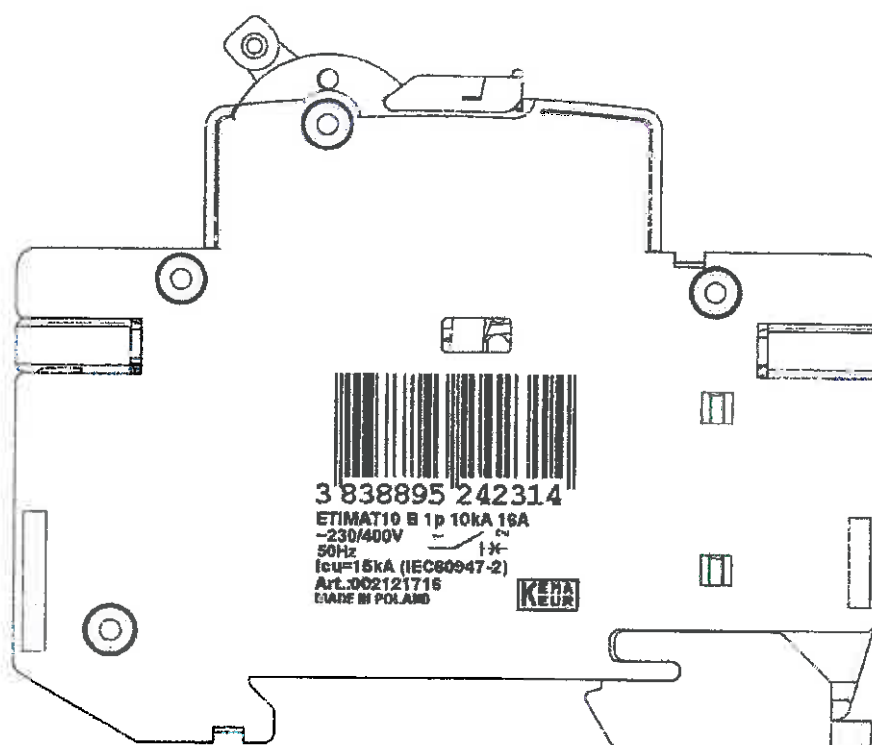
ETIMAT 10
D 50
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ETIMAT 10
D 63
 5000 C€

Copy of marking plate (continued):



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