Test Report issued under the responsibility of:

TEST REPORT
IEC 60898-1
Circuit-breakers for over current protection for household and similar installations
Part 1 - Circuit-breakers for a.c. operation

Report Number. ..... :	B190046
Date of issue ..... :	2019-10-09
Total number of pages ..... :	211 pages
Applicant's name ..... :	PEOPLE ELE. APPLIANCE GROUP ZHEJIANG IMPORT & EXPORT CORP.
Address ..... :	People Industry Zone, No.555 Chezhan Road ,Liushi, Yueqing, Zhejiang Province 325604 P.R.China
Test specification:	
Standard ..... :	IEC 60898-1:2015 (Edition 2.0)
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60898_1D
Test Report Form(s) Originator .... :	DEKRA Certification B.V.
Master TRF ..... :	Dated 2015-09

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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.

General disclaimer:

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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	MCB
Trade Mark ..... :	PEOPLE
Manufacturer ..... :	PEOPLE ELE. APPLIANCE GROUP CO.,LTD People Industry Zone, No.555 Chezhan Road ,Liushi, Yueqing, Zhejiang Province 325604 P.R.China
Model/Type reference ..... :	RDB5-63 Series(Model list see page 7 to 8)
Ratings ..... :	See pages 11 to 13

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	Technical center of Wenzhou Entry-Exit Inspection and Quarantine Bureau	
Testing location/ address.....:		Inspection and Quarantine Mansion, Jingang Avenue, Liushi, Yueqing, Wenzhou, Zhejiang, P.R. China	
☐	**Associated CB Testing Laboratory:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:		Gaoke Zheng - Testing engineer Lechen HU - Testing engineer (Reviewer)	Gaoke Zheng Lechen Hu
Approved by (name, function, signature)...:		Xiaomu Ye - Technical manager	Xiaomu Ye
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address.....:			
Tested by (name + signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
Supervised by (name, function, signature) :			

List of Attachments (including a total number of pages in each attachment):
Attachment for standard version difference of IEC 60898-1:2003 See Annex Nº.1.(Total pages 20)
Attachment for European group differences See Annex Nº.2.(Total pages 26)
Attachment for the AS/NZS 60898-1:2004 variations See Annex Nº.3.(Total pages 1)

Summary of testing:
Standard used:
-IEC 60898-1:2015 (Edition 2.0)
-EN 60898-1:2019
-AS/NZS 60898-1:2004
-All the samples satisfy to the clauses examined.
-Rated voltage is declared:
220V/380V,230V/400V,240V/415Vfor1P
380V,400V,415Vfor 2P/3P/4P
that tests have been performed on samples with rated voltage 240V/415V,240V and 415V.

Tests performed (name of test and test clause):

Model		Test sequences									
In		A_1	A_2	B	C_1	C_2	D_0+D_1	D_0	E_1	E_2	E_3
1P Type D Icn=6000A	63A	X	X	X	X	X	X	-	X	-	-
	50A	-	-	-	-	-	-	X	-	-	-
	40A	-	-	-	-	-	-	X	-	-	-
	32A	-	-	-	-	-	-	X	-	-	-
	25A	-	-	-	-	-	-	X	-	-	-
	20A	-	-	-	-	-	-	X	-	-	-
	16A	-	-	-	-	-	-	X	-	-	-
	10A	-	-	-	-	-	-	X	-	-	-
	6A	-	-	-	-	-	-	X	-	-	-
	4A	-	-	-	-	-	-	X	-	-	-
	2A	-	-	-	-	-	-	X	X	-	-
2P Type D Icn=6000A	63A	-	-	-	-	X	-	-	X	-	-
	2A	-	-	-	-	-	-	-	X	-	-
4P Type D Icn=6000A	63A	X	X	X	X	X	X	-	X	-	-
	2A	-	-	-	-	-	-	-	X	-	-

Model		**Test sequences**									
In		A_1	A_2	B	C_1	C_2	D_0+D_1	D_0	E_1	E_2	E_3
1P Type C Icn=6000A	63A	-	-	-	-	-	-	X*	-	-	-
	50A	-	-	-	-	-	-	X*	-	-	-
	40A	-	-	-	-	-	-	X*	-	-	-
	32A	-	-	-	-	-	-	X*	-	-	-
	25A	-	-	-	-	-	-	X*	-	-	-
	20A	-	-	-	-	-	-	X*	-	-	-
	16A	-	-	-	-	-	-	X*	-	-	-
	10A	-	-	-	-	-	-	X*	-	-	-
	6A	-	-	-	-	-	-	X*	-	-	-
	4A	-	-	-	-	-	-	X*	-	-	-
	2A	-	-	-	-	-	-	X*	-	-	-
4P Type C Icn=6000A	63A	-	-	-	-	-	-	X*	-	-	-

*only clause 9.10.3

Model		**Test sequences**									
In		A_1	A_2	B	C_1	C_2	D_0+D_1	D_0	E_1	E_2	E_3
1P Type B Icn=6000A	63A	-	-	X**	-	-	-	X*	-	-	-
	50A	-	-	-	-	-	-	X*	-	-	-
	40A	-	-	-	-	-	-	X*	-	-	-
	32A	-	-	-	-	-	-	X*	-	-	-
	25A	-	-	-	-	-	-	X*	-	-	-
	20A	-	-	-	-	-	-	X*	-	-	-
	16A	-	-	-	-	-	-	X*	-	-	-
	10A	-	-	-	-	-	-	X*	-	-	-
	6A	-	-	-	-	-	-	X*	-	-	-
	4A	-	-	-	-	-	-	X*	-	-	-
	2A	-	-	-	-	-	-	X*	-	-	-
4P Type B Icn=6000A	63A	-	-	X**	-	-	-	X*	-	-	-

**only clause 9.8
*only clause 9.10.3

Model		**Test sequences**									
In		A_1	A_2	B	C_1	C_2	D_0+D_1	D_0	E_1	E_2	E_3
1P Type D Icn=4500A	63A	-	-	-	-	-	-	-	X	-	-
	2A	-	-	-	-	-	-	-	X	-	-
2P Type D Icn=4500A	63A	-	-	-	-	-	-	-	X	-	-
	2A	-	-	-	-	-	-	-	X	-	-
4P Type D Icn=4500A	63A	X***	-	-	-	-	-	-	X	-	-
	2A	-	-	-	-	-	-	-	X	-	-

*** Only clause 6 and 9.3

Product references list

Icn=6000A		1P	2P	3P	4P
2A	Type D	02D11	02D21	02D31	02D41
4A	Type D	04D11	04D21	04D31	04D41
6A	Type D	06D11	06D21	06D31	06D41
10A	Type D	10D11	10D21	10D31	10D41
16A	Type D	16D11	16D21	16D31	16D41
20A	Type D	20D11	20D21	20D31	20D41
25A	Type D	25D11	25D21	25D31	25D41
32A	Type D	32D11	32D21	32D31	32D41
40A	Type D	40D11	40D21	40D31	40D41
50A	Type D	50D11	50D21	50D31	50D41
63A	Type D	63D11	63D21	63D31	63D41
2A	Type C	02C11	02C21	02C31	02C41
4A	Type C	04C11	04C21	04C31	04C41
6A	Type C	06C11	06C21	06C31	06C41
10A	Type C	10C11	10C21	10C31	10C41
16A	Type C	16C11	16C21	16C31	16C41
20A	Type C	20C11	20C21	20C31	20C41
25A	Type C	25C11	25C21	25C31	25C41
32A	Type C	32C11	32C21	32C31	32C41
40A	Type C	40C11	40C21	40C31	40C41
50A	Type C	50C11	50C21	50C31	50C41
63A	Type C	63C11	63C21	63C31	63C41
2A	Type B	02B11	02B21	02B31	02B41
4A	Type B	04B11	04B21	04B31	04B41
6A	Type B	06B11	06B21	06B31	06B41
10A	Type B	10B11	10B21	10B31	10B41
16A	Type B	16B11	16B21	16B31	16B41
20A	Type B	20B11	20B21	20B31	20B41
25A	Type B	25B11	25B21	25B31	25B41
32A	Type B	32B11	32B21	32B31	32B41
40A	Type B	40B11	40B21	40B31	40B41
50A	Type B	50B11	50B21	50B31	50B41
63A	Type B	63B11	63B21	63B31	63B41

Icn=4500A		1P	2P	3P	4P
2A	Type D	02D12	02D22	02D32	02D42
4A	Type D	04D12	04D22	04D32	04D42
6A	Type D	06D12	06D22	06D32	06D42
10A	Type D	10D12	10D22	10D32	10D42
16A	Type D	16D12	16D22	16D32	16D42
20A	Type D	20D12	20D22	20D32	20D42
25A	Type D	25D12	25D22	25D32	25D42
32A	Type D	32D12	32D22	32D32	32D42
40A	Type D	40D12	40D22	40D32	40D42
50A	Type D	50D12	50D22	50D32	50D42
63A	Type D	63D12	63D22	63D32	63D42
2A	Type C	02C12	02C22	02C32	02C42
4A	Type C	04C12	04C22	04C32	04C42
6A	Type C	06C12	06C22	06C32	06C42
10A	Type C	10C12	10C22	10C32	10C42
16A	Type C	16C12	16C22	16C32	16C42
20A	Type C	20C12	20C22	20C32	20C42
25A	Type C	25C12	25C22	25C32	25C42
32A	Type C	32C12	32C22	32C32	32C42
40A	Type C	40C12	40C22	40C32	40C42
50A	Type C	50C12	50C22	50C32	50C42
63A	Type C	63C12	63C22	63C32	63C42
2A	Type B	02B12	02B22	02B32	02B42
4A	Type B	04B12	04B22	04B32	04B42
6A	Type B	06B12	06B22	06B32	06B42
10A	Type B	10B12	10B22	10B32	10B42
16A	Type B	16B12	16B22	16B32	16B42
20A	Type B	20B12	20B22	20B32	20B42
25A	Type B	25B12	25B22	25B32	25B42
32A	Type B	32B12	32B22	32B32	32B42
40A	Type B	40B12	40B22	40B32	40B42
50A	Type B	50B12	50B22	50B32	50B42
63A	Type B	63B12	63B22	63B32	63B42

Testing location:

Technical center of Wenzhou Entry-Exit Inspection and Quarantine Bureau

Inspection and Quarantine Mansion, jingang Avenue, Liushi, Yueqing, Wenzhou, Zhejiang, P.R.China

Summary of compliance with National Differences (List of countries addressed):N/A

CENELEC

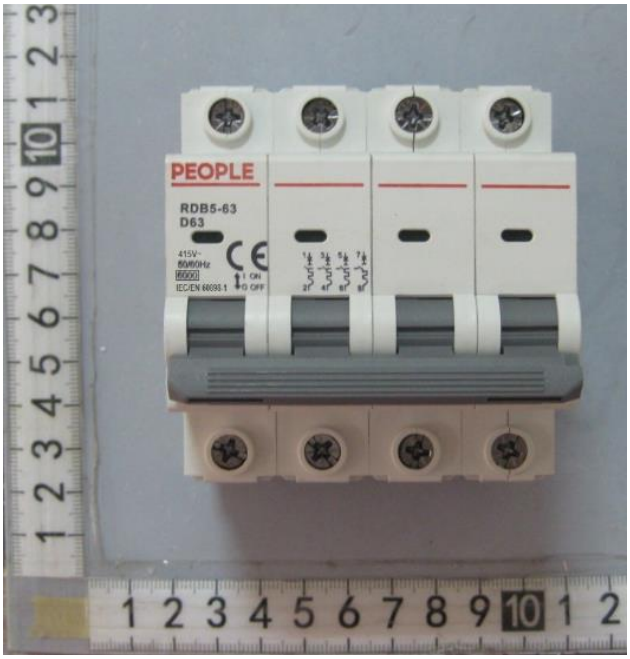
☒ **The product fulfils the requirements of EN 60898-1:2019**

Australia and New Zealand

☒ **The product fulfils the requirements of AS/NZS 60898-1:2004**

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Classification of installation and use.....:	On rail
Supply Connection.....:	Pillar terminals for copper conductors
.....:	
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 .....:	2019-06-10
Date (s) of performance of tests.....:	2019-06-12 to 2019-09-30

General remarks:

"(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) .....:	PEOPLE ELE. APPLIANCE GROUP CO.,LTD People Industry Zone, No.555 Chezhan Road ,Liushi, Yueqing, Zhejiang Province 325604 P.R.China

General product information:

Type B,C and D
Ue=220V/380V,230V/400V,240V/415V ~(1P);380V,400V,415V ~(2P;3P;4P)
In=2A;4A;6A;10A;16A;20A;25A;32A;40A;50A;63A
Ics=Icn=Icn1=6000A and 4500A
Energy limit class: 1(Type B and C)
(according to EN 60898-1)
Grid distance: 45mm
Ui=500V
Uimp=4kV
Screw diameter of load terminal =4,8mm

Test item particulars.....	MCB
Type of circuit-breaker ..... :	RDB5-63 Series (Model list see page 8-9)
Number of poles ..... :	☒1-P ☐1-P+N ☒2-P ☒3-P ☐3-P+N ☒4-P
Protection against external influences ..... :	☒enclosed ☐ unenclosed
Method of mounting ..... :	☐surface ☐ flush ☐ panel board ☒on rail
Method of connection ..... :	☒.not associated with the mechanical mounting ☐ associated with the mechanical mounting
Type of terminal ..... :	☐ screw [a) b)] ☒ pillar [a) b)] ☐ cage [a) b)] ☐ lug ☐ screw less[a)] ☐ flat quick connect [a)] ☐ plug-in ☐ screw-in [a)] copper conductors [b)] ~~aluminium conductors~~
Instantaneous tripping current ..... :	☒ B ☒ C ☒D
I^2t characteristic .....:	Class 1(Type B and C)(according to EN 60898-1)
Value of rated operational voltage (Ue) ..... :	☐ 120 V ☐ 120/240 V ☐220 V (1P+N) ☒220/380 V(1P) ☒380 V(2P,3P,4P) ☐230 V (1P+N) ☒230/400 V(1P) ☒400 V(2P,3P,4P) ☐240 V (1P+N) ☒240/415 V(1P) ☒415 V(2P,3P,4P)
Value of rated current (In)..... :	2A;4A;6A;10A;16A;20A;25A;32A;40A;50A;63A
Value of rated frequency ..... :	☒ 50 Hz ☒ 60 Hz
Ambient air temperature (°C) ..... :	☒ 30°C ☐ 40°C ☐ Other _____°C
Rated short-circuit capacity (Icn) ..... :	☐ 1,5 kA ☐ 3 kA ☒ 4,5 kA ☒6 kA ☐ 10 kA ☐ 15 kA ☐ 20 kA ☐ 25 kA
Rated impulse withstand voltage (Uimp)	☐ 2,5 kV ☒ 4 kV ☐ declared ___kV

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „A“ 1 SAMPLE (1P;D63;Icn=6000A)	**A_{1-1}**	
6	**MARKING AND OTHER INFORMATION**		
	Circuit-breaker marked with:		--
	a) Manufacturer’s name or trade mark.....:	PEOPLE	P
	b) Type designation, catalogue number or other serial number.....:	RDB5-63(63D11)	P
	c) Rated voltage (V).....:	240/415V~	P
	d) Rated current without symbol "A", preceded by the symbol of instantaneous tripping.....:	D63	P
	e) Rated frequency (Hz) .....:	50/60Hz	P
	f) Rated short circuit capacity (A).....:	6000 with a rectangle	P
	g) Wiring diagram		P
	h) Ambient air temperature, if different from 30°C		N/A
	i) Degree of protection, if different from IP20		N/A
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In see table 2)		N/A
	k) Rated impulse withstand voltage Uimp if it is 2,5 kV		N/A
	l) Making and breaking capacity on an individual protected pole of multipole circuit-breakers (Icn1), if different from Icn		N/A
	Marking d) shall be readily visible when the CB is installed		P
	If, for small devices, the available space is insufficient, markings a), b), c), e), f), h), j) and l) may be put on the side or on the back of the CB		P
	Marking g) may be on the inside of any cover which has to be removed in order to connect the supply wires but shall not be on a label loosely attached to the CB		P
	Any other information not marked shall be given in the manufacturer’s documentation		P
	The suitability for isolation, which is provided by all circuit-breakers of this standard, may be indicated by the symbol on the device		P
	I^2t characteristic (documentation)		N/A
	Symbols on supply and load terminal		N/A
	Terminal for neutral conductor N		N/A

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Earthing terminal if any (IEC 60417-5019)		N/A
	On - off position shall be clearly indicated - 0 I -	I O	P
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		N/A
	Red not used for other push-button		N/A
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		N/A
	Marking shall be indelible and easily legible (not on removable parts), 15 s with water, 15 s with hexane (see cl. 9.3)		P
8.	**REQUIREMENTS FOR CONSTRUCTION AND OPERATION**		
8.1.1	**General**		P
	Circuit-breakers shall be so designed and constructed that, in normal use, their performance is reliable and without danger to the user or surroundings		P
8.1.2	**Mechanism**		P
	The moving contact shall be mechanically coupled so that all poles make and break together, whether operated manually or automatically, even if an overload occurs on one pole only		N/A
	The switched neutral shall close before and open after the protected pole (s)		N/A
	Neutral pole having adequate making and breaking capacity and CB with independent manual operation: all poles operate together including neutral pole		N/A
	CB shall have a trip free mechanism		P
	It shall be possible to switch the CB on and off by hand		P
	No intermediate position of the contacts		P
	Position of contacts shall be indicated		P
	Indication visible from the outside		P
	If the indication is on the actuating means, it shall, when released, automatically take up or stay in the position corresponding to that of the moving contacts; operating means shall have two different rest positions, except that, for automatic operation, a third distinct rest position may be provided		P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict
	If a separate mechanical indicator is used to indicate the position of the main contacts, colour red shall be used for the on position and green for the off position.		P
	The action of the mechanism shall not be influenced by the position of enclosures		P
	If the cover is used as a guiding means for push-button, it shall not be possible to remove this button from the outside		N/A
	Operating means securely fixed, not possible to remove them without a tool		P
	For the up-down operating means the contacts shall be closed by the up movement.		P
8.1.3	**Clearances and creepage distances**		P
	The minimum required clearances and creepage distances are based on the CB being designed for operating in an environment with pollution degree 2		P
	Compliance for item 1 in Table 4 is checked by measurement and by the test of 9.7.5.4.1 and 9.7.5.4.2. The test is carried out with samples not submitted to the humidity treatment described in 9.7.1.		P
	The clearances of items 2 and 4 (except accessible surface after installation) may be reduced provided that the measured clearances are not shorter than the minimum allowed in IEC 60664-1 for homogenous field conditions.		N/A
	In this case, after the humidity treatment in 9.7.1, compliance for item 2 and 4 and arrangements of 9.7.2 items b), c), d) and e) is checked:		N/A
	-Tests according to 9.7.2 to 9.7.4 as applicable		N/A
	-Test according to 9.7.5.2 with test voltages acc. Table 13 with test arrangements of 9.7.2 items b), c), d), e)		N/A
	If measurement does not show any reduced clearance, test 9.7.5.2 is not applied		N/A
	Compliance for item 3, checked by measurement		N/A
	The insulating materials are classified into Material Groups on the basis of their comparative tracking index (CTI) acc. to IEC 60664-1	IIIa	P
	Clearances [mm] U_{imp}		--

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict
	4 kV (see table 4) 2,5 kV (see table 4)	☒ ☐	--
	Minimum clearances (see table 4)		P
		minimum clearances [mm]	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	5,9mm	P
	2.between live parts of different polarity.....:		N/A
	3.between circuits supplied from different sources, one of which being PELV or SELV .....:		N/A
	4. between live parts and		P
	- accessible surfaces of operating means.....:	15,1 mm	P
	- screws or other means for fixing covers .....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	15,1 mm	P
	- metal frames supporting the base (flush-type)..:		N/A
	Minimum creepage distances (see table 4)		P
	Material group	☐ III_b ☒ III_a ☐ II ☐ I	--
		minimum creepage distances [mm]	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	11,5 mm	P
	2.between live parts of different polarity.....:		N/A
	3.between circuits supplied from different sources, one of which being PELV or SELV .....:		N/A
	4. between live parts and		P
	- accessible surfaces of operating means.....:	19,4 mm	P
	- screws or other means for fixing covers .....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	19,4 mm	P
	- metal frames supporting the base (flush-type)..:		N/A

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.4	**Screws, current-carrying parts and connections**		P
8.1.4.1	Connections, withstand mechanical stresses occurring in normal use		P
	Screws for mounting of the CB not of the thread-cutting type		P
	Test according to cl. 9.4:		P
	- 10 times (screw Ø / torque Nm)	Ø___mm___Nm (see table 11) Ø___mm___Nm	N/A
	- 5 times (screw Ø / torque Nm)	Ø4,8mm_2,0Nm (see table 11)	P
	Plug in connections tested by plugging in and pulling out five times		N/A
	After test connections have not become loose nor electrical function impaired		P
8.1.4.2	Screws with a thread of insulating material ensured correct introduction		N/A
8.1.4.3	Electrical connection: contact pressure not transmitted through insulating material, unless there is sufficient resilience in the metallic parts		P
8.1.4.4	Current-carrying parts including parts intended for protective conductors, if any, shall be made of a metal having, under the conditions occurring in the equipment, mechanical strength, electrical conductivity and resistance to corrosion adequate for their intended use. Examples below:		P
	- copper		N/A
	- alloy 58% copper for worked cold parts		P
	- alloy 50% copper for other parts		N/A
	- other metal		N/A
	In case of using ferrous alloys or suitably coated ferrous alloys, compliance to resistance to corrosion is checked by a test of resistance to rusting (see 9.16).		P
	The requirements of this subclause do not apply to contacts, magnetic circuits, heater elements, bimetals, shunts, parts of electronic devices or to screws, nuts, washers, clamping plates, similar parts of terminals and parts of the test circuit		P
8.1.5	**Terminals for external conductors**		--
	Compliance is checked by inspection and by the tests as relevant for the type of connection:		--

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Clause	Requirement + Test	Result - Remark	Verdict
	by tests of clause 9.5 for screw-type terminals		P
	by specific tests for plug-in or bolt-on CBs included in the standard		N/A
	by the tests of Annexes J, K		N/A
8.1.5.1	Terminals ensure the necessary contact pressure		P
9.5	Torque test:		P
	- torque (Nm); diameter (mm).....:	1,33Nm, Ø4,8mm	--
	- torque (Nm); diameter (mm).....:		--
	- torque (Nm); diameter (mm).....:		--
	- max. cross-sectional area (mm²).....:	25mm²	--
9.5.2	Pull test:		P
	Terminal shall be suitable for all types of conductors: rigid (solid or stranded) and flexible, unless otherwise specified by the manufacturer.	All types	--
	Min. cross-section solid / stranded / flexible (mm²).....:	1mm²/1,5 mm²/1mm²	--
	Max. cross-section solid / stranded / flexible (mm²).....:	6mm²/25 mm²/16mm²	--
	Torque $^2/_3$ (Nm) .....:	1,33Nm	--
	Pull for 1 min solid / stranded / flexible (N).....:	Min. cross-section 50/50/50N Max. cross-section 60/100/90N	P
	During the test no noticeable move of conductor		P
9.5.3	Torque test:		P
	- torque $^2/_3$ (Nm).....:	1,33Nm	--
	- min. cross-sectional area (mm²).....:	1mm²	--
	- max. cross-sectional area (mm²).....:	25mm²	--
	The conductor shows no damage		P
	Terminals have not worked loose and no damage		P
9.5.4	Terminals fitted with the largest cross-section area specified in Table 5, for stranded copper conductor.		P
	Max. cross-section stranded (mm²).....:	25mm²	--
	Torque $^2/_3$ (Nm) .....:	1,33Nm	--
	After the test no strand of conductor escaped outside		P
8.1.5.2	Terminals allow the connection of conductors of the following cross-sectional areas: (table 5)		P

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Clause	Requirement + Test	Result - Remark	Verdict

	Rated current (A) / sections	Range of nominal cross sections to be clamped* (mm²) Rigid (solid or stranded) conductors / Flexible conductors **≤ 13**: **1 to 2,5** / **1 to 2,5** **> 13 ≤ 16**: **1 to 4** / **1 to 4** **> 16 ≤ 25**: **1,5 to 6** / **1,5 to 6** **> 25 ≤ 32**: **2,5 to 10** / **2,5 to 6** **> 32 ≤ 50**: **4 to 16** / **4 to 10** **> 50 ≤ 80**: **10 to 25** / **10 to 16** > 80 ≤ 100: 16 to 35 / 16 to 25 > 100 ≤ 125: 24 to 50 / 25 to 35	1—2,5mm²/10—25mm²	P
	*It is required that, for current ratings up to and including 50 A, terminals be designed to clamp solid conductors as well as rigid stranded conductors. Nevertheless, it is permitted that terminals for conductors having cross-sections from 1 mm² up to 6 mm² be designed to clamp solid conductors only.		P
	- or terminals for external untreated aluminium conductors and with aluminium screw-type terminals for use with copper or with aluminium conductors according to Annex L.		N/A
8.1.5.3	Means for clamping the conductors in the terminals not serve to fix any other component (See test sub-clause 9.5)		P
8.1.5.4	Terminals for $I_N \leq 32$ A allow the connection of conductors without special preparation		N/A
8.1.5.5	Terminals shall have adequate mechanical strength; ISO thread or equivalent (See tests of sub-clause 9.4 and 9.5.2)		P
8.1.5.6	Clamping of conductor without damage to the conductor (See test of sub-clause 9.5.3)		P
8.1.5.7	Clamping of conductor between metal surfaces (See tests of sub-clause 9.4 and 9.5.2)		P
8.1.5.8	Conductor shall not slip-out when the clamping screw or nuts are tightened (See test of sub-clause 9.5.4)		P
8.1.5.9	Terminals shall be properly fixed. No work loose when the clamping screws or nuts are tightened or loosened (See test of sub-clause 9.4)		P
8.1.5.10	Clamping screws or nuts of terminals for protective conductors adequately secured against accidental loosening		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.1.5.11	Pillar terminals shall allow full insertion and reliable clamping of the conductor		P
8.1.5.12	Screws and nuts of terminals for external conductors shall be in engagement with a metal thread, and the screws shall not be of tapping screw type		P
8.1.6	**Non-interchangeability**		N/A
	For circuit-breakers intended to be mounted on bases forming a unit therewith (plug-in or screw-in type) it shall not be possible, without the aid of a tool, to replace a circuit-breaker when mounted as for normal use by another of the same make having a higher rated current, compliance is checked by inspection		N/A
8.1.7	**Mechanical mounting of plug-in circuit-breakers**		N/A
8.1.7.1	The mechanical mounting of plug-in circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s), shall be reliable and have adequate stability		N/A
8.1.7.2	Plug-in type circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.1.7.3	Plug-in type circuit-breakers, the holding in position of which does depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.2	**Protection against electric shock**		P
	Live parts not accessible in normal use		P
	For CB, other than plug-in type, external parts, other than screws and other means for fixing covers, which are accessible shall be of insulating material		P
	Unless the live parts are within an internal enclosure of insulating material: Lining - reliable fixed, - adequate thickness and - mechanical strength		N/A
	Inlet openings for cables shall be in insulating material or be provided with bushings or similar devices in insulating material Such device - shall be reliable fixed - shall have adequate mechanical strength		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For plug-in CB, external parts, other than screws and other means for fixing covers, which are accessible shall be in insulating material		N/A
	Metallic operating means insulated from live parts		N/A
	Metal parts of the mechanism not accessible and insulated from accessible metal parts, metal frames (for flush-type), screws or other means for fixing the base		P
	Replacement of plug-in CB possible without touching live parts		N/A
	Lacquer or enamel not considered		P
8.1.3	**Creepage distances [mm] (see table 4)**		P
	Internal parts only	See above page 17	P
9.6	**Test of protection against electric shock**		P
	This verification is applicable to those parts of circuit breakers which are exposed to the operator when mounted as for normal use		P
	Use of test finger so designed that each jointed can be turned through an angle of 90° with respect to the finger		P
	Circuit-breaker with enclosures of thermoplastic material are additional tested at 35 °C for 1 min with a force of 75 N	35 °C; 1min; 75 N	P
8.10	**Resistance to heat**		P
	CB sufficiently resistant to heat		P
9.14	**Test of resistance to heat**		P
9.14.1	Test:		P
	- without removable covers ..... 1 h (100 ± 2) °C	100°C	P
	- removable covers ..... 1 h (70 ± 2) °C		N/A
	After the test no access to live parts, marking still legible		P
9.14.2	Ball pressure test for external parts of insulating material (parts retaining current-carrying parts and parts of the protective circuit in position) T = 125°C Ø of impression ≤ 2 mm	125°C Impression: 1,0mm	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.14.3	Ball pressure test for external parts of insulating material (parts not retaining current-carrying parts and parts of the protective circuit in position T = (70 ± 2)°C or T = ___ °C = (40 ± 2)°C + max. temperature rise of sub-clause 9.8 Ø of impression ≤ 2 mm	70°C Impression: 0,8mm	P
8.12	**Resistance to rusting**		P
	Ferrous parts adequately protected against rusting		P
9.16	**Test of resistance to rusting:**		P
	- 10 min immersed in a cold chemical degreaser such as methyl-chloroform or refined petrol		P
	- 10 min immersed in a 10% solution of chloride in water at 20°C		P
	- 10 min at 95% humidity at 20°C		P
	- 10 min at 100°C		P
	No sign of rust		P

	TESTS „A_2“ 3 samples (1P;D63;Icn=6000A)	**A_{2-1}**	**A_{2-2}**	**A_{2-3}**	
8.11	**Resistance to abnormal heat and to fire**				P
	External parts of insulating material shall not ignite or spread fire under fault or overload conditions				P
9.15	**Resistance to abnormal heat and to fire**				P
	Test performed on a complete CB				P
	external parts retaining current-carrying parts and parts of the protective circuit in position ..... (960 ± 15)°C	960°C	960°C	960°C	P
	all other external parts ..... (650 ± 10)°C	650°C	650°C	650°C	P
	No visible flames, no sustained glowing, or				P
	flames and glowing extinguish within 30 s after removal .....:				P
	No ignition of tissue paper or scorching of the pinewood board				P

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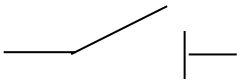
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „A“ 1 SAMPLE (4P;D63;Icn=6000A)	**A_{1-2}**	
6	**MARKING AND OTHER INFORMATION**		
	Circuit-breaker marked with:		--
	a) Manufacturer’s name or trade mark.....:	PEOPLE	P
	b) Type designation, catalogue number or other serial number.....:	RDB5-63(63D41)	P
	c) Rated voltage (V).....:	415V~	P
	d) Rated current without symbol "A", preceded by the symbol of instantaneous tripping.....:	D63	P
	e) Rated frequency (Hz) .....:	50/60Hz	P
	f) Rated short circuit capacity (A).....:	6000 with a rectangle	P
	g) Wiring diagram		P
	h) Ambient air temperature, if different from 30°C		N/A
	i) Degree of protection, if different from IP20		N/A
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In see table 2)		N/A
	k) Rated impulse withstand voltage Uimp if it is 2,5 kV		N/A
	l) Making and breaking capacity on an individual protected pole of multipole circuit-breakers (Icn1), if different from Icn		N/A
	Marking d) shall be readily visible when the CB is installed		P
	If, for small devices, the available space is insufficient, markings a), b), c), e), f), h), j) and l) may be put on the side or on the back of the CB		P
	Marking g) may be on the inside of any cover which has to be removed in order to connect the supply wires but shall not be on a label loosely attached to the CB		P
	Any other information not marked shall be given in the manufacturer’s documentation		P
	The suitability for isolation, which is provided by all circuit-breakers of this standard, may be indicated by the symbol on the device		P
	I^2t characteristic (documentation)		N/A
	Symbols on supply and load terminal		N/A
	Terminal for neutral conductor N		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Earthing terminal if any (IEC 60417-5019)		N/A
	On - off position shall be clearly indicated - 0 I -	I O	P
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		N/A
	Red not used for other push-button		N/A
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		N/A
	Marking shall be indelible and easily legible (not on removable parts), 15 s with water, 15 s with hexane (see cl. 9.3)		P
8.	**REQUIREMENTS FOR CONSTRUCTION AND OPERATION**		
8.1.1	**General**		P
	Circuit-breakers shall be so designed and constructed that, in normal use, their performance is reliable and without danger to the user or surroundings		P
8.1.2	**Mechanism**		P
	The moving contact shall be mechanically coupled so that all poles make and break together, whether operated manually or automatically, even if an overload occurs on one pole only		P
	The switched neutral shall close before and open after the protected pole (s)		N/A
	Neutral pole having adequate making and breaking capacity and CB with independent manual operation: all poles operate together including neutral pole		N/A
	CB shall have a trip free mechanism		P
	It shall be possible to switch the CB on and off by hand		P
	No intermediate position of the contacts		P
	Position of contacts shall be indicated		P
	Indication visible from the outside		P
	If the indication is on the actuating means, it shall, when released, automatically take up or stay in the position corresponding to that of the moving contacts; operating means shall have two different rest positions, except that, for automatic operation, a third distinct rest position may be provided		P

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Clause	Requirement + Test	Result - Remark	Verdict
	If a separate mechanical indicator is used to indicate the position of the main contacts, colour red shall be used for the on position and green for the off position.		P
	The action of the mechanism shall not be influenced by the position of enclosures		P
	If the cover is used as a guiding means for push-button, it shall not be possible to remove this button from the outside		N/A
	Operating means securely fixed, not possible to remove them without a tool		P
	For the up-down operating means the contacts shall be closed by the up movement.		P
8.1.3	**Clearances and creepage distances**		P
	The minimum required clearances and creepage distances are based on the CB being designed for operating in an environment with pollution degree 2		P
	Compliance for item 1 in Table 4 is checked by measurement and by the test of 9.7.5.4.1 and 9.7.5.4.2. The test is carried out with samples not submitted to the humidity treatment described in 9.7.1.		P
	The clearances of items 2 and 4 (except accessible surface after installation) may be reduced provided that the measured clearances are not shorter than the minimum allowed in IEC 60664-1 for homogenous field conditions.		N/A
	In this case, after the humidity treatment in 9.7.1, compliance for item 2 and 4 and arrangements of 9.7.2 items b), c), d) and e) is checked:		N/A
	-Tests according to 9.7.2 to 9.7.4 as applicable		N/A
	-Test according to 9.7.5.2 with test voltages acc. Table 13 with test arrangements of 9.7.2 items b), c), d), e)		N/A
	If measurement does not show any reduced clearance, test 9.7.5.2 is not applied		N/A
	Compliance for item 3, checked by measurement		N/A
	The insulating materials are classified into Material Groups on the basis of their comparative tracking index (CTI) acc. to IEC 60664-1	IIIa	P
	Clearances [mm] U_{imp}		--

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Clause	Requirement + Test	Result - Remark	Verdict
	4 kV (see table 4) 2,5 kV (see table 4)	☒ ☐	--
	Minimum clearances (see table 4)		P
		minimum clearances [mm]	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	5,9 mm	P
	2.between live parts of different polarity.....:	10,7 mm	P
	3.between circuits supplied from different sources, one of which being PELV or SELV .....:		N/A
	4. between live parts and		P
	- accessible surfaces of operating means.....:	15,1 mm	P
	- screws or other means for fixing covers .....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	15,1 mm	P
	- metal frames supporting the base (flush-type)..:		N/A
	Minimum creepage distances (see table 4)		P
	Material group	☐ III_b ☒ III_a ☐ II ☐ I	--
		minimum creepage distances [mm]	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	11,5 mm	P
	2.between live parts of different polarity.....:	12,4 mm	P
	3.between circuits supplied from different sources, one of which being PELV or SELV .....:		N/A
	4. between live parts and		P
	- accessible surfaces of operating means.....:	19,4 mm	P
	- screws or other means for fixing covers .....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	19,4 mm	P
	- metal frames supporting the base (flush-type)..:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.1.4	**Screws, current-carrying parts and connections**		P
8.1.4.1	Connections, withstand mechanical stresses occurring in normal use		P
	Screws for mounting of the CB not of the thread-cutting type		P
	Test according to cl. 9.4:		P
	- 10 times (screw Ø / torque Nm)	Ø___mm___Nm (see table 11) Ø___mm___Nm	N/A
	- 5 times (screw Ø / torque Nm)	Ø4,8mm_2,0Nm (see table 11)	P
	Plug in connections tested by plugging in and pulling out five times		N/A
	After test connections have not become loose nor electrical function impaired		P
8.1.4.2	Screws with a thread of insulating material ensured correct introduction		N/A
8.1.4.3	Electrical connection: contact pressure not transmitted through insulating material, unless there is sufficient resilience in the metallic parts		P
8.1.4.4	Current-carrying parts including parts intended for protective conductors, if any, shall be made of a metal having, under the conditions occurring in the equipment, mechanical strength, electrical conductivity and resistance to corrosion adequate for their intended use. Examples below:		P
	- copper		N/A
	- alloy 58% copper for worked cold parts		P
	- alloy 50% copper for other parts		N/A
	- other metal		N/A
	In case of using ferrous alloys or suitably coated ferrous alloys, compliance to resistance to corrosion is checked by a test of resistance to rusting (see 9.16).		P
	The requirements of this subclause do not apply to contacts, magnetic circuits, heater elements, bimetals, shunts, parts of electronic devices or to screws, nuts, washers, clamping plates, similar parts of terminals and parts of the test circuit		P
8.1.5	**Terminals for external conductors**		--
	Compliance is checked by inspection and by the tests as relevant for the type of connection:		--

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Clause	Requirement + Test	Result - Remark	Verdict
	by tests of clause 9.5 for screw-type terminals		P
	by specific tests for plug-in or bolt-on CBs included in the standard		N/A
	by the tests of Annexes J, K		N/A
8.1.5.1	Terminals ensure the necessary contact pressure		P
9.5	Torque test:		P
	- torque (Nm); diameter (mm).....:	1,33Nm, Ø4,8mm	--
	- torque (Nm); diameter (mm).....:		--
	- torque (Nm); diameter (mm).....:		--
	- max. cross-sectional area (mm²).....:	25mm²	--
9.5.2	Pull test:		P
	Terminal shall be suitable for all types of conductors: rigid (solid or stranded) and flexible, unless otherwise specified by the manufacturer.	All types	--
	Min. cross-section solid / stranded / flexible (mm²).....:	1mm²/1,5 mm²/1mm²	--
	Max. cross-section solid / stranded / flexible (mm²).....:	6mm²/25 mm²/16mm²	--
	Torque $^2/_3$ (Nm) .....:	1,33Nm	--
	Pull for 1 min solid / stranded / flexible (N).....:	Min. cross-section 50/50/50N Max. cross-section 60/100/90N	P
	During the test no noticeable move of conductor		P
9.5.3	Torque test:		P
	- torque $^2/_3$ (Nm).....:	1,33Nm	--
	- min. cross-sectional area (mm²).....:	1mm²	--
	- max. cross-sectional area (mm²).....:	25mm²	--
	The conductor shows no damage		P
	Terminals have not worked loose and no damage		P
9.5.4	Terminals fitted with the largest cross-section area specified in Table 5, for stranded copper conductor.		P
	Max. cross-section stranded (mm²).....:	25mm²	--
	Torque $^2/_3$ (Nm) .....:	1,33Nm	--
	After the test no strand of conductor escaped outside		P
8.1.5.2	Terminals allow the connection of conductors of the following cross-sectional areas: (table 5)		P

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Clause	Requirement + Test	Result - Remark	Verdict

	Rated current (A) / Range of nominal cross sections to be clamped* (mm²) Rigid (solid or stranded) conductors / Flexible conductors **≤ 13: 1 to 2,5 / 1 to 2,5** **> 13 ≤ 16: 1 to 4 / 1 to 4** **> 16 ≤ 25: 1,5 to 6 / 1,5 to 6** **> 25 ≤ 32: 2,5 to 10 / 2,5 to 6** **> 32 ≤ 50: 4 to 16 / 4 to 10** **> 50 ≤ 80: 10 to 25 / 10 to 16** > 80 ≤ 100: 16 to 35 / 16 to 25 > 100 ≤ 125: 24 to 50 / 25 to 35	1—2,5mm²/10—25mm²	P
	*It is required that, for current ratings up to and including 50 A, terminals be designed to clamp solid conductors as well as rigid stranded conductors. Nevertheless, it is permitted that terminals for conductors having cross-sections from 1 mm² up to 6 mm² be designed to clamp solid conductors only.		P
	- or terminals for external untreated aluminium conductors and with aluminium screw-type terminals for use with copper or with aluminium conductors according to Annex L.		N/A
8.1.5.3	Means for clamping the conductors in the terminals not serve to fix any other component (See test sub-clause 9.5)		P
8.1.5.4	Terminals for $I_N \leq 32$ A allow the connection of conductors without special preparation		N/A
8.1.5.5	Terminals shall have adequate mechanical strength; ISO thread or equivalent (See tests of sub-clause 9.4 and 9.5.2)		P
8.1.5.6	Clamping of conductor without damage to the conductor (See test of sub-clause 9.5.3)		P
8.1.5.7	Clamping of conductor between metal surfaces (See tests of sub-clause 9.4 and 9.5.2)		P
8.1.5.8	Conductor shall not slip-out when the clamping screw or nuts are tightened (See test of sub-clause 9.5.4)		P
8.1.5.9	Terminals shall be properly fixed. No work loose when the clamping screws or nuts are tightened or loosened (See test of sub-clause 9.4)		P
8.1.5.10	Clamping screws or nuts of terminals for protective conductors adequately secured against accidental loosening		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.1.5.11	Pillar terminals shall allow full insertion and reliable clamping of the conductor		P
8.1.5.12	Screws and nuts of terminals for external conductors shall be in engagement with a metal thread, and the screws shall not be of tapping screw type		P
8.1.6	**Non-interchangeability**		N/A
	For circuit-breakers intended to be mounted on bases forming a unit therewith (plug-in or screw-in type) it shall not be possible, without the aid of a tool, to replace a circuit-breaker when mounted as for normal use by another of the same make having a higher rated current, compliance is checked by inspection		N/A
8.1.7	**Mechanical mounting of plug-in circuit-breakers**		N/A
8.1.7.1	The mechanical mounting of plug-in circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s), shall be reliable and have adequate stability		N/A
8.1.7.2	Plug-in type circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.1.7.3	Plug-in type circuit-breakers, the holding in position of which does depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.2	**Protection against electric shock**		P
	Live parts not accessible in normal use		P
	For CB, other than plug-in type, external parts, other than screws and other means for fixing covers, which are accessible shall be of insulating material		P
	Unless the live parts are within an internal enclosure of insulating material: Lining - reliable fixed, - adequate thickness and - mechanical strength		N/A
	Inlet openings for cables shall be in insulating material or be provided with bushings or similar devices in insulating material Such device - shall be reliable fixed - shall have adequate mechanical strength		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For plug-in CB, external parts, other than screws and other means for fixing covers, which are accessible shall be in insulating material		N/A
	Metallic operating means insulated from live parts		N/A
	Metal parts of the mechanism not accessible and insulated from accessible metal parts, metal frames (for flush-type), screws or other means for fixing the base		P
	Replacement of plug-in CB possible without touching live parts		N/A
	Lacquer or enamel not considered		P
8.1.3	**Creepage distances [mm] (see table 4)**		P
	Internal parts only	See above page 27	P
9.6	**Test of protection against electric shock**		P
	This verification is applicable to those parts of circuit breakers which are exposed to the operator when mounted as for normal use		P
	Use of test finger so designed that each jointed can be turned through an angle of 90° with respect to the finger		P
	Circuit-breaker with enclosures of thermoplastic material are additional tested at 35 °C for 1 min with a force of 75 N	35 °C; 1min; 75 N	P
8.10	**Resistance to heat**		P
	CB sufficiently resistant to heat		P
9.14	**Test of resistance to heat**		P
9.14.1	Test:		P
	- without removable covers ..... 1 h (100 ± 2) °C	100°C	P
	- removable covers ..... 1 h (70 ± 2) °C		N/A
	After the test no access to live parts, marking still legible		P
9.14.2	Ball pressure test for external parts of insulating material (parts retaining current-carrying parts and parts of the protective circuit in position) T = 125°C Ø of impression ≤ 2 mm	125°C Impression: 1,0mm	P

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Clause	Requirement + Test	Result - Remark	Verdict
9.14.3	Ball pressure test for external parts of insulating material (parts not retaining current-carrying parts and parts of the protective circuit in position T = (70 ± 2)°C or T = ___ °C = (40 ± 2)°C + max. temperature rise of sub-clause 9.8 Ø of impression ≤ 2 mm	70°C Impression: 0,8mm	P
8.12	**Resistance to rusting**		P
	Ferrous parts adequately protected against rusting		P
9.16	**Test of resistance to rusting:**		P
	- 10 min immersed in a cold chemical degreaser such as methyl-chloroform or refined petrol		P
	- 10 min immersed in a 10% solution of chloride in water at 20°C		P
	- 10 min at 95% humidity at 20°C		P
	- 10 min at 100°C		P
	No sign of rust		P

	TESTS „A_2“ 3 samples (4P;D63;Icn=6000A)	**A_{2-4}**	**A_{2-5}**	**A_{2-6}**	
8.11	**Resistance to abnormal heat and to fire**				P
	External parts of insulating material shall not ignite or spread fire under fault or overload conditions				P
9.15	**Resistance to abnormal heat and to fire**				P
	Test performed on a complete CB				P
	external parts retaining current-carrying parts and parts of the protective circuit in position ..... (960 ± 15)°C	960°C	960°C	960°C	P
	all other external parts ..... (650 ± 10)°C	650°C	650°C	650°C	P
	No visible flames, no sustained glowing, or				P
	flames and glowing extinguish within 30 s after removal .....:				P
	No ignition of tissue paper or scorching of the pinewood board				P

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „A“ 1 SAMPLE (4P;D63;Icn=4500A)	**A_{1-3}**	
6	**MARKING AND OTHER INFORMATION**		
	Circuit-breaker marked with:		--
	a) Manufacturer’s name or trade mark.....:	PEOPLE	P
	b) Type designation, catalogue number or other serial number.....:	RDB5-63(63D42)	P
	c) Rated voltage (V).....:	415V~	P
	d) Rated current without symbol "A", preceded by the symbol of instantaneous tripping.....:	D63	P
	e) Rated frequency (Hz) .....:	50/60Hz	P
	f) Rated short circuit capacity (A).....:	4500 with a rectangle	P
	g) Wiring diagram		P
	h) Ambient air temperature, if different from 30°C		N/A
	i) Degree of protection, if different from IP20		N/A
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In see table 2)		N/A
	k) Rated impulse withstand voltage Uimp if it is 2,5 kV		N/A
	l) Making and breaking capacity on an individual protected pole of multipole circuit-breakers (Icn1), if different from Icn		N/A
	Marking d) shall be readily visible when the CB is installed		P
	If, for small devices, the available space is insufficient, markings a), b), c), e), f), h), j) and l) may be put on the side or on the back of the CB		P
	Marking g) may be on the inside of any cover which has to be removed in order to connect the supply wires but shall not be on a label loosely attached to the CB		P
	Any other information not marked shall be given in the manufacturer’s documentation		P
	The suitability for isolation, which is provided by all circuit-breakers of this standard, may be indicated by the symbol on the device		P
	I^2t characteristic (documentation)		N/A
	Symbols on supply and load terminal		N/A
	Terminal for neutral conductor N		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Earthing terminal if any (IEC 60417-5019)		N/A
	On - off position shall be clearly indicated - 0 I -	I O	P
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		N/A
	Red not used for other push-button		N/A
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		N/A
	Marking shall be indelible and easily legible (not on removable parts), 15 s with water, 15 s with hexane (see cl. 9.3)		P

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „B“ 3 samples (1P;D63;Icn=6000A)	**B-1 B-2 B-3**	
8.3	**Dielectric properties and isolating capability**		P
8.3.1	CB shall have adequate dielectric properties and shall ensure isolation:		P
8.3.2	Dielectric strength at power frequency		P
	Compliance is checked by the tests 9.7.1, 9.7.2 and 9.7.3 on circuit-breaker in new condition		P
8.3.3	Isolating capability		P
	Circuit-breakers shall be suitable for isolation. Compliance is checked by the verification of compliance with the minimum clearances and creepage distances of item 1 of table 4 and by tests of 9.7.5.1 and 9.7.5.3.		P
8.3.4	Dielectric strength at rated impulse withstand voltage (Uimp)		P
	Circuit-breakers shall adequately withstand impulse voltages. Compliance is checked by the tests of 9.7.5.2.		P
9.7	**Test of dielectric properties and isolating capability**		P
9.7.5.4	Verification of resistance of the insulation of open contact and basic insulation against an impulse voltage in normal conditions		P
	These tests are not preceded by the humidity treatment described in 9.7.1.		P
	The test is carried out on an CB fixed on a metal support		P
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		P
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		P
	rated impulse withstand voltage [kV]:	4kV	--
	sea level of test laboratory [m]:	Sea level	--
	test voltage (acc. Table 15) [kV]:	6,2kV	--
9.7.5.4.2	CB in open position (contacts in open position)		P
	The impulses are applied between:		--
	the line terminals connected together and the load terminals connected together		P
9.7.5.4.3	CB in closed position		P

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Clause	Requirement + Test	Result - Remark			Verdict
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any				P
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB				N/A
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				P
	no disruptive discharges during the test				P
9.7.1	Resistance to humidity				P
9.7.1.1	Preparation of the circuit-breaker for test				P
	Inlet openings, if any, are left open; if knock-outs are provided, one of them is opened.				P
9.7.1.2	Test conditions				P
	The humidity treatment is carried out in humidity cabinet 91% to 95% and the temperature of the air between 20 °C and 30 °C	Rf = 93 % T = 25°C			P
9.7.1.3	Test procedure.				P
	The sample is kept in the cabinet for 48 h.				P
9.7.1.4	Conditions of the circuit breaker after the tests.				P
	The sample show no damage within the meaning of this standard and shall withstand the tests of 9.7.2 and 9.7.3, 9.7.4 and 9.7.5.2				P
9.7.2	Insulation resistance of the main circuit				P
9.7.2	After an interval between 30 min and 60 min flowing this treatment, the insulation resistance is measured 5 s after application of a d.c. voltage of approximately 500 V, consecutively as follows:	[MΩ]	[MΩ]	[MΩ]	P
	a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position ≥ 2 MΩ	141	159	162	P
	b) in off-position, between each pole in turn and the others connected together ≥ 2 MΩ	-	-	-	N/A
	c) in on-position, between all poles connected together and the frame ≥ 5 MΩ	137	177	138	P

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Clause	Requirement + Test	Result - Remark	Verdict
	d) between metal parts of mechanism and the frame ≥ 5 MΩ		N/A
	e) between the frame and metal foil in contact with the inner surface of the internal enclosure or lining of insulating material ≥ 5 MΩ		N/A
9.7.3	Dielectric strength of the main circuit		P
	After the circuit-breakers have passed the tests of 9.7.2 the test voltage specified is applied for 1 min between the parts indicated in 9.7.2		P
	a) 2000 V	2000 V	P
	b) 2000 V		N/A
	c) 2000 V	2000 V	P
	d) 2000 V		N/A
	e) 2500 V		N/A
	No flashover or breakdown		P
9.7.4	Insulation resistance and dielectric strength of the auxiliary circuits		N/A
	Insulation resistance of auxiliary circuits measured with 500 V DC after 1 min:		--
	1) between all auxiliary circuits and the frame (MΩ) ≥ 2 MΩ		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together (MΩ) ≥ 2 MΩ		N/A
	Dielectric strength of auxiliary circuits measured with an AC voltage at rated frequency for 1 min:		--
	Rated voltage of auxiliary circuits (a.c. or d.c.) — Test voltage (V) ≤ 30 — 600 > 30 ≤ 50 — 1000 > 50 ≤ 110 — 1500 > 110 ≤ 250 — 2000 > 250 ≤ 500 — 2500	V	--
	1) between all auxiliary circuits and the frame		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together		N/A
	No flashover or perforation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.7.5.2	Verification of clearances with the impulse withstand voltage		N/A
	If the measurement of clearances of items 2 and 4 in Table 4 shows a reduction of the required length, this test applies.		N/A
	The test is carried out on an CB fixed on a metal support and being in the closed position		N/A
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		N/A
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		N/A
	test performed with:		--
	-surge impedance of the test apparatus ≤500Ω and surge protective devices disconnected before testing or		N/A
	-hybrid generator with an surge impedance of 2 Ω and surge protective devices not disconnected before testing		N/A
	rated impulse withstand voltage [kV]:	kV	--
	see level of test laboratory [m]:	m	--
	test voltage (acc. Table 14) [kV]:	kV	--
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any		N/A
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB		N/A
	A third series of tests is made applying the impulse voltage between (and not tested during the two first sequences described here above):		--
	b) between each pole and the others connected together		N/A
	c) between all poles connected together and the frame		N/A
	d) between metal parts of the mechanism and the frame		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	e) between the frame and a metal foil in contact with the inner surface of the lining of insulating material				N/A
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				N/A
	no disruptive discharges during the test				N/A
8.4	**Temperature rise**				P
	Temperature rise does not exceed the limiting values stated in table 6:	sect. 16mm²			P
9.8.2	Test current: I_N= (reach the steady-state value) Four-pole CB's: ☐ 1) Three poles loaded 2) One pole and neutral pole loaded ☐ 1) Four-poles loaded	I_N = 63A			P
	Ambient air temperature.....:	Tamb= 22,7°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	P
	L1	≤37	≤46	≤41	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	L3	-	-	-	
	N	-	-	-	
	Terminals for external connections ..... 60 K				P
	External parts liable to be touched during manual operation of the circuit-breaker, including operating means of insulating material and metallic means for coupling of insulating operating means of several poles ..... 40 K	≤5	≤5	≤5	P
	External metallic parts of operating means .. 25 K	-	-	-	N/A
	Other external parts, including that face of the circuit-breaker is in direct contact with the mounting surface..... 60 K	≤35	≤34	≤28	P
9.8.5	Measurement of power losses	B-1	B-2	B-3	P
	Power loss do not exceed the values stated in table 8	13W			P

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current: I_N = 63 A (reach the steady state value)				P
	Loaded one pole after the other				P
	Max. power loss : 4,3 W	W	W	W	P
	L1	≤4,1	≤4,3	≤3,9	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	L3	-	-	-	
	N	-	-	-	
8.5	**Uninterrupted duty**				P
	Circuit-breakers operate reliable even after long service				P
9.9	**28 day test**				P
	28 cycles - 21 h with current - 3 h without current Cross-sectional area. mm²	28 cycles - 21 h with current - 3 h without current Cross-sectional area. 16mm²			P
	During the test no tripping during the last period, temperature rise shall be measured				P
	Ambient air temperature.....:	Tamb= 23,0°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	P
	Terminals for external connections	≤41	≤50	≤45	P
	The temperature rise does not exceed the value measured during the temperature rise test (sub-clause 9.8) by more than 15 K				P
	Test current 1,45 I_N =91,4A	91,4A			P
	- Tripping within	[s]	[s]	[s]	P
	- 1h (≤ 63 A)	252	298	206	P
	- 2h (> 63 A)	-	-	-	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „B“ 3 samples (4P;D63;Icn=6000A)	**B-4 B-5 B-6**	
8.3	**Dielectric properties and isolating capability**		P
8.3.1	CB shall have adequate dielectric properties and shall ensure isolation:		P
8.3.2	Dielectric strength at power frequency		P
	Compliance is checked by the tests 9.7.1, 9.7.2 and 9.7.3 on circuit-breaker in new condition		P
8.3.3	Isolating capability		P
	Circuit-breakers shall be suitable for isolation. Compliance is checked by the verification of compliance with the minimum clearances and creepage distances of item 1 of table 4 and by tests of 9.7.5.1 and 9.7.5.3.		P
8.3.4	Dielectric strength at rated impulse withstand voltage (Uimp)		P
	Circuit-breakers shall adequately withstand impulse voltages. Compliance is checked by the tests of 9.7.5.2.		P
9.7	**Test of dielectric properties and isolating capability**		P
9.7.5.4	Verification of resistance of the insulation of open contact and basic insulation against an impulse voltage in normal conditions		P
	These tests are not preceded by the humidity treatment described in 9.7.1.		P
	The test is carried out on an CB fixed on a metal support		P
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		P
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		P
	rated impulse withstand voltage [kV]:	4kV	--
	sea level of test laboratory [m]:	Sea level	--
	test voltage (acc. Table 15) [kV]:	6,2kV	--
9.7.5.4.2	CB in open position (contacts in open position)		P
	The impulses are applied between:		--
	the line terminals connected together and the load terminals connected together		P
9.7.5.4.3	CB in closed position		P

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Clause	Requirement + Test	Result - Remark			Verdict
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any				P
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB				P
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				P
	no disruptive discharges during the test				P
9.7.1	Resistance to humidity				P
9.7.1.1	Preparation of the circuit-breaker for test				P
	Inlet openings, if any, are left open; if knock-outs are provided, one of them is opened.				P
9.7.1.2	Test conditions				P
	The humidity treatment is carried out in humidity cabinet 91% to 95% and the temperature of the air between 20 °C and 30 °C	Rf = 93 % T = 25°C			P
9.7.1.3	Test procedure.				P
	The sample is kept in the cabinet for 48 h.				P
9.7.1.4	Conditions of the circuit breaker after the tests.				P
	The sample show no damage within the meaning of this standard and shall withstand the tests of 9.7.2 and 9.7.3, 9.7.4 and 9.7.5.2				P
9.7.2	Insulation resistance of the main circuit				P
9.7.2	After an interval between 30 min and 60 min flowing this treatment, the insulation resistance is measured 5 s after application of a d.c. voltage of approximately 500 V, consecutively as follows:	[MΩ]	[MΩ]	[MΩ]	P
	a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position ≥ 2 MΩ	167	146	131	P
	b) in off-position, between each pole in turn and the others connected together ≥ 2 MΩ	185	153	144	P
	c) in on-position, between all poles connected together and the frame ≥ 5 MΩ	177	129	181	P

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Clause	Requirement + Test	Result - Remark	Verdict
	d) between metal parts of mechanism and the frame ≥ 5 MΩ		N/A
	e) between the frame and metal foil in contact with the inner surface of the internal enclosure or lining of insulating material ≥ 5 MΩ		N/A
9.7.3	Dielectric strength of the main circuit		P
	After the circuit-breakers have passed the tests of 9.7.2 the test voltage specified is applied for 1 min between the parts indicated in 9.7.2		P
	a) 2000 V	2000 V	P
	b) 2000 V	2000 V	P
	c) 2000 V	2000 V	P
	d) 2000 V		N/A
	e) 2500 V		N/A
	No flashover or breakdown		P
9.7.4	Insulation resistance and dielectric strength of the auxiliary circuits		N/A
	Insulation resistance of auxiliary circuits measured with 500 V DC after 1 min:		--
	1) between all auxiliary circuits and the frame (MΩ) ≥ 2 MΩ		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together (MΩ) ≥ 2 MΩ		N/A
	Dielectric strength of auxiliary circuits measured with an AC voltage at rated frequency for 1 min:		--
	Rated voltage of auxiliary circuits (a.c. or d.c.) — Test voltage (V) ≤ 30 — 600 > 30 ≤ 50 — 1000 > 50 ≤ 110 — 1500 > 110 ≤ 250 — 2000 > 250 ≤ 500 — 2500	V	--
	1) between all auxiliary circuits and the frame		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together		N/A
	No flashover or perforation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.7.5.2	Verification of clearances with the impulse withstand voltage		N/A
	If the measurement of clearances of items 2 and 4 in Table 4 shows a reduction of the required length, this test applies.		N/A
	The test is carried out on an CB fixed on a metal support and being in the closed position		N/A
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		N/A
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		N/A
	test performed with:		--
	-surge impedance of the test apparatus ≤500Ω and surge protective devices disconnected before testing or		N/A
	-hybrid generator with an surge impedance of 2 Ω and surge protective devices not disconnected before testing		N/A
	rated impulse withstand voltage [kV]:	kV	--
	see level of test laboratory [m]:	m	--
	test voltage (acc. Table 14) [kV]:	kV	--
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any		N/A
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB		N/A
	A third series of tests is made applying the impulse voltage between (and not tested during the two first sequences described here above):		--
	b) between each pole and the others connected together		N/A
	c) between all poles connected together and the frame		N/A
	d) between metal parts of the mechanism and the frame		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	e) between the frame and a metal foil in contact with the inner surface of the lining of insulating material				N/A
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				N/A
	no disruptive discharges during the test				N/A
8.4	**Temperature rise**				P
	Temperature rise does not exceed the limiting values stated in table 6:	sect. 16mm²			P
9.8.2	Test current: I_N= (reach the steady-state value) Four-pole CB's: ☐ 1) Three poles loaded 2) One pole and neutral pole loaded ☒ 1) Four-poles loaded	I_N = 63A			P
	Ambient air temperature.....:	Tamb= 22,2°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	P
	L1	≤46	≤56	≤48	P
	L2	≤48	≤55	≤48	
	L3	≤49	≤53	≤48	
	L4	≤42	≤44	≤40	
	L3	-	-	-	
	N	-	-	-	
	Terminals for external connections ..... 60 K				P
	External parts liable to be touched during manual operation of the circuit-breaker, including operating means of insulating material and metallic means for coupling of insulating operating means of several poles ..... 40 K	≤16	≤16	≤20	P
	External metallic parts of operating means .. 25 K	-	-	-	N/A
	Other external parts, including that face of the circuit-breaker is in direct contact with the mounting surface..... 60 K	≤32	≤56	≤36	P
9.8.5	Measurement of power losses	B-4	B-5	B-6	P
	Power loss do not exceed the values stated in table 8	13W			P

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current: I_N = 63 A (reach the steady state value)				P
	Loaded one pole after the other				P
	Max. power loss : 4,9 W	W	W	W	P
	L1	≤4,5	≤4,8	≤4,9	P
	L2	≤4,9	≤4,3	≤4,9	
	L3	≤4,9	≤4,4	≤4,1	
	L4	≤4,3	≤4,5	≤4,8	
	L3	-	-	-	
	N	-	-	-	
8.5	**Uninterrupted duty**				P
	Circuit-breakers operate reliable even after long service				P
9.9	**28 day test**				P
	28 cycles - 21 h with current - 3 h without current Cross-sectional area. mm²	28 cycles - 21 h with current - 3 h without current Cross-sectional area. 16mm²			P
	During the test no tripping during the last period, temperature rise shall be measured				P
	Ambient air temperature.....:	Tamb= 23,0°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	P
	Terminals for external connections	≤53	≤59	≤52	P
	The temperature rise does not exceed the value measured during the temperature rise test (sub-clause 9.8) by more than 15 K				P
	Test current 1,45 I_N =91,4 A	91,4 A			P
	- Tripping within	[s]	[s]	[s]	P
	- 1h (≤ 63 A)	217	276	196	P
	- 2h (> 63 A)	-	-	-	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „B“ 3 samples (1P;B63;Icn=6000A)	**B-7 B-8 B-9**	
8.3	**Dielectric properties and isolating capability**		N/A
8.3.1	CB shall have adequate dielectric properties and shall ensure isolation:		N/A
8.3.2	Dielectric strength at power frequency		N/A
	Compliance is checked by the tests 9.7.1, 9.7.2 and 9.7.3 on circuit-breaker in new condition		N/A
8.3.3	Isolating capability		N/A
	Circuit-breakers shall be suitable for isolation. Compliance is checked by the verification of compliance with the minimum clearances and creepage distances of item 1 of table 4 and by tests of 9.7.5.1 and 9.7.5.3.		N/A
8.3.4	Dielectric strength at rated impulse withstand voltage (Uimp)		N/A
	Circuit-breakers shall adequately withstand impulse voltages. Compliance is checked by the tests of 9.7.5.2.		N/A
9.7	**Test of dielectric properties and isolating capability**		N/A
9.7.5.4	Verification of resistance of the insulation of open contact and basic insulation against an impulse voltage in normal conditions		N/A
	These tests are not preceded by the humidity treatment described in 9.7.1.		N/A
	The test is carried out on an CB fixed on a metal support		N/A
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		N/A
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		N/A
	rated impulse withstand voltage [kV]:		--
	sea level of test laboratory [m]:		--
	test voltage (acc. Table 15) [kV]:		--
9.7.5.4.2	CB in open position (contacts in open position)		N/A
	The impulses are applied between:		--
	the line terminals connected together and the load terminals connected together		N/A
9.7.5.4.3	CB in closed position		N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any				N/A
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB				N/A
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				N/A
	no disruptive discharges during the test				N/A
9.7.1	Resistance to humidity				N/A
9.7.1.1	Preparation of the circuit-breaker for test				N/A
	Inlet openings, if any, are left open; if knock-outs are provided, one of them is opened.				N/A
9.7.1.2	Test conditions				N/A
	The humidity treatment is carried out in humidity cabinet 91% to 95% and the temperature of the air between 20 °C and 30 °C	Rf = % T = °C			N/A
9.7.1.3	Test procedure.				N/A
	The sample is kept in the cabinet for 48 h.				N/A
9.7.1.4	Conditions of the circuit breaker after the tests.				N/A
	The sample show no damage within the meaning of this standard and shall withstand the tests of 9.7.2 and 9.7.3, 9.7.4 and 9.7.5.2				N/A
9.7.2	Insulation resistance of the main circuit				N/A
9.7.2	After an interval between 30 min and 60 min flowing this treatment, the insulation resistance is measured 5 s after application of a d.c. voltage of approximately 500 V, consecutively as follows:	[MΩ]	[MΩ]	[MΩ]	N/A
	a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position ≥ 2 MΩ				N/A
	b) in off-position, between each pole in turn and the others connected together ≥ 2 MΩ				N/A
	c) in on-position, between all poles connected together and the frame ≥ 5 MΩ				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	d) between metal parts of mechanism and the frame ≥ 5 MΩ		N/A
	e) between the frame and metal foil in contact with the inner surface of the internal enclosure or lining of insulating material ≥ 5 MΩ		N/A
9.7.3	Dielectric strength of the main circuit		N/A
	After the circuit-breakers have passed the tests of 9.7.2 the test voltage specified is applied for 1 min between the parts indicated in 9.7.2		N/A
	a) 2000 V		N/A
	b) 2000 V		N/A
	c) 2000 V		N/A
	d) 2000 V		N/A
	e) 2500 V		N/A
	No flashover or breakdown		N/A
9.7.4	Insulation resistance and dielectric strength of the auxiliary circuits		N/A
	Insulation resistance of auxiliary circuits measured with 500 V DC after 1 min:		--
	1) between all auxiliary circuits and the frame (MΩ) ≥ 2 MΩ		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together (MΩ) ≥ 2 MΩ		N/A
	Dielectric strength of auxiliary circuits measured with an AC voltage at rated frequency for 1 min:		--
	Rated voltage of auxiliary circuits (a.c. or d.c.) — Test voltage (V) ≤ 30 — 600 > 30 ≤ 50 — 1000 > 50 ≤ 110 — 1500 > 110 ≤ 250 — 2000 > 250 ≤ 500 — 2500	V	--
	1) between all auxiliary circuits and the frame		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together		N/A
	No flashover or perforation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.7.5.2	Verification of clearances with the impulse withstand voltage		N/A
	If the measurement of clearances of items 2 and 4 in Table 4 shows a reduction of the required length, this test applies.		N/A
	The test is carried out on an CB fixed on a metal support and being in the closed position		N/A
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		N/A
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		N/A
	test performed with:		--
	-surge impedance of the test apparatus ≤500Ω and surge protective devices disconnected before testing or		N/A
	-hybrid generator with an surge impedance of 2 Ω and surge protective devices not disconnected before testing		N/A
	rated impulse withstand voltage [kV]:	kV	--
	see level of test laboratory [m]:	m	--
	test voltage (acc. Table 14) [kV]:	kV	--
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any		N/A
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB		N/A
	A third series of tests is made applying the impulse voltage between (and not tested during the two first sequences described here above):		--
	b) between each pole and the others connected together		N/A
	c) between all poles connected together and the frame		N/A
	d) between metal parts of the mechanism and the frame		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	e) between the frame and a metal foil in contact with the inner surface of the lining of insulating material				N/A
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				N/A
	no disruptive discharges during the test				N/A
8.4	**Temperature rise**				P
	Temperature rise does not exceed the limiting values stated in table 6:	sect. 16mm²			P
9.8.2	Test current: I_N=63A (reach the steady-state value) Four-pole CB's: ☐ 1) Three poles loaded 2) One pole and neutral pole loaded ☐ 1) Four-poles loaded	I_N = 63A			P
	Ambient air temperature.....:	Tamb= 21,9°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	P
	L1	≤41	≤43	≤48	
	L2	-	-	-	
	L3	-	-	-	
	L4	-	-	-	
	L3	-	-	-	
	N	-	-	-	
	Terminals for external connections ..... 60 K				P
	External parts liable to be touched during manual operation of the circuit-breaker, including operating means of insulating material and metallic means for coupling of insulating operating means of several poles ..... 40 K	≤4	≤5	≤6	P
	External metallic parts of operating means .. 25 K	-	-	-	N/A
	Other external parts, including that face of the circuit-breaker is in direct contact with the mounting surface..... 60 K	≤22	≤22	≤22	P
9.8.5	Measurement of power losses	B-7	B-8	B-9	P
	Power loss do not exceed the values stated in table 8	13W			P

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Clause	Requirement + Test	Result - Remark	Verdict

	Test current: I_N = 63 A (reach the steady state value)				P
	Loaded one pole after the other				P
	Max. power loss : 4,1 W	W	W	W	P
	L1	≤3,9	≤4,1	≤3,8	P
	L2	-	-	-	
	L3	-	-	-	
	L4	-	-	-	
	L3	-	-	-	
	N	-	-	-	
8.5	**Uninterrupted duty**				N/A
	Circuit-breakers operate reliable even after long service				N/A
9.9	**28 day test**				N/A
	28 cycles - 21 h with current - 3 h without current Cross-sectional area. mm²	I_N =A			N/A
	During the test no tripping during the last period, temperature rise shall be measured				N/A
	Ambient air temperature.....:	°C			N/A
	Parts .....Temperature rise [K]	[K]	[K]	[K]	N/A
	Terminals for external connections				N/A
	The temperature rise does not exceed the value measured during the temperature rise test (sub-clause 9.8) by more than 15 K				N/A
	Test current 1,45 I_N =A				N/A
	- Tripping within	[s]	[s]	[s]	N/A
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „B“ 3 samples (4P;B63;Icn=6000A)	**B-10 B-11 B-12**	
8.3	**Dielectric properties and isolating capability**		N/A
8.3.1	CB shall have adequate dielectric properties and shall ensure isolation:		N/A
8.3.2	Dielectric strength at power frequency		N/A
	Compliance is checked by the tests 9.7.1, 9.7.2 and 9.7.3 on circuit-breaker in new condition		N/A
8.3.3	Isolating capability		N/A
	Circuit-breakers shall be suitable for isolation. Compliance is checked by the verification of compliance with the minimum clearances and creepage distances of item 1 of table 4 and by tests of 9.7.5.1 and 9.7.5.3.		N/A
8.3.4	Dielectric strength at rated impulse withstand voltage (Uimp)		N/A
	Circuit-breakers shall adequately withstand impulse voltages. Compliance is checked by the tests of 9.7.5.2.		N/A
9.7	**Test of dielectric properties and isolating capability**		N/A
9.7.5.4	Verification of resistance of the insulation of open contact and basic insulation against an impulse voltage in normal conditions		N/A
	These tests are not preceded by the humidity treatment described in 9.7.1.		N/A
	The test is carried out on an CB fixed on a metal support		N/A
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		N/A
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		N/A
	rated impulse withstand voltage [kV]:		--
	sea level of test laboratory [m]:		--
	test voltage (acc. Table 15) [kV]:		--
9.7.5.4.2	CB in open position (contacts in open position)		N/A
	The impulses are applied between:		--
	the line terminals connected together and the load terminals connected together		N/A
9.7.5.4.3	CB in closed position		N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any				N/A
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB				N/A
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				N/A
	no disruptive discharges during the test				N/A
9.7.1	Resistance to humidity				N/A
9.7.1.1	Preparation of the circuit-breaker for test				N/A
	Inlet openings, if any, are left open; if knock-outs are provided, one of them is opened.				N/A
9.7.1.2	Test conditions				N/A
	The humidity treatment is carried out in humidity cabinet 91% to 95% and the temperature of the air between 20 °C and 30 °C	Rf = % T = °C			N/A
9.7.1.3	Test procedure.				N/A
	The sample is kept in the cabinet for 48 h.				N/A
9.7.1.4	Conditions of the circuit breaker after the tests.				N/A
	The sample show no damage within the meaning of this standard and shall withstand the tests of 9.7.2 and 9.7.3, 9.7.4 and 9.7.5.2				N/A
9.7.2	Insulation resistance of the main circuit				N/A
9.7.2	After an interval between 30 min and 60 min flowing this treatment, the insulation resistance is measured 5 s after application of a d.c. voltage of approximately 500 V, consecutively as follows:	[MΩ]	[MΩ]	[MΩ]	N/A
	a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position ≥ 2 MΩ				N/A
	b) in off-position, between each pole in turn and the others connected together ≥ 2 MΩ				N/A
	c) in on-position, between all poles connected together and the frame ≥ 5 MΩ				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	d) between metal parts of mechanism and the frame ≥ 5 MΩ		N/A
	e) between the frame and metal foil in contact with the inner surface of the internal enclosure or lining of insulating material ≥ 5 MΩ		N/A
9.7.3	Dielectric strength of the main circuit		N/A
	After the circuit-breakers have passed the tests of 9.7.2 the test voltage specified is applied for 1 min between the parts indicated in 9.7.2		N/A
	a) 2000 V		N/A
	b) 2000 V		N/A
	c) 2000 V		N/A
	d) 2000 V		N/A
	e) 2500 V		N/A
	No flashover or breakdown		N/A
9.7.4	Insulation resistance and dielectric strength of the auxiliary circuits		N/A
	Insulation resistance of auxiliary circuits measured with 500 V DC after 1 min:		--
	1) between all auxiliary circuits and the frame (MΩ) ≥ 2 MΩ		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together (MΩ) ≥ 2 MΩ		N/A
	Dielectric strength of auxiliary circuits measured with an AC voltage at rated frequency for 1 min:		--
	Rated voltage of auxiliary circuits (a.c. or d.c.) — Test voltage (V) ≤ 30 — 600 > 30 ≤ 50 — 1000 > 50 ≤ 110 — 1500 > 110 ≤ 250 — 2000 > 250 ≤ 500 — 2500	V	--
	1) between all auxiliary circuits and the frame		N/A
	2) between each part of the auxiliary circuits which might be isolated from the other parts and the whole of the other parts connected together		N/A
	No flashover or perforation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.7.5.2	Verification of clearances with the impulse withstand voltage		N/A
	If the measurement of clearances of items 2 and 4 in Table 4 shows a reduction of the required length, this test applies.		N/A
	The test is carried out on an CB fixed on a metal support and being in the closed position		N/A
	The impulses are given by a generator producing positive and negative impulses having a front time of 1,2μs, and a time to half-value of 50μs		N/A
	The shape of the impulses is adjusted with the CB under test connected to the impulse generator.		N/A
	test performed with:		--
	-surge impedance of the test apparatus ≤500Ω and surge protective devices disconnected before testing or		N/A
	-hybrid generator with an surge impedance of 2 Ω and surge protective devices not disconnected before testing		N/A
	rated impulse withstand voltage [kV]:	kV	--
	see level of test laboratory [m]:	m	--
	test voltage (acc. Table 14) [kV]:	kV	--
	A first series of tests is made applying the impulse voltage between the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminal(s) intended for the protective conductor(s), if any		N/A
	A second series of tests is made applying the impulse voltage between the phase pole(s), connected together, and the neutral pole (or path) of the CB		N/A
	A third series of tests is made applying the impulse voltage between (and not tested during the two first sequences described here above):		--
	b) between each pole and the others connected together		N/A
	c) between all poles connected together and the frame		N/A
	d) between metal parts of the mechanism and the frame		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	e) between the frame and a metal foil in contact with the inner surface of the lining of insulating material				N/A
	Five positive impulses and five negative impulses are applied, the interval between consecutive impulses being at least 1 s for impulses of the same polarity and being at least 10 s for impulses of the opposite polarity.				N/A
	no disruptive discharges during the test				N/A
8.4	**Temperature rise**				P
	Temperature rise does not exceed the limiting values stated in table 6:	sect. 16mm²			P
9.8.2	Test current: I_N=63A (reach the steady-state value) Four-pole CB's: ☐ 1) Three poles loaded 2) One pole and neutral pole loaded ☒ 1) Four-poles loaded	I_N = 63A			P
	Ambient air temperature.....:	Tamb= 23,2°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	P
	L1	≤49	≤48	≤52	
	L2	≤55	≤55	≤56	
	L3	≤54	≤54	≤54	
	L4	≤46	≤45	≤42	
	L3	-	-	-	
	N	-	-	-	
	Terminals for external connections ..... 60 K				P
	External parts liable to be touched during manual operation of the circuit-breaker, including operating means of insulating material and metallic means for coupling of insulating operating means of several poles ..... 40 K	≤14	≤12	≤12	P
	External metallic parts of operating means .. 25 K	-	-	-	N/A
	Other external parts, including that face of the circuit-breaker is in direct contact with the mounting surface..... 60 K	≤36	≤36	≤38	P
9.8.5	Measurement of power losses	B-10	B-11	B-12	P
	Power loss do not exceed the values stated in table 8	13W			P

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Clause	Requirement + Test	Result - Remark	Verdict

	Test current: I_N = 63 A (reach the steady state value)				P
	Loaded one pole after the other				P
	Max. power loss : 5,0 W	W	W	W	P
	L1	≤4,5	≤4,7	≤5,0	P
	L2	≤4,7	≤4,9	≤4,7	
	L3	≤4,8	≤4,5	≤4,7	
	L4	≤5,0	≤4,2	≤4,3	
	L3	-	-	-	
	N	-	-	-	
8.5	**Uninterrupted duty**				N/A
	Circuit-breakers operate reliable even after long service				N/A
9.9	**28 day test**				N/A
	28 cycles - 21 h with current - 3 h without current Cross-sectional area. mm²	I_N =A			N/A
	During the test no tripping during the last period, temperature rise shall be measured				N/A
	Ambient air temperature.....:	°C			N/A
	Parts .....Temperature rise [K]	[K]	[K]	[K]	N/A
	Terminals for external connections				N/A
	The temperature rise does not exceed the value measured during the temperature rise test (sub-clause 9.8) by more than 15 K				N/A
	Test current 1,45 I_N =A				N/A
	- Tripping within	[s]	[s]	[s]	N/A
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „C“ 3 +3 samples (1P;D63;Icn=6000A)				
8.7	**Test „C_1“ Mechanical and electrical endurance**	**C_{1-1}**	**C_{1-2}**	**C_{1-3}**	P
	Circuit-breaker shall be capable to perform an adequate number of cycles with rated current				P
9.11.1	General test conditions				P
	Test: Test Voltage 242V (rated voltage 240V) Test Current 63,6A (rated current 63A) Power factor 0,87(0,85-0,9) Cross sect. area 16mm²				P
9.11.2	Test procedure				P
	The circuit-breaker is submitted to 4000 operating cycles with rated current.				P
	- $I_N \leq 32$ A: 2 s on - 13 s off				N/A
	- $I_N > 32$ A: 2 s on - 28 s off				P
	During the test the circuit-breaker shall be operated as in normal use.				P
9.11.3	Conditions of the circuit breaker after the tests.				P
	Following the test 9.11.2 the sample shall not show:				P
	- undue wear				P
	- discrepancy between the position of the moving contacts and corresponding position of the Indicating device				P
	- damage to the enclosure permitting access to live parts by test finger (see 9.6)				P
	- loosening of electrical or mechanical connections				P
	- seepage of sealing compound				N/A
	Moreover test current .....2,55 I_N_____A	160,7A			P
	Opening time not less 1 s or more than	[s]	[s]	[s]	P
	- 60 s (≤ 32 A)	-	-	-	N/A
	- 120 s (> 32 A)	27	23	19	P
	Dielectric strength reduced to 1500 V				P

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Clause	Requirement + Test	Result - Remark	Verdict

9.12.11.2	**Test at reduced short-circuit currents**				P
9.12.11.2.1	Test on all circuit-breakers				P
9.12.11.2.1	Test at reduced short-circuit currents: Fig. 3				P
	Test current:	Obtained			--
	- 500 A or 10 In	I test= 644 A			--
	Test voltage 1,05 Un	Un = 251 V			--
	Power factor 0,93-0,98	0,96			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" = 35mm			P
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			N/A
	I_{Peak} (A) max. value	921A	918A	918A	--
	Sequence: 6 x "O" and 3 x "CO"	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 593kA^2s$	593	497	553	P
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12	Verification of the circuit-breaker after short-circuit tests				P
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.= 457V. The circuit – breaker is in the open position	**C_{1-1}** [mA]	**C_{1-2}** [mA]	**C_{1-3}** [mA]	P
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,001	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test voltage 1500 V (see 9.7.2)		P
	a)	1500 V	P
	b)		N/A
	c)	1500 V	P
	d)		N/A
	e) 2000 V		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „C“ 3 +3 samples (4P;D63;Icn=6000A)				
8.7	**Test „C_1“ Mechanical and electrical endurance**	**C_{1-4}**	**C_{1-5}**	**C_{1-6}**	P
	Circuit-breaker shall be capable to perform an adequate number of cycles with rated current				P
9.11.1	General test conditions				P
	Test: Test Voltage 417V (rated voltage 415V) Test Current 63,7A (rated current 63A) Power factor 0,87(0,85-0,9) Cross sect. area 16mm²				P
9.11.2	Test procedure				P
	The circuit-breaker is submitted to 4000 operating cycles with rated current.				P
	- $I_N \leq 32$ A: 2 s on - 13 s off				N/A
	- $I_N > 32$ A: 2 s on - 28 s off				P
	During the test the circuit-breaker shall be operated as in normal use.				P
9.11.3	Conditions of the circuit breaker after the tests.				P
	Following the test 9.11.2 the sample shall not show:				P
	- undue wear				P
	- discrepancy between the position of the moving contacts and corresponding position of the Indicating device				P
	- damage to the enclosure permitting access to live parts by test finger (see 9.6)				P
	- loosening of electrical or mechanical connections				P
	- seepage of sealing compound				N/A
	Moreover test current .....2,55 I_N_____A	160,7A			P
	Opening time not less 1 s or more than	[s]	[s]	[s]	P
	- 60 s ($\leq$ 32 A)	-	-	-	N/A
	- 120 s ($>$ 32 A)	25	23	28	P
	Dielectric strength reduced to 1500 V				P

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Clause	Requirement + Test	Result - Remark	Verdict

9.12.11.2	**Test at reduced short-circuit currents**				P
9.12.11.2.1	Test on all circuit-breakers				P
9.12.11.2.1	Test at reduced short-circuit currents: Fig. 3				P
	Test current:	Obtained			--
	- 500 A or 10 In	I test= 644A			--
	Test voltage 1,05 Un	Un = 251V			--
	Power factor 0,93-0,98	0,96			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" = 35mm			P
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			N/A
	I_{Peak} (A) max. value	934A	926A	929A	--
	Sequence: 6 x "O" and 3 x "CO"	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 568kA^2s$	568	533	542	P
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12	Verification of the circuit-breaker after short-circuit tests				P
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.= 457V. The circuit – breaker is in the open position	**C_{1-4}** [mA]	**C_{1-5}** [mA]	**C_{1-6}** [mA]	P
	The leakage current shall not exceed 2 mA L1	0,001	0,003	0,002	P
	L2	0,002	0,001	0,004	
	L3	0,001	0,002	0,001	
	L4(N)	0,002	0,001	0,002	
	Electric strength test:				P

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Clause	Requirement + Test	Result - Remark	Verdict

	Test voltage 1500 V (see 9.7.2)		P
	a)	1500V	P
	b)	1500V	P
	c)	1500V	P
	d)		N/A
	e) 2000 V		N/A

9.12.11.2.2	**Test „C_2“ Short-circuit test on circuit-breakers for use in IT systems (1P;D63;Icn=6000A)**				P
	Test current:				--
	- 500 A or 1,2 times the upper limit of the standard range of instantaneous tripping (see table 2) whichever is the higher, but < 2500 A. When tripping exceed 20 In the current adjusted at 1,2 times the upper limit even when higher 2500 A	I test= 1550A			--
	Test voltage 1,05 Un	Un = 434V			--
	Power factor 0,93-0,98	0,96			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" = 35mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value	2,04kA	2,05kA	2,02kA	--
	Sequence: "O" + "CO" on each protected pole	[kA^2s]	[kA^2s]	[kA^2s]	--
	Shifted point 30 ° on the other protected pole	**C_{2-1}**	**C_{2-2}**	**C_{2-3}**	--
	Max. $I^2t \leq 27{,}4kA^2s$ L1	27,4	13,8	16,5	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P

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Clause	Requirement + Test	Result - Remark	Verdict

	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un. =457 V. The circuit – breaker is in the open position	**C_{2-1}** [mA]	**C_{2-2}** [mA]	**C_{2-3}** [mA]	--
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,002	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A

9.12.11.2.2	**Test „C_2“ Short-circuit test on circuit-breakers for use in IT systems (2P; D63;Icn=6000A)**				**P**
	Test current:				--
	- 500 A or 1,2 times the upper limit of the standard range of instantaneous tripping (see table 2) whichever is the higher, but < 2500 A. When tripping exceed 20 In the current adjusted at 1,2 times the upper limit even when higher 2500 A	I test= 1550A			--
	Test voltage 1,05 Un	Un = 434V			--
	Power factor 0,93-0,98	0,96			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" = 35mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value	2,06kA	2,06kA	-	--
	Sequence: "O" + "CO" on each protected pole	[kA^2s]	[kA^2s]	-	--
	Shifted point 30 ° on the other protected pole	**C_{2-4}**	**C_{2-5}**	**-**	--
	Max. $I^2t \leq 18{,}6kA^2s$ L1	18,6	16,5	-	P
	L2	13,3	10,5	-	
	L3	-	-	-	

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Clause	Requirement + Test	Result - Remark			Verdict
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**C_{2-4}** [mA]	**C_{2-5}** [mA]	**-** [mA]	--
	The leakage current shall not exceed 2 mA L1	0,001	0,001	-	P
	L2	0,002	0,002	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A

9.12.11.2.2	**Test „C_2“ Short-circuit test on circuit-breakers for use in IT systems (4P;D63;Icn=6000A)**		**P**
	Test current:		--
	- 500 A or 1,2 times the upper limit of the standard range of instantaneous tripping (see table 2) whichever is the higher, but < 2500 A. When tripping exceed 20 In the current adjusted at 1,2 times the upper limit even when higher 2500 A	I test= 1550A	--
	Test voltage 1,05 Un	Un = 434V	--
	Power factor 0,93-0,98	0,96	--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” = 35mm	--

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Clause	Requirement + Test	Result - Remark	Verdict

9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value	2,08kA	-	-	--
	Sequence: "O" + "CO" on each protected pole	[kA^2s]	[kA^2s]	[kA^2s]	--
	Shifted point 30 ° on the other protected pole	**C_{2-6}**	**-**	**-**	--
	Max. $I^2t \leq 17{,}5kA^2s$ L1	17,5	-	-	P
	L2	16,5	-	-	
	L3	17,4	-	-	
	L4	16,7	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457 V. The circuit – breaker is in the open position	**C_{2-6}** [mA]	**-** [mA]	**-** [mA]	--
	The leakage current shall not exceed 2 mA L1	0,002	-	-	P
	L2	0,002	-	-	
	L3	0,001	-	-	
	L4	0,001	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 3 samples (1P;D63;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_O+D_{1-1}**	**D_O+D_{1-2}**	**D_O+D_{1-3}**	P
	I_N (A)	63A			--
	Sect. (mm²)	16mm²			--
	Instantaneous tripping current	☐ B	☐ C	☒ D	--
9.10.2	Test of time-current characteristic				P
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:	71,2A			P
	- 1 h ($I_N \leq 63$ A)				P
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				P
	Then steadily increased within 5 s to 1,45 I_N (A)	91,4A			P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	89	114	25	P
	- 2h (> 63 A)	-	-	-	P
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:	160,7A			P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	-	-	-	N/A
	- 120 s (> 32 A)	25	21	29	P
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test current $3I_N$ (A), starting from cold	_____A	--
	Opening time:	[s] [s] [s]	--
	≥ 0,1 s		N/A
	Test current 5 I_N (A), starting from cold	_____A	N/A
	Tripping less than 0,1 s		N/A
9.10.3.3	☐ For circuit-breakers of the C – Type		N/A
	Test current $5I_N$ (A), starting from cold	_____A	N/A
	Opening time:	[s] [s] [s]	--
	≥ 0,1 s		N/A
	Test current 10 I_N (A), starting from cold	_____A	N/A
	Tripping less than 0,1 s		N/A
9.10.3.4	☒ For circuit-breakers of the D – Type		P
	Test current $10I_N$ (A), starting from cold	630A	P
	Opening time:	[s] [s] [s]	--
	≥ 0,1 s	1 1 1	P
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	1268A	P
	Tripping less than 0,1 s	7ms 12ms 12ms	P
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:		N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A	N/A
	Tripping within	[min] [min] [min]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A	N/A
	Tripping within	[min] [min] [min]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics		P
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T = -5°C	P
	Test current 1,13 I_N (A)	71,2A	P
	- Passed for 1h		P

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Clause	Requirement + Test	Result - Remark			Verdict
	- Passed for 2h				N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s	119,7A			P
	Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	77	62	95	P
	- 2h (> 63 A)	-	-	-	N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C			P
	Test current I_N (A)	63A			P
	No tripping within				--
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Tests „D_1“	**D_O+D_{1-1} D_O+D_{1-2} D_O+D_{1-3}**	
8.9	**Resistance to mechanical shock and impact**		P
	CB shall have adequate mechanical behaviour so as to withstand the stresses imposed during installation and use		P
9.13.1	Mechanical shock		P
	- 50 falls on two sides of vertical board C		P
	- Vertical board turned 90°		P
	- 50 falls on two sides of vertical board C		P
	During the test the circuit-breakers shall not open		P
9.13.2	Mechanical impact		P
9.13.2.2	All types:		P
	- Impact test: 10 blows-height 10 cm, no damage		P
9.13.2.3	Screw-in types:		N/A
	- Torque 2,5 Nm for 1 min, no damage		N/A
9.13.2.4	CB intended to be mounted on a rail		P
	- downward vertical 50 N for 1 min		P
	- upward vertical 50 N for 1 min, no damage		P
9.13.2.5	Plug-in types		N/A
	The circuit-breaker are mounted in their normal position, complete with plug-in base but without cables and any cover plate		N/A
	A force of 20 N applied for 1min to the circuit-breaker (see fig 16).		N/A
	During this test the circuit-breaker part shall not become loose from the base and shall not show damage impairing further use.		N/A
9.12.11.3	**Test at 1500 A:**		P
	Prospective current of 1500 A - power factor 0,93 to 0,98		P
	Prospective current obtained (A)	1,51kA	--
	Power factor	0,94	--
	Test voltage 1,05 Un	254V	--
	Test circuit: figure	3	--
	T (min)	3min	--

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Clause	Requirement + Test	Result - Remark	Verdict

9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" =35mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			--
	Sequence	6O-2CO			--
	I_{Peak} (A) max. value	1,90kA	2,04kA	1,92kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 50,4kA^2s$ L1	14,3	50,4	14,1	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
		1O in test circuit specified for three-pole circuit-breakers Test voltage:434V Prospective current obtained:1540A Power factor:0,96			
	I_{Peak} (A) max. value	1,98kA			
	L1	$4,34kA^2s$			
	L2	$13,0kA^2s$			
	L3	$7,01kA^2s$			
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.= 457 V. The circuit – breaker is in the open position	$D_{O+}D_{1-1}$ [mA]	$D_{O+}D_{1-2}$ [mA]	$D_{O+}D_{1-3}$ [mA]	--
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,001	P
	L2	-	-	-	
	L3	-	-	-	

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Clause	Requirement + Test	Result - Remark	Verdict

	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		$D_{O+}D_{1-1}$ [s]	**$D_{O+}D_{1-2}$** [s]	**$D_{O+}D_{1-3}$** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	49	58	72	P

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 3 samples (4P;D63;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**$D_{O+}D_{1-4}$**	**$D_{O+}D_{1-5}$**	**$D_{O+}D_{1-6}$**	P
	I_N (A)	63A			--
	Sect. (mm²)	16mm²			--
	Instantaneous tripping current	☐ B	☐ C	☒ D	--
9.10.2	Test of time-current characteristic				P
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:	71,2A			P
	- 1 h ($I_N \leq 63$ A)				P
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				P
	Then steadily increased within 5 s to 1,45 I_N (A)	91,4A			P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	107	92	84	P
	- 2h (> 63 A)	-	-	-	P
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:	160,7A			P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	-	-	-	N/A
	- 120 s (> 32 A)	29	25	21	P
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				P
	Test current $10I_N$ (A), starting from cold	630A			P
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s	1	1	1	P
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	1268A			P
	Tripping less than 0,1 s	13ms	20ms	12ms	P
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				P
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	109,6A			P
	Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	101	87	76	P
	- 2h (> 63 A)	-	-	-	N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				P
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T = -5°C			P
	Test current 1,13 I_N (A)	71,2A			P
	- Passed for 1h				P

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Clause	Requirement + Test	Result - Remark			Verdict
	- Passed for 2h				N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s	119,7A			P
	Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	94	75	66	P
	- 2h (> 63 A)	-	-	-	N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C			P
	Test current I_N (A)	63A			P
	No tripping within				--
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Tests „D_1“	**D_O+D_{1-4} D_O+D_{1-5} D_O+D_{1-6}**	
8.9	**Resistance to mechanical shock and impact**		P
	CB shall have adequate mechanical behaviour so as to withstand the stresses imposed during installation and use		P
9.13.1	Mechanical shock		P
	- 50 falls on two sides of vertical board C		P
	- Vertical board turned 90°		P
	- 50 falls on two sides of vertical board C		P
	During the test the circuit-breakers shall not open		P
9.13.2	Mechanical impact		P
9.13.2.2	All types:		P
	- Impact test: 10 blows-height 10 cm, no damage		P
9.13.2.3	Screw-in types:		N/A
	- Torque 2,5 Nm for 1 min, no damage		N/A
9.13.2.4	CB intended to be mounted on a rail		P
	- downward vertical 50 N for 1 min		P
	- upward vertical 50 N for 1 min, no damage		P
9.13.2.5	Plug-in types		N/A
	The circuit-breaker are mounted in their normal position, complete with plug-in base but without cables and any cover plate		N/A
	A force of 20 N applied for 1min to the circuit-breaker (see fig 16).		N/A
	During this test the circuit-breaker part shall not become loose from the base and shall not show damage impairing further use.		N/A
9.12.11.3	**Test at 1500 A:**		P
	Prospective current of 1500 A - power factor 0,93 to 0,98		P
	Prospective current obtained (A)	1,54kA	--
	Power factor	0,96	--
	Test voltage 1,05 Un	436V	--
	Test circuit: figure	3	--
	T (min)	3min	--

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Clause	Requirement + Test	Result - Remark	Verdict

9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" =35mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			--
	Sequence	6O-3CO			--
	I_{Peak} (A) max. value	1,95kA	1,98kA	1,97kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 12,4kA^2s$ L1	9,59	8,71	12,4	P
	L2	10,6	10,9	12,0	
	L3	11,7	11,5	11,4	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.= 457 V. The circuit – breaker is in the open position	$D_{O+}D_{1-4}$ [mA]	$D_{O+}D_{1-5}$ [mA]	$D_{O+}D_{1-6}$ [mA]	--
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,001	P
	L2	0,002	0,003	0,002	
	L3	0,001	0,001	0,004	
	L4(N)	0,001	0,002	0,001	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P

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Clause	Requirement + Test	Result - Remark	Verdict

	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		$D_{O+}D_{1-4}$ [s]	**$D_{O+}D_{1-5}$** [s]	**$D_{O+}D_{1-6}$** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	87	66	51	P

	For the neutral of a four-pole circuit-breaker is not marked by the manufacturer, the tests are repeated with three new samples, using successively each pole as neutral in turn				
	Tests „D_1“	**$D_{O+}D_{1-7}$**	**$D_{O+}D_{1-8}$**	**$D_{O+}D_{1-9}$**	
8.9	**Resistance to mechanical shock and impact**				P
	CB shall have adequate mechanical behaviour so as to withstand the stresses imposed during installation and use				P
9.13.1	Mechanical shock				P
	- 50 falls on two sides of vertical board C				P
	- Vertical board turned 90°				P
	- 50 falls on two sides of vertical board C				P
	During the test the circuit-breakers shall not open				P
9.13.2	Mechanical impact				P
9.13.2.2	All types:				P
	- Impact test: 10 blows-height 10 cm, no damage				P
9.13.2.3	Screw-in types:				N/A
	- Torque 2,5 Nm for 1 min, no damage				N/A
9.13.2.4	CB intended to be mounted on a rail				P
	- downward vertical 50 N for 1 min				P
	- upward vertical 50 N for 1 min, no damage				P
9.13.2.5	Plug-in types				N/A
	The circuit-breaker are mounted in their normal position, complete with plug-in base but without cables and any cover plate				N/A
	A force of 20 N applied for 1min to the circuit-breaker (see fig 16).				N/A
	During this test the circuit-breaker part shall not become loose from the base and shall not show damage impairing further use.				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

9.12.11.3	**Test at 1500 A:**				P
	Prospective current of 1500 A - power factor 0,93 to 0,98				P
	Prospective current obtained (A)	1,54kA			--
	Power factor	0,96			--
	Test voltage 1,05 Un	436V			--
	Test circuit: figure	3			--
	T (min)	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" =35mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimension of enclosure: _____x_____x_____mm			--
	Sequence	6O-3CO			--
	I_{Peak} (A) max. value	1,93kA	1,91kA	1,98kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 14,6 kA^2s$ L1	9,11	10,6	13,6	P
	L2	14,3	14,6	11,5	
	L3	10,1	10,5	12,2	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.= 457 V. The circuit – breaker is in the open position	$D_{O+}D_{1-7}$ [mA]	$D_{O+}D_{1-8}$ [mA]	$D_{O+}D_{1-9}$ [mA]	--
	The leakage current shall not exceed 2 mA L1	0,002	0,001	0,002	P
	L2	0,002	0,002	0,002	
	L3	0,001	0,002	0,001	
	L4(N)	0,001	0,001	0,001	

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Clause	Requirement + Test	Result - Remark			Verdict
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		$D_{O+}D_{1-7}$ [s]	$D_{O+}D_{1-8}$ [s]	$D_{O+}D_{1-9}$ [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	51	72	91	P

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples **(1P;D50;Icn=6000A)** **(1P;D40;Icn=6000A)** **(1P;D32;Icn=6000A)**				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-1}**	**D_{O-2}**	**D_{O-3}**	P
	I_N (A)	50A	40A	32A	--
	Sect. (mm²)	10mm²	10mm²	6mm²	--
	Instantaneous tripping current	☐ B	☐ C	☒ D	--
9.10.2	Test of time-current characteristic				P
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:	56,5A	45,2A	36,2A	P
	- 1 h ($I_N \leq 63$ A)				P
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				P
	Then steadily increased within 5 s to 1,45 I_N (A)	72,5A	58,0A	46,4A	P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	59	63	93	P
	- 2h (> 63 A)	-	-	-	N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:	127,5A	102A	81,6A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	-	-	26	P
	- 120 s (> 32 A)	18	14	-	P
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐For circuit-breakers of the B – Type				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☐For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	500A	400A	320A	P
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	1	1	1	P
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	1029A	816A	640A	P
	Tripping less than 0,1 s	10ms	11ms	14ms	P
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				P
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			P
	Test current 1,13 I_N (A)	56,5A	45,2A	36,2A	P
	- Passed for 1h				P

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Clause	Requirement + Test	Result - Remark			Verdict
	- Passed for 2h				N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s	95,0A	76,0A	60,8A	P
	Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	42	49	71	P
	- 2h (> 63 A)	-	-	-	N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C			P
	Test current I_N (A)	50A	40A	32A	P
	No tripping within				--
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				N/A
	TESTS „D“ 1 samples (1P;D25;Icn=6000A) (1P;D20;Icn=6000A) (1P;D16;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-4}**	**D_{O-5}**	**D_{O-6}**	P
	I_N (A)	25A	20A	16A	--
	Sect. (mm²)	4mm²	2,5mm²	2,5mm²	--
	Instantaneous tripping current	☐ B	☐C	☒ D	--
9.10.2	Test of time-current characteristic				P
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:	28,3A	22,6A	18,1A	P
	- 1 h (I_N ≤ 63 A)				P
	- 2 h (I_N > 63 A)				N/A
	No tripping				P
	Then steadily increased within 5 s to 1,45 I_N (A)	36,3A	29,0A	23,2A	P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	108	96	81	P
	- 2h (> 63 A)	-	-	-	P
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:	63,8A	51,0A	40,8A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	31	29	26	P

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Clause	Requirement + Test	Result - Remark			Verdict
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☐For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	250A	200A	160A	P
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	1	1	1	P
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	503A	403A	330A	P
	Tripping less than 0,1 s	12ms	12ms	10ms	P
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				P
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			P
	Test current 1,13 I_N (A)	28,3A	22,6A	18,1A	P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s	47,5A	38,0A	30,4A	P
	Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	85	75	62	P
	- 2h (> 63 A)	-	-	-	N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C			P
	Test current I_N (A)	25A	20A	16A	P
	No tripping within				--
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples **(1P;D10;Icn=6000A)** **(1P;D6;Icn=6000A)** **(1P;D4;Icn=6000A)**				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-7}**	**D_{O-8}**	**D_{O-9}**	P
	I_N (A)	10A	6A	4A	--
	Sect. (mm²)	1,5mm²	1,0mm²	1,0mm²	--
	Instantaneous tripping current	☐ B	☐C	☒ D	--
9.10.2	Test of time-current characteristic				P
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:	11,3A	6,80A	4,52A	P
	- 1 h ($I_N \leq 63$ A)				P
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				P
	Then steadily increased within 5 s to 1,45 I_N (A)	14,5A	8,7A	5,8A	P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	65	92	80	P
	- 2h (> 63 A)	-	-	-	P
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:	25,5A	15,3A	10,2A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	19	26	23	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☐For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	100A	60A	40A	P
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	1	1	1	P
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	206A	125A	81A	P
	Tripping less than 0,1 s	11ms	9ms	13ms	P
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				P
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			P
	Test current 1,13 I_N (A)	11,3A	6,80A	4,52A	P
	- Passed for 1h				P

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Clause	Requirement + Test	Result - Remark			Verdict
	- Passed for 2h				N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s	19,0A	11,4A	7,6A	P
	Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	50	80	67	P
	- 2h (> 63 A)	-	-	-	N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C			P
	Test current I_N (A)	10A	6,0A	4,0A	P
	No tripping within				--
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				N/A

	TESTS „D“ 1 samples (1P;D2;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-10}**	-	-	P
	I_N (A)	2A	-	-	--
	Sect. (mm²)	1,0mm²	-	-	--
	Instantaneous tripping current	☐ B	☐C	☒ D	--
9.10.2	Test of time-current characteristic				P
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:	2,3A	-	-	P
	- 1 h (I_N ≤ 63 A)				P
	- 2 h (I_N > 63 A)				N/A
	No tripping				P
	Then steadily increased within 5 s to 1,45 I_N (A)	2,9A	-	-	P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	51	-	-	P
	- 2h (> 63 A)	-	-	-	N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:	5,1A	-	-	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	18	-	-	P
	- 120 s (> 32 A)	-	-	-	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☐For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	20A	-	-	P
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	1	-	-	P
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	40A	-	-	P
	Tripping less than 0,1 s	12ms	-	-	P
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--

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Clause	Requirement + Test	Result - Remark	Verdict

	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				P
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			P
	Test current 1,13 I_N (A)	2,3A	-	-	P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s	3,8A	-	-	P
	Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	37	-	-	P
	- 2h (> 63 A)	-	-	-	N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C			P
	Test current I_N (A)	2A	-	-	P
	No tripping within				--
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples (1P;C63;Icn=6000A) (4P;C63;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-11}**	**D_{O-12}**	**-**	P
	I_N (A)	63A	63A	-	--
	Sect. (mm²)	16mm²	16mm²	-	--
	Instantaneous tripping current	☐ B	☒ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h ($I_N \leq 63$ A)				N/A
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current $5I_N$ (A), starting from cold	315A	315A	-	P
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s	1	1	-	P
	Test current 10 I_N (A), starting from cold	640A	640A	-	P
	Tripping less than 0,1 s	14ms	11ms	-	P
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			N/A
	Test current 1,13 I_N (A)				N/A
	- Passed for 1h				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

	TESTS „D“ 1 samples (1P;C50;Icn=6000A) (1P;C40;Icn=6000A) (1P;C32;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-13}**	**D_{O-14}**	**D_{O-15}**	P
	I_N (A)	50A	40A	32A	--
	Sect. (mm²)	10mm²	10mm²	6mm²	--
	Instantaneous tripping current	☐ B	☒ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h (I_N ≤ 63 A)				N/A
	- 2 h (I_N > 63 A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current $5I_N$ (A), starting from cold	250A	200A	160A	P
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s	1	1	1	P
	Test current 10 I_N (A), starting from cold	503A	403A	330A	P
	Tripping less than 0,1 s	11ms	12ms	12ms	P
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--

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Clause	Requirement + Test	Result - Remark	Verdict
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A	N/A
	Tripping within	[min] [min] [min]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics		N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C	N/A
	Test current 1,13 I_N (A)		N/A
	- Passed for 1h		N/A
	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples **(1P;C25;Icn=6000A)** **(1P;C20;Icn=6000A)** **(1P;C16;Icn=6000A)**				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-16}**	**D_{O-17}**	**D_{O-18}**	P
	I_N (A)	25A	20A	16A	--
	Sect. (mm²)	4mm²	2,5mm²	2,5mm²	--
	Instantaneous tripping current	☐ B	☒ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h ($I_N \leq 63$ A)				N/A
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h ($\leq$ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s ($\leq$ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current $5I_N$ (A), starting from cold	125A	100A	80A	P
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s	1	1	1	P
	Test current 10 I_N (A), starting from cold	253A	206A	162A	P
	Tripping less than 0,1 s	9ms	12ms	15ms	P
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			N/A
	Test current 1,13 I_N (A)				N/A
	- Passed for 1h				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

	TESTS „D“ 1 samples (1P;C10;Icn=6000A) (1P;C6;Icn=6000A) (1P;C4;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-19}**	**D_{O-20}**	**D_{O-21}**	P
	I_N (A)	10A	6A	4A	--
	Sect. (mm²)	1,5mm²	1,0mm²	1,0mm²	--
	Instantaneous tripping current	☐ B	☒ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h (I_N ≤ 63 A)				N/A
	- 2 h (I_N > 63 A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current $3I_N$ (A), starting from cold	_____A			--
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current $5I_N$ (A), starting from cold	50A	30A	20A	P
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s	1	1	1	P
	Test current 10 I_N (A), starting from cold	101A	61A	41A	P
	Tripping less than 0,1 s	9ms	9ms	14ms	P
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--

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Clause	Requirement + Test	Result - Remark	Verdict
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A	N/A
	Tripping within	[min] [min] [min]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics		N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C	N/A
	Test current 1,13 I_N (A)		N/A
	- Passed for 1h		N/A
	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples (1P;C2;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-22}**			P
	I_N (A)	2A			--
	Sect. (mm²)	1,0mm²			--
	Instantaneous tripping current	☐ B	☒ C	☐ D	
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h ($I_N \leq 63$ A)				N/A
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within				--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than				--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				N/A
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3I_N (A), starting from cold	_____A			--

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Clause	Requirement + Test	Result - Remark			Verdict
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 5 I_N (A), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current 5I_N (A), starting from cold	10A	-	-	P
	Opening time:	[s]	[s]	[s]	
	≥ 0,1 s	1	-	-	P
	Test current 10 I_N (A), starting from cold	20A	-	-	P
	Tripping less than 0,1 s	14ms	-	-	P
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10I_N (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature				N/A
	Test current 1,13 I_N (A)				N/A
	- Passed for 1h				N/A
	- Passed for 2h				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	Current is then steadily increased to 1,9 I_N (A) within 5s				N/A
	Tripping within				--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature				N/A
	Test current I_N (A)				N/A
	No tripping within				--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples (1P;B63;Icn=6000A) (4P;B63;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-23}**	**D_{O-24}**	**-**	P
	I_N (A)	63A	63A	-	--
	Sect. (mm^2)	$16mm^2$	$16mm^2$	-	--
	Instantaneous tripping current	☒ B	☐ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h ($I_N \leq 63$ A)				N/A
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h ($\leq$ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s ($\leq$ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current $3I_N$ (A), starting from cold	189A	189A	-	--
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	5	4	-	P
	Test current 5 I_N (A), starting from cold	318A	318A	-	P
	Tripping less than 0,1 s	25ms	10ms	-	P
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			N/A
	Test current 1,13 I_N (A)				N/A
	- Passed for 1h				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

	TESTS „D“ 1 samples (1P;B50;Icn=6000A) (1P;B40;Icn=6000A) (1P;B32;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-25}**	**D_{O-26}**	**D_{O-27}**	P
	I_N (A)	50A	40A	32A	--
	Sect. (mm²)	10mm²	10mm²	6mm²	--
	Instantaneous tripping current	☒ B	☐ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h (I_N ≤ 63 A)				N/A
	- 2 h (I_N > 63 A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current $3I_N$ (A), starting from cold	150A	120A	96A	--
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	4	5	4	P
	Test current 5 I_N (A), starting from cold	253A	206A	162A	P
	Tripping less than 0,1 s	19ms	15ms	26ms	P
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--

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Clause	Requirement + Test	Result - Remark	Verdict
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A	N/A
	Tripping within	[min] [min] [min]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics		N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C	N/A
	Test current 1,13 I_N (A)		N/A
	- Passed for 1h		N/A
	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples **(1P;B25;Icn=6000A)** **(1P;B20;Icn=6000A)** **(1P;B16;Icn=6000A)**				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-28}**	**D_{O-29}**	**D_{O-30}**	P
	I_N (A)	25A	20A	16A	--
	Sect. (mm²)	4mm²	2,5mm²	2,5mm²	--
	Instantaneous tripping current	☒ B	☐ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h ($I_N \leq 63$ A)				N/A
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h ($\leq$ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s ($\leq$ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P

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Clause	Requirement + Test	Result - Remark			Verdict
	Test current $3I_N$ (A), starting from cold	75A	60A	48A	--
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	6	3	6	P
	Test current 5 I_N (A), starting from cold	125A	101A	81A	P
	Tripping less than 0,1 s	27ms	12ms	29ms	P
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			N/A
	Test current 1,13 I_N (A)				N/A
	- Passed for 1h				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

	TESTS „D“ 1 samples (1P;B10;Icn=6000A) (1P;B6;Icn=6000A) (1P;B4;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-31}**	**D_{O-32}**	**D_{O-33}**	P
	I_N (A)	10A	6A	4A	--
	Sect. (mm²)	1,5mm²	1,0mm²	1,0mm²	--
	Instantaneous tripping current	☒ B	☐ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h (I_N ≤ 63 A)				N/A
	- 2 h (I_N > 63 A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A

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Clause	Requirement + Test	Result - Remark			Verdict
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current $3I_N$ (A), starting from cold	30A	18A	12A	--
	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	4	5	3	P
	Test current 5 I_N (A), starting from cold	51A	31A	20A	P
	Tripping less than 0,1 s	14ms	14ms	15ms	P
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current $5I_N$ (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current $10I_N$ (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--

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Clause	Requirement + Test	Result - Remark	Verdict
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A	N/A
	Tripping within	[min] [min] [min]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics		N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C	N/A
	Test current 1,13 I_N (A)		N/A
	- Passed for 1h		N/A
	- Passed for 2h		N/A
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „D“ 1 samples (1P;B2;Icn=6000A)				
8.6	**Automatic operation**				P
8.6.1	Standard time-current zone				P
	Tripping characteristic of CB ensures adequate protection of the circuit, without premature operation.				P
9.10	**Tests „D_0“**	**D_{O-34}**	**-**	**-**	P
	I_N (A)	2A	-	-	--
	Sect. (mm²)	1,0mm²	-	-	--
	Instantaneous tripping current	☒ B	☐ C	☐ D	--
9.10.2	Test of time-current characteristic				N/A
9.10.2.1	Test current 1,13 I_N (A) starting from cold for:				N/A
	- 1 h ($I_N \leq 63$ A)				N/A
	- 2 h ($I_N > 63$ A)				N/A
	No tripping				N/A
	Then steadily increased within 5 s to 1,45 I_N (A)				N/A
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.2.2	Test current 2,55 I_N (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3	Test of instantaneous tripping and of correct opening of the contacts				P
9.10.3.1	General test conditions				P
	For the lower values of the test current the test is made once, at any convenient voltage.				P
	For the upper values of the test current the test is made at rated voltage Un(phase to neutral) with a power factor between 0,95 and 1.				P
	The sequence of operation is : O-CO-CO-CO Interval time: > 3 min				P
	The tripping time of the O operation is measured				P
	After each operation the indicating means shall show the open position of the contacts				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current 3I_N (A), starting from cold	6A	-	-	--

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Clause	Requirement + Test	Result - Remark	Verdict

	Opening time:	[s]	[s]	[s]	P
	≥ 0,1 s	4	-	-	P
	Test current 5 I_N (A), starting from cold	10A	-	-	P
	Tripping less than 0,1 s	6ms	-	-	P
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5I_N (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 10 I_N (A), starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10I_N (A), starting from cold	_____A			N/A
	Opening time:	[s]	[s]	[s]	--
	≥ 0,1 s				N/A
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold	_____A			N/A
	Tripping less than 0,1 s				N/A
9.10.4	Test of effect of single pole loading on the tripping characteristic of multi-pole circuit-breakers:				N/A
	Test current 1,1 It (A), (two pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
	Test current 1,2 It (A), (three pole or four pole) starting from cold	_____A			N/A
	Tripping within	[min]	[min]	[min]	--
	- 1h (≤ 63 A)				N/A
	- 2h (> 63 A)				N/A
9.10.5	Test of effect of ambient temperature on the tripping characteristics				N/A
	a) Ambient temperature of (35 ± 2) K below the ambient air reference temperature	T =-5°C			N/A
	Test current 1,13 I_N (A)				N/A
	- Passed for 1h				N/A
	- Passed for 2h				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Current is then steadily increased to 1,9 I_N (A) within 5s		N/A
	Tripping within	[s] [s] [s]	--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A
	b) Ambient temperature of (10 ± 2) K above the ambient air reference temperature	40°C	N/A
	Test current I_N (A)		N/A
	No tripping within		--
	- 1h (≤ 63 A)		N/A
	- 2h (> 63 A)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (1P;D63;Icn=6000A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-1}**	**E_{1-2}**	**E_{1-3}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	252V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6177A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained .....:	0,68			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	5,15kA	5,32kA	5,45kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 62,8kA^2s$ L1	59,5	62,8	53,2	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-1}** [mA]	**E_{1-2}** [mA]	**E_{1-3}** [mA]	--

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Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,002	0,001	0,003	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-1} [s]	**E_{1-2}** [s]	**E_{1-3}** [s]	--
	Tripping within ☒1 hour / ☐ 2 hour	49	75	56	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.12.11.4.2	**Test „E_1"(Test at service short-circuit capacity) three phase tests for single circuit-breakers (1P;D63;Icn=6000A)**	**E_{1-4}**	**E_{1-5}**	**E_{1-6}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	435V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6227A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained.....:	0,66			--
	Sequence .....:	See table 21			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			N/A
	I_{Peak} (A) max. value .....:	4,31kA			--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	P
	Max. $I^2t \leq 53,7kA^2s$ Operation 1	28,3	50,2	6,82	
	Operation 2	-	53,7	51,7	
	Operation 3	28,4	-	29,8	
	Operation 4	36,2	36,2	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-4}** [mA]	**E_{1-5}** [mA]	**E_{1-6}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,001	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-4} [s]	**E_{1-5}** [s]	**E_{1-6}** [s]	--
	Tripping within ☒1 hour / ☐ 2 hour	85	54	66	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (1P;D2;Icn=6000A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-7}**	**E_{1-8}**	**E_{1-9}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	252V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6177A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained .....:	0,68			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	2,40kA	2,40kA	2,27kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 6,71kA^2s$ L1	6,71	5,99	5,09	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-7}** [mA]	**E_{1-8}** [mA]	**E_{1-9}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,002	0,001	0,003	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-7} [s]	E_{1-8} [s]	E_{1-9} [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	59	42	31	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.12.11.4.2	**Test „E_1"(Test at service short-circuit capacity) three phase tests for single circuit-breakers (1P;D2;Icn=6000A)**	**E_{1-10}**	**E_{1-11}**	**E_{1-12}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	435V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6227A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained.....:	0,66			--
	Sequence .....:	See table 21			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			N/A
	I_{Peak} (A) max. value .....:	2,18kA			--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	P
	Max. $I^2t \leq 5,94kA^2s$ Operation 1	5,94	5,33	4,96	
	Operation 2	-	3,09	3,82	
	Operation 3	0,56	-	0,55	
	Operation 4	2,53	2,89	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-10}** [mA]	**E_{1-11}** [mA]	**E_{1-12}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,002	0,001	0,003	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-10} [s]	**E_{1-11}** [s]	**E_{1-12}** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	69	39	45	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (2P;D63;Icn=6000A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-13}**	**E_{1-14}**	**E_{1-15}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	438V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6080A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained .....:	0,69			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	4,50kA	4,71kA	4,69kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 45,8kA^2s$ L1	43,2	44,2	41,2	P
	L2	45,0	45,8	42,7	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-13}** [mA]	**E_{1-14}** [mA]	**E_{1-15}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,002	0,001	0,003	P
	L2	0,001	0,001	0,001	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-13} [s]	**E_{1-14}** [s]	**E_{1-15}** [s]	--
	Tripping within ☒ 1 hour / ☐2 hour	85	72	62	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (2P;D2;Icn=6000A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-16}**	**E_{1-17}**	**E_{1-18}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	438V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6080A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained .....:	0,69			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	1,42kA	1,30kA	1,40kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 5,59kA^2s$ L1	5,16	4,35	4,98	P
	L2	5,59	4,73	5,39	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-16}** [mA]	**E_{1-17}** [mA]	**E_{1-18}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,001	P
	L2	0,001	0,002	0,001	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-16} [s]	**E_{1-17}** [s]	**E_{1-18}** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	51	67	38	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (4P;D63;Icn=6000A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-19}**	**E_{1-20}**	**E_{1-21}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	435V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6227A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained .....:	0,66			--
	Sequence .....:	O-t-CO-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	6,68kA	5,03kA	4,78kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 53,7kA^2s$ L1	51,2	49,8	43,9	P
	L2	53,5	53,7	49,3	
	L3	41,4	46,4	53,5	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-19}** [mA]	**E_{1-20}** [mA]	**E_{1-21}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,003	0,001	P
	L2	0,002	0,002	0,004	
	L3	0,001	0,001	0,002	
	L4(N)	0,002	0,002	0,001	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-19} [s]	**E_{1-20}** [s]	**E_{1-21}** [s]	--
	Tripping within ☒1 hour / ☐2 hour	73	59	43	P

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Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (4P;D2;Icn=6000A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-22}**	**E_{1-23}**	**E_{1-24}**	**P**
	Service short-circuit capacity (Ics).....:	6000A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	435V			--
	Prospective current.....:	6000A			--
	Prospective current obtained.....:	6227A			--
	Power factor .....:	0,65~0,70			--
	Power factor obtained .....:	0,66			--
	Sequence .....:	O-t-CO-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	2,81kA	3,21kA	3,40kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 34,6kA^2s$ L1	6,19	27,0	4,86	P
	L2	5,99	20,3	6,39	
	L3	6,17	34,6	6,96	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-22}** [mA]	**E_{1-23}** [mA]	**E_{1-24}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,003	0,004	P
	L2	0,002	0,002	0,001	
	L3	0,001	0,001	0,002	
	L4(N)	0,002	0,002	0,003	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-22} [s]	**E_{1-23}** [s]	**E_{1-24}** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	57	87	61	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (1P;D63;Icn=4500A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-25}**	**E_{1-26}**	**E_{1-27}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	252V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4590A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained .....:	0,76			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	4,46kA	4,66kA	4,56kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 64,2kA^2s$ L1	55,5	60,8	64,2	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-25}** [mA]	**E_{1-26}** [mA]	**E_{1-27}** [mA]	--
	The leakage current shall not exceed 2 mA L1	0,001	0,001	0,002	P

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-25} [s]	**E_{1-26}** [s]	**E_{1-27}** [s]	--
	Tripping within ☒1 hour / ☐2 hour	87	51	42	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.12.11.4.2	**Test „E_1"(Test at service short-circuit capacity) three phase tests for single circuit-breakers (1P;D63;Icn=4500A)**	**E_{1-28}**	**E_{1-29}**	**E_{1-30}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	436V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4598A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained.....:	0,76			--
	Sequence .....:	See table 21			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			N/A
	I_{Peak} (A) max. value .....:	4,53kA			--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	P
	Max. $I^2t \leq 67,7kA^2s$ Operation 1	7,32	28,9	53,5	
	Operation 2	-	66,0	67,7	
	Operation 3	14,4	-	14,4	
	Operation 4	37,8	38,5	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-28}** [mA]	**E_{1-29}** [mA]	**E_{1-30}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,001	0,002	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-28} [s]	**E_{1-29}** [s]	**E_{1-30}** [s]	--
	Tripping within☒ 1 hour / ☐2 hour	72	39	50	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (1P;D2;Icn=4500A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-31}**	**E_{1-32}**	**E_{1-33}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	252V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4580A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained .....:	0,77			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	2,40kA	2,40kA	2,27kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 6,10kA^2s$ L1	6,10	5,99	6,09	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-31}** [mA]	**E_{1-32}** [mA]	**E_{1-33}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,003	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-31} [s]	**E_{1-32}** [s]	**E_{1-33}** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	54	80	73	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.12.11.4.2	**Test „E_1"(Test at service short-circuit capacity) three phase tests for single circuit-breakers (1P;D2;Icn=4500A)**	**E_{1-34}**	**E_{1-35}**	**E_{1-36}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	436V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4580A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained.....:	0,76			--
	Sequence .....:	See table 21			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	"a" =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			N/A
	I_{Peak} (A) max. value .....:	1,38kA			--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	P
	Max. $I^2t \leq 5,54kA^2s$ Operation 1	0,91	3,13	5,54	
	Operation 2	-	0,36	0,37	
	Operation 3	0,17	-	0,21	
	Operation 4	0,05	0,06	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				P
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-34}** [mA]	**E_{1-35}** [mA]	**E_{1-36}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,001	0,002	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)				N/A
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-34} [s]	**E_{1-35}** [s]	**E_{1-36}** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	69	81	42	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (2P;D63;Icn=4500A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-37}**	**E_{1-38}**	**E_{1-39}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	435V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4620A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained .....:	0,76			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	3,06kA	3,10kA	3,15kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 48,5kA^2s$ L1	43,3	47,3	30,3	P
	L2	44,4	48,5	31,1	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-37}** [mA]	**E_{1-38}** [mA]	**E_{1-39}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,003	0,001	P
	L2	0,002	0,001	0,004	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-37} [s]	**E_{1-38}** [s]	**E_{1-39}** [s]	--
	Tripping within ☒1 hour / ☐2 hour	67	33	92	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (2P;D2;Icn=4500A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-40}**	**E_{1-41}**	**E_{1-42}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	438V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4620A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained .....:	0,76			--
	Sequence .....:	O-t-O-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	2,33kA	2,51kA	2,47kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 7,23kA^2s$ L1	5,60	7,23	6,57	P
	L2	5,16	7,13	6,41	
	L3	-	-	-	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-40}** [mA]	**E_{1-41}** [mA]	**E_{1-42}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,004	0,001	0,001	P
	L2	0,002	0,003	0,002	
	L3	-	-	-	
	L4(N)	-	-	-	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-40} [s]	**E_{1-41}** [s]	**E_{1-42}** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	69	45	75	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (4P;D63;Icn=4500A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-43}**	**E_{1-44}**	**E_{1-45}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	436V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4598A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained .....:	0,76			--
	Sequence .....:	O-t-CO-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	2,97kA	3,20kA	3,06kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 47,4kA^2s$ L1	28,8	40,8	21,8	P
	L2	40,5	47,4	43,9	
	L3	29,2	25,8	34,6	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-43}** [mA]	**E_{1-44}** [mA]	**E_{1-45}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,002	0,001	P
	L2	0,002	0,001	0,003	
	L3	0,003	0,004	0,002	
	L4(N)	0,001	0,002	0,001	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	60,5A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	100,5A			P
		E_{1-43} [s]	**E_{1-44}** [s]	**E_{1-45}** [s]	--
	Tripping within ☒1 hour / ☐2 hour	92	59	44	P

IEC 60898-1			
Clause	Requirement + Test	Result - Remark	Verdict

	TESTS „E_1“ 3 + 4 samples (4P;D2;Icn=4500A)				
9.12.11.4.2	**Test E_1: Test at service short-circuit capacity**	**E_{1-46}**	**E_{1-47}**	**E_{1-48}**	**P**
	Service short-circuit capacity (Ics).....:	4500A			--
	Test circuit: figure .....:	3			--
	Test voltage 1,05 Un	436V			--
	Prospective current.....:	4500A			--
	Prospective current obtained.....:	4598A			--
	Power factor .....:	0,75~0,80			--
	Power factor obtained .....:	0,76			--
	Sequence .....:	O-t-CO-t-CO			--
	T (min) .....:	3min			--
9.12.9.2	Test in free air copper wire F': ☐ 0,12 mm / ☒ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☒ 1,5 Ohm	“a” =45mm			--
9.12.9.3	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm	dimensions of enclosure: _____x_____x_____mm			--
	I_{Peak} (A) max. value .....:	2,32kA	3,01kA	2,85kA	--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq 8,94kA^2s$ L1	4,75	4,20	8,94	P
	L2	3,80	3,43	3,59	
	L3	3,66	3,84	4,96	
	L4(N)	-	-	-	
	- No permanent arcing				P
	- No flash-over between poles or between poles and frame				P
	- No blowing of the fuses F and F′				P
	- Polyethylene foil shows no holes				P
	After the test:				--
9.12.12.1	The circuit-breakers shall show no damage impairing their further use and shall maintenance, withstand the following tests.				
	a) leakage current across open contacts, according to 9.7.5.3, each pole is supplied at a voltage 1,1 times Un.=457V. The circuit – breaker is in the open position	**E_{1-46}** [mA]	**E_{1-47}** [mA]	**E_{1-48}** [mA]	--

IEC 60898-1					
Clause	Requirement + Test	Result - Remark			Verdict
	The leakage current shall not exceed 2 mA L1	0,001	0,003	0,004	P
	L2	0,002	0,001	0,002	
	L3	0,002	0,002	0,001	
	L4(N)	0,001	0,001	0,002	
	Electric strength test:				P
	Test voltage 1500 V (see 9.7.2)				P
	a)	1500V			P
	b)	1500V			P
	c)	1500V			P
	d)				N/A
	e) 2000 V				N/A
	Test current 0.85x non-tripping current (1,13 I_N)	1,90A			P
	- Passed for 1h				P
	- Passed for 2h				N/A
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s	3,20A			P
		E_{1-46} [s]	**E_{1-47}** [s]	**E_{1-48}** [s]	--
	Tripping within ☒ 1 hour / ☐ 2 hour	87	49	55	P
	TESTS „E_2“ 3 + 4 samples				
9.12.11.4.3	**Test „E_2“(Test at rated short-circuit capacity) three phase tests for single circuit-breakers**				**N/A**
	TESTS „E_3“ 3 samples				
	Annex E				
	Annex J				
	Annex K				
	Annex L				

	TABLE: Heating Test(1P;D63;Icn=6000A)				P
	Test voltage (V) ..... :		--		—
	Ambient (ºC) ..... :		22,7°C		—
Thermocouple Locations		**max. temperature measured, (K)**			**max. temperature limit, (K)**
Temperature		B-1	B-2	B-3	--
Terminal		37	46	41	60
Handle		5	5	5	40
Enclosure		35	34	28	60
Supplementary information:N/A					

	TABLE: Heating Test(4P;D63;Icn=6000A)				P
	Test voltage (V) ..... :		--		—
	Ambient (ºC) ..... :		22,2°C		—
Thermocouple Locations		**max. temperature measured, (K)**			**max. temperature limit, (K)**
Temperature		B-4	B-5	B-6	--
Terminal	L1	46	56	48	60
Terminal	L2	48	55	48	60
Terminal	L3	49	53	48	60
Terminal	L4	42	44	40	60
Handle		16	16	20	40
Enclosure		32	56	36	60
Supplementary information:N/A					

	TABLE: Heating Test(1P;B63;Icn=6000A)				P
	Test voltage (V) ..... :		--		—
	Ambient (ºC) ..... :		21,9°C		—
Thermocouple Locations		**max. temperature measured, (K)**			**max. temperature limit, (K)**
Temperature		B-7	B-8	B-9	--
Terminal		41	43	48	60
Handle		4	5	6	40
Enclosure		22	22	22	60
Supplementary information:N/A					

	TABLE: Heating Test(4P;B63;Icn=6000A)				P
	Test voltage (V)..... :		--		—
	Ambient (ºC) ..... :		23,2°C		—
Thermocouple Locations		**max. temperature measured, (K)**			**max. temperature limit, (K)**
Temperature		B-10	B-11	B-12	--
Terminal	L1	49	48	52	60
Terminal	L2	55	55	56	60
Terminal	L3	54	54	54	60
Terminal	L4	46	45	42	60
Handle		14	12	12	40
Enclosure		36	36	38	60
Supplementary information:N/A					

	TABLE: Dielectric Strength (1P;D63;Icn=6000A)		P
Test voltage applied between:		**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**
In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position.		2000V	No
In off-position, between each pole in turn and the others connected together.		-	-
In on-position, between all poles connected together and the frame.		2000V	No
Supplementary information:N/A			

	TABLE: Dielectric Strength (4P;D63;Icn=6000A)		P
Test voltage applied between:		**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**
In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position.		2000V	No
In off-position, between each pole in turn and the others connected together.		2000V	No
In on-position, between all poles connected together and the frame.		2000V	No
Supplementary information:N/A			

	TABLE: insulation resistance measurements (1P;D63;Icn=6000A)				P
Insulation resistance R between:		**R (MΩ)**			**Required R (MΩ)**
		B-1	**B-2**	**B-3**	
a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position		141	159	162	≥ 2 MΩ
b) in off-position, between each pole in turn and the others connected together		-	-	-	-
c) in on-position, between all poles connected together and the frame		137	177	138	≥ 5 MΩ
Supplementary information:N/A					

	TABLE: insulation resistance measurements (4P;D63;Icn=6000A)				P
Insulation resistance R between:		**R (MΩ)**			**Required R (MΩ)**
		B-4	**B-5**	**B-6**	
a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position		167	146	131	≥ 2 MΩ
b) in off-position, between each pole in turn and the others connected together		185	153	144	≥ 2 MΩ
c) in on-position, between all poles connected together and the frame		177	129	181	≥ 5 MΩ
Supplementary information:N/A					

	TABLE: Impact Resistance(1P;D63;Icn=6000A)		P
Impacts per surface	**Surface tested**	**Impact energy (Nm)**	**Comments**
2 blows	Operating means	150g*9,8N/kg*10cm	No damage
4 blows	Lateral side of the sample	150g*9,8N/kg*10cm	No damage
4 blows	Between lateral side and operating means	150g*9,8N/kg*10cm	No damage
Supplementary information:N/A			

	TABLE: Impact Resistance(4P;D63;Icn=6000A)		P
Impacts per surface	**Surface tested**	**Impact energy (Nm)**	**Comments**
2 blows	Operating means	150g*9,8N/kg*10cm	No damage
4 blows	Lateral side of the sample	150g*9,8N/kg*10cm	No damage
4 blows	Between lateral side and operating means	150g*9,8N/kg*10cm	No damage
Supplementary information:N/A			

	TABLE: Clearance And Creepage Distance Measurements (1P;D63;Icn=6000A)					P
clearance cl and creepage distance dcr at/of:	**Up (V)**	**U r.m.s. (V)**	**Required cl (mm)**	**cl (mm)**	**required dcr (mm)**	**dcr (mm)**
between live parts (of the main circuits) which are separated when the CB is in off position	4000V	415V	4	5,9	4	11,5
between live parts of different polarity	4000V	415V	3	-	4	-
between live parts and accessible surfaces of operating means	4000V	415V	3	15,1	4	19,4
between live parts and surface on which the base is mounted	4000V	415V	3	6,7	4	6,7
between live parts and screws or other means for fixing the circuit breaker	4000V	415V	3	6,7	4	6,7
between live parts and other accessible metal parts	4000V	415V	3	15,1	4	19,4
Supplementary information:N/A						

	TABLE: Clearance And Creepage Distance Measurements (4P;D63;Icn=6000A)					P
clearance cl and creepage distance dcr at/of:	**Up (V)**	**U r.m.s. (V)**	**Required cl (mm)**	**cl (mm)**	**required dcr (mm)**	**dcr (mm)**
between live parts (of the main circuits) which are separated when the CB is in off position	4000V	415V	4	5,9	4	11,5
between live parts of different polarity	4000V	415V	3	10,7	4	12,4
between live parts and accessible surfaces of operating means	4000V	415V	3	15,1	4	19,4
between live parts and surface on which the base is mounted	4000V	415V	3	6,7	4	6,7
between live parts and screws or other means for fixing the circuit breaker	4000V	415V	3	6,7	4	6,7
between live parts and other accessible metal parts	4000V	415V	3	15,1	4	19,4
Supplementary information:N/A						

	TABLE: Ball Pressure Test of Thermoplastics (1P;D63;Icn=6000A)			P
Allowed impression diameter (mm) ..... :		≤ 2 mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Enclosure	-	125	1,0	
Current-carrying	-	125	1,0	
Operating meanings	-	70	0,8	
Fixing meanings	-	70	0,8	
Supplementary information:N/A				

	TABLE: Ball Pressure Test of Thermoplastics (4P;D63;Icn=6000A)		P
Allowed impression diameter (mm) ..... :		≤ 2 mm	—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Enclosure	-	125	1,0
Current-carrying	-	125	1,0
Operating meanings	-	70	0,8
Fixing meanings	-	70	0,8
Supplementary information:N/A			

	TABLE: Needle- flame test (NFT)	N/A

	TABLE: Resistance to heat and fire - Glow wire tests	N/A

	TABLE: Threaded Part Torque Test(1P;D63;Icn=6000A)		P
Threaded part identification	**Diameter of thread (mm)**	**Column number (I, II, or III)**	**Applied torque (Nm)**
Screw	4,8	II	2,0
Supplementary information:N/A			

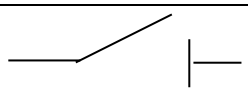
	TABLE: Threaded Part Torque Test(4P;D63;Icn=6000A)		P
Threaded part identification	**Diameter of thread (mm)**	**Column number (I, II, or III)**	**Applied torque (Nm)**
Screw	4,8	II	2,0
Supplementary information:N/A			

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Annex nº 1

ELECTRICAL ACCESSORIES – CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION FOR HOUSEHOLD AND SIMILAR INSTALLATIONS - PART 1: CIRCUIT-BREAKERS FOR A.C. OPERATION

Differences according to.....: -IEC 60898-1:2003 (Edition 1.2)

	TESTS „A“ 1 SAMPLE (1P;D63;Icn=6000A)	**A-1**	
6	**MARKING AND OTHER INFORMATION**		
	Circuit-breaker marked with:		--
	a) Manufacturer's name or trade mark .....:	PEOPLE	P
	b) Type designation, catalogue number or other serial number.....:	RDB5-63(63D11)	P
	c) Rated voltage (V).....:	240/415V~	P
	d) Rated current without symbol "A", preceded by the symbol of instantaneous tripping.....:	D63	P
	e) Rated frequency (Hz) .....:	50/60Hz	P
	f) Rated short circuit capacity (A).....:	6000 with a rectangle	P
	g) Wiring diagram		P
	h) Ambient air temperature, if different from 30°C		N/A
	i) Degree of protection, if different from IP20		N/A
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In see table 2)		N/A
	k) Rated impulse withstand voltage Uimp if it is 2,5 kV		N/A
	Symbol for instantaneous tripping current	D	P
	Marking for rated current and for instantaneous tripping shall be readily visible when CB is installed	D63	P
	Other marking shall be easily discernible		P
	The suitability for isolation, which is provided by all circuit-breakers of this standard, may be indicated by the symbol on the device		P
	I^2t characteristic (documentation)		N/A
	Symbols on supply and load terminal		N/A
	Terminal for neutral conductor N		N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Earthing terminal if any (IEC 60417-5019)		N/A
	On - off position shall be clearly indicated - 0 I -	I O	P
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		N/A
	Red not used for other push-button		N/A
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		N/A
	Marking shall be indelible and easily legible (not on removable parts), 15 s with water, 15 s with hexane (see cl. 8.3)		P
8.	**REQUIREMENTS FOR CONSTRUCTION AND OPERATION**		
8.1.1	**General**		--
8.1.2	**Mechanism**		--
	The moving contact shall be mechanically coupled so that all poles make and break together, whether operated manually or automatically, even if an overload occurs on one pole only		N/A
	The switched neutral shall close before and open after the protected pole (s)		N/A
	Neutral pole having adequate making and breaking capacity and CB with independent manual operation: all poles operate together including neutral pole		N/A
	CB shall have a trip free mechanism		P
	It shall be possible to switch the CB on and off by hand		P
	No intermediate position of the contacts		P
	Position of contacts shall be indicated		P
	Indication visible from the outside		P
	If the indication is on the actuating means, it shall, when released, automatically take up or stay in the position corresponding to that of the moving contacts; operating means shall have two different rest positions, except that, for automatic operation, a third distinct rest position may be provided		P
	If a separate mechanical indicator is used to indicate the position of the main contacts, colour red shall be used for the on position and green for the off position.		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	The action of the mechanism shall not be influenced by the position of enclosures		P
	If the cover is used as a guiding means for push-button, it shall not be possible to remove this button from the outside		N/A
	Operating means securely fixed, not possible to remove them without a tool		P
	For the up-down operating means the contacts shall be closed by the up movement.		P
8.1.3	**Clearances and creepage distances**		--
8.1.3	**Clearances [mm] see table 4**		--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	5,9mm	P
	2.between live parts of different polarity.....:		N/A
	3.between circuits supplied from different sources, one of which being PELV or SELV.....:		N/A
	4. between live parts and		--
	- accessible surfaces of operating means.....:	15,1 mm	P
	- screws or other means for fixing covers.....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	15,1 mm	P
	- metal frames supporting the base (flush-type)..:		N/A
	5.between metal parts of mechanism and:		--
	- accessible metal parts.....:	15,1 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal frames supporting the base (flush type)..:		N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

8.1.3	**Creepage distances [mm] (see table 4)**		--
	Material group	☒ IIIa ☐ II ☐ I ☐	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position .....:	11,5 mm	P
	2.between live parts of different polarity.....:		N/A
	3.between circuits supplied from different sources, one of which being PELV or SELV.....:		N/A
	4. between live parts and		--
	- accessible surfaces of operating means .....:	19,4 mm	P
	- screws or other means for fixing covers.....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	19,4 mm	P
	- metal frames supporting the base (flush-type)..:		N/A
	5.between metal parts of mechanism and:		--
	- accessible metal parts.....:	19,4 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal frames supporting the base (flush type)..:		N/A
8.1.4	**Screws, current-carrying parts and connections**		--
8.1.4.1	Connections, withstand mechanical stresses occurring in normal use		P
	Screws for mounting of the CB not of the thread-cutting type		P
	Test according to cl. 9.4:		P
	- 10 times (screw Ø / torque Nm)	Ø___mm___Nm (see table 10) Ø___mm___Nm	N/A
	- 5 times (screw Ø / torque Nm)	Ø 4,8 mm 2,0Nm (see table 10)	P
	Plug in connections tested by plugging in and pulling out five times		N/A
	After test connections have not become loose nor electrical function impaired		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.4.2	Screws with a thread of insulating material ensured correct introduction		N/A
8.1.4.3	Electrical connection: contact pressure not transmitted through insulating material, unless there is sufficient resilience in the metallic parts		P
	- copper		N/A
	- alloy 58% copper for worked cold parts		P
	- alloy 50% copper for other parts		N/A
	- other metal		N/A
8.1.5	**Terminals for external conductors**		--
8.1.5.1	Terminals ensure correct connection of conductors (Test acc. to cl. 9.5 or annex J or K)		P
9.5	Torque Ø4,8 mm ;2,0 Nm max. sect. 25 mm²		P
9.5.1	Pull test: min sect.1,0mm² max sect.25mm² Pull 50N for 1 min for 1,0 mm² Pull 100N for 1 min for 25 mm² During the test conductor does not move noticeably		P
9.5.2	min sect. 1,0 mm² Torque (2/3)= 1,33 Nm max sect. 25 mm² Torque (2/3)= 1,33 Nm The conductor shows no damage		P
9.5.3	Nominal cross-section from 1,0 mm² to 25 mm² For 1,0mm² No. of wires 7 Ø of wires 0,67 mm Torque (2/3) =1,33 Nm For 25mm² No. of wires 7 Ø of wires 2,14 mm Torque (2/3) =1,33 Nm After the test no wire escaped outside		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.5.2	Terminals allow the connection of conductors of the following cross-sectional areas: (table 5)		P
	Rated current / Range of nominal cross (A) sections to be clamped (mm²) **≤ 13: 1 to 2,5** **> 13 ≤ 16: 1 to 4** **> 16 ≤ 25: 1,5 to 6** **> 25 ≤ 32: 2,5 to 10** **> 32 ≤ 50: 4 to 16** **> 50 ≤ 80: 10 to 25** > 80 ≤ 100: 16 to 35 > 100 ≤ 125: 25 to 50	1——2,5 mm²/10——25 mm²	P
	It is required that, for current ratings up to and including 50 A terminals are designed to clamp solid conductors as well as rigid stranded conductors; the use of flexible conductors is permitted		P
	Nevertheless, it is permitted that terminals for conductors having cross-sections from 1 mm² up to 6 mm² are designed to clamp solid conductors only.	____ to _____ mm²	N/A
8.1.5.3	Means for clamping the conductors in the terminals not serve to fix any other component (See test sub-clause 9.5)		P
8.1.5.4	Terminals for $I_N \leq 32$ A allow the connection of conductors without special preparation		N/A
8.1.5.5	Terminals shall have adequate mechanical strength; ISO thread or equivalent (See tests of sub-clause 9.4 and 9.5.1)		P
8.1.5.6	Clamping of conductor without damage to the conductor (See test of sub-clause 9.5.2)		P
8.1.5.7	Clamping of conductor between metal surfaces (See tests of sub-clause 9.4 and 9.5.1)		P
8.1.5.8	Conductor shall not slip-out when the clamping screw or nuts are tightened (See test of sub-clause 9.5.3)		P
8.1.5.9	Terminals shall be properly fixed. No work loose when the clamping screws or nuts are tightened or loosened (See test of sub-clause 9.4)		P
8.1.5.10	Clamping screws or nuts of terminals for protective conductors adequately secured against accidental loosening		N/A

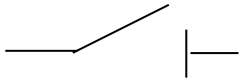
IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.5.12	Screws and nuts of terminals for external conductors shall be in engagement with a metal thread, and the screws shall not be of tapping screw type		P
8.1.6	**Non-interchangeability**		--
	For circuit-breakers intended to be mounted on bases forming a unit therewith (plug-in or screw-in type) it shall not be possible, without the aid of a tool, to replace a circuit-breaker when mounted as for normal use by another of the same make having a higher rated current, compliance is checked by inspection		N/A
8.1.7	Plug-in type circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s), shall be reliable and have adequate stability		N/A
8.1.7.1	Plug-in type circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.1.7.2	Plug-in type circuit-breakers, the holding in position of which does depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.2	**Protection against electric shock**		--
	Live parts not accessible in normal use		P
	For CB, other than plug-in type, external parts, other than screws and other means for fixing covers, which are accessible shall be of insulating material		P
	Unless the live parts are within an internal enclosure of insulating material: Lining - reliable fixed, - adequate thickness and - mechanical strength		N/A
	Inlet openings for cables shall be in insulating material or be provided with bushings or similar devices in insulating material Such device - shall be reliable fixed - shall have adequate mechanical strength		N/A
	For plug-in CB, external parts, other than screws and other means for fixing covers, which are accessible shall be in insulating material		N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Metallic operating means insulated from live parts		N/A
	Metal parts of the mechanism not accessible and insulated from accessible metal parts, metal frames (for flush-type), screws or other means for fixing the base		P
	Replacement of plug-in CB possible without touching live parts		N/A
	Lacquer or enamel not considered		P
8.1.3	**Creepage distances [mm] (see table 4)**		--
	Internal parts only	See above page 160	P
9.6	**Test of protection against electric shock**		--
	Use of test finger so designed that each jointed can be turned through an angle of 90° with respect to the finger		P
	Circuit-breaker with enclosures of thermoplastic material are additional tested at 35 °C for 1 min with a force of 75 N	35 °C; 1min; 75 N	P
7.10	**Resistance to heat**		--
	CB sufficiently resistant to heat		P
9.14	**Test of resistance to heat**		--
9.14.1	Test:		--
	- without removable covers ..... 1 h (100 ± 2) °C	100°C	P
	- removable covers ..... 1 h (70 ± 2) °C		N/A
	After the test no access to live parts, marking still legible		P
9.14.2	Ball pressure test for external parts of insulating material (parts retaining current-carrying parts and parts of the protective circuit in position) T = 125°C Ø of impression ≤ 2 mm	125°C Impression: 1,0mm	P
9.14.3	Ball pressure test for external parts of insulating material (parts not retaining current-carrying parts and parts of the protective circuit in position T = (70 ± 2)°C or T = ___ °C = (40 ± 2)°C + max. temperature rise of sub-clause 8.8 Ø of impression ≤ 2 mm	70 °C Impression: 0,8mm	P
8.11	**Resistance to abnormal heat and to fire**		--
	External parts of insulating material shall not ignite or spread fire under fault or overload conditions		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

9.15	**Resistance to abnormal heat and to fire**		--
	Glow wire test: No visible flame, no sustained glowing or flames and glowing extinguish within 30 s		P
	external parts retaining current-carrying parts and parts of the protective circuit in position.....(960 ± 15)°C	960°C	P
	all other external parts .....(650 ± 10)°C	650°C	P
8.12	**Resistance to rusting**		--
	Ferrous parts adequately protected against rusting		P
9.16	**Test of resistance to rusting:**		--
	- 10 min immersed in a cold chemical degreaser such as methyl-chloroform or refined petrol		P
	- 10 min immersed in a 10% solution of chloride in water at 20°C		P
	- 10 min at 95% humidity at 20°C		P
	- 10 min at 100°C		P
	No sign of rust		P

	TESTS „A“ 1 sample (4P;D63;Icn=6000A)	**A-2**	
6	**MARKING AND OTHER INFORMATION**		
	Circuit-breaker marked with:		--
	a) Manufacturer’s name or trade mark .....:	PEOPLE	P
	b) Type designation, catalogue number or other serial number.....:	RDB5-63(63D41)	P
	c) Rated voltage (V).....:	415V~	P
	d) Rated current without symbol "A", preceded by the symbol of instantaneous tripping.....:	D63	P
	e) Rated frequency (Hz) .....:	50/60Hz	P
	f) Rated short circuit capacity (A).....:	6000 with a rectangle	P
	g) Wiring diagram		P
	h) Ambient air temperature, if different from 30°C		N/A
	i) Degree of protection, if different from IP20		N/A
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In see table 2)		N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	k) Rated impulse withstand voltage Uimp if it is 2,5 kV		N/A
	Symbol for instantaneous tripping current	D	P
	Marking for rated current and for instantaneous tripping shall be readily visible when CB is installed	D63	P
	Other marking shall be easily discernible		P
	The suitability for isolation, which is provided by all circuit-breakers of this standard, may be indicated by the symbol on the device		P
	I^2t characteristic (documentation)		N/A
	Symbols on supply and load terminal		N/A
	Terminal for neutral conductor N		N/A
	Earthing terminal if any (IEC 60417-5019)		N/A
	On - off position shall be clearly indicated - 0 I -	I O	P
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		N/A
	Red not used for other push-button		N/A
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		N/A
	Marking shall be indelible and easily legible (not on removable parts), 15 s with water, 15 s with hexane (see cl. 8.3)		P
8.	**REQUIREMENTS FOR CONSTRUCTION AND OPERATION**		
8.1.1	**General**		--
8.1.2	**Mechanism**		--
	The moving contact shall be mechanically coupled so that all poles make and break together, whether operated manually or automatically, even if an overload occurs on one pole only		P
	The switched neutral shall close before and open after the protected pole (s)		N/A
	Neutral pole having adequate making and breaking capacity and CB with independent manual operation: all poles operate together including neutral pole		N/A
	CB shall have a trip free mechanism		P
	It shall be possible to switch the CB on and off by hand		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	No intermediate position of the contacts		P
	Position of contacts shall be indicated		P
	Indication visible from the outside		P
	If the indication is on the actuating means, it shall, when released, automatically take up or stay in the position corresponding to that of the moving contacts; operating means shall have two different rest positions, except that, for automatic operation, a third distinct rest position may be provided		P
	If a separate mechanical indicator is used to indicate the position of the main contacts, colour red shall be used for the on position and green for the off position.		P
	The action of the mechanism shall not be influenced by the position of enclosures		P
	If the cover is used as a guiding means for push-button, it shall not be possible to remove this button from the outside		N/A
	Operating means securely fixed, not possible to remove them without a tool		P
	For the up-down operating means the contacts shall be closed by the up movement.		P
8.1.3	**Clearances and creepage distances**		--
8.1.3	**Clearances [mm] see table 4**		--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	5,9 mm	P
	2.between live parts of different polarity.....:	10,7 mm	P
	3.between circuits supplied from different sources, one of which being PELV or SELV.....:		N/A
	4. between live parts and		--
	- accessible surfaces of operating means.....:	15,1 mm	P
	- screws or other means for fixing covers.....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	15,1 mm	P
	- metal frames supporting the base (flush-type)..:		N/A
	5.between metal parts of mechanism and:		--
	- accessible metal parts.....:	15,1 mm	P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal frames supporting the base (flush type) ..:		N/A

8.1.3	**Creepage distances [mm] (see table 4)**		--
	Material group	☒ IIIa ☐ II ☐ I ☐	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position .....:	11,5 mm	P
	2.between live parts of different polarity.....:	12,4 mm	P
	3.between circuits supplied from different sources, one of which being PELV or SELV.....:		N/A
	4. between live parts and		--
	- accessible surfaces of operating means .....:	19,4 mm	P
	- screws or other means for fixing covers.....:		N/A
	- surface on which the base is mounted.....:	6,7 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal covers or boxes .....:		N/A
	- other accessible metal parts .....:	19,4 mm	P
	- metal frames supporting the base (flush-type)..:		N/A
	5.between metal parts of mechanism and:		--
	- accessible metal parts.....:	19,4 mm	P
	- screws or other means for fixing the circuit breaker .....:	6,7 mm	P
	- metal frames supporting the base (flush type) ..:		N/A
8.1.4	**Screws, current-carrying parts and connections**		--
8.1.4.1	Connections, withstand mechanical stresses occurring in normal use		P
	Screws for mounting of the CB not of the thread-cutting type		P
	Test according to cl. 9.4:		P
	- 10 times (screw Ø / torque Nm)	Ø___mm___Nm (see table 10) Ø___mm___Nm	N/A
	- 5 times (screw Ø / torque Nm)	Ø 4,8 mm 2,0Nm (see table 10)	P
	Plug in connections tested by plugging in and pulling out five times		N/A
	After test connections have not become loose nor electrical function impaired		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.4.2	Screws with a thread of insulating material ensured correct introduction		N/A
8.1.4.3	Electrical connection: contact pressure not transmitted through insulating material, unless there is sufficient resilience in the metallic parts		P
	- copper		N/A
	- alloy 58% copper for worked cold parts		P
	- alloy 50% copper for other parts		N/A
	- other metal		N/A
8.1.5	**Terminals for external conductors**		--
8.1.5.1	Terminals ensure correct connection of conductors (Test acc. to cl. 9.5 or annex J or K)		P
9.5	Torque Ø4,8 mm ;2,0 Nm max. sect. 25 mm²		P
9.5.1	Pull test: min sect.1,0mm² max sect.25mm² Pull 50N for 1 min for 1,0 mm² Pull 100N for 1 min for 25 mm² During the test conductor does not move noticeably		P
9.5.2	min sect. 1,0 mm² Torque (2/3)= 1,33 Nm max sect. 25 mm² Torque (2/3)= 1,33 Nm The conductor shows no damage		P
9.5.3	Nominal cross-section from 1,0 mm² to 25 mm² For 1,0mm² No. of wires 7 Ø of wires 0,67 mm Torque (2/3) =1,33 Nm For 25mm² No. of wires 7 Ø of wires 2,14 mm Torque (2/3) =1,33 Nm After the test no wire escaped outside		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.5.2	Terminals allow the connection of conductors of the following cross-sectional areas: (table 5)		P
	Rated current / Range of nominal cross (A) sections to be clamped (mm²) **≤ 13** **1 to 2,5** **> 13 ≤ 16** **1 to 4** **> 16 ≤ 25** **1,5 to 6** **> 25 ≤ 32** **2,5 to 10** **> 32 ≤ 50** **4 to 16** **> 50 ≤ 80** **10 to 25** > 80 ≤ 100 16 to 35 > 100 ≤ 125 25 to 50	1——2,5 mm²/10——25 mm²	P
	It is required that, for current ratings up to and including 50 A terminals are designed to clamp solid conductors as well as rigid stranded conductors; the use of flexible conductors is permitted		P
	Nevertheless, it is permitted that terminals for conductors having cross-sections from 1 mm² up to 6 mm² are designed to clamp solid conductors only.	____ to _____ mm²	N/A
8.1.5.3	Means for clamping the conductors in the terminals not serve to fix any other component (See test sub-clause 9.5)		P
8.1.5.4	Terminals for $I_N \leq 32$ A allow the connection of conductors without special preparation		N/A
8.1.5.5	Terminals shall have adequate mechanical strength; ISO thread or equivalent (See tests of sub-clause 9.4 and 9.5.1)		P
8.1.5.6	Clamping of conductor without damage to the conductor (See test of sub-clause 9.5.2)		P
8.1.5.7	Clamping of conductor between metal surfaces (See tests of sub-clause 9.4 and 9.5.1)		P
8.1.5.8	Conductor shall not slip-out when the clamping screw or nuts are tightened (See test of sub-clause 9.5.3)		P
8.1.5.9	Terminals shall be properly fixed. No work loose when the clamping screws or nuts are tightened or loosened (See test of sub-clause 9.4)		P
8.1.5.10	Clamping screws or nuts of terminals for protective conductors adequately secured against accidental loosening		N/A

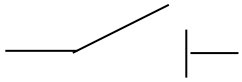
IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.5.12	Screws and nuts of terminals for external conductors shall be in engagement with a metal thread, and the screws shall not be of tapping screw type		P
8.1.6	**Non-interchangeability**		--
	For circuit-breakers intended to be mounted on bases forming a unit therewith (plug-in or screw-in type) it shall not be possible, without the aid of a tool, to replace a circuit-breaker when mounted as for normal use by another of the same make having a higher rated current, compliance is checked by inspection		N/A
8.1.7	Plug-in type circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s), shall be reliable and have adequate stability		N/A
8.1.7.1	Plug-in type circuit-breakers, the holding in position of which does not depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.1.7.2	Plug-in type circuit-breakers, the holding in position of which does depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.2	**Protection against electric shock**		--
	Live parts not accessible in normal use		P
	For CB, other than plug-in type, external parts, other than screws and other means for fixing covers, which are accessible shall be of insulating material		P
	Unless the live parts are within an internal enclosure of insulating material: Lining - reliable fixed, - adequate thickness and - mechanical strength		N/A
	Inlet openings for cables shall be in insulating material or be provided with bushings or similar devices in insulating material Such device - shall be reliable fixed - shall have adequate mechanical strength		N/A
	For plug-in CB, external parts, other than screws and other means for fixing covers, which are accessible shall be in insulating material		N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Metallic operating means insulated from live parts		N/A
	Metal parts of the mechanism not accessible and insulated from accessible metal parts, metal frames (for flush-type), screws or other means for fixing the base		P
	Replacement of plug-in CB possible without touching live parts		N/A
	Lacquer or enamel not considered		P
8.1.3	**Creepage distances [mm] (see table 4)**		--
	Internal parts only	See above page 168	P
9.6	**Test of protection against electric shock**		--
	Use of test finger so designed that each jointed can be turned through an angle of 90° with respect to the finger		P
	Circuit-breaker with enclosures of thermoplastic material are additional tested at 35 °C for 1 min with a force of 75 N	35 °C; 1min; 75 N	P
7.10	**Resistance to heat**		--
	CB sufficiently resistant to heat		P
9.14	**Test of resistance to heat**		--
9.14.1	Test:		--
	- without removable covers ..... 1 h (100 ± 2) °C	100°C	P
	- removable covers ..... 1 h (70 ± 2) °C		N/A
	After the test no access to live parts, marking still legible		P
9.14.2	Ball pressure test for external parts of insulating material (parts retaining current-carrying parts and parts of the protective circuit in position) T = 125°C Ø of impression ≤ 2 mm	125°C Impression: 1,0mm	P
9.14.3	Ball pressure test for external parts of insulating material (parts not retaining current-carrying parts and parts of the protective circuit in position T = (70 ± 2)°C or T = ___ °C = (40 ± 2)°C + max. temperature rise of sub-clause 8.8 Ø of impression ≤ 2 mm	70 °C Impression: 0,8mm	P
8.11	**Resistance to abnormal heat and to fire**		--
	External parts of insulating material shall not ignite or spread fire under fault or overload conditions		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

9.15	**Resistance to abnormal heat and to fire**		--
	Glow wire test: No visible flame, no sustained glowing or flames and glowing extinguish within 30 s		P
	external parts retaining current-carrying parts and parts of the protective circuit in position.....(960 ± 15)°C	960°C	P
	all other external parts .....(650 ± 10)°C	650°C	P
8.12	**Resistance to rusting**		--
	Ferrous parts adequately protected against rusting		P
9.16	**Test of resistance to rusting:**		--
	- 10 min immersed in a cold chemical degreaser such as methyl-chloroform or refined petrol		P
	- 10 min immersed in a 10% solution of chloride in water at 20°C		P
	- 10 min at 95% humidity at 20°C		P
	- 10 min at 100°C		P
	No sign of rust		P

	TESTS „A“ 1 sample (4P;D63;Icn=4500A)	**A-3**	
6	**MARKING AND OTHER INFORMATION**		
	Circuit-breaker marked with:		--
	a) Manufacturer’s name or trade mark .....:	PEOPLE	P
	b) Type designation, catalogue number or other serial number.....:	RDB5-63(63D42)	P
	c) Rated voltage (V).....:	415V~	P
	d) Rated current without symbol "A", preceded by the symbol of instantaneous tripping.....:	D63	P
	e) Rated frequency (Hz) .....:	50/60Hz	P
	f) Rated short circuit capacity (A).....:	4500 with a rectangle	P
	g) Wiring diagram		P
	h) Ambient air temperature, if different from 30°C		N/A
	i) Degree of protection, if different from IP20		N/A
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In see table 2)		N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	k) Rated impulse withstand voltage Uimp if it is 2,5 kV		N/A
	Symbol for instantaneous tripping current	D	P
	Marking for rated current and for instantaneous tripping shall be readily visible when CB is installed	D63	P
	Other marking shall be easily discernible		P
	The suitability for isolation, which is provided by all circuit-breakers of this standard, may be indicated by the symbol on the device		P
	I^2t characteristic (documentation)		N/A
	Symbols on supply and load terminal		N/A
	Terminal for neutral conductor N		N/A
	Earthing terminal if any (IEC 60417-5019)		N/A
	On - off position shall be clearly indicated - 0 I -	I O	P
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		N/A
	Red not used for other push-button		N/A
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		N/A
	Marking shall be indelible and easily legible (not on removable parts), 15 s with water, 15 s with hexane (see cl. 8.3)		P

	TESTS „B“ 3 samples (1P;D63;Icn=6000A)	**B-1**	**B-2**	**B-3**	
8.3	**Dielectric properties and isolating capability**				--
	CB shall have adequate dielectric properties and shall ensure isolation:				P
8.3.1	Dielectric strength at power frequency				--
	Compliance is checked by the tests 9.7.1, 9.7.2 and 9.7.3 on circuit-breaker in new condition				P
8.3.2	Isolating capability				--
	Circuit-breakers shall be suitable for isolation. Compliance is checked by the verification of compliance with the minimum clearances and creepage distances of item 1 of table 4 and by tests of 9.7.6.1 and 9.7.6.3.				P
8.3.3	Dielectric strength at rated impulse withstand voltage (Uimp)				--

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Circuit-breakers shall adequately withstand impulse voltages. Compliance is checked by the tests of 9.7.6.2.		P
9.7	**Test of dielectric properties and isolating capability**		--
9.7.1	Resistance to humidity		P
9.7.1.1	Preparation of the circuit-breaker for test		--
	Inlet openings, if any, are left open; if knock-outs are provided, one of them is opened.		P
9.7.1.2	Test conditions		--
	The humidity treatment is carried out in humidity cabinet 91% to 95% and the temperature of the air between 20 °C and 30 °C	Rf = 93 % T = 25°C	P
9.7.1.3	Test procedure.		--
	The sample is kept in the cabinet for 48 h.		P
9.7.1.4	Conditions of the circuit breaker after the tests.		--
	The sample show no damage within the meaning of this standard and shall withstand the tests of 9.7.2 and 9.7.3		P

9.7.2	Insulation resistance of the main circuit				--
9.7.2	After an interval between 30 min and 60 min flowing this treatment, the insulation resistance is measured 5 s after application of a d.c. voltage of approximately 500 V, consecutively as follows:	[MΩ]	[MΩ]	[MΩ]	P
	a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position ≥ 2 MΩ	141	159	162	P
	b) in off-position, between each pole in turn and the others connected together ≥ 2 MΩ	-	-	-	N/A
	c) in on-position, between all poles connected together and the frame ≥ 5 MΩ	137	177	138	P
	d) between metal parts of mechanism and the frame ≥ 5 MΩ				N/A
	e) between the frame and metal foil in contact with the inner surface of the internal enclosure or lining of insulating material ≥ 5 MΩ				N/A
9.7.3	Dielectric strength of the main circuit				--
	After the circuit-breakers have passed the tests of 9.7.2 the test voltage specified in 9.7.5 is applied for 1 min between the parts indicated in 9.7.2				P
	a) 2000 V	2000 V			P
	b) 2000 V				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) 2000 V	2000 V	P
	d) 2000 V		N/A
	e) 2500 V		N/A
9.7.4	Dielectric strength of the auxiliary and control circuits		N/A
	For these tests, the main circuit shall be connected to the frame. The test voltage specified in 9.7.5 shall be applied for 1 min as follows:		N/A
	1) Between all the auxiliary or control circuits and the frame U = ____ V	U = ____ V	N/A
	2) Between each part of the auxiliary or control circuits which may be isolated from the other parts of the auxiliary or control circuits and these other parts connected together U = [1000 V if Ui ≤ 60 V or 2Ui + 1000 V if Ui > 60 V]	U = ____ V	N/A
9.7.6	Verification of the impulse withstand voltage (across clearances and across solid insulation) and leakage current across open contacts		--
9.7.6.1	Verification of the impulse withstand voltage across open contacts (suitability for isolation)		--
	The 1,2/50µs impulse voltage shall be applied three times for each polarity at intervals of 1s minimum		--
	- rated impulse withstand voltage (kV) :	4kV	P
	- sea level of the laboratory:	Sea level	P
	- test Uimp on open main contacts (equipment suitable for isolating) (see table 13) ..... :	Utest =6,2kV	P
	- no unintentional disruptive discharge during the test's		P
9.7.6.2	Verification of impulse withstand voltage for the parts not test in 9.7.6.1		--
	The 1,2/50µs impulse voltage shall be applied three times for each polarity at intervals of 1s minimum		--
	- rated impulse withstand voltage (kV) :	4kV	P
	- sea level of the laboratory:	Sea level	P
	- test Uimp main circuits (see table 14) :	Utest =4,9kV	P
	Application of test voltage		P
	i) Between all the phase pole(s) connected together and to the neutral pole (or path) of the circuit-breaker		N/A
	ii) Between all the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminals intended for the protective conductor(s)		P
	- no unintentional disruptive discharge during the test's		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.7.6.3	Verification of leakage currents across open contacts (suitability for isolation)		--
	For circuit-breakers suitable for isolation, the leakage current shall be measured. Each pole having been submitted to the test of 9.12.11.2, or 9.12.11.3, or 9.12.11.4.2 or 9.12.11.4.3 is supplied at a test voltage of 1,1 times its rated operational voltage, the circuit-breaker being in the open position		P
	The leakage current flowing across the open contacts is measured and shall not exceed 2 mA		P
8.4	**Temperature rise**		--
	Temperature rise does not exceed the limiting values stated in table 6:	sect. 16 mm²	P
9.8.2	Test current: I_N= (reach the steady-state value) Four-pole CB's: ☐ 1) Three poles loaded 2) One pole and neutral pole loaded ☐ 1) Four-poles loaded	I_N = 63A	P
	Ambient air temperature.....:	Tamb= 22,7°C	P
	Parts .....Temperature rise [K]	[K] [K] [K]	--
	L1	≤37 ≤46 ≤41	P
	L2	- - -	
	L3	- - -	
	L4(N)	- - -	
	Terminals for external connections ..... 60 K		P
	External parts liable to be touched during manual operation of the circuit-breaker, including operating means of insulating material and metallic means for coupling of insulating operating means of several poles ..... 40 K	≤5 ≤5 ≤5	P
	External metallic parts of operating means .. 25 K	- - -	N/A
	Other external parts, including that face of the circuit-breaker is in direct contact with the mounting surface..... 60 K	≤35 ≤34 ≤28	P
9.8.5	Measurement of power losses	B-1 B-2 B-3	--
	Power loss do not exceed the values stated in table 15	13W	P
	Test current: I_N = 63A (reach the steady state value)	63A	P
	Loaded one pole after the other		P

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Clause	Requirement + Test	Result - Remark			Verdict
	Max. power loss : 4,3 W	W	W	W	--
	L1	≤4,1	≤4,3	≤3,9	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
8.5	**Uninterrupted duty**				**--**
	Circuit-breakers operate reliable even after long service				P
9.9	**28 day test**				--
	28 cycles - 21 h with current - 3 h without current cross sectional area. 16 mm²	28 cycles - 21 h with current - 3 h without current Cross-sectional area. 16mm²			P
	During the test no tripping during the last period, temperature rise shall be measured				P
	Ambient air temperature.....:	23,0°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	--
	Terminals for external connections ..... 60 K	≤41	≤50	≤45	P

	The temperature rise does not exceed the value measured during the temperature rise test (subclause 8.8) by more than 15 K				P
	Test current 1,45 I_N =91,4A	91,4A			P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	252	298	206	P
	- 2h (> 63 A)	-	-	-	N/A

	TESTS „B“ 3 samples (4P;D63;Icn=6000A)	**B-4**	**B-5**	**B-6**	
8.3	**Dielectric properties and isolating capability**				--
	CB shall have adequate dielectric properties and shall ensure isolation:				P
8.3.1	Dielectric strength at power frequency				--
	Compliance is checked by the tests 9.7.1, 9.7.2 and 9.7.3 on circuit-breaker in new condition				P
8.3.2	Isolating capability				--
	Circuit-breakers shall be suitable for isolation. Compliance is checked by the verification of compliance with the minimum clearances and creepage distances of item 1 of table 4 and by tests of 9.7.6.1 and 9.7.6.3.				P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3	Dielectric strength at rated impulse withstand voltage (Uimp)		--
	Circuit-breakers shall adequately withstand impulse voltages. Compliance is checked by the tests of 9.7.6.2.		P
9.7	**Test of dielectric properties and isolating capability**		--
9.7.1	Resistance to humidity		P
9.7.1.1	Preparation of the circuit-breaker for test		--
	Inlet openings, if any, are left open; if knock-outs are provided, one of them is opened.		P
9.7.1.2	Test conditions		--
	The humidity treatment is carried out in humidity cabinet 91% to 95% and the temperature of the air between 20 °C and 30 °C	Rf = 93 % T = 25°C	P
9.7.1.3	Test procedure.		--
	The sample is kept in the cabinet for 48 h.		P
9.7.1.4	Conditions of the circuit breaker after the tests.		--
	The sample show no damage within the meaning of this standard and shall withstand the tests of 9.7.2 and 9.7.3		P

9.7.2	Insulation resistance of the main circuit				--
9.7.2	After an interval between 30 min and 60 min flowing this treatment, the insulation resistance is measured 5 s after application of a d.c. voltage of approximately 500 V, consecutively as follows:	[MΩ]	[MΩ]	[MΩ]	P
	a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position ≥ 2 MΩ	167	146	131	P
	b) in off-position, between each pole in turn and the others connected together ≥ 2 MΩ	185	153	144	P
	c) in on-position, between all poles connected together and the frame ≥ 5 MΩ	177	129	181	P
	d) between metal parts of mechanism and the frame ≥ 5 MΩ				N/A
	e) between the frame and metal foil in contact with the inner surface of the internal enclosure or lining of insulating material ≥ 5 MΩ				N/A
9.7.3	Dielectric strength of the main circuit				--
	After the circuit-breakers have passed the tests of 9.7.2 the test voltage specified in 9.7.5 is applied for 1 min between the parts indicated in 9.7.2				P
	a) 2000 V	2000 V			P

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Clause	Requirement + Test	Result - Remark	Verdict
	b) 2000 V	2000 V	P
	c) 2000 V	2000 V	P
	d) 2000 V		N/A
	e) 2500 V		N/A
9.7.4	Dielectric strength of the auxiliary and control circuits		N/A
	For these tests, the main circuit shall be connected to the frame. The test voltage specified in 9.7.5 shall be applied for 1 min as follows:		N/A
	1) Between all the auxiliary or control circuits and the frame U = ____ V	U = ____ V	N/A
	2) Between each part of the auxiliary or control circuits which may be isolated from the other parts of the auxiliary or control circuits and these other parts connected together U = [1000 V if Ui ≤ 60 V or 2Ui + 1000 V if Ui > 60 V]	U = ____ V	N/A
9.7.6	Verification of the impulse withstand voltage (across clearances and across solid insulation) and leakage current across open contacts		--
9.7.6.1	Verification of the impulse withstand voltage across open contacts (suitability for isolation)		--
	The 1,2/50µs impulse voltage shall be applied three times for each polarity at intervals of 1s minimum		--
	- rated impulse withstand voltage (kV) :	4kV	P
	- sea level of the laboratory:	Sea level	P
	- test Uimp on open main contacts (equipment suitable for isolating) (see table 13) ..... :	Utest =6,2kV	P
	- no unintentional disruptive discharge during the test's		P
9.7.6.2	Verification of impulse withstand voltage for the parts not test in 9.7.6.1		--
	The 1,2/50µs impulse voltage shall be applied three times for each polarity at intervals of 1s minimum		--
	- rated impulse withstand voltage (kV) :	4kV	P
	- sea level of the laboratory:	Sea level	P
	- test Uimp main circuits (see table 14) :	Utest =4,9kV	P
	Application of test voltage		P
	i) Between all the phase pole(s) connected together and to the neutral pole (or path) of the circuit-breaker		P
	ii) Between all the phase pole(s) and the neutral pole (or path) connected together and the metal support connected to the terminals intended for the protective conductor(s)		P
	- no unintentional disruptive discharge during the test's		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.7.6.3	Verification of leakage currents across open contacts (suitability for isolation)		--
	For circuit-breakers suitable for isolation, the leakage current shall be measured. Each pole having been submitted to the test of 9.12.11.2, or 9.12.11.3, or 9.12.11.4.2 or 9.12.11.4.3 is supplied at a test voltage of 1,1 times its rated operational voltage, the circuit-breaker being in the open position		P
	The leakage current flowing across the open contacts is measured and shall not exceed 2 mA		P
8.4	**Temperature rise**		--
	Temperature rise does not exceed the limiting values stated in table 6:	sect. 16 mm²	P
9.8.2	Test current: I_N= (reach the steady-state value) Four-pole CB's: ☐ 1) Three poles loaded 2) One pole and neutral pole loaded ☒ 1) Four-poles loaded	I_N = 63A	P
	Ambient air temperature.....:	Tamb= 22,2°C	P
	Parts .....Temperature rise [K]	[K] [K] [K]	--
	L1	≤46 ≤56 ≤48	P
	L2	≤48 ≤55 ≤48	
	L3	≤49 ≤53 ≤48	
	L4(N)	≤42 ≤44 ≤40	
	Terminals for external connections ..... 60 K		P
	External parts liable to be touched during manual operation of the circuit-breaker, including operating means of insulating material and metallic means for coupling of insulating operating means of several poles ..... 40 K	≤16 ≤16 ≤20	P
	External metallic parts of operating means .. 25 K	- - -	N/A
	Other external parts, including that face of the circuit-breaker is in direct contact with the mounting surface..... 60 K	≤32 ≤56 ≤36	P
9.8.5	Measurement of power losses	B-4 B-5 B-6	--
	Power loss do not exceed the values stated in table 15	13W	P
	Test current: I_N = 63A (reach the steady state value)	63A	P
	Loaded one pole after the other		P

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Clause	Requirement + Test	Result - Remark			Verdict
	Max. power loss : 4,9 W	W	W	W	--
	L1	≤4,5	≤4,8	≤4,9	P
	L2	≤4,9	≤4,3	≤4,9	
	L3	≤4,9	≤4,4	≤4,1	
	L4(N)	≤4,3	≤4,5	≤4,8	
8.5	**Uninterrupted duty**				**--**
	Circuit-breakers operate reliable even after long service				P
9.9	**28 day test**				--
	28 cycles - 21 h with current - 3 h without current cross sectional area. 16 mm²	28 cycles - 21 h with current - 3 h without current Cross-sectional area. 16mm²			P
	During the test no tripping during the last period, temperature rise shall be measured				P
	Ambient air temperature.....:	23,0°C			P
	Parts .....Temperature rise [K]	[K]	[K]	[K]	
	Terminals for external connections ..... 60 K	≤53	≤59	≤52	P
	The temperature rise does not exceed the value measured during the temperature rise test (subclause 8.8) by more than 15 K				P
	Test current 1,45 I_N =91,4A	91,4A			P
	- Tripping within	[s]	[s]	[s]	--
	- 1h (≤ 63 A)	217	276	196	P
	- 2h (> 63 A)	-	-	-	N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Annex Nº 2

ATTACHMENT TO TEST REPORT IEC 60898-1

EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
Circuit-breakers for over current protection for household and similar installations
Part 1 - Circuit-breakers for a.c. operation

Differences according to.....: EN 60898-1:2019

Attachment Form No.....: EU_GD_IEC60898_1D

Attachment Originator .....: DEKRA Certification B.V.

Master Attachment.....: 2019-06-18

	CENELEC COMMON MODIFICATIONS (EN)	P
Test item particulars:	MCB	P
Type of circuit-breaker .....:	RDB5-63 Series	P
Energy limiting class .....:	☒ Class 1(Type B and C) ☐ Class 3	
Value of rated operational voltage (Ue) and number of poles .....:	☐220 V (1P+N) ☒220/380 V(1P) ☒380 V(2P,3P,4P) ☐230 V (1P+N) ☒230/400 V(1P) ☒400 V(2P,3P,4P) ☐240 V (1P+N) ☒240/415 V(1P) ☒415 V(2P,3P,4P)	P
Value of rated short-circuit capacities above 10 000 A up to and including 25 000 A .....:	☐ 15000 A ☐ 20000 A ☐ 25000 A	N/A
Rated impulse withstand voltage (Uimp)	4 kV	P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence A_1 (1P;D63;Icn=6000A)	A_{1-1}	
6	**MARKING AND OTHER INFORMATION**		**--**
6.1	Standard marking:		--
	f) Rated short circuit capacity in A within a rectangle, without symbol “A” .....:	6000 with a rectangle	P
	h) calibration temperature, if different from 30°C		N/A
	m) Energy limiting class in a square in accordance w		N/A
	Icn and the energy limiting class, when applied, marked both on the device and combined		P
	Irrespective of type (B, C or D), the manufacturer published in his literature the I2t characteristic	D	P
	For rail mounting circuit-breakers, appropriate rail(s) are indicated in manufacturer’s documentation.		P
6.2	Additional marking		--
	Additional marking to other standards (EN or IEC or other) is allowed under the follow conditions:		--
	- the circuit-breaker complies with all the requirements of the additional standard;		--
	- the relevant standard to which the additional marking refers is indicated adjacent to this marking and is clearly differentiated or separated from the standard marking according to cl. 6.1		--
6.3	Guidance table for marking		--
	Each CB shall be marked in a durable manner with all or, for small apparatus, according the guidance table for marking.		P
9.6	Test of protection against electric shock		--
	In case of knock-outs the test finger is applied with a force of 10 N		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence A_1 (4P;D63;Icn=6000A)	A_{1-2}	
6	**MARKING AND OTHER INFORMATION**		**--**
6.1	Standard marking:		--
	f) Rated short circuit capacity in A within a rectangle, without symbol “A” .....:	6000 with a rectangle	P
	h) calibration temperature, if different from 30°C		N/A
	m) Energy limiting class in a square in accordance w		N/A
	Icn and the energy limiting class, when applied, marked both on the device and combined		P
	Irrespective of type (B, C or D), the manufacturer published in his literature the I2t characteristic	D	P
	For rail mounting circuit-breakers, appropriate rail(s) are indicated in manufacturer’s documentation.		P
6.2	Additional marking		--
	Additional marking to other standards (EN or IEC or other) is allowed under the follow conditions:		--
	- the circuit-breaker complies with all the requirements of the additional standard;		--
	- the relevant standard to which the additional marking refers is indicated adjacent to this marking and is clearly differentiated or separated from the standard marking according to cl. 6.1		--
6.3	Guidance table for marking		--
	Each CB shall be marked in a durable manner with all or, for small apparatus, according the guidance table for marking.		P
9.6	Test of protection against electric shock		--
	In case of knock-outs the test finger is applied with a force of 10 N		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence A_1 (4P;D63;Icn=4500A)	A_{1-3}	
6	**MARKING AND OTHER INFORMATION**		**--**
6.1	Standard marking:		--
	f) Rated short circuit capacity in A within a rectangle, without symbol “A” .....:	4500 with a rectangle	P
	h) calibration temperature, if different from 30°C		N/A
	m) Energy limiting class in a square in accordance w		N/A
	Icn and the energy limiting class, when applied, marked both on the device and combined		P
	Irrespective of type (B, C or D), the manufacturer published in his literature the I2t characteristic	D	P
	For rail mounting circuit-breakers, appropriate rail(s) are indicated in manufacturer’s documentation.		P
6.2	Additional marking		--
	Additional marking to other standards (EN or IEC or other) is allowed under the follow conditions:		--
	- the circuit-breaker complies with all the requirements of the additional standard;		--
	- the relevant standard to which the additional marking refers is indicated adjacent to this marking and is clearly differentiated or separated from the standard marking according to cl. 6.1		--
6.3	Guidance table for marking		--
	Each CB shall be marked in a durable manner with all or, for small apparatus, according the guidance table for marking.		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Short-circuit tests		
9.12	General		--
9.12.2	Value of the power frequency recovery voltage shall be equal to 110 % of the rated voltage.		P
9.12.3	Tolerances on test quantities		--
	Voltage (including recovery voltage) : 0, -5%		P
9.12.9.1	A circuit-breaker tested according to 9.12.9.2 needs not be tested according to 9.12.9.3.		P
9.12.9.2	In case no information is available, two grids, one above and one below the circuit-breaker, shall be used.		N/A
	For test currents up to and including 3000 A, the distance “a” is 35 mm.		N/A

	Sequence C_1 (1P;D63;Icn=6000A)	**C_{1-1} C_{1-2} C_{1-3}**	
9.11.1	For single-pole circuit-breakers rated 230/400 V the test is made at 230 V.	Test Voltage 242V (rated voltage 240V)	P
9.11.3	Dielectric strength reduced to 900 V	1500V	P
	Sequence C_2 : Short-circuit test on circuit-breakers for use in IT systems		--
9.12.11.2.2	Test voltage 105 % of 400 V	434 V	P

	Sequence C_1 (4P;D63;Icn=6000A)	**C_{1-4} C_{1-5} C_{1-6}**	
9.11.1	For single-pole circuit-breakers rated 230/400 V the test is made at 230 V.		N/A
9.11.3	Dielectric strength reduced to 900 V	1500V	P
	Sequence C_2 : Short-circuit test on circuit-breakers for use in IT systems		--
9.12.11.2.2	Test voltage 105 % of 400 V	434 V	P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 3 samples (1P;D63;Icn=6000A)				
9.10	Tests: D_O	D_O+D_{1-1}	D_O+D_{1-2}	D_O+D_{1-3}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)	-	-	-	N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				P
	Test current 10 In (A), starting from cold	630A			P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)	-	-	-	N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)	1	1	1	P
	Test current 20 In (A) starting from cold	1268A			P
	Tripping less than 0,1 s	7ms	12ms	12ms	P
9.10.2.2	Test current 2,55 In(A) starting from cold for:	160,7A			P
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)	-	-	-	N/A
	- 120 s (> 32 A)	24	20	28	P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 3 samples (4P;D63;Icn=6000A)				
9.10	Tests: D_O	D_O+D_{1-4}	D_O+D_{1-5}	D_O+D_{1-6}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)	-	-	-	N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				P
	Test current 10 In (A), starting from cold	630A			P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)	-	-	-	N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)	1	1	1	P
	Test current 20 In (A) starting from cold	1268A			P
	Tripping less than 0,1 s	13ms	20ms	12ms	P
9.10.2.2	Test current 2,55 In(A) starting from cold for:	160,7A			P
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)	-	-	-	N/A
	- 120 s (> 32 A)	28	26	20	P

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Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;D50;Icn=6000A) (1P;D40;Icn=6000A) (1P;D32;Icn=6000A)				
9.10	Tests: D_O	D_{O-1}	D_{O-2}	D_{O-3}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:				--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than				--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				P
	Test current 10 In (A), starting from cold	500A	400A	320A	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)	-	-	1	P
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)	1	1	-	P
	Test current 20 In (A) starting from cold	1029A	816A	640A	P
	Tripping less than 0,1 s	10ms	11ms	14ms	P
9.10.2.2	Test current 2,55 In(A) starting from cold for:	127,5A	102A	81,6A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	-	-	27	P
	- 120 s (> 32 A)	17	15	-	P

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Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;D25;Icn=6000A) (1P;D20;Icn=6000A) (1P;D16;Icn=6000A)				
9.10	Tests: D_O	D_{O-4}	D_{O-5}	D_{O-6}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:				--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than				--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				P
	Test current 10 In (A), starting from cold	250A	200A	160A	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)	1	1	1	P
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)	-	-	-	N/A
	Test current 20 In (A) starting from cold	503A	403A	330A	P
	Tripping less than 0,1 s	12ms	12ms	10ms	P
9.10.2.2	Test current 2,55 In(A) starting from cold for:	63,8A	51,0A	40,8A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	29	28	25	P
	- 120 s (> 32 A)	-	-	-	N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;D10;Icn=6000A) (1P;D6;Icn=6000A) (1P;D4;Icn=6000A)				
9.10	Tests: D_O	D_{O-7}	D_{O-8}	D_{O-9}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:				--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than				--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				P
	Test current 10 In (A), starting from cold	100A	60A	40A	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)	1	1	1	P
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)	-	-	-	N/A
	Test current 20 In (A) starting from cold	206A	125A	81A	P
	Tripping less than 0,1 s	11ms	9ms	13ms	P
9.10.2.2	Test current 2,55 In(A) starting from cold for:	25,5A	15,3A	10,2A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	18	25	22	P
	- 120 s (> 32 A)	-	-	-	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;D2;Icn=6000A)				
9.10	Tests: D_O	D_{O-10}	-	-	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:				--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than				--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☒ For circuit-breakers of the D – Type				P
	Test current 10 In (A), starting from cold	20A	-	-	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)	1	-	-	P
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)	-	-	-	N/A
	Test current 20 In (A) starting from cold	40A	-	-	P
	Tripping less than 0,1 s	12ms	-	-	P
9.10.2.2	Test current 2,55 In(A) starting from cold for:	5,1A	-	-	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	17	-	-	P
	- 120 s (> 32 A)	-	-	-	N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples **(**1P;C63;Icn=6000A) (4P;C63;Icn=6000A)				
9.10	Tests: D_O	D_{O-11}	D_{O-12}	**-**	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current 5 In (A), starting from cold	315A	315A	-	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)	1	1	-	P
	- 0,1 s ≤ t ≤ 30 s (> 32A)	-	-	-	N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	160,7A	160,7A	-	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	-	-	-	N/A
	- 120 s (> 32 A)	27	18	-	P
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;C50;Icn=6000A) (1P;C40;Icn=6000A) (1P;C32;Icn=6000A)				
9.10	Tests: D_O	D_{O-13}	D_{O-14}	D_{O-15}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current 5 In (A), starting from cold	250A	200A	160A	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)	-	-	1	P
	- 0,1 s ≤ t ≤ 30 s (> 32A)	1	1	-	P
9.10.2.2	Test current 2,55 In (A) starting from cold for:	127,5A	102A	81,6A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	-	-	22	P
	- 120 s (> 32 A)	23	26	-	P
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;C25;Icn=6000A) (1P;C20;Icn=6000A) (1P;C16;Icn=6000A)				
9.10	Tests: D_O	D_{O-16}	D_{O-17}	D_{O-18}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current 5 In (A), starting from cold	125A	100A	80A	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)	1	1	1	P
	- 0,1 s ≤ t ≤ 30 s (> 32A)	-	-	-	N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	63,8A	51A	40,8A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	19	22	29	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;C10;Icn=6000A) (1P;C6;Icn=6000A) (1P;C4;Icn=6000A)				
9.10	Tests: D_O	D_{O-19}	D_{O-20}	D_{O-21}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current 5 In (A), starting from cold	50A	30A	20A	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)	1	1	1	P
	- 0,1 s ≤ t ≤ 30 s (> 32A)	-	-	-	N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	25,5A	15,3A	10,2A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	14	26	18	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;C2;Icn=6000A)				
9.10	Tests: D_O	D_{O-22}	-	-	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☐ For circuit-breakers of the B – Type				N/A
	Test current 3In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	A			N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	N/A
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.3	☒ For circuit-breakers of the C – Type				P
	Test current 5 In (A), starting from cold	10A	-	-	P
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)	1	-	-	P
	- 0,1 s ≤ t ≤ 30 s (> 32A)	-	-	-	N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	5,1A	-	-	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)	21	-	-	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;B63;Icn=6000A) (4P;B63;Icn=6000A)				
9.10	Tests: D_O	D_{O-23}	D_{O-24}	-	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current 3In (A), starting from cold	189A	189A	-	P
	Opening time:	[s]	[s]	[s]	P
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)	-	-	-	N/A
	- 0,1 s ≤ t ≤ 90 s (> 32A)	5	4	-	P
9.10.2.2	Test current 2,55 In (A) starting from cold for:	160,7A	160,7A	-	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	P
	- 60 s (≤ 32 A)	10	12	-	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;B50;Icn=6000A) (1P;B40;Icn=6000A) (1P;B32;Icn=6000A)				
9.10	Tests: D_O	D_{O-25}	D_{O-26}	D_{O-27}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current 3In (A), starting from cold	150A	120A	96A	P
	Opening time:	[s]	[s]	[s]	P
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)	-	-	4	P
	- 0,1 s ≤ t ≤ 90 s (> 32A)	4	5	-	P
9.10.2.2	Test current 2,55 In (A) starting from cold for:	127,5A	102A	81,6A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	P
	- 60 s (≤ 32 A)	-	-	8	P
	- 120 s (> 32 A)	11	9	-	P
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;B25;Icn=6000A) (1P;B20;Icn=6000A) (1P;B16;Icn=6000A)				
9.10	Tests: D_O	D_{O-28}	D_{O-29}	D_{O-30}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current 3In (A), starting from cold	75A	60A	48A	P
	Opening time:	[s]	[s]	[s]	P
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)	6	3	6	P
	- 0,1 s ≤ t ≤ 90 s (> 32A)	-	-	-	N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	63,8A	51A	40,8A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	P
	- 60 s (≤ 32 A)	10	10	9	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;B10;Icn=6000A) (1P;B6;Icn=6000A) (1P;B4;Icn=6000A)				
9.10	Tests: D_O	D_{O-31}	D_{O-32}	D_{O-33}	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current 3In (A), starting from cold	30A	18A	12A	P
	Opening time:	[s]	[s]	[s]	P
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)	4	5	3	P
	- 0,1 s ≤ t ≤ 90 s (> 32A)	-	-	-	N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	25,5A	15,3A	10,2A	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	P
	- 60 s (≤ 32 A)	11	10	9	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Sequence D 1 samples (1P;B2;Icn=6000A)				
9.10	Tests: D_O	D_{O-34}	-	-	P
	If the tests are made in a test chamber, it is made in still air; the volume of the chamber has no influence on the test results.				P
9.10.3.2	☒ For circuit-breakers of the B – Type				P
	Test current 3In (A), starting from cold	6A	-	-	P
	Opening time:	[s]	[s]	[s]	P
	- 0,1 s ≤ t ≤ 45 s (≤ 32A)	4	-	-	P
	- 0,1 s ≤ t ≤ 90 s (> 32A)	-	-	-	N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:	5,1A	-	-	P
	opening time not less than 1 s or more than	[s]	[s]	[s]	P
	- 60 s (≤ 32 A)	11	-	-	P
	- 120 s (> 32 A)	-	-	-	N/A
9.10.3.3	☐ For circuit-breakers of the C – Type				N/A
	Test current 5 In (A), starting from cold				N/A
	Opening time:	[s]	[s]	[s]	--
	- 0,1 s ≤ t ≤ 15 s (≤ 32A)				N/A
	- 0,1 s ≤ t ≤ 30 s (> 32A)				N/A
9.10.2.2	Test current 2,55 In (A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A
9.10.3.4	☐ For circuit-breakers of the D – Type				N/A
	Test current 10 In (A), starting from cold	A			N/A
	Opening time:	[s]	[s]	[s]	N/A
	- 0,1 s ≤ t ≤ 4 s (10 A < In ≤ 32 A)				N/A
	- 0,1 s ≤ t ≤ 8 s (10 A ≥ In > 32A)				N/A
	Test current 20 In (A) starting from cold				N/A
	Tripping less than 0,1 s				N/A
9.10.2.2	Test current 2,55 In(A) starting from cold for:				N/A
	opening time not less than 1 s or more than	[s]	[s]	[s]	--
	- 60 s (≤ 32 A)				N/A
	- 120 s (> 32 A)				N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

	Annex ZC	--
	EN 60898-1 **Special national conditions**	--
	For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.	--
J.1	**Austria, Czech Republic, Netherlands, Norway and Switzerland**	--
	The upper limit of current for use of screwless terminals is 16 A	N/A
J.3.3	**Austria, Belgium, Denmark, France, Germany, Italy, Portugal, Spain and Sweden**	--
	Only universal screwless type terminals are accepted.	P
K.1	**Belgium, Italy and Spain**	--
	The use of circuit-breakers with flat quick-connect terminations for rated currents up to and including 20 A is accepted.	N/A
K.8.2.2	**Belgium, Italy and Spain**	--
	The use for rated currents up to and including 20 A is accepted	N/A

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Annex nº 3

ELECTRICAL ACCESSORIES – CIRCUIT-BREAKERS FOR OVERCURRENT PROTECTION FOR HOUSEHOLD AND SIMILAR INSTALLATIONS - PART 1: CIRCUIT-BREAKERS FOR A.C. OPERATION

Differences according to.....: -AS/NZS 60898-1:2004

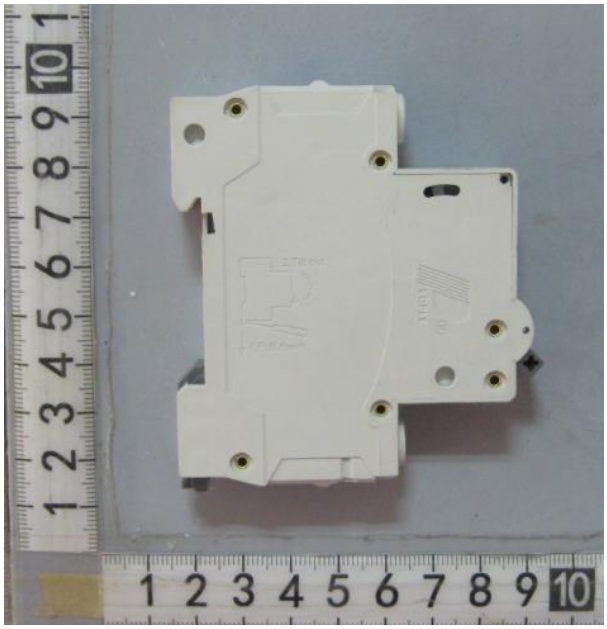
Annex ZZ (Normative)			
Variations to IEC 60898-1,Ed.1.2(2003) for application in Australia and New Zealand			
5.3.1	Immediately after Table 1 insert the following text:		
	The marking of the rated voltage or rated voltage range of single phase circuit-breakers shall cover 240V for Australia and 230V for New Zealand and for multi-phase circuit-breakers, 415V for Australia and 400V for New Zealand	240/415V for 1P 415V for 2P/3P/4P	P
6	Delete item a) and replace with the following:		
	a) the name or registered trade mark or mark of the manufacturer or of the responsible vendor	PEOPLE	P
8.1.4.4	After the NOTE insert the following:		
	Compliance is checked by inspection and, if necessary, by chemical analysis		P

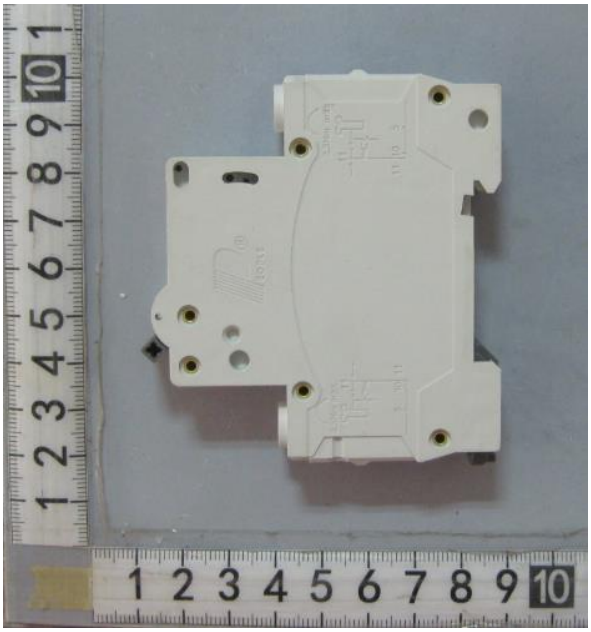
Photographs

1P/D63 63D11

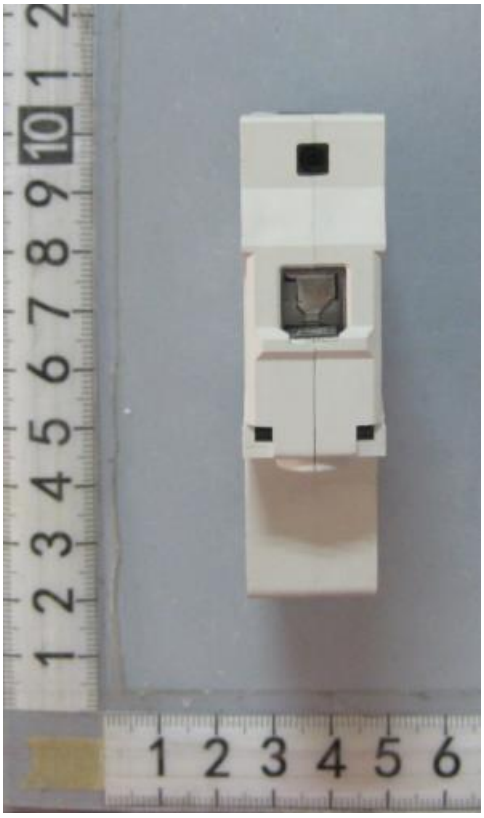
Over View

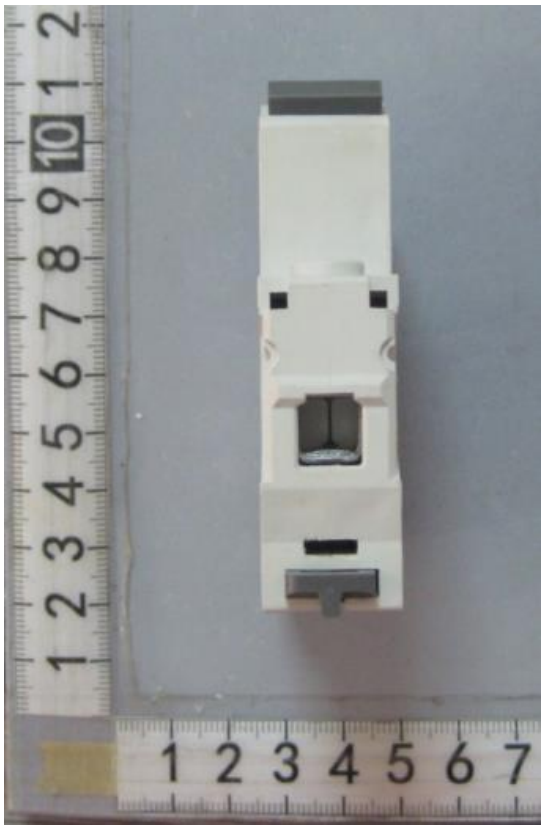
Side View



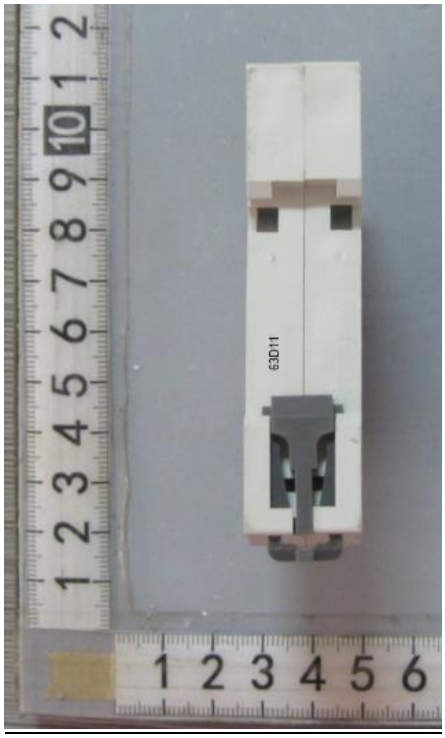


Side View

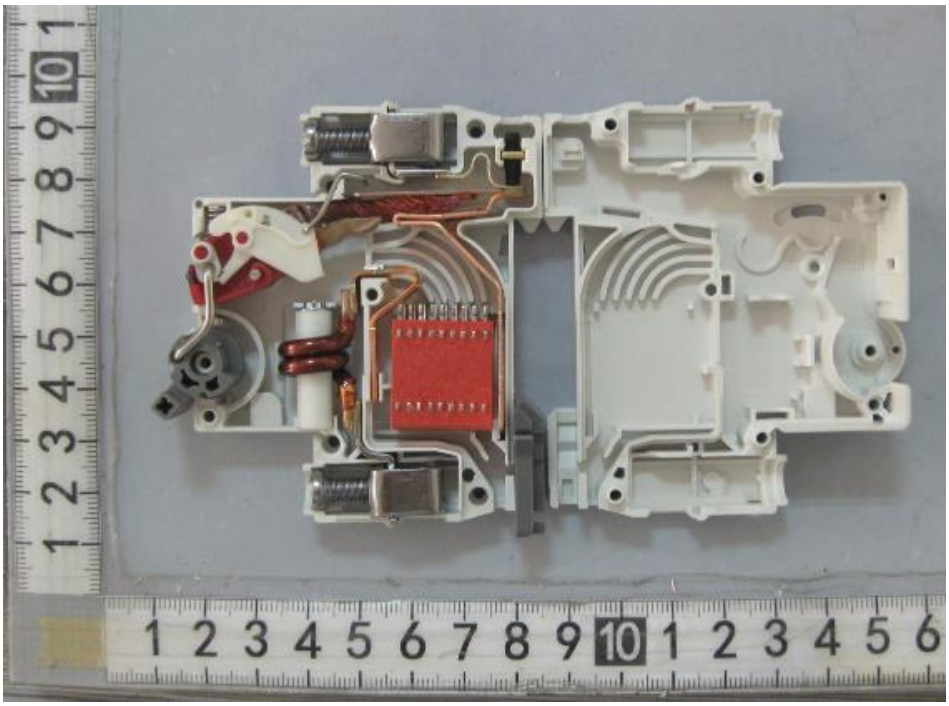




Bottom View



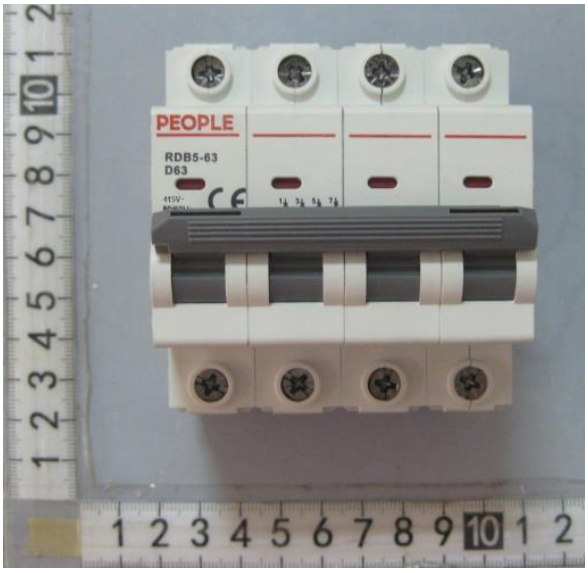
Inside View

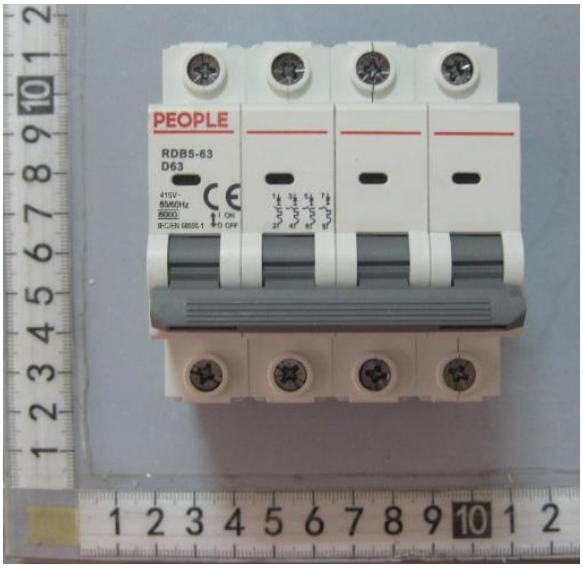


Photographs

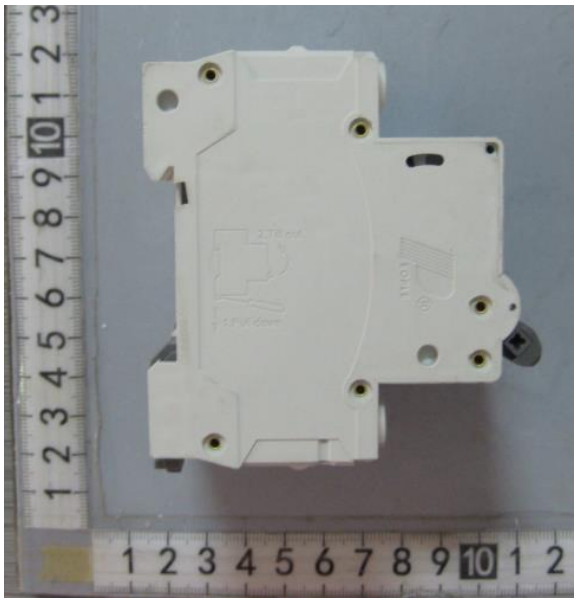
4P/D63 63D41

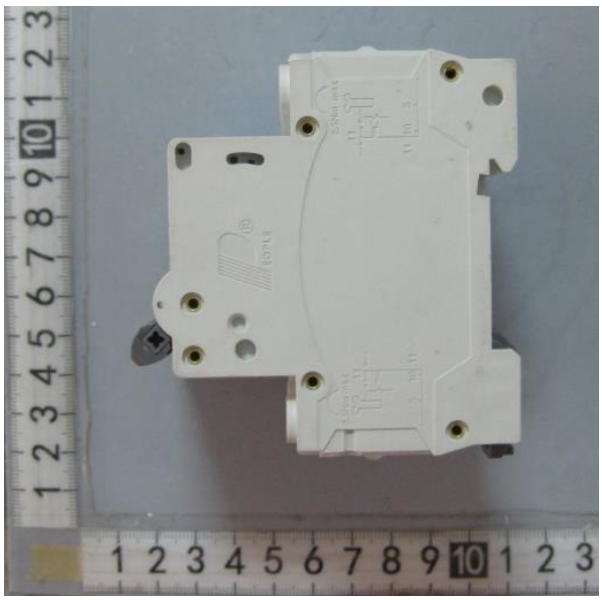
Over View



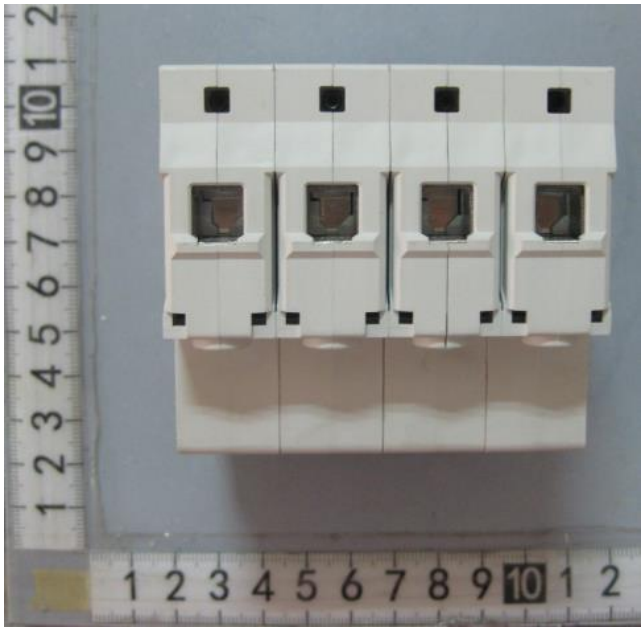


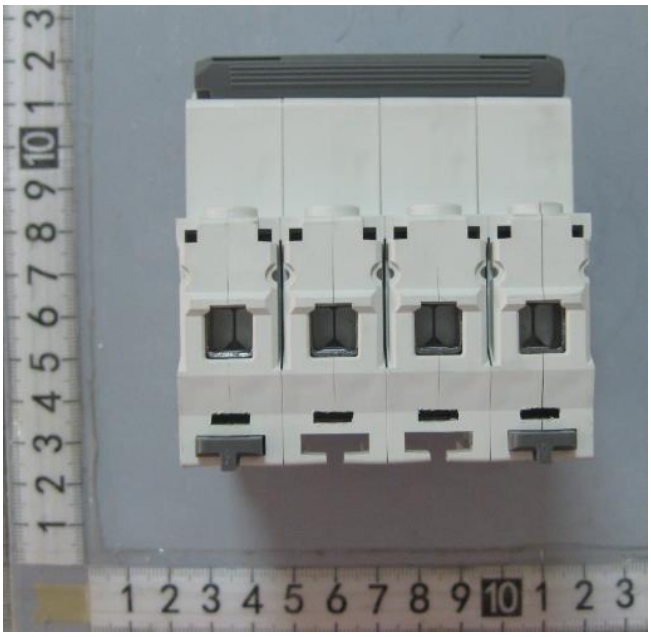
Side View



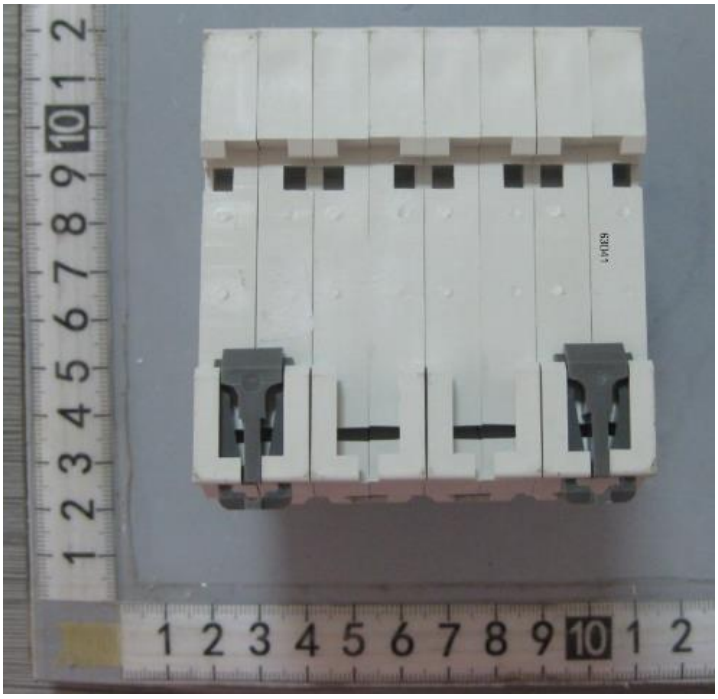


Side View





Bottom View



Inside View