Technical Construction File

EN 60898-1:2019 Circuit-breakers for over current protection for household and similar installations
EN 60947-2:2017+A1:2020 Low-voltage switchgear and controlgear - Part 1: General rules Part 2: Circuit-Breakers

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Reviewing location :	Floor 2nd, Building D-1, No. 128, Shenfu Road, Minhang District, Shanghai, China.
Applicant :	Changcheng Electrical Group Zhejiang Technology Co., Ltd.
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Manufacturer :	Changcheng Electrical Group Zhejiang Technology Co., Ltd.
Address :	DianHou Village, Liushi Town,Yueqing City, Zhejiang P.R. China
Factory:	The same as applicant
Address :	The same as applicant
Standard :	☒ EN 60898-1:2019, EN 60947-2:2017+A1:2020
Review Report Form No. :	60898, 60947-2
TRF originator. :	GTS
Master TRF :	Reference No. EN 60898-1:2019, EN 60947-2:2017+A1:2020
Review procedure :	GTS
Type of Review object:	Miniature Circuit Breaker
Trademark :	/
Model/type reference :	YCB1-125
Rating :	Ue=230/400V~(1P), 400V~(2P, 3P, 4P); In=10, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125A; Icu=6000,10000A; B, C, D type

Possible review case verdicts: - review case does not apply to the test object.... N(.A.) - review object does meet the requirement..... P(ass) - review object does not meet the requirement.... F(ail)
General remarks:
"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The review results presented in this report relate only to the object reviewed. This report shall not be reproduced except in full without the written approval of the third party.

Testing:	
Date of receipt of review item:	January 26,2021
Date(s) of performance of review:	January 26,2021 to February 02,2021

General product information: Miniature Circuit Breaker
Summary of reviewing: This review report includes: Annex I: **3** page(s) of photo documentation.
Copy of marking plate

Miniature Circuit Breaker, Model YCB1-125 Changcheng Electrical Group Zhejiang Technology Co., Ltd.	CE

EN 60898-1:2019			
Cl.	Requirement – Test	Result	Verdict
	TESTS „A“ 1 sample	A1	-
6 **)*	**MARKING AND OTHER INFORMATION**		
**see Appendix 1*	Circuit-breaker marked with:		-
	a) Manufacturer’s name or trade mark..... :	Changcheng Electrical Group Zhejiang Technology Co., Ltd.	P
	b)Type designation, catalogue number or other identification number.....:		P
	c) Rated voltage (V).....:		P
	d) Rated current (A)..... :		P
	e) Rated frequency (Hz).....:		P
	f) Rated short circuit capacity (A)..... :		P
	g) Wiring diagram	-	N
	h) Ambient air temperature, if different from 30°C		P
	i) Degree of protection, if different from		P
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In(see table 2)		N
	k) Rated impulse withstand voltage U_{imp} if it is 2,5 kV		P
	Symbol for instantaneous tripping current		P
	Symbol for nature of supply		P
	Marking for rated current and for instantaneous tripping shall be readily visible when CB is installed		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
	Energy limiting class		P
	I^2t characteristic (documentation)		P
	Symbols on supply and load terminal		P
	Terminal for neutral conductor N		P
	Earthing terminal if any (IEC 60417-5019)		P
	On - off position shall be clearly indicated - 0 I -		P

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Cl.	Requirement – Test	Result	Verdict
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		P
	Red not used for other push-button		P
	This symbol shall be easily discernible		P
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		P
	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
	The switched neutral shall close before and open after the protected pole (s)		N
	Neutral pole having adequate making and breaking capacity and CB with independent manual operation: all poles operate together including neutral pole		N
	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		N/A
	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

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Cl.	Requirement – Test	Result	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
	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.....:		P
	2.between live parts of different polarity.....:		N
	3.between circuits supplied from different sources, one of which being PELV or SELV..... :		N
	4. between live parts and		-
	- accessible surfaces of operating means..... :		P
	- screws or other means for fixing covers.....:		N
	- surface on which the base is mounted.....:		N
	- screws or other means for fixing the circuit breaker.....:		N
	- metal covers or boxes.....:		N
	- other accessible metal parts.....:		P
	- metal frames supporting the base (flush-type).. :		P
	5.between metal parts of mechanism and:		
	- accessible metal parts..... :		P
	- screws or other means for fixing the circuit breaker..... :		N
	- metal frames supporting the base (flush type).. :		P
8.1.3	**Creepage distances [mm] (see table 4)**		-
	Material group		P
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:		P
	2.between live parts of different polarity.....:		N
	3.between circuits supplied from different sources, one of which being PELV or SELV..... :		N
	4. between live parts and		N

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Cl.	Requirement – Test	Result	Verdict
	- accessible surfaces of operating means..... :		N
	- screws or other means for fixing covers.....:		N
	- surface on which the base is mounted.....:		N
	- screws or other means for fixing the circuit breaker.....:		N
	- metal covers or boxes.....:		N
	- other accessible metal parts.....:		P
	- metal frames supporting the base (flush-type).. :		P
	5.between metal parts of mechanism and:		-
	- accessible metal parts.....:		P
	- screws or other means for fixing the circuit breaker..... :		N
	- metal frames supporting the base (flush type).. :		P
8.1.4	**Screws, current-carrying parts and connections**		-
8.1.4.1	Connections, withstand mechanical stresses occurring in normal use		N
	Screws for mounting of the CB not of the thread-cutting type		N
	Test according to cl. 9.4:		N
	- 10 times (screw Ø / torque Nm)		N
	- 5 times (screw Ø / torque Nm)		N
	Plug in connections tested by plugging in and pulling out five times		N
	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
8.1.4.3	Electrical connection: contact pressure not transmitted through insulating material, unless there is sufficient resilience in the metallic parts		-
	- copper		N
	- alloy 58% copper for worked cold parts		P
	- alloy 50% copper for other parts		N
	- other metal		N
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

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Cl.	Requirement – Test	Result	Verdict
9.5	Torque Ø___mm___Nm Ø___mm___Nm Ø___mm___Nm max. sect._____ mm²		P
9.5.1	Pull test: min sect._____ mm² max sect._____mm² Pull_____N for 1 min During the test conductor does not move noticeably		P
9.5.2	min sect._____ ____ mm² Torque (2/3)=_____ Nm max sect._____ mm² The conductor shows no damage		P
9.5.3	Nominal cross-section from 1,0__ to 25___ mm² No of wires 7____ Ø of wires 0,67_ mm Torque (2/3) =_____1,33 Nm After the test no wire 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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Cl.	Requirement – Test	Result	Verdict
	Rated current (A) / Range of nominal cross 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		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 mm^2 up to 6 mm^2 are designed to clamp solid conductors only.		N
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		P
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
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		N

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Cl.	Requirement – Test	Result	Verdict
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
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
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
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
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		N
	Unless the live parts are within an internal enclosure of insulating material: Lining - reliable fixed, - adequate thickness and - mechanical strength		N
	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
	For plug-in CB, external parts, other than screws and other means for fixing covers, which are accessible shall be in insulating material		N
	Metallic operating means insulated from live parts		N

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Cl.	Requirement – Test	Result	Verdict
	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		P
	Lacquer or enamel not considered		N
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		N
7.10	**Resistance to heat**		-
	CB sufficiently resistant to heat		-
9.14	**Test of resistance to heat**		-
9.14.1	Test:		-
	- without removable covers.....1 h (100 ± 2) °C		P
	- removable covers.....1 h (70 ± 2) °C		N
	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		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		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
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

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Cl.	Requirement – Test	Result	Verdict
	external parts retaining current-carrying parts and parts of the protective circuit in position..... (960 ± 15)°C		P
	all other external parts ..... (650 ± 10)°C		-
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 ammoniur 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		-

	TESTS „B“ 3 samples		P
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		P
	Compliance is checked by the tests 9.7.1, 9.7.2 and 9.7.3 on circuit-breaker in new condition		P
8.3.2	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)		P
	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		P
	Inlet openings, if any, are left open; if knock-outs are provided, one of them is opened.		P

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Cl.	Requirement – Test	Result	Verdict
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		P
9.7.1.3	Test procedure:		-
	The sample is kept in the cabinet for 48 h.		P
9.7.1.4	Condition of the circuit-breaker after the test		-
	After this treat, 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:		P
	a) In off-position, between the terminals which are electrically connected together when the circuit-breaker is in the closed position ≥ 2 MΩ		P
	b) in off-position, between each pole in turn and the others connected together ≥ 2 MΩ		P
	c) in on-position, between all poles connected together and the frame ≥ 5 MΩ		P
	d) between metal parts of mechanism and the frame ≥ 5 MΩ		P
	e) between the frame and metal foil in contact with the inner surface of the internal enclosure or lining of insulating material ≥ 5 MΩ		P
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		P
	b) 2000 V		N
	c) 2000 V		P
	d) 2000 V		P
	e) 2500 V		N
9.7.4	Dielectric strength of the auxiliary and control circuits		-

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Cl.	Requirement – Test	Result	Verdict
	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
	1) Between all the auxiliary or control circuits and the frame U = ____ V		N
	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]		N
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) :		-
	- sea level of the laboratory:		-
	- test Uimp on open main contacts (equipment suitable for isolating) (see table 13..... :		-
	- 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) :		-
	- sea level of the laboratory:		-
	- test Uimp main circuits (see table 14) :		-
	Application of test voltage		-
	i) Between all the phase pole(s) connected together and to the neutral pole (or path) of the circuit-breaker		N
	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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Cl.	Requirement – Test	Result			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				-
	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 V:				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				-
	Ambient air temperature..... :				-
	Parts..... Temperature rise [K]				
	L1	-	-	-	-
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	L3	-	-	-	
	N	-	-	-	
	Terminals for external connections.....60				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				P
	External metallic parts of operating means.....25	-	-	-	N/A
	Other external parts, including that face of the circuit-breaker is in direct contact with the mounting surface.....60				P
9.8.5	**Measurement of power losses**				-
	Power loss do not exceed the values stated in table 15				P

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Cl.	Requirement – Test	Result			Verdict
					P
	Test current: I_N = _____ A (reach the steady state value)				
	Loaded one pole after the other				
	Max. power loss : _____ W				
	L1	6,9	6,3	9,2	P
	L2	-	-	-	
	L3	-	-	-	
	L4(N)	-	-	-	
	L3	-	-	-	
	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. ____ mm²				-
	During the test no tripping during the last period, temperature rise shall be measured				P
	Ambient air temperature..... :				-
	Parts..... Temperature rise [K]				-
	Terminals for external connections.....75				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 =___91,4_____A				P
	- Tripping within				-
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				N

	TESTS „C“ 3 samples	**C1**	**C2**	**C3**	-
8.7	Mechanical and electrical endurance				-

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Cl.	Requirement – Test	Result			Verdict
	Circuit-breaker shall be capable to perform an adequate number of cycles with rated current				-
9.11.1	General test conditions				-
	Test: Test Voltage __240____V (rated voltage) Test Current ___63___A (rated current) Power factor _____(0,85-0,9) Par. resistor _____ Ohm Cross sect. area ____mm²				P
9.11.2	**Test procedure**				-
	The circuit-breaker is submitted to 4000 operating cycles with rated current.				-
	- $I_N \leq 32$ A: 2 s on - 13 s off				N
	- $I_N > 32$ A: 2 s on - 28 s off				N
	During the test the circuit-breaker shall be operated as in normal use.				
9.11.3	**Condition of the circuit-breaker after the test**				
	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
	Moreover test current.....2,55 I_N__161___A				-
	Opening time not less 1 s or more than				-
	- 60 s (≤ 32 A)	-	-	-	-
	- 120 s (> 32 A)				P
	Dielectric strength reduced to 1500 V *)see Appendix 1				-
9.12.11.2	**Test at reduced short-circuit currents**				-
9.12.11.2.1	Test on all circuit-breakers				-
9.12.11.2.1	Test at reduced short-circuit currents: Fig. 3				-
	Test current:				-
	- 500 A or 10 In				P

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Cl.	Requirement – Test	Result			Verdict
	Test voltage 1,05 Un				P
	Power factor 0,93-0,98	_____			--
9.12.9.1	Test in free air copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
9.12.9.2	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				N
	I_{Peak} (A) max. value				--
	Sequence: 6 x "0" and 3 x "CO"	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq$ _____kA^2s				-
	- No permanent arcing				-
	- No flash-over between poles or between poles and frame				-
	- No blowing of the fuses F and F′				-
	- Polyethylene foil shows no holes				
	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 9.7.6.3, each pole is supplied at a voltage 1,1 times Un.= _____ V. The circuit – breaker is in the open position	C1-1 (mA)	C1-2 (mA)	C1-3 (mA)	-
	The leakage current shall not exceed 2 mA L1				-
	L2				-
	L3				-
	L4(N)				-
	Electric strength test:				P
	Test voltage 1500 V (see 8.7.2)				P
	a)				P
	b)				-
	c)				-
	d)				-
	e) 2000 V				-

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Cl.	Requirement – Test	Result			Verdict
9.12.11.2.2	**Short-circuit test on circuit-breakers rated 230 V, or 240 V or 230/400 V for verifying for use in IT systems**				
	Test current:	Obtained			P
	- 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				P
	Test voltage 1,05 Un				P
	Power factor 0,93-0,98				--
9.12.9.1	Test in free air copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
9.12.9.2	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
	I_{Peak} (A) max. value				--
	Sequence: "0" + "CO" on each protected pole	[kA^2s]	[kA^2s]	[kA^2s]	--
	Shifted point 30 ° on the other protected pole	C2-1	C2-2	C2-3	--
	Max. $I^2t \leq$ _____kA^2s L1 L2 L3 L4	___ ___ ___ ___	___ ____ ___ ___	___ ___ ___ ___	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:				--
9.12.12.1	**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 9.7.6.3, each pole is supplied at a voltage 1,1 times Un.= _____ V. The circuit – breaker is in the open position	C2-1 (mA)	C2-2 (mA)	C2-3 (mA)	-
	The leakage current shall not exceed 2 mA L1				P
	L2				P

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Cl.	Requirement – Test	Result				Verdict
	L3					P
	L4(N)					P
	Electric strength test:					
	Test voltage 1500 V (see 8.7.2)					P
	a)					P
	b)					P
	c)					P
	d)					P
	e) 2000 V					

	TESTS „D“ 3 samples				-
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: DO**	**DO 1**	**DO 2**	**DO 3**	P
	I_N (A)				-
	Sect. (mm²)				-
	Instantaneous tripping current				--
9.10.1	Test of time-current characteristic				P
9.10.1.1	Test current 1,13 I_N (A) starting from cold for:				--
	- 1 h ($I_N \leq 63$ A)				P
	- 2 h ($I_N > 63$ A)				P
	No tripping				P
	Then steadily increased within 5 s to 1,45 I_N (A)				--
	- Tripping within				P
	- 1h (≤ 63 A)				P
	- 2h (> 63 A)				P
9.10.1.2	Test current 2,55 I_N (A) starting from cold for:				--
	opening time not less than 1 s or more than				P
	- 60 s				P
	- 120 s				P

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Cl.	Requirement – Test	Result	Verdict
9.10.2	Test of instantaneous tripping and of correct opening of the contacts		P
9.10.2.1	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
9.10.2.2 *)	☐ For circuit-breakers of the B - Type		P
*see Appendix 1	Test current $3I_N$ (A), starting from cold		--
	Opening time:		--
	- 0,1s ≤ t *[≤ 45s (≤ 32A) *)acc. EN60898]*		
	- 0,1s ≤ t *[≤ 90s (> 32A) *)acc. EN60898]*		P
	Test current 5 I_N (A), starting from cold		P
	Tripping less than 0,1 s		P
9.10.2.3 *)	☐ For circuit-breakers of the C - Type		P
*see Appendix 1	Test current $5I_N$ (A), starting from cold		--
	Opening time:		--
	- 0,1s ≤ t *[≤ 15s (≤ 32A) *)acc. EN60898]*		P
	- 0,1s ≤ t *[≤ 30s (> 32A) *)acc. EN60898]*		P
	Test current 10 I_N (A), starting from cold		P
	Tripping less than 0,1 s		P
9.10.2.4 *)	☐ For circuit-breakers of the D - Type		P
*see Appendix 1	Test current $10I_N$ (A), starting from cold		--
	Opening time:		--
	- 0,1s ≤ t *[≤ 4s (≤ 32A) *)acc. EN60898]*		P
	- 0,1s ≤ t *[≤ 8s (> 32A) *)acc. EN60898]*		P
	Test current 20 I_N (A) or to the maximum instantaneous tripping current(see cl. 6, item j), starting from cold		P
	Tripping less than 0,1 s		P

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Cl.	Requirement – Test	Result	Verdict
9.10.3	Test of effect of single pole loading on the tripping characteristic of multipole circuit-breakers:		P
	Test current 1,1 It (A), (two pole) starting from cold		--
	Tripping within		--
	- 1h		P
	- 2h		P
	Test current 1,2 It (A), (three pole or four pole) starting from cold		--
	Tripping within		--
	- 1h		P
	- 2h		P
9.10.4	Test of effect of ambient temperature on the tripping characteristics		P
	a) Ambient temperature of (35 ± 2)°C below the ambient air reference temperature		P
	Test current 1,13 I_N (A)		--
	- Passed for 1h		P
	- Passed for 2h		P
	Current is then steadily increased to 1,9 I_N (A) within 5s		--
	Tripping within		--
	- 1h		P
	- 2h		P
	b) Ambient temperature of (40 ± 2)°C		P
	Test current I_N (A)		--
	No tripping within		--
	- 1h		P
	- 2h		P

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Cl.	Requirement – Test	Result	Verdict
	Tests: D1	**$D1_1$ $D1_2$ $D1_3$**	P
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
9.13.2.1	All types:		P
	- Impact test: 10 blows-height 10 cm, no damage		P
9.13.2.2	Screw-in types:		P
	- Torque 2,5 Nm for 1 min, no damage		P
9.13.2.3	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
9.13.2.4	Plug-in types		P
	The circuit-breaker are mounted in there normal position, complete with plug-in base but without cables and any cover plate		P
	A force of 20 N applied for 1min to the circuit-breaker (see fig 17).		P
	During this test the circuit-breaker part shall not become loose from the base and shall not show damage impairing further use.		P
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)		--
	Power factor		--
	Test voltage 1,05 Un		P
	Test circuit: figure		--
	T (min)		--

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Cl.	Requirement – Test	Result			Verdict
9.12.9.1	Test in free air copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
9.12.9.2	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
	Sequence				--
	I_{Peak} (A) max. value				--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq$ _____kA^2s L1 L2 L3 N	___ ___ ___ ___	___ ____ ___ ___	___ ___ ___ ___	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:				--
9.12.12.1	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 9.7.6.3, each pole is supplied at a voltage 1,1 times Un.= _____ V. The circuit – breaker is in the open position	D-1 (mA)	D-2 (mA)	D-3 (mA)	P
	The leakage current shall not exceed 2 mA L1				P
	L2				P
	L3				P
	L4(N)				P
	Electric strength test:				P
	Test voltage 1500 V (see 8.7.2)				P
	a)				P
	b)				P
	c)				P
	d)				P
	e) 2000 V				P

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Cl.	Requirement – Test	Result			Verdict
	Test current 0.85x non tripping current (1,13 I_N)				--
	- Passed for 1h				P
	- Passed for 2h				P
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s				--
		D1 min	D2 min	D3 min	P
	Tripping within ☐ 1 hour / ☐ 2 hour	_____	_____	_____	P

	TESTS „E“ 3 + 3 samples **) see Appendix 1*				P
8.12.11.4.2	**Test: E1(Test at service short-circuit capacity)**	**E_{1-1}**	**E_{1-2}**	**E_{1-3}**	**P**
	Service short-circuit capacity..... :				--
	Test circuit: figure..... :				--
	Prospective current..... :				--
	Prospective current obtained..... :				--
	Power factor..... :				--
	Power factor obtained..... :				--
	Sequence..... :				--
	T (min)..... :				--
9.12.9.1	Test in free air copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
9.12.9.2	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
	I_{Peak} (A) max. value..... :				--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq$ _____kA^2s L1 L2 L3 N	___ ___ ___ ___	___ ____ ___ ___	___ ___ ___ ___	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

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Cl.	Requirement – Test	Result			Verdict
	- 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 9.7.6.3, each pole is supplied at a voltage 1,1 times Un.= _____ V. The circuit – breaker is in the open position	E1-1 (mA)	E1-2 (mA)	E1-3 (mA)	P
	The leakage current shall not exceed 2 mA L1				P
	L2				P
	L3				P
	L4(N)				P
	Electric strength test:				P
	Test voltage 1500 V (see 8.7.2)				P
	a)				P
	b)				P
	c)				P
	d)				P
	e) 2000 V				P
	Test current 0.85x non tripping current (1,13 I_N)				--
	- Passed for 1h				P
	- Passed for 2h				P
	Current is then steadily increased to 1,1 x tripping current (1,45 I_N) within 5s				--
		E1-1 min	E1-2 min	E1-3 min	-
	Tripping within ☐ 1 hour / ☐ 2 hour	_____	_____	_____	-

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Cl.	Requirement – Test	Result			Verdict
	TESTS „E2“ 3 or 4 samples				P
9.12.11.4.3	**Test: E2 (Test at rated short-circuit capacity)**	**E_{2-1}**	**E_{2-2}**	**E_{2-3}**	**P**
	Service short-circuit capacity..... :				--
	Test circuit: figure..... :				--
	Prospective current..... :				--
	Prospective current obtained..... :				--
	Power factor..... :				--
	Power factor obtained..... :				--
	Sequence..... :				--
	T (min)..... :				--
9.12.9.1	Test in free air copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
9.12.9.2	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
	I_{Peak} (A) max. value..... :				--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq$ _____kA^2s L1 L2 L3 N	___ ___ ___ ___	___ ___ ___ ___	___ ___ ___ ___	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:				--
9.12.12.1	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 9.7.6.3, each pole is supplied at a voltage 1,1 times Un.= _____ V. The circuit – breaker is in the open position	E_{2-1} (mA)	E_{2-2} (mA)	E_{1-3} (mA)	P
	The leakage current shall not exceed 2 mA L1				P

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Cl.	Requirement – Test	Result			Verdict
	L2				P
	L3				P
	L4(N)				P
	Electric strength test:				P
	Test voltage 900 V (see 9.7.3)				P
	a)				-
	b)				-
	c)				-
	d)				-
	e) 2000 V				-
	Test current 2,8 I_N				-
	Tripping within > 0,1 s up to	(s)	(s)	(s)	-
	- 60 s				-
	- 120 s				-

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Cl.	Requirement – Test	Result	Verdict
	Annex J		-
	Particular requirements for circuit-breakers with screw less type terminals for external copper conductors (In not exceeding 20 A, cross-sectional area up to 4 mm^2		-
J.6	**Marking**		**P**
	Universal terminals		--
	- no marking		P
	Non-universal		--
	- declared for rigid-solid conductors		P
	- declared for rigid(solid and stranded).....		P
	- declared for flexible conductors.....		P
	The markings should appear on the circuit-breaker or, if available space is not sufficient, on smallest package unit or in technical information		P
	Indication of length of insulation to be removed on the circuit-breaker.....		P
J.7	**Standard conditions for operation in service**		P
	Clause 7 applies		P
J.8	**Constructional requirements**		P
	Clause 8 applies with the follow modifications:		P
	In clause 8.1.5 only –5.1, -5.2. –5.3, - 5.6 and - .5.7 apply		P
	Compliance is checked by inspection and by the tests of J.9.1 and J.9.2		P
J.8.1	**Connection or disconnection of conductors**		P
	The connection or disconnection shall be made by:		P
	A general purpose tool or by a convenient device integral with the terminal or		P
	, for rigid conductors by simple insertion		P
	For disconnection an operation other than a pull shall be necessary (push-wire terminals)		P
	Universal terminals shall accept rigid (solid or stranded and flexible unprepared conductors		P
	Non-universal terminals shall accept conductors declared by the manufacturer		P

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Cl.	Requirement – Test	Result	Verdict
	Compliance is checked by inspection and by the tests of J.9.1 and J.9.2		P
J.8.8.2	**Dimensions of connectable conductors**		P
	The dimensions of connectable conductors are given in table J.1		P
	The ability to connect these conductors shall be checked by inspection and by the tests of J.9.1 and J.9.2		P
J.8.3	**Connectable cross-sectional areas**		P
	The nominal cross-sections to be clamped are given in table j.2		P
	Compliance is checked by inspection and by the tests of J.9.1 and J.9.2		P
J.8.4	**Insertion and connection of conductors**		P
	The insertion and disconnection of the conductors shall be made in accordance with the manufacturer's instructions		P
J.8.5	**Design and construction of terminals**		P
	Terminals shall be designed and constructed that:		P
	- each conductor is clamped individually		P
	- connection or disconnection connectors connected or disconnected separate or same		P
	- inadequate insertion of the conductor is avoided		P
	Compliance is checked by inspection and by the tests of J.9.1 and J.9.2		P
J.8.6	**The terminals shall be resistant to ageing**		P
	Compliance is checked by the tests of J.9.3		P
J.9	**Tests**		P
	Clause 9 applies, by replacing 9.4 and 9.5 by the follow		P
J.9.1	**Test of reliability of screw less terminals**		P
J.9.1.1	**Reliability of screw less system**		-
	5 times connection and disconnection		P
	3 rigid conductors min. cross-section max. cross-section		P
	3 flexible conductors min. cross-section max. cross-section		P

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Cl.	Requirement – Test	Result	Verdict
	After tests, the terminal shall not be damage in such a way as to impair its further use		P
J.9.1.2	**Test of reliability of connection**		-
	3 terminals of poles of new sample are fitted with new copper conductors according table J.2		P
	rigid conductors min. cross-section max. cross-section		P
	flexible conductors min. cross-section max. cross-section		P
	Each conductor is either pushed as far as possible into the terminal or shall be inserted so that adequate connection is obvious		P
	After tests, no wire of the conductor shall have escaped outside the terminals		P
J.9.2.	**Tests of reliability of terminals for external conductors: Mechanical strength**		P
	Three terminals of new samples are fitted with new conductors of the type and of the minimum and maximum cross sectional area according table J.2.		P
	Each conductor is subjected to a pull force of value shown in table J.3. for 1 min		P
	Terminal screw torque : $^{2}/_{3}$ of table 10		P
	rigid conductors min. cross-section max. cross-section		P
	flexible conductors min. cross-section max. cross-section		P
	During the test the conductor shall not slip out of the terminal		P
J.9.3.	**Cycling test**		-
	The test is carried out with new copper conductors having a cross sectional area according table 9		P
	The test is carried out on new samples(a sample is one pole, the number of which is defined below, according the type of terminal		P
	- universal terminals for rigid (solid and stranded) and flexible conductors		P
	- non-universal terminals for solid conductors only		P

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Cl.	Requirement – Test	Result	Verdict
	-- non- universal terminals for rigid (solid and stranded) conductors		P
	- non-universal terminals for flexible conductors only		P
	The conductors is connected in series as in normal use to each of the three samples as defined on fig. J.1.		P
	The sample is provided with a hole or equivalent in order to measured the voltage drop on the terminal		P
	The test arrangement is placed in a heating cabinet which is initially on 20°C		P
	Except the cooling period the test current (rated current) is applied to the circuit		P
	The samples shall be subjected to 192 temperature cycles, each cycle having a duration of +/- 1 hour		P
	Description of the temperature cycle: In 20 min raised to 40°C, maintained for 10 min, then cool down in 20 min to 30 °C, maintained for 10 min. For measurement of the voltage drop it is allowed to cool down to 20 °C		P
	The maximum voltage drop, measured on each terminal, at the end of the 192nd cycle, with Inom. shall not exceed the smaller of the two following values - either 22,5 mV - or 1,5 times the value measured after the 24 cycle		P
	Sample after 24 cycles: rigid conductors (mV) flexible conductors (mV)		P
	Sample after 192 cycles: rigid conductors (mV) flexible conductors (mV)		P
	After this test the samples shall shown no changes evidently impairing further use, such as cracks, deformations or like		P

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Cl.	Requirement – Test	Result	Verdict
	Annex K		-
	Particular requirements for circuit-breakers with flat quick-connect terminations		-
K.6.	**Marking**		-
	The whole of clause 6 applies		P
	Addition after the lettered item k		--
	The following information regarding the female connector according to IEC 61210 and the type of conductor to be used shall be given in the manufacturers instructions		P
	l) manufacturers name or trade mark		--
	m) type reference		P
	n) information on cross-sections of conductors and colour code of insulating female connectors (see table K.1)		P
	o) the use of only silver or tin-plated copper alloys		P
K.7	**Standard conditions for operation in service**		-
	Clause 7 applies		P
K.8	**Constructional requirements**		-
	Clause 8 applies with the follow modifications:		P
	replacement of 8.1.3 by:		P
K.8.1	**Clearances and creepage distances (see annex B)**		-
	Subclause 8.1.3 applies, the female connectors being fitted to the male tabs of the circuit-breaker		P
	Replacement of 8.1.5 by:		P
K.8.2	**Terminals for external conductors**		-
K.8.2.1	Male tabs and female connectors shall be of a metal having mechanical strength, electrical conductivity and resistance to corrosion adequate for their intended use		P
K.8.2.2	The nominal width of male tab is 6,3 mm and the thickness 0,8 mm, applicable to rated currents up to and including 16 A NOTE 1 The use for rated currents up to and including 20 A is accepted in BE, FR, IT, pT, ES and US		P
	The dimensions of the male tab shall comply with those specified in table K.3 and in figures K.2, K3, K4, K5, where the dimensions A, B, C, D, E, F, J, M, N and Q are mandatory		P

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Cl.	Requirement – Test	Result	Verdict
	The dimensions of the female connector which may be fitted-on are given in figure K.6 and in table K.4		P
	Compliance is checked by inspection and by measurement		P
K.8.2.3	**Male tabs shall be securely retained**		P
	Compliance is checked by the mechanical overload test of K.9.1		P
K.9	**Tests**		P
	Clause 9 applies, with follow modifications:		P
	Replacement of 9.5		P
K.9.1	**Mechanical overload-force**		P
	10 terminals of circuit-breakers, mounted as normal use are subjected to a axial push force and successively the axial pull force specified in table K2 applied to male tab once		P
	No damage which could impair further use shall occur to the tab or to the circuit-breaker in which the tab is integrated		P
	Addition to 9.8.3:		P
	Fine –wire thermocouples shall be placed in such a way as not to influence the contact or the connection area. An example of placement is shown in fig K.1		P

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Cl.	Requirement – Test	Result	Verdict
	Annex L		-
	Specific requirements for circuit-breakers with screw-type terminals for external untreated aluminium conductors and with aluminium screw-type terminals for use with copper or with aluminium conductors		-
L.6	**Marking**		-
	In addition to clause 6 the following apply:		P
	Terminal marking according table L.1, on the circuit breaker, near the terminals		-
	Conductor types accepted:		P
	Copper only		P
	Aluminium only		P
	Aluminium and copper		P
	Other information concerning the number of conductors, screw torque (if different from table 10) and cross-section shall be indicated on the circuit-breaker		P
L.7	**Standard conditions for operation in service**		P
	Clause 7 applies		P
L.8	**Constructional requirements**		P
	Clause 8 applies with the following exeptions:		P
8.1.5.2	*is completed by:*		P
	For connection of aluminium conductors, circuit-breakers shall be provided with screw-type terminals allowing the connection of conductors having nominal cross-sections as shown in table L.2		P
	Terminals for the connection of aluminium conductors and terminals of aluminium for the connection of copper or aluminium conductors shall have mechanical strength adequate to withstand the tests of 9.4, with the test conductors tightened with the torque indicated in table 10, or with the torque specified by the manufacturer, which shall never be lower than that specified in table 10.		P
	Comliance is checked by inspection, by measurement and by fitting in turn one conductor of the smallest and one of the largest cross-section areas as specified		P
8.1.5.4	Terminals shall allow the conductors to be connected without special preparation		P

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Cl.	Requirement – Test	Result	Verdict
	Compliance is checked by inspection and by the tsets of L.9		P
			P
L.9	**Tests**		P
	Clause 9 applies with the following modifications/additions:		P
	For the tests which are influenced by the material of the terminal and the type of conductor that can be connected, the test conditions of table L.3 are applied		P
	Additionally the test of L.9.2 is carried out on terminals seperated from the circut-breaker		P
L.9.2	**Current cycling test**		P
	This test is carried out on seperate terminals		P
	The general arrangement of the samples shall be as shown in figure L.1		P
	90 % of torque stated by the manufacturer or selected in table 10 used for the specimens		P
	The test is carried out with conductors according to table L.5. The length of the test conductor from the point of entry to the screw-type terminal specimens to the equalizer shall be as in table L.6		P
	Cross section of equalizer not greater than that given in table L.7		P
L.9.2.4	Test method and acceptance criteria		P
	Test loop subjected to 500 cycles of 1h current-on and 1h current-off, starting at an a.c. current value of 1,12 times the test current value determined in table L.8		P
	Near the end of each current-on period of the first 24 cycles, the current shall subsequently be adjusted to raise the temperature of the reference conductor to 75°C		P
	At the end of the 25th cycle the test current shall be adjusted the last time and the stable temperature shall be recorded as the first measurement. No further adjustment of test current for the remainder of the test		P
	Temperatures recorded for at least one cycle of each workin day, and after approximately 25, 50, 75, 100, 125, 175, 225, 350, 425 and 500 cycles		P

EN 60898-1:2019				
Cl.	Requirement – Test	Result		Verdict
	For each screw-type terminal			P
	- the temperature rise shall not exceed 110 K			P
	- the stability factor Sf shall not exceed ± 10 °C			-
	ambient air temperature: _____°C	max. temperature rise [K]	max. stability factor Sf [°C]	-
	Terminal 1			P
	Terminal 2			P
	Terminal 3			P
	Terminal 4			P
	Terminal 5			P
	Terminal 6			P
	Terminal 7			P
	Terminal 8			P

EN 60898-1:2019			
Cl.	Requirement – Test	Result	Verdict
	Appendix 1		
	IEC 60898-1:2015+AMD1:2019/EN 60898-1:2019 COMMON MODIFICATIONS		

	GENERAL		P
9.12	**Short-circuit tests**		P
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		P
	voltage (including recovery voltage) : 0, -5%		P

	TESTS „A“ 1 sample		P
6	**MARKING AND OTHER INFORMATION**		-
6.1	**Standard marking:**		P
	f) Rated short circuit capacity (A):within a rectangle, without symbol “A”.....:		P
	h)Calibration temperature, if different from 30°C		P
	j) Energy limiting class in a square in accordance with annex ZA, if applied		P
	k) Making and breaking capacity on an individual protected pole of multipole circuit-breakers (Icn1), if different from Icn		P
6.2	**Additional marking**		-
	Additional marking to other standards (EN or IEC or other) is allowed under the follow conditions:		-
	- the circuit-breaker shall comply with all the requirements of the additional standard;		-
	- the relevant standard to which the additional marking refers shall be indicated adjacent to this marking and shall be clearly differentiated or separated from the standard marking according to cl. 6.1		-
	Compliance is checked by inspection and by carrying out all the test sequences reqired by the relevant standard. Eqivalent or less severe test sequences need not be repeated.		P
6.3	**Guidance table for marking**		-

EN 60898-1:2019			
Cl.	Requirement – Test	Result	Verdict
	Each MCB shall be marked in a durable manner with all or, for small apparatus, according table for marking		P

	TESTS „C“ 3 samples	**C1**	**C2**	**C3**	-
9.11.3	Dielectric strength reduced to 900 V				-

	TESTS „D“ 3 samples				-
9.10	**Tests: DO**	**DO 1**	**DO 2**	**DO 3**	-
9.10.2.2	☐ For circuit-breakers of the B – Type				-
	Moreover the C.B. shall perform following test:				-
9.10.1.2	Test current 2,55 I_N (A) starting from cold for:				-
	opening time not less than 1 s or more than				-
	- 60 s				-
	- 120 s				-
9.10.2.2	☐ For circuit-breakers of the C – Type				P
	Moreover the C.B. shall perform following test:				P
9.10.1.2	Test current 2,55 I_N (A) starting from cold for:				P
	opening time not less than 1 s or more than				P
	- 60 s				P
	- 120 s				P
9.10.2.2	☐ For circuit-breakers of the D – Type				N
	Moreover the C.B. shall perform following test:				N
9.10.1.2	Test current 2,55 I_N (A) starting from cold for:				N
	opening time not less than 1 s or more than				N
	- 60 s				N
	- 120 s				N

	TESTS „E3“				-
9.12.11.4.4	**Test: E3 (Test at making and breaking capacity on a individual pole (Icn1)**	**E_{3-1}**	**E_{3-2}**	**E_{3-3}**	**P**
	Service short-circuit capacity..... :				--
	Test circuit: figure.....:				--
	Prospective current.....:				--
	Prospective current obtained..... :				--

EN 60898-1:2019					
Cl.	Requirement – Test	Result			Verdict
	Power factor.....:				--
	Power factor obtained..... :				--
	Sequence..... :				--
	T (min)..... :				--
9.12.9.1	Test in free air copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
9.12.9.2	Test in enclosures copper wire F': ☐ 0,12 mm / ☐ 0,16 mm resistor R' : ☐ 0,75 Ohm / ☐ 1,5 Ohm				P
	I_{Peak} (A) max. value.....:				--
	$I^2t \leq$ _____ kA^2s	[kA^2s]	[kA^2s]	[kA^2s]	--
	Max. $I^2t \leq$ _____kA^2s L1 L2 L3	___ ---- ----	----- ___ -----	---- ---- ___	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:				--
9.12.12.1	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 9.7.6.3, each pole is supplied at a voltage 1,1 times Un.= _____ V. The circuit –breaker is in the open position	E_{2-1} (mA)	E_{2-2} (mA)	E_{1-3} (mA)	-
	The leakage current shall not exceed 2 mm L1				-
	L2				-
	L3				-
	L4(N)				-
	Electric strength test:				-
	Test voltage 900 V (see 9.7.3)				-
	a)				-
	b)				-

EN 60898-1:2019					
Cl.	Requirement – Test	Result			Verdict
	c)				-
	d)				-
	e) 2000 V				-
	Test current 2,8 I_N				-
	Tripping within > 0,1 s up to	(s)	(s)	(s)	-
	- 60 s				-
	- 120 s				-

EN 60947-2:2017+A1:2020			
5.2	MARKING		-
a)	The following data shall be marked on the circuit-breaker itself or on a name plate or nameplates attached to the circuit-breaker, and located in a place such that they are visible and legible when the circuit-breaker is installed.		-
	- rated current:		P
	- suitability for isolation, if applicable, with the symbol ^--"j y	Compliance	P
	- indication of the open and closed position: with O and I respectively, if symbols are used	Compliance	P
b)	Marking on equipment not needed to be visible after mounting:		-
	- manufacturer's name or trademark	Changcheng Electrical Group Zhejiang Technology Co., Ltd.	P
	- type designation or serial number	–	P
	- IEC 60947-2 if the manufacturer compliance with this standard.	IEC 60947-2	P
	- utilization category		P
	- rated operational voltage(s) Ue		P
	- Circuit-breaker for use in IT systems: Circuit-breaker for which all values of rated voltage have not been tested according to annex H or are not covered by such testing, shall be identified by the symbol® which shall be market on the circuit-breaker immediately following these values of rated voltage	Compliance	P
	- value (or range) of the rated frequency and/or the indication DC (or symbol)		P
	- rated service short-circuit breaking capacity. Ics		P
	- rated ultimate short-circuit breaking capacity. Icu		P
	- rated short-time withstand current, (Iew) and associated short-time delay, for utilization category B	-	N/A
	- line and load terminals, unless their connection is immaterial	-	N/A
	- neutral pole terminals, if applicable, by the letter N	-	N/A
	- protective earth terminal, where applicable, by the symbol acc. 7.1.9.3 of part 1	-	N/A
	- ref. temperature for non-compensated thermal releases, if different from 30°C		P
c)	Marked on the circuit-breaker as specified in item b), or shall be made available in the manufacturer's published information:		-
	- rated short-circuit making capacity (Icm) (if higher than specified in 4.3.5.1	–	P
	- rated insulation voltage. (Ui) if higher than the maximum rated operational voltage)	–	P

	- rated impulse withstand voltage (Uimp), when declared.	–	P
	- pollution degree if other than 3	-	N/A
	- conventional enclosed thermal current (Ithe) if different from the rated current:	-	N/A
	- IP Code, where applicable:		P
	- minimum enclosure size and ventilation data (if any) to which marked ratings apply:	-	N/A
	- details of minimum distance between circuit-breaker and earthed metal parts for circuit-breaker intended for use without enclosure:	Compliance	P
	- r.m.s sensing if applicable, according to F.4.1.1	-	N/A
	- suitability for environment A or B		P
d)	The following data concerning the opening and closing devices of the circuit-breaker shall be placed either on their own nameplates or on the nameplate of the circuit- breaker:		-
	- rated control circuit voltage of the closing device, and rated frequency for AC:	-	N/A
	- rated control circuit voltage of the shunt release and/or of the under-voltage release, and rated frequency:	-	N/A
	- rated current of indirect over-current releases:	-	N/A
	- number and type of auxiliary contacts and kind of current, rated frequency (if AC) and rated voltages of the auxiliary switches, if different from those of the main circuit.		N/A
e)	Terminal shall be clearly and permanently identified in acc. with IEC 60445 and annex L:		-
	- line terminal	-	N/A
	- load terminal	-	N/A
	- neutral pole terminal "N"	-	N/A
	- protective earth terminal ®	-	N/A
	- terminal of coils (A/B)	-	N/A
7.1	CONSTRUCTION		
7.1.1	Withdrawable circuit-breaker	-	N/A
	In the disconnected position (main- and auxiliary circuits)		-
	Isolating distances for circuit-breaker suitable for isolating warranted:	-	N/A
	Mechanism fitted with a reliable indicating device with indicates the position of the isolating contacts.	-	N/A
	Mechanism fitted with interlocks witch only permit the isolating contacts to be separate or re-closed when main contacts are open	-	N/A
	Mechanism fitted with interlock witch only permit the main contacts to be closed when the isolating contacts are fully closed.	-	N/A
	Mechanism fitted with interlock witch only permit the main contacts to be closed when in disconnected position.	-	N/A

	The isolating distances between the isolating contacts cannot be inadvertently reduced.	-	N/A
7.1.1.1	Resistance to abnormal heat and fire		P
7.1.2	Current-carrying parts and their connection	Compliance	P
7.1.3	Clearences and creepage distances:		-
	For circuit-breakers for which the manufacturer has declared a value of rated impulse withstand voltage. (Uimp.)		-
	Clearances distances:		-
	- Uimp is given as:	–	-
	- max. value of rated operational voltage to earth	–	-
	- nominal voltage of supply system:	-	-
	- overvoltage category:		-
	- pollution degree:		-
	- field-in or homogeneous:		-
	- minimum clearances (mm):		-
	- measured clearances (mm):		P
	Creepage distances:		-
	- rated insulation voltage Ui (V)		-
	- pollution degree		-
	- comparative tracking index (V)		-
	- material group		-
	Minimum creepage distances (mm)		-
	Measured creepage distances (mm)		P
7.1.4 parti	Actuator		-
7.1.4.1 part 1	Insulation		-
	The actuator of the equipment shall be insulated from the live parts for the rated insulation voltage and, if applicable, the rated impulse withstand voltage	Compliance	P
	If it is made of metal, it shall be capable of being satisfactorily connected to a protective conductor unless it is provided with additional reliable insulation		N/A
	If it is made of or covered by insulating material, any internal metal part, which might become accessible in the event of insulation failure, shall also be insulated from live parts for the rated insulation voltage	Compliance	P
7.1.4.2	Direction of movement		-
	The direction of operation for actuators of devices shall normally conform to IEC 60447.	Compliance	P

	Where devices cannot conform to these requirements, e.g. due to special applications or alternative mounting positions, they shall be clearly marked such that there is no doubt as to the "I" and "O" positions and the direction of operation	Compliance	P
7.1.5 parti	Indication of contact position		-
7.1.5.1 part 1	Indicating means		-
	When an equipment is provided with means for indicating the closed and open positions, these positions shall be unambiguous and clearly indicated	Compliance	P
	This is done by means of a position indicating device (see 2.3.18)	Compliance	P
	If symbols are used, they shall indicate the closed and open position respectively, in accordance with IEC 60417-2:		-
	- 60417-2-IEC-5007 1 On (power)	Compliance	P
	- 60417-2-IEC-5007 O Off (power)	Compliance	P
	For equipment operated by means of two pushbuttons, only the push-button designated for the opening operation shall be red or marked with the symbol "O"		N/A
	Red colour shall not be used for any other pushbutton	-	N/A
	The colours of other push-buttons, illuminated push-buttons and indicator lights shall be in accordance with IEC 60073	-	N/A
7.1.5.2 part 1	Indication by the actuator		
	When the actuator is used to indicate the position of the contacts, it shall automatically take up or stay, when released, in the position corresponding to that of the moving contacts; in this case, the actuator shall have two distinct rest positions corresponding to those of the moving contacts, but for automatic opening a third distinct position of the actuator may be provided		P
7.1.6	Additional safety requirements for equipment suitable for isolation		-
7.1.6.1	Additional constructional requirements for equipment suitable for isolation (Ue > 50 V):		-
	Equipment suitable for isolation shall provide in the open position an isolation distance in acc. with the requirements necessary to satisfy the isolating function. Indication of the main contacts shall be provide by one or more of the following means:		-
	- the position of the actuator	Compliance	P
	- a separate mechanical indicator	-	N/A
	- visibility of the moving contacts	-	N/A

	When means are provided or to lock the equipment in the open position, locking only be possible when contacts are in the open position	-	N/A
	Actuator front-plate fitted to the equipment in a manner witch ensures correct contact position indication and locking	-	N/A
	The indicated open position is the only position in witch the specified isolation distances between the contacts is ensured.	Compliance	P
	- minimum clearances across open contacts (see Table XIII, Parti) (mm):		
	- measured clearances (mm):		P
	- test Uimp across gap (kV):		P
7.1.6.2	Supplementary requirements for equipment with provision for electrical interlocking with contactors or circuit-breakers:		
	auxiliary switch shall be rated according to IEC 60 947-5-1	-	N/A
	If equipment suitable for isolation is provided with an auxiliary switch for the purpose of electrical interlocking with contactor (s) or circuit-breaker(s) and intended to be used in motor circuits, the following requirements shall apply unless the equipment is rated for AC-23 utilization category		N/A
	The time interval between the opening of the contacts of the auxiliary switch and the contacts of the main poles shall be sufficient to ensure that the associated contactor or circuit-breaker interrupts the current before the main poles of the equipment open		N/A
	Unless otherwise stated in the manufacturer's technical literature, the time interval shall be not less than 20 ms when the equipment is operated according to the manufacturer" instructions		N/A
	Compliance shall be verified by measuring the time interval between the instant of opening of the auxiliary switch and the instant of opening of the main poles under no-load conditions when the equipment is operated according to the manufacturer's instructions		N/A
	During the closing operation the contacts of the auxiliary switch shall close after or simultaneously with the contacts of the main poles	-	N/A
	A suitable opening time interval may also be provided by an intermediate position (between the ON and OFF position) at which the interlocking contact(s) is (are) open and the main poles remain closed		N/A
7.1.6.3	Supplementary requirements for equipment provided with means for padlocking the open position:		-
	the locking means shall be designed in such a way that it cannot be removed with the appropriate padlock(s) installed	-	N/A

	Alternatively, the design may provide padlockable means to prevent access to the actuator	-	N/A
	test force F applied to the actuator in an attempt to operate to the closed position (N):	-	N/A
	rated impulse withstand voltage (kV):	-	N/A
	test Uimp on open main contacts at the test force	-	N/A
7.1.7	Terminals		-
7.1.7.1	All parts of terminals which maintain contact and carry current shall be of metal having adequate mechanical strength	Compliance	P
	Terminal connections shall be such that necessary contact pressure is maintained	Compliance	P
	Terminals shall be so constructed that the conductor is clamped between suitable surfaces without damage to the conductor and terminal	Compliance	P
	Terminal shall not allow the conductor to be displaced or to be displaced themselves in a manner detrimental to the operator of equipment and the insulation voltage shall not be reduced below the rated value	Compliance	P
7.1.7.2	Connection capacity		-
	type of conductors:		P
	minimum cross-sectional area of conductor (mm^2):	–	P
	maximum cross-sectional area of conductor (mm^2):	–	P
	number of conductors simultaneously connectable to the terminal:		P
7.1.7.3	Connection		
	terminals for connection to external conductors shall be readily accessible during installation	Compliance	P
	clamping screws and nuts shall not serve to fix any other component	Compliance	P
7.1.7.4	Terminal identification and marking		-
	terminal intended exclusively for the neutral conductor	-	N/A
	protective earth terminal	-	N/A
	other terminals	-	N/A
7.1.8 parti	Additional requirements for equipment provided with a neutral pole		
	When an equipment is provided with a pole intended only for connecting the neutral, this pole shall be clearly identified to that effect by the letter N (see 7.1.7.4.).		N/A
	A switched neutral pole shall break not before and shall make not after the other poles	-	N/A
	For equipment having a value of conventional thermal current (free air or enclosed, see 4.3.2.1 and 4.3.2.2) not exceeding 63 A, this value shall be identical for all poles		N/A
	For higher conventional thermal current values, the neutral pole may have a value of conventional thermal current different from that of the other		N/A

	poles, but not less than half that value or 63 A, whichever is the higher		
	if a pole with a appropriate making and breaking capacity is used as a neutral pole, then all poles, incl. the neutral pole, shall operate substantially together.		N/A
7.1.9	Provisions for protective earthing		
7.1.9.1	The exposed conductive parts (e.g. chassis, framework and fixed parts of metal enclosures) other than those which cannot constitute a danger shall be electrically interconnected and connected to a protective earth terminal for connection to an earth electrode or to an external protective conductor		N/A
part 1	This requirement can be met by the normal structural parts providing adequate electrical continuity and applies whether the equipment is used on its own or incorporated in an assembly		N/A
	Exposed conductive parts are considered not to constitute a danger if they cannot be touched on large areas or grasped with the hand or if they are of small size (approximately 50 mm x 50 mm) or are so located as to exclude any contact with live parts		N/A
7.1.9.2 part 1	Protective earth terminal		-
	The protective earth terminal shall be readily accessible and so placed that the connection of the equipment to the earth electrode or to the protective conductor is maintained when the cover or any other removable part is removed		N/A
	The protective earth terminal shall be suitably protected against corrosion	-	N/A
	In the case of equipment with conductive structures, enclosures, etc., means shall be provided, if necessary, to ensure electrical continuity between the exposed conductive parts the equipment and the metal sheathing of connecting conductors		N/A
	The protective earth terminal shall have no other function, except when it is intended to be connected to a PEN conductor (see 2.1.1.5 - Note). In this case, it shall also have the function of a neutral terminal in addition to meeting the requirements applicable to the protective earth terminal		N/A
7.1.9.3	Protective earth terminal marking and identification		-
	The protective earth terminal shall be clearly and permanently identified by its marking	-	N/A
	The identification shall be achieved by colour (green-yellow mark) or by the notation PE, or PEN, as applicable, in accordance with IEC 60445, subclause 5.3, or, in the case of PEN, by a graphical symbol for use on equipment		N/A

	Graphical symbol to be used: 60417-2-IEC-5019® Protective earth (ground) in accordance with IEC 60417-2		N/A
7.1.10	Enclosure for equipment		-
7.1.10.1	Design		-
	The enclosure, when it is opened: all parts requiring access for installation and maintenance are readily accessible	-	N/A
	Sufficient space shall be provided inside the enclosure	-	N/A
	The fixed parts of a metal enclosure shall be electrically connected to the other exposed conductive parts of the equipment and connected to a terminal which enables them to be earthed or connected to a protective conductor		N/A
	Under no circumstances shall a removable metal part of the enclosure be insulated from the part carrying the earth terminal when the removable part is in place		N/A
	The removable parts of the enclosure shall be firmly secured to the fixed parts by a device such that they cannot be accidentally loosened or detached owing to the effects of operation of the equipment or vibrations		N/A
	When an enclosure is so designed as to allow the covers to be opened without the use of tools, means shall be provided to prevent loss of the fastening devices		N/A
	If the enclosure is used for mounting push-buttons, it shall not be possible to remove the buttons from the outside of the enclosure	-	N/A
7.1.10.2	Insulation		
	If, in order to prevent accidental contact between a metallic enclosure and live parts, the enclosure is partly or completely lined with insulating material, then this lining shall be securely fixed to the enclosure		N/A
7.1.11	Degree of protection of enclosed equipment		-
	Degree of protection.		-
	Test for first characteristic.		-
	Test for first numeral		N/A
	Test for second characteristic		
	Test for second numeral		N/A
7.1.12 part 1	Conduit pull-out, torque and bending with metallic conduits		-
	Polymeric enclosures of equipment, whether integral or not, provided with threaded conduit entries, intended for the connection of extra heavy duty, rigid threaded metal conduits complying with IEC 60981, shall withstand the stresses occurring during its installation such as pull-out, torque, bending		N/A
7.2	Performance requirements		-

7.2.1	Operating condition		-
7.2.1.1	Closing		-
	For a circuit-breaker to be closed safely on to the making current corresponding to its rated short-circuit making capacity, it is essential that it should be operated with the same speed and the same firmness as during the type test for proving the short-circuit making capacity	Compliance	P
7.2.1.1.1	Dependent manual closing		-
	For a circuit-breaker having a dependent manual closing mechanism, it is not possible to assign a short-circuit making capacity rating irrespective of the conditions of mechanical operation		N/A
	Such a circuit-breaker should not be used in circuits having a prospective peak making current exceeding 10 kA	-	N/A
	However, this does not apply in the case of a circuit-breaker having a dependent manual closing mechanism and incorporating an integral fast- acting opening release which causes the circuit- breaker to break safely, irrespective of the speed and firmness with which it is closed on to prospective peak currents exceeding 10 kA; in this case, a rated short-circuit making capacity can be assigned		N/A
7.2.1.1.2	Independent manual closing		-
	A circuit-breaker having an independent manual closing mechanism can be assigned a short-circuit making capacity rating irrespective of the conditions of mechanical operation	Compliance	P
7.2.1.1.3	Dependent power closing		-
	At 110% of the rated control supply voltage, the closing operation performed on no-load shall not cause any damage to the circuit-breaker.	-	N/A
	At 85% of the rated control supply voltage, the closing operation shall be performed when the current established by the circuit-breaker is equal to its rated making capacity within the limits allowed by the operation of its relays or releases and, if a maximum time is stated for the closing operation, in a time not exceeding this maximum time limit.		N/A
7.2.1.1.4	Independent power closing		
	A circuit-breaker having an independent power closing operation can be assigned a rated short-circuit making capacity irrespective of the conditions of power closing		N/A
	Means for charging the operating mechanism, as well as the closing control components, shall be capable of operating in accordance with the manufacturer's specification		N/A

7.2.1.1.5	Stored energy closing		-
	Capable ensuring closing of the circuit-breaker in any condition between no-load and its rated making capacity	-	N/A
	- when the stored energy is retained within the circuit-breaker, a device is provided witch indicates when the storing mechanism is fully charged.	-	N/A
	- means for charging the operating mechanism and closing control components operates when auxiliary supply voltage is between 85% and 110% of the rated control supply voltage.		N/A
	- not possible for the moving contacts to move from the open position, unless the charge is sufficient for satisfactory completion of the closing operation.	-	N/A
	- by manually operated circuit-breaker is the direction of operation indicated,		N/A
	(not for circuit-breaker with an independent manual closing operation.)		N/A
	- For trip free circuit-breaker it shall not be possible to maintain the contacts in the touching or closed position when the release is in the position to trip the circuit-breaker.		N/A
7.2.1.2	Opening		-
7.2.1.2.1	Circuit-breakers which open automatically shall be trip-free and, unless otherwise agreed between manufacturer and user, shall have their energy for the tripping operation stored prior to the completion of the closing operation		N/A
7.2.1.2.2	Opening by undervoltage releases		-
7.2.1.3.a part 1	Operating voltage		-
	An under-voltage relay or release, when associated with a switching device, shall operate to open the equipment even on a slowly falling voltage within the range between 70% and 35% of its rated voltage		N/A
	An under-voltage relay or release shall prevent the closing of the equipment when the supply voltage is below 35% of the rated voltage of the relay or release; it shall permit closing of the equipment at supply voltages equal to or above 85% of its rated value		N/A
	Unless otherwise stated in the relevant product standard, the upper limit of the supply voltage shall be 110% of its rated value	-	N/A
7.2.1.3.b part 1	Operating time		-
	For a time-delay under-voltage relay or release, the time-lag shall be measured from the instant when the voltage reaches the operating value until the instant when the relay or release		N/A

	actuates the tripping device of the equipment		
7.2.1.2.3	Opening by shunt releases	-	N/A
7.2.1.4 part 1	Limits of operation of shunt releases		-
	A shunt release for opening shall cause tripping under all operating conditions of an equipment when the supply voltage of the shunt release measured during the tripping operation remains between 70% and 110% of the rated control supply voltage and, if a.c., at the rated frequency		N/A
7.2.1.5 part 1	Limits of operation of current operated relays and released		-
	Limits of operation of current operated relays and releases shall be stated in the relevant product standard	-	N/A
7.2.1.2.4	Opening by over-current releases		-
a)	Opening under short-circuit conditions		-
	The short-circuit release shall cause tripping of the circuit-breaker with an accuracy of 20% of the tripping current value of the current setting for all values of the current setting of the short-circuit current release	Compliance	P
	Where necessary for over-current co-ordination the manufacturer shall provide information (usually curves) showing	-	N/A
	- maximum cut-off (let-through) peak current as a function of prospective current (r.m.s. symmetrical)	Compliance	P
	- *I2t* characteristics for circuit-breakers of utilization category A and, if applicable, B for circuit-breakers with instantaneous override (see not to 8.3.5)	Compliance	P
b)	Opening under overload conditions		-
1)	Instantaneous or definite time-delay operation	-	N/A
	The release shall cause tripping of the circuit-breaker with an accuracy of + 10% of the tripping current value of the current setting for all values of current setting of the overload release		N/A
2)	Inverse timer-delay operation		-
	At the reference temperature and at 1,05 times the current setting with the conventional non-tripping current, the opening release being energized on all poles, tripping shall not occur in less than the conventional time from the cold state, i.e. with the circuit-breaker at the reference temperature	Compliance	P
	Moreover, when at the end of the conventional time the value of current is immediately raised to 1,30 times the current setting, i.e. with the conventional tripping current, tripping shall then occur in less than the conventional time later	Compliance	P
	If a release is declared by the manufacturer as substantially independent of ambient	Compliance	P

	temperature, the current values of table 6 shall apply within the temperature band declared by the manufacturer, within a tolerance of 0,3%/K		
	The width of the temperature band shall be at least 10 K on either side of the reference temperature	Compliance	P
7.2.4.2	Operational performance capability		
7.2.4.2 part 1	The operational performance off-load for which the tests are made with the control circuits energized and the main circuit not energized, in order to demonstrate that the equipment meets the operating conditions specified at the upper and lower limits of supply voltage and/or pressure specified for the control circuit during closing and opening operations	Compliance	P
	The operational performance on-load during which the equipment shall make and break the specified current corresponding, where relevant, to its utilization category for the number of operations stated in the relevant product standard	Compliance	P
8	TESTS		-
8.2.4	Mechanical properties of terminals		-
	Mechanical strength of terminals		-
	maximum cross-sectional area of conductor (mm2):	-	-
	diameter of thread (mm):		-
	torque (Nm):		-
	5 times on 2 separate clamping units Nm		P
	Testing for damage to and accidental loosening of conductor (flexion test)		-
	conductor of the smallest cross-sectional area (mm2):	-	-
	number of conductor of the smallest cross section :	-	-
	diameter of bushing hole (mm):	-	-
	height between the equipment and the platen :	-	-
	mass at the conductor(s) (kg):	-	-
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit	-	N/A
	Pull-out test		-
	force (N):		-
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit	-	N/A
	conductor of the largest cross-sectional area (mm2):	-	-
	number of conductor of the largest cross section :	-	-
	diameter of bushing hole (mm):	-	-
	height between the equipment and the platen :	-	-
	mass at the conductor(s) (kg):	-	-
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit	-	N/A
	Pull-out test		-

	force (N):	-	-
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit	-	N/A
	conductor of the largest and smallest cross-sectional area (mm2):	-	-
	number of conductor of the smallest cross section, number of conductor of the largest cross section :	-	-
	diameter of bushing hole (mm):	-	-
	height between the equipment and the platen :	-	-
	mass at the conductors) (kg):	-	-
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit	-	N/A
	Pull-out test		-
	force (N):	-	-
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit	-	N/A
8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS		-
8.3.3.1	Tripping limits and characteristic		-
8.3.3.1.2	Opening under short-circuit conditions		-
	Manufacturer's name or trademark	Changcheng Electrical Group Zhejiang Technology Co., Ltd.	-
	Type designation or serial number	–	-
	Sample no:	–	-
	Rated operational voltage: Ue (V)		-
	Rated current: In (A)		-
	Ambient temperature 10-40 °C :		P
	Value of the tripping current declared by the manufacturer for a single pole, at witch value they shall operate.	–	P
	Range of adjustable setting current. (A)	–	P
	Time delay stated by the manufacturer, in the case of definite time delay releases.	-	N/A
	Test current: 80% of the rated, or minimum adjustable setting current: (A)		P
	Operating time: >0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3:		P
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3:		N/A
	Test current: 80% of the maximum adjustable setting current: (A)		P
	Operating time: >0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3:		P
	Operating time: > twice time delay stated by the		N/A

	manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3:		
	Test current: 120% of the rated, or minimum adjustable setting current: (A)		P
	Operating time: <0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3:		P
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3:		N/A
	Test current: 120% of the maximum adjustable setting current: (A)		P
	Operating time: <0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3:		P
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3:		N/A
	Test current: tripping current declared for single pole operation (A)		P
	Operating time: < 20 ms in case of instantaneous release: L1: L2: L3:		P
	Operating time: < twice time delay stated by manufacturer in case of definite time delay releases L1: L2: L3:		N/A
8.3.3.1.3	Opening under overload conditions		-
a)	Instantaneous or definite time-delay releases		-
	Manufacturer's name or trademark	-	-
	Type designation or serial number	-	-
	Sample no:	-	-
	Rated operational voltage: Ue (V)	-	-
	Rated current: In (A)	-	-
	Ambient temperature 10-40 °C :	-	N/A
	Value of the tripping current declared by the manufacturer for a single pole, at witch value they shall operate.	-	N/A
	Range of adjustable setting current. (A)	-	N/A
	Time delay stated by the manufacturer, in the case of definite time delay releases.	-	N/A
	Test current: 90% of the rated, or minimum adjustable setting current: (A)	-	N/A
	Operating time: >0,2s in case of instantaneous releases:	-	N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay	-	N/A

	releases.		
	Test current: 90% of the maximum adjustable setting current: (A)	-	N/A
	Operating time: >0,2s in case of instantaneous releases	-	N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.	-	N/A
	Test current: 110% of the rated, or minimum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)	-	N/A
	Operating time: <0,2s in case of instantaneous releases:	-	N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases.	-	N/A
	Test current: 110% of the maximum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)	-	N/A
	Operating time: <0,2s in case of instantaneous releases	-	N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases.	-	N/A
b)	Inverse time delay releases		-
	Manufacturer's name or trademark	Changcheng Electrical Group Zhejiang Technology Co., Ltd.	-
	Type designation or serial number	–	-
	Sample no:	–	-
	Rated operational voltage: Ue (V)		-
	Rated current: In (A)	–	-
	For releases dependent of ambient air temperature: Reference temperature		P
	Test ambient temperature (°C)		P
	If test made at a difference ambient temperature: Acc. Manufacturer's correction temperature/current data:		P
	Range of adjustable setting current: (A)		P
	For releases independent of ambient temperature: Test made at 30°C and/or at 20/40°C	-	N/A
	Test ambient air temperature:	-	N/A
	Releases, dependent of ambient air temperature: Reference temperature (°C)		P
	Releases, independent of ambient air temperature: at 30°C	-	N/A
	Test current: 105% of the rated, or minimum adjustable setting current: (A)		P
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A		P
	Test current: 130% of the rated, or minimum adjustable setting current: (A)		P

	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A		P
	Test current: 105% of the maximum adjustable setting current: (A)		P
	Conventional non-tripping time: 1 h when In < 63A, 2h when In > 63 A		P
	Test current: 130% of the maximum adjustable setting current: (A)		P
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A		P
	Releases, independent of ambient air temperature: at 20°C or 40°C		-
	Test ambient air temperature:	-	N/A
	Test current: 105% of the rated, or minimum adjustable setting current: (A)	-	N/A
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A	-	N/A
	Test current: 130% of the rated, or minimum adjustable setting current: (A)	-	N/A
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A	-	N/A
	Test current: 105% of the maximum adjustable setting current: (A)	-	N/A
	Conventional non-tripping time: 1 h when In < 63A, 2h when In > 63 A	-	N/A
	Test current: 130% of the maximum adjustable setting current: (A)	-	N/A
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A	-	N/A
	An additional test, at a current specified by the manufacturer to verify the time/current characteristic of the releases conform to the curves provided by the manufacturer		-
	Releases, independent of ambient air temperature: at 30°C	-	N/A
	Test current: at current specified by the manufacturer to verify the time/current characteristic of the releases conform to the curves provided by the manufacturer. % at the rated, or minimum adjustable setting current: (% or A)		P
	Tripping time acc. Time/current characteristic of the releases conform to the curves provided by the manufacturer, (within the stated tolorances)		P
	Releases, independent of ambient air temperature: at 20°C or 40°C		-
	Test ambient air temperature:	-	N/A
	Test current: at current specified by the manufacturer to verify the time/current characteristic of the releases conform to the curves provided by the manufacturer. % at the rated, or minimum adjustable setting		N/A

	current: (% or A)		
	Tripping time acc. Time/current characteristic of the releases conform to the curves provided by the manufacturer, (within the stated tolorances)	-	N/A
8.3.3.1.4	Additional test for definite time-delay releases		-
a)	Time delay		-
	Test is made at a current equal to 1,5 times the current setting		-
	overload releases: (all phase poles loaded)	-	N/A
	short-circuit releases:		N/A
	two poles in series carrying the test current, using successively all possible combinations of poles having a short-circuit release.		-
	Test current: 1,5 times of the rated, or minimum adjustable setting current: (A)	-	N/A
	Ooeratina time, overload releases: *(s)*	-	N/A
	Time-delay: between the limits stated by the manufacturer:	-	N/A
	Ooeratina time, short-circuit releases: (s) L1-L2: L1-L3: L2-L3:	-	N/A
	Time-delay: between the limits stated by the manufacturer:	-	N/A
	Test current: 1,5 times of the maximum adjustable setting current: (A)	-	N/A
	Operatinq time, overload releases: (s)	-	N/A
	Time-delay: between the limits stated by the manufacturer:	-	N/A
	Ooeratinq time, short-circuit releases: (s) L1-L2: L1-L3: L2-L3:	-	N/A
	Time-delay: between the limits stated by the manufacturer:	-	N/A
b)	Non-tripping duration		-
	Firstly, the test current equal to 1,5 times the current setting is maintained for a time interval equal to the non-tripping duration stated by the manufacturer.		-
	overload releases: (all phase poles loaded)	-	N/A
	short-circuit releases: two poles in series carrying the test current, using successively all possible combinations of poles having a short-circuit release.		N/A
	Test current: 1,5 times of the rated, or minimum adjustable setting current: (A)	-	N/A
	Time interval: non-tripping duration stated by the manufacturer: (s)	-	N/A
	Ooeratina time, overload releases: the circuit-breaker does not trip:	-	N/A
	Ooeratina time, short-circuit releases: the circuit-breaker does not trip: L1-L2: L1-L3: L2-L3:		N/A
	Test current: 1,5 times of maximum adjustable setting current: (A)	-	N/A
	Time interval: non-tripping duration stated by the	-	N/A

	manufacturer: (s)		
	Ooeratina time, overload releases: the circuit-breaker does not trip:	-	N/A
	Ooeratina time, short-circuit releases: the circuit-breaker does not trip: L1-L2: L1-L3: L2-L3:		N/A
	Then, the current is reduced to the rated current and maintained at this value for twice the time-delay stated by the manufacturer. The circuit-breaker shall not trip.		-
	Test current: of the rated, or minimum adjustable setting current: (A)	-	N/A
	Time interval: twice the delay-time stated by the manufacturer: (s)	-	N/A
	Ooeratinq time, overload releases: the circuit-breaker does not trip:	-	N/A
	Ooeratinq time, short-circuit releases: the circuit-breaker does not trip: L1-L2: L1-L3: L2-L3:		N/A
	Test current: maximum adjustable setting current: (A)	-	N/A
	Ooeratinq time, overload releases: the circuit-breaker does not trip:	-	N/A
	Ooeratina time, short-circuit releases: the circuit-breaker does not trip: L1-L2: L1-L3: L2-L3:		N/A
8.3.3.2	Test of dielectric properties, impulse withstand voltage (Uimp indicated):		-
8.3.3.4 parti	The 1 ,2/50|JS impulse voltage shall be applied five times for each polarity at intervals of 1s minimum		-
	- rated impulse withstand voltage (kV):		P
	- sea level of the laboratory:		P
	- test Uimp main circuits (kV):		P
	- test Uimp auxiliary circuits (kV):		N/A
	- test Uimp control circuits (kV):		N/A
	- test Uimp on open main contacts (equipment suitable for isolating) (kV):		P
a)	Application of test voltage		-
	i) Between all terminals of the main circuit connected together (incl. control and auxiliary circuits connected to the main circuit) and the enclosure or mounting plate, with the contacts in all normal positions of operation.	Compliance	P
	ii) Between all terminals of the main circuit and the other poles connected together and to the enclosure or mounting plate, with the contacts in all normal positions of operation.	compliance	P
	iii) Between each control and auxiliary circuit not normally connected to the main circuit and: - the main circuit	Compliance	P
	- other circuits	-	N/A
	- exposed conductive parts	-	N/A

	- enclosure of mounting plate	-	N/A
	iv) equipment suitable for isolation	Compliance	P
	equipment not suitable for isolation	-	N/A
	- no unintentional disruptive discharge during the test's	Compliance	P
	Test of dielectric properties, dielectric withstand voltage (Uimp not indicated):		-
	- rated insulation voltage (V) :	-	N/A
	- main circuits, test voltage for 1 min (V)	-	N/A
	- auxiliary circuits, test voltage for 1 min (V)	-	N/A
	- control circuits, test voltage for 1 min (V)	-	N/A
8.3.3.2.2	Application of test voltage		-
1)	with circuit-breaker in the closed position		-
	- between all live parts of all poles connected together and the frame of the circuit-breaker.	-	N/A
	- between each pole and all the other poles connected to the frame of the circuit-breaker	-	N/A
2)	with the circuit-breaker in the open position and, additionally, in the tripped position, if any.	-	N/A
	- between all live parts of all poles connected together and the frame of the circuit-breaker.	-	N/A
	- between the terminals of one side connected together and the terminals of the other side connected together.	-	N/A
b)	Control and auxiliary circuits		-
1)	- between all the control and auxiliary circuits which are not normally connected to the main circuit, connected together, and the frame of the circuit- breaker.		N/A
2)	- where appropriate, between each part of the control an auxiliary circuits which may be isolated from the other parts during normal operation and all the other parts connected together.		N/A
	No unintentional disruptive discharge during the test's	-	N/A
8.3.3.2	For circuit-breaker suitable for isolation, the leakage current shall be measured through each pole with the contacts in the open position, at a test voltage of 1,1 Ue, and shall not exceed 0,5mA.		N/A
8.3.3.3	Mechanical operation and operational performance capability		-
8.3.3.3.2	Construction and mechanical operation		-
a)	Construction		-
	A withdrawable circuit-breaker shall be checked for the requirements stated in 7.1.1	-	N/A
	A circuit-breaker with stored energy operation shall be checked for compliance with 7.2.1.1.5, regarding the charge indicator and the direction of operation of manual energy storing		N/A
b)	Mechanical operation		-
	A circuit-breaker with dependent power operation shall comply with the requirements stated in	-	N/A

	7.2.1.1.3		
	A circuit-breaker with dependent power operation shall operate with the operating mechanism charged to the minimum and maximum limits stated by the manufacturer		N/A
	A circuit-breaker with stored energy operation shall comply with the requirements stated in 7.2.1.5 with the auxiliary supply voltage at 85% and 110% of the rated control supply voltage.		N/A
	It shall also be verified that the moving contacts cannot be moved from the open position when the operating mechanism is charged to slightly below the full charge as evidenced by the indicating device		N/A
	For a trip-free circuit-breaker it shall not be possible to maintain the contacts in the touching or closed position when the tripping release is in the position to trip the circuit-breaker		N/A
	If the closing and opening times of a circuit-breaker are stated by the manufacturer, such times shall comply with the stated values	-	N/A
c)	Undervoltage releases		-
	Undervoltage releases shall comply with the requirements of 7.2.1.3 of Part 1. For this purpose, the release shall be fitted to a circuit-breaker having the maximum current rating for which the release is suitable		N/A
i)	Drop out voltage		-
	It shall be verified that the release operates to open the circuit-breaker between the voltage limits specified	-	N/A
	The voltage shall be reduced from rated voltage at a rate to reach 0 V in approximately 30 s	-	N/A
	The test for the lower limit is made without current in the main circuit and without previous heating of the release coil	-	N/A
	In the case of a release with a range of rated voltages, this test applies to the maximum voltage of the range	-	N/A
	The test for the upper limit is made starting from a constant temperature corresponding to the application of rated control supply voltage to the release and rated current in the main poles of the circuit-breaker		N/A
	This test may be combined with the temperature-rise test of 8.3.3.6	-	N/A
	In the case of a release with a range of rated voltages, this test is made at both the minimum and maximum rated control supply voltages	-	N/A
ii)	Test for limits of operation		
	Starting with the circuit-breaker open, at the temperature of the test room, and with the supply voltage at 30% rated maximum control supply voltage, it shall be verified that the circuit-breaker cannot be closed by the operation of the actuator		N/A

	When the supply voltage is raised to 85% of the minimum control supply voltage, it shall be verified that the circuit-breaker can be closed by the operation of the actuator		N/A
iii)	Performance under overvoltage conditions		-
	With the circuit-breaker closed and without current in the main circuit, it shall be verified that the undervoltage release will withstand the application of 110% rated control supply voltage for 4 h without impairing its functions		N/A
d)	Shunt releases		-
	Shunt releases shall comply with the requirements of 7.2.1.4 of Part 1. For this purpose, the release shall be fitted to a circuit-breaker having the maximum rated current for which the release is suitable		N/A
	It shall be verified that the release will operate to open the circuit-breaker at 70% rated control supply voltage whren tested at an ambient temperature of + 55 °C + 2 °C without current in the main poles of the circuit-breaker		N/A
	In the case of a release having a range of rated control supply voltages, the test voltage shall be 70% of the minimum rated control supply voltage	-	N/A
8.3.3.3.3	Operational performance capability without current.		-
	Type designation or serial number	_	-
	Sample no:	_	-
	Rated current In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated control supply voltage of closing mechanism: Uc (V)	-	-
	Rated control supply voltage of shunt releases: Uc(V)	-	-
	Rated control supply voltage undervoltage releases: Uc (V)	-	-
	Ambient temperature 10-40 °C :		P
	Number of operating cycles per hour		P
	Number of cycles without current (total) (closing mechanism energized at the rated Uc)	-	N/A
	Number of cycles without current (without releases)		P
	Applied voltage: closing mechanism (V)	-	N/A
	10% of total cycles for circuit-breaker with fitted shunt release: (50% at the beginning- and 50% at the end of the test.) Energized at the rated Uc		N/A
	Applied voltage: shunt releases (V)	-	N/A
	10% of total cycles for circuit-breaker with undervoltage releases: (50% at the beginning- and 50% at the end of the		N/A

	test.) Energized at the minimum rated Uc		
	10 cycles without applied voltage at the undervoltage releases. (Shall not possible to close the circuit-breaker.)	-	N/A
	Applied voltage: undervoltage releases (V)	-	N/A
	Electrical components do not exceed the value indicated in tab. 7.	Compliance	P
8.3.3.3.4	Operational performance capability with current.		-
	Rated current: In (A)		-
	Maximum rated operational voltage: Ue (V)		-
	Conductor cross-sectional area (mm^2):	–	P
	Number of operating cycles per hour	–	P
	Number of cycles with current (total) (closing mechanism energized at the rated Uc)	–	P
	Applied voltage: closing mechanism (V)		P
	For circuit-breaker fitted with adjustable releases, test shall be made with the overload setting at maximum and short-circuit setting at minimum.	-	N/A
	Conditions, make/break operations:		
	- test voltage U/Ue = 1,0 (V) L1: L2:		P
	L3:		
	- test current I/Ie = 1,0 (A) L1: L2:		P
	L3:		
	- power factor/time constant:		P
	- frequency: (Hz)		P
	- on-time (ms):		P
	- off-time (s):		P
	Electrical components do not exceed the value indicated in tab. 7.	Compliance	P
8.3.3.3.5	Additional test of operational performance capability without current for withdrawable circuit-breaker.		
	Number of operations cycles : 100	-	N/A
	After test, the isolating contacts, withdrawable mechanism and interlocks shall be suitable for further service.	-	N/A
8.3.3.4	Overload performance		-
	this test applies to circuit-breaker of rated current up to and including 630 A		-
	Type designation or serial number		-
	Sample no:	–	-
	Rated current In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated control supply voltage of closing mechanism: Uc (V)	-	-
	Rated control supply voltage of shunt releases: Uc (V)	-	-
	Rated control supply voltage undervoltage releases: Uc (V)	-	-

	Ambient temperature 10-40 °C :		P
	Number of operating cycles per hour	–	P
	Maximum rated operational voltage: Ue (V)		P
	Number of operating cycles per hour		N/A
	Number of cycles with current (total) (closing mechanism energized at the rated Uc)	-	N/A
	Applied voltage: closing mechanism (V)	-	N/AP
	For circuit-breaker fitted with adjustable releases, test shall be made with the overload/short-circuit settings at maximum.	-	N/A
	Conditions, overload operations:		-
	- test voltage U/Ue = 1,05 (V) L1: L2: L3:		P
	- test current AC/DC: I/Ie = 6,0/2.5 (A) L1: L2: L3:		P
	- power factor/time constant:		P
	- Number of cycles manually opened: 9		P
	- Number of cycles automatically opened by an overload release: 3		P
	- frequency: (Hz)		P
	- on-time max 2s:		P
8.3.3.5	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of		P
	- no breakdown or flashover	No	P
	- the leaking current for circuit-breaker suitable for isolation: (<2mA/1.1 Ue)		P
8.3.3.6	Verification of temperature-rise		
	- the values of temperature-rise do not exceed the those specified in tab. 7.		P
	Temperature rise of main circuit terminals < 80 K (K):		P
	conductor cross-sectional area (mm^2):		P
	test current Ie (A):		P
8.3.3.7	Verification of overload releases		
	Test current: 1.45 times the value of their current setting at the reference temperature: (A)		P
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A		P
8.3.3.8	Verification of undervoltage and shunt releases		-
	Circuit-breaker fitted with undervoltage releases. The release shall not operate at 70% of the minimum control supply voltage -		N/A
	and shall operate at 35% of the maximum control supply voltage.	-	N/A
	Circuit-breaker fitted with shunt releases. The release shall operate at 70% of the minimum rated control supply voltage. Test made at room temperature.		N/A
8.3.3.9	Verification of the main contact position for circuit-		-

	breakers for isolation		
	actuating force for opening (N).....		-
	test force with blocked main contacts for 10 s (N).:		-
	Dependent power operation		-
	Supply voltage of 110% of rated voltage (V).....	-	N/A
	Three attempts of 5 s to operate the equipment at intervals of 5 min.	-	N/A
	Independent power operation		-
	Three attempts to operate the equipment by the stored energy.	-	N/A
	Lockability of driving mechanism in OFF-position at test force and blocked main contacts	-	N/A
	Position indicator does not show OFF-position after capture of test force at blocked main contacts	Compliance	P
8.3.4	TEST SEQUENCE II (Ics):		P
8.3.4.1	Test of rated service short-circuit breaking capacity		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	Type designation or serial number	-	-
	Sample no:	-	-
	Rated current: In (A)	-	-
	Rated operational voltage: Ue (V)	-	-
	Rated service short-circuit breaking capacity: (kA)	-	-
	Rated control supply voltage of closing mechanism: Uc (V)	-	-
	Rated control supply voltage of shunt release: Uc (V)	-	-
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.	-	N/A
	closing mechanism energized with 85% at the rated Uc: (V)	-	N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.	-	N/A
	Test made in free air:	-	N/A
	Distances of the metallic screen's: (all sides)	-	N/A
	The characteristics of the metallic screen:		
	- woven wire mesh	-	N/A
	- perforated metal	-	N/A
	- expanded metal	-	N/A
	- ratio hole area/total area: 0,45-0,65	-	N/A
	- size of hole: <30mm^2	-	N/A
	- finish: bare or conductive plating	-	N/A
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:	-	N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long	-	N/A
	Circuit is earthed at: (load-star- or supply-star point)	-	N/A
	Conductor cross-sectional area (mm^2):	-	N/A
	If terminals unmarked: line connected at: (underside/upside)	-	N/A

	Tightening torques: (Nm)	-	N/A
	Test sequence of operation: O -1 - CO -1 - CO		-
	- test voltage U/Ue = 1,05 (V) - L1: - L2:	-	N/A
	- L3:		-
	- r.m.s. test current AC/DC: (A) - L1:		N/A
	- L2:		-
	- L3:		-
	power factor/time constant:	-	N/A
	- Factor "n"	-	N/A
	- peak test current (A):	-	N/A
	Test sequence "O"		-
	- max. let-through current: (kApeak) L1: L2:	-	N/A
	L3:		-
	-Joule integral $I^2dt(A^2s)$ L1: L2:	-	N/A
	L3:		-
	Pause, t: (min)	-	N/A
	Test sequence "CO"		
	- max. let-through current: (kApeak) L1: L2:	-	N/A
	L3:		-
	-Joule integral $I^2dt(A^2s)$ L1: L2:	-	N/A
	L3:		-
	Pause, t: (min)	-	N/A
	Test sequence "CO"		
	max. let-through current: (kApeak) L1: L2:	-	N/A
	L3:		-
	Joule integral $I^2dt(A^2s)$ L1: L2:	-	N/A
	L3:		-
	Melting of the fusible element	-	N/A
	Holes in the PE-sheet for test sequence "O"	-	N/A
	Cracks observed	-	N/A
8.3.4.2	Operational performance capability with current.		-
	Rated current: In (A)	-	-
	Maximum rated operational voltage: Ue (V)	-	-
	Conductor cross-sectional area (mm^2):	-	-
	Number of operating cycles per hour	-	N/A

	Number (5% of the number given in columm 4, tab. 8) of cycles with current (total) (closing mechanism energized at the rated Uc)	-	N/A
	Applied voltage: closing mechanism (V)	-	N/A
	For circuit-breaker fitted with adjustable releases, test shall be made with the overload setting at maximum and short-circuit setting at minimum.	-	N/A
	Conditions, make/break operations:		-
	- test voltage U/Ue = 1,0 (V) L1: L2:	-	N/A
	L3:		-
	-testcurrent I/Ie = 1,0 (A) L1: L2:	-	N/A
	L3:		-
	- power factor/time constant:	-	N/A
	- frequency: (Hz)	-	N/A
	- on-time (ms):	-	N/A
	- off-time (s):	-	N/A
	Electrical components do not exceed the value indicated in tab. 7.	-	N/A
8.3.4.3	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of	-	N/A
	- no breakdown or flashover	-	N/A
	- the leaking current for circuit-breaker suitable for isolation: (<2mA/1.1 Ue)	-	N/A
8.3.4.4	Verification of temperature-rise		-
	- the values of temperature-rise do not exceed the those specified in tab. 7.	-	N/A
	Temperature rise of main circuit terminals. < 80 K (K):	-	N/A
	conductor cross-sectional area (mm^2):	-	N/A
	test current Ie (A):	-	N/A
8.3.4.5	Verification of overload releases		-
	Test current: 1.45 times the value of their current setting at the reference temperature: (A)	-	N/A
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A	-	N/A
8.3.4	TEST SEQUENCE II/III (Ics=Icu):		-
8.3.4.1	Test, of rated service short-circuit breaking capacity		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	Type designation or serial number		-
	Sample no:	–	-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated service short-circuit breaking capacity: (kA)		-
	Rated control supply voltage of closing mechanism: Uc (V)	-	-
	Rated control supply voltage of shunt release: Uc	-	-

	(V)		
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.	Compliance	P
	closing mechanism energized with 85% at the rated Uc: (V)	-	N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.	Compliance	P
	Test made in free air:	Compliance	P
	Distances of the metallic screen's: (all sides)		P
	The characteristics of the metallic screen:		
	- woven wire mesh	-	N/A
	- perforated metal	Compliance	P
	- expanded metal	-	N/A
	- ratio hole area/total area: 0,45-0,65	–	P
	- size of hole: <30mm^2	–	P
	- finish: bare or conductive plating	Compliance	P
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:	-	N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long	Compliance	P
	Circuit is earthed at: (load-star- or supply-star point)		P
	Conductor cross-sectional area (mm^2):	–	P
	If terminals unmarked: line connected at: (underside/upside)		P
	Tightening torques: (Nm)		P
	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:	–	P
	Operation time: (s) L1: L2:		P
	L3:		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	test voltage U/Ue = 1,05 (V) L1: L2:		P
	L3:		-
	r.m.s. test current AC/DC: (A) L1:		P
8.3.5.1	L2:		-
	L3:		-
	power factor/time constant:		P
	- Factor "n"		P
	- peak test current (A):		P
	Test sequence "O"		

	max. let-through current: (kApeak) L1: L2:		P
	L3:		-
	-Joule integral $I^2dt(A^2s)$		-
	L1:		P
	L2:		-
	L3:		-
	Pause, t: (min)		P
	Test sequence "CO"		-
	max. let-through current: (kApeak) L1: L2:		P
	L3:		
	Joule integral $I^2dt(A^2s)$ L1: L2:		P
	L3:		-
	Pause, t: (min)		P
	Test sequence "CO		
	- max. let-through current: (kApeak) L1: L2:		P
	L3:		
	- Joule integral $I^2dt(A^2s)$ L1: L2:		P
	L3:		-
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
8.3.4.2	Operational performance capability with current.		-
	Rated current: In (A)		-
	Maximum rated operational voltage: Ue (V)		-
	Conductor cross-sectional area (mm^2):	–	-
	Number of operating cycles per hour		P
	Number (5% of the number given in columm 4, tab. 8) of cycles with current (total) (closing mechanism energized at the rated Uc)		P
	Applied voltage: closing mechanism (V)		P
	For circuit-breaker fitted with adjustable releases, test shall be made with the overload setting at maximum and short-circuit setting at minimum.	-	N/A
	Conditions, make/break operations:		-
	- test voltage U/Ue = 1,0 (V) L1: L2: L3:		P
	-testcurrent I/Ie = 1,0 (A)		P

	L1: L2: L3:		
	- power factor/time constant:		P
	- frequency: (Hz)		P
	- on-time (ms):		P
	- off-time (s):		P
	Electrical components do not exceed the value indicated in tab. 7.	-	N/A
8.3.4.3	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of		P
	- no breakdown or flashover	No	P
	- the leaking current for circuit-breaker suitable for isolation: (<2mA/1,1 Ue)		P
8.3.4.4	Verification of temperature-rise		-
	- the values of temperature-rise do not exceed the those specified in tab. 7.		P
	Temperature rise of main circuit terminals. < 80 K (K):		P
	conductor cross-sectional area (mm^2):		P
	test current Ie (A):		P
8.3.4.5	Verification of overload releases		-
	Test current: 1,45 times the value of their current setting at the reference temperature: (A)		P
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		P
8.3.5.4	Verification of overload releases		-
	The operation of overload releases shall be verified at 2,5 times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:	–	P
	- Operation time: (s) L1: L2: L3:		P
8.3.4	TEST SEQUENCE II/III (Ics=Icu):		-
8.3.4.1	Test of rated service short-circuit breaking capacity		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	Type designation or serial number		-
	Sample no:	–	-
	Rated current: In (A)	–	-
	Rated operational voltage: Ue (V)		-
	Rated service short-circuit breaking capacity: (kA)	–	-
	Rated control supply voltage of closing mechanism: Uc (V)	-	-
	Rated control supply voltage of shunt release: Uc	-	-

	(V)		
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.	Compliance	P
	closing mechanism energized with 85% at the rated Uc: (V)	-	N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.	Compliance	P
	Test made in free air:	Compliance	P
	Distances of the metallic screen's: (all sides)		P
	The characteristics of the metallic screen:		
	- woven wire mesh	-	N/A
	- perforated metal	Compliance	P
	- expanded metal	-	N/A
	- ratio hole area/total area: 0,45-0,65	–	P
	- size of hole: <30mm^2	–	P
	- finish: bare or conductive plating	Compliance	P
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:	-	N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long	Compliance	P
	Circuit is earthed at: (load-star- or supply-star point)		P
	Conductor cross-sectional area (mm^2):	–	P
	If terminals unmarked: line connected at: (underside/upside)		P
	Tightening torques: (Nm)		P
	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		-
8.3.5.1	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:	–	P
	- Operation time: (s) L1:		P
	L2:		-
	L3:		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	- test voltage U/Ue = 1,05 (V) L1: L2:		P
	L3:		-
	- r.m.s. test current AC/DC: (A) L1:		P
	L2:		-
	L3:		-
	power factor/time constant:		P
	- Factor "n"		P
	- peak test current (A):		P

	Test sequence "O"		
	- max. let-through current: (kApeak) L1: L2:		P
	L3:		-
	- Joule integral $I^2dt(A^2s)$ L1: L2:		P
	L3:		-
	Pause, t: (min)		P
	Test sequence "CO"		
	- max. let-through current: (kApeak) L1: L2:		P
	L3:		-
	- Joule integral $I^2dt(A^2s)$ L1: L2:		P
	L3:		-
	Pause, t: (min)		P
	Test sequence "CO"		
	- max. let-through current: (kApeak) L1: L2: L3:		P
	-Joule integral I2dt(A2s) L1: L2: L3:		P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
8.3.4.2	Operational performance capability with current.		-
	Rated current: In (A)	-	-
	Maximum rated operational voltage: Ue (V)	-	-
	Conductor cross-sectional area (mm2):	-	-
	Number of operating cycles per hour	-	N/A
	Number (5% of the number given in columm 4, tab. 8) of cycles with current (total) (closing mechanism energized at the rated Uc)	-	N/A
	Applied voltage: closing mechanism (V)	-	N/A
	For circuit-breaker fitted with adjustable releases, test shall be made with the overload setting at maximum and short-circuit setting at minimum.	-	N/A
	Conditions, make/break operations:		-
	- test voltage U/Ue = 1,0 (V).....L1: .....L2: L3:	-	N/A
	-testcurrent I/Ie = 1.0(A)..... L1: .....L2: L3:	-	N/A
	- power factor/time constant:	-	N/A
	- frequency: (Hz)	-	N/A

	- on-time (ms):	-	N/A
	- off-time (s):	-	N/A
	Electrical components do not exceed the value indicated in tab. 7.	-	N/A
8.3.4.3	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of		P
	- no breakdown or flashover	No	P
	- the leaking current for circuit-breaker suitable for isolation: (<2mA/1,1 Ue)		P
8.3.4.4	Verification of temperature-rise		
	- the values of temperature-rise do not exceed the those specified in tab. 7.	-	N/A
	Temperature rise of main circuit terminals. < 80 K (K):	-	N/A
	conductor cross-sectional area (mm^2):	-	N/A
	test current Ie (A):	-	N/A
8.3.4.5	Verification of overload releases		
	Test current: 1,45 times the value of their current setting at the reference temperature: (A)		P
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A		P
8.3.5.4	Verification of overload releases		-
	The operation of overload releases shall be verified at 2,5 times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:	–	P
	- Operation time: (s) .....L1: ..... L2: L3:		P
8.3.4	TEST SEQUENCE II/III (Ics=Icu):		-
8.3.4.1	Test of rated service short-circuit breaking capacity		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	Type designation or serial number		-
	Sample no:	–	-
	Rated current: In (A)	-	-
	Rated operational voltage: Ue (V)		-
	Rated service short-circuit breaking capacity: (kA)		-
	Rated control supply voltage of closing mechanism: Uc (V)	-	-
	Rated control supply voltage of shunt release: Uc (V)	-	-
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.	Compliance	P
	closing mechanism energized with 85% at the rated Uc: (V)	-	N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.	Compliance	P
	Test made in free air:	Compliance	P

	Distances of the metallic screen's: (all sides)		P
	The characteristics of the metallic screen:		-
	- woven wire mesh	-	N/A
	- perforated metal	Compliance	P
	- expanded metal	-	N/A
	- ratio hole area/total area: 0,45-0,65	–	P
	- size of hole: <30mm^2	–	P
	- finish: bare or conductive plating	Compliance	P
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:	-	N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long	Compliance	P
	Circuit is earthed at: (load-star- or supply-star point)	Load-star	P
	Conductor cross-sectional area (mm^2):		P
	If terminals unmarked: line connected at: (underside/upside)		P
	Tightening torques: (Nm)		P
8.3.5.1	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:	–	P
	- Operation time: (s) .....L1: L2:		P
	..... L3:		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	- test voltage U/Ue = 1,05 (V).....L1: L2:		P
	..... L3:		
	- r.m.s. test current AC/DC: (A) L1:		P
	..... .L2:		-
	....L3:		-
			-
	power factor/time constant:		P
	- Factor "n"		P
	Conditions, make/break operations:		-
	- test voltage U/Ue = 1,0 (V) L1: L2: L3:		P
	-test current I/Ie = 1.0(A) L1: L2: L3:		P
	- power factor/time constant:		P
	- frequency: (Hz)		P
	- on-time (ms):		P

	- off-time (s):		P
	Electrical components do not exceed the value indicated in tab. 7.	-	N/A
8.3.4.3	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of		P
	- no breakdown or flashover	No	P
	- the leaking current for circuit-breaker suitable for isolation: (<2mA/1,1 Ue)		P
8.3.4.4	Verification of temperature-rise		
	- the values of temperature-rise do not exceed the those specified in tab. 7.	See Remarks	P
	Temperature rise of main circuit terminals. < 80 K (K):		P
	conductor cross-sectional area (mm^2):		P
	test current Ie (A):		P
8.3.4.5	Verification of overload releases		
	Test current: 1,45 times the value of their current setting at the reference temperature: (A)		P
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A		P
8.3.5.4	Verification of overload releases		-
	The operation of overload releases shall be verified at 2,5 times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:	–	P
	- Operation time: (s) L1: L2: L3:		P
8.3.4	TEST SEQUENCE II/III (Ics=Icu):		-
8.3.4.1	Test of rated service short-circuit breaking capacity		-
	Test sequence of operation: O -1 - CO -1 - CO		
	Type designation or serial number		-
	Sample no:	–	-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated service short-circuit breaking capacity: (kA)	–	-
	Rated control supply voltage of closing mechanism: Uc (V)	-	-
	Rated control supply voltage of shunt release: Uc (V)	-	-
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.	Compliance	P
	closing mechanism energized with 85% at the rated Uc: (V)	-	N/A
	The circuit-breaker is mounted complete on its	Compliance	P

	own support or an equivalent support.		
	Test made in free air:	Compliance	P
	Distances of the metallic screen's: (all sides)		P
	The characteristics of the metallic screen:		
	- woven wire mesh	-	N/A
	- perforated metal	Compliance	P
	- expanded metal	-	N/A
	- ratio hole area/total area: 0,45-0,65	–	P
	- size of hole: <30mm^2	–	P
	- finish: bare or conductive plating	Compliance	P
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:	-	N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long	Compliance	P
	Circuit is earthed at: (load-star- or supply-star point)		P
	Conductor cross-sectional area (mm^2):	–	P
	If terminals unmarked: line connected at: (underside/upside)		P
	Tightening torques: (Nm)	–	P
8.3.5.1	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:	–	P
	- Operation time: (s) L1: L2:		P
	L3:		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	- test voltage U/Ue = 1,05 (V).....L1: L2:		P
	L3:		-
	- r.m.s. test current AC/DC: (A) L1:		P
	L2:		-
	L3:		-
	power factor/time constant:		P
	- Factor "n"		P
	- peak test current (A):		P
	Test sequence "O"		-
	- max. let-through current: (kApeak) L1: L2:		P
	L3:		
	-Joule integral I^2dt(A^2s).....L1: L2:		P
	L3:		-
	Pause, t: (min)		P

	Test sequence "CO"		-
	- max. let-through current: (kApeak) L1: L2:		P
	L3:		
	Joule integral $I^2dt(A^2s)$ L1: L2:		P
	L3:		
	Pause, t: (min)		P
	Test sequence "CO"		
	- max. let-through current: (kApeak) L1: L2:		P
	L3:		
	- Joule integral $I^2dt(A^2s)$ L1: L2: L3:		P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
8.3.4.2	Operational performance capability with current.		-
	Rated current: In (A)		-
	Maximum rated operational voltage: Ue (V)		-
	Conductor cross-sectional area (mm^2):		-
	Number of operating cycles per hour		P
	Number (5% of the number given in columm 4, tab. 8) of cycles with current (total) (closing mechanism energized at the rated Uc)		P
	Applied voltage: closing mechanism (V)		P
	For circuit-breaker fitted with adjustable releases, test shall be made with the overload setting at maximum and short-circuit setting at minimum.	-	N/A
	Conditions, make/break operations:		
	- test voltage U/Ue = 1,0 (V) L1: L2: L3:		P
	-testcurrent I/Ie = 1,0 (A) L1: L2: L3:		P
	- power factor/time constant:		P
	- frequency: (Hz)		P
	- on-time (ms):		P
	- off-time (s):		P

	Electrical components do not exceed the value indicated in tab. 7.	-	N/A
8.3.4.3	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of		P
	- no breakdown or flashover	No	P
	- the leaking current for circuit-breaker suitable for isolation: (<2mA/1,1 Ue)		P
8.3.4.4	Verification of temperature-rise		
	- the values of temperature-rise do not exceed the those specified in tab. 7.		P
	Temperature rise of main circuit terminals. < 80 K (K):		P
	conductor cross-sectional area (mm^2):		P
	test current Ie (A):		P
8.3.4.5	Verification of overload releases		
	Test current: 1,45 times the value of their current setting at the reference temperature: (A)		P
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		P
8.3.5.4	Verification of overload releases		-
	The operation of overload releases shall be verified at 2,5 times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		P
	- Operation time: (s) L1: L2: L3:		P
8.3.5	TEST SEQUENCE III (Ieu)		-
	Rated ultimate short-circuit breaking		-
	Except where the combined test sequence applies, this test sequence applies to circuit-breaker of utilization category A and to circuit-breaker of utilization B having a rated ultimate short-circuit breaking capacity higher than the rated short-time withstand current.		-
	For circuit-breakers of utilization B having a rated short-time withstand current equal to their rated ultimate short-circuit breaking capacity, this test sequence need not be made, since, in this case, the ultimate short-circuit breaking capacity, is verified when carrying out test sequence IV.		-
	For integrally fused circuit-breakers, test sequence V applies in place or this sequence.		-
	Type designation or serial number		-
	Sample no:		-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated ultimate short-circuit breaking capacity:		-

	(kA)		
	Rated control supply voltage of closing mechanism: Uc (V)		-
	Rated control supply voltage of shunt release: Uc (V)		-
	This test sequence need not be made when leu = les		-
8.3.5.1	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		N/A
	- Operation time: (s) L1: L2: L3:		N/A
8.3.5.2	Test of rated ultimate short-circuit breaking capacity		-
	The test sequence of operations is O -1 - CO		-
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		N/A
	closing mechanism energized with 85% at the rated Uc: (V)		N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.		N/A
	Test made in free air:		N/A
	Distances of the metallic screen's: (all sides)		N/A
	The characteristics of the metallic screen:		-
	- woven wire mesh		N/A
	- perforated metal		N/A
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65		N/A
	- size of hole: <30mm^2		N/A
	- finish: bare or conductive plating		N/A
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:		N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long		N/A
	Circuit is earthed at: (load-star- or supply-star point)		N/A
	Conductor cross-sectional area (mm^2):		N/A
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)		N/A
	Test sequence of operation: O -1 - CO		-
	- test voltage U/Ue = 1,05 (V) L1: L2:		N/A

	L3:		-
	- r.m.s. test current AC/DC: (A) L1: L2:		N/A
	L3:		-
	power factor/time constant:		N/A
	- Factor "n"		N/A
	- peak test current (Amax):		N/A
	Test sequence "O"		-
	- max. let-through current: (kApeak) L1:		N/A
	L2:		-
	L3:		-
	-Joule integral $I^2dt(A^2s)$L1: L2:		N/A
	L3:		
	Pause, t: (min)		N/A
	Test sequence "CO"		
	- max. let-through current: (kApeak) L1:		N/A
	L2:		-
	L3:		-
	-Joule integral $I^2dt(A^2s)$ L1: L2:		N/A
	L3:		-
			-
	Melting of the fusible element		N/A
	Holes in the PE-sheet for test sequence "O"		N/A
	Cracks observed		N/A
8.3.5.3	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of		N/A
	- no breakdown or flashover		N/A
	- the leaking current for circuit-breaker suitable for isolation: (<6mA/1,1 Ue)		N/A
8.3.5.4	Verification of overload releases		-
	The operation of overload releases shall be verified at 2,5 times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		N/A
	- Operation time: (s) L1: L2: L3:		N/A
8.3.6	TEST SEQUENCE IV		-

	Rated short-time withstand current		-
	Except where the combined test sequence applies, this test sequence applies to circuit-breakers of utilization category B and to those circuit-breaker of category A covered by note 3 of table 4, and comprises the following tests:		-
	Where integrally fused circuit-breaker are of utilization category B, they shall meet the requirements of this sequence.		-
	Type designation or serial number		-
	Sample no:		-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated short-time withstand current: (kA/s)		-
	Rated frequency: (Hz)		-
8.3.6.1	Verification of overload releases		-
	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		N/A
	- Operation time: (s) L1: L2: L3:		N/A
8.3.6.2	Test of rated short-time withstand current.		-
	For this test, any over-current release, including the instantaneous override, if any, likely to operate during the test, shall be rendered inoperative.		-
	- test frequency: (Hz)		N/A
	- duration of the test: (s)		N/A
	- test frequency: (Hz)		N/A
	- power factor / time constant (ms):		N/A
	- factor "n"		N/A
	-testvoltage: (V) L1: L2:		N/A
	L3:		-
	r.m.s. test current: (kA) L1: L2:		N/A
	L3:		-
	- highest peak current: (kA)		N/A
8.3.6.3	Verification of temperature-rise		-
	- the values of temperature-rise do not exceed the those specified in tab. 7.		N/A
	Temperature rise of main circuit terminals. < 80 K (K):		N/A
	conductor cross-sectional area (mm2):		N/A
	test current Ie (A):		N/A

8.3.6.4	Test of short-circuit breaking capacity at the max. short-time withstand current.		-
	Rated short-time withstand current: (kA/s)		-
	Test sequence: O -1 - CO		-
	max. available time setting of the short-time delay short-circuit release, (s)		N/A
	- test frequency: (Hz)		N/A
	- power factor / time constant (ms):		N/A
	- factor "n"		N/A
	Test sequence "O"		
	-testvoltage: (V) L1: L2:		N/A
	L3:		-
	- r.m.s. test current: (kA) L1:		N/A
	L2:		-
	L3:		-
	- highest peak current: (kA)		N/A
	- the circuit-breaker shall remain closed for the short-time corresponding to the max. available time setting of the short-time delay short-circuit release and -		N/A
	- the instantaneous override, if any, shall not operate.		N/A
	-pause: t (s)		N/A
	Test sequence "CO"		
	- test voltage: (V) L1: L2: L3:		N/A
	- r.m.s. test current: (kA) L1: L2: L3:		N/A
	- highest peak current: (kA)		N/A
	- the circuit-breaker shall remain closed for the short-time corresponding to the max. available time setting of the short-time delay short-circuit release and -		N/A
	- the instantaneous override, if any, shall not operate.		N/A
	- if the circuit-breaker has a making current release, this requirement does not apply to the CO operation, if the prospective current exceeds the pre-determined value, since it will then operate.		N/A
8.3.6.5	Verification of dielectric withstand	•	-
	- equal to twice the rated operational voltage with a minimum of		-
	- no breakdown or flashover		N/A
8.3.6.6	Verification of overload releases		N/A
	The operation of overload releases shall be		-

	verified at twice the value of their current setting on each pole separately.		
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		-
	- Operation time: (s) L1: L2: L3:		N/A
8.3.7	TEST SEQUENCE V		-
	Performance of integrally fused circuit-breakers		-
	STAGE 1		-
	Type designation or serial number		-
	Sample no:		-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Value of prospective current equal to the selectivity limit current, as declared by the manufacturer. (kA)		-
	Type of integrated fuses (all details)		-
	Rated control supply voltage of closing mechanism: Uc (V)		-
	Rated control supply voltage of shunt release: Uc (V)		-
8.3.7.1	Short-circuit at the selectivity limit current		-
	Test sequences "O"		-
	Fuses shall be fitted		N/A
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		-
	closing mechanism energized with 85% at the rated Uc: (V)		N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.		N/A
	Test made in free air:		N/A
	Distances of the metallic screen's: (all sides)		N/A
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		N/A
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65		N/A
	- size of hole: <30mm^2		N/A
	- finish: bare or conductive plating		N/A
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:		N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long		N/A
	Circuit is earthed at: (load-star- or supply-star point)		N/A
	Conductor cross-sectional area (mm^2):		N/A

	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening torques: (Nm)		N/A
	- test voltage U/Ue = 1,05 (V) L1: L2: L3:		N/A
	- r.m.s. test current AC/DC: (A) L1:		N/A
	L2:		-
	L3:		-
			-
	power factor/time constant:		N/A
	- factor "n"		N/A
	- peak test current (Amax):		N/A
	Test sequence "O"		
	- max. let-through current: (kApeak) L1: L2:		N/A
	L3:		-
			-
	-Joule integral $I^2dt(A^2s)$ L1: L2:		N/A
	L3:		-
			-
	- fuses shall still intact L1: L2:		N/A
	L3:		-
8.3.7.2	Verification of temperature-rise		-
	- the values of temperature-rise do not exceed the those specified in tab. 7.		N/A
	Temperature rise of main circuit terminals. < 80 K (K):		N/A
	conductor cross-sectional area (mm^2):		N/A
	test current Ie (A):		N/A
8.3.7.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of		N/A
	- no breakdown or flashover		N/A
	STAGE 2		-
	Type designation or serial number		-
	Sample no:		-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	1.1 time the value of prospective current equal to the selectivity limit current, as declared by the manufacturer. (kA)		-
	Type of integrated fuses (all details)		-
	Rated control supply voltage of closing mechanism: Uc (V)		-
	Rated control supply voltage of shunt release: Uc (V)		-

8.3.7.4	Verification of overload releases		N/A
	The operation of overload releases shall be verified at twice the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		
	- Operation time: (s) L1: L2: L3:		N/A
8.3.7.5	Short-circuit at 1,1 times the take-over current		-
8.3.7.1	Short-circuit at the selectivity limit current		-
	Test sequences "O"		-
	Fuses shall be fitted		N/A
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		
	closing mechanism energized with 85% at the rated Uc: (V)		N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.		N/A
	Test made in free air:		N/A
	Distances of the metallic screen's: (all sides)		N/A
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		N/A
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65		N/A
	- size of hole: <30mm^2		N/A
	- finish: bare or conductive plating		N/A
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:		N/A
	Fuse "F": copper wire: diameter 0.8 mm, 50 mm long		N/A
	Circuit is earthed at: (load-star- or supply-star point)		N/A
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		-
	closing mechanism energized with 85% at the rated Uc: (V)		N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.		N/A
	Test made in free air:		N/A
	Distances of the metallic screen's: (all sides)		N/A
	The characteristics of the metallic screen:		-
	- woven wire mesh		N/A
	- perforated metal		N/A
	- expanded metal		N/A

	- ratio hole area/total area: 0,45-0,65		N/A
	- size of hole: <30mm^2		N/A
	- finish: bare or conductive plating		N/A
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:		N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long		N/A
	Circuit is earthed at: (load-star- or supply-star point)		N/A
	Conductor cross-sectional area (mm^2):		N/A
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening torques: (Nm)		N/A
	- test voltage U/Ue = 1,05 (V) L1: L2:		N/A
	.L3:		-
	- r.m.s. test current AC/DC: (A) L1:		N/A
	L2:		-
	L3:		-
			-
	power factor/time constant:		N/A
	- factor "n"		N/A
	- peak test current (A):		N/A
	Test sequence "O"		
	- max. let-through current: (kApeak) L1: L2:		N/A
	L3:		-
8.3.8	Combined test sequence		-
	At the discretion of, or in agreement with the manufacturer, this sequence may be applied to circuit-breaker of utilization cat. B:		-
	Type designation or serial number		N/A
	Sample no:		N/A
	Rated current: In (A)		N/A
	Rated operational voltage: Ue (V)		N/A
	Rated short-time withstand current: (kA/s)		N/A
	Rated frequency: (Hz)		N/A
8.3.8.1	Verification of overload releases		-
	The operation of overload releases shall be verified twice times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		-
	- Operation time: (s) L1: L2:		N/A

	L3:		-
8.3.8.2	Test of rated short-time withstand current.		-
	For this test, any over-current release, including the instantaneous override, if any, likely to operate during the test, shall be rendered inoperative.		-
	- test frequency: (Hz)		N/A
	- duration of the test: (s)		N/A
	- test frequency: (Hz)		N/A
	- power factor / time constant (ms):		N/A
	- factor "n"		N/A
	- test voltage: (V) L1: L2:		N/A
	L3:		N/A
	- r.m.s. test current: (kA) L1:		N/A
	L2:		N/A
	L3:		N/A
	- highest peak current: (kA)		N/A
8.3.8.3	Test of rated service short-circuit breaking capacity		-
	At the highest voltage applicable to the rated short-time current.		-
	Test sequence of operation: O -1 - CO -1 - CO		-
	Type designation or serial number		-
	Sample no:		-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated service short-circuit breaking capacity: (kA)		-
	Rated control supply voltage of closing mechanism: Uc (V)		-
	Rated control supply voltage of shunt release: Uc (V)		-
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		-
	closing mechanism energized with 85% at the rated Uc: (V)		N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.		N/A
	Test made in free air:		N/A
	Distances of the metallic screen's: (all sides)		N/A
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		N/A
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65		N/A
	- size of hole: <30mm^2		N/A
	- finish: bare or conductive plating		N/A
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:		N/A
	Fuse "F":		N/A

	copper wire: diameter 0,8 mm, 50 mm long		
	Circuit is earthed at: (load-star- or supply-star point)		N/A
	Conductor cross-sectional area (mm^2):		N/A
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening torques: (Nm)		N/A
	Test sequence of operation: O -1 - CO -1 - CO		
	The highest voltage applicable to the rated short-time current.		N/A
	- test voltage U/Ue = 1,05 (V) L1: L2: L3:		N/A
	- r.m.s. test current AC/DC: (A) L1: L2: L3:		N/A
	power factor/time constant:		N/A
	- Factor "n"		N/A
	- peak test current (A):		N/A
	Test sequence "O"		
	- max. let-through current: (kApeak L1: L2:		N/A
	L3:		-
			-
	- Joule integral $I^2dt(A^2s)$ L1: L2:		N/A
	L3:		
	Pause, t: (min)		N/A
	Test sequence "CO"		
	- max. let-through current: (kApeak) L1: L2:		N/A
	L3:		-
	- Joule integral $I^2dt(A^2s)$ L1: L2:		N/A
	L3:		-
	Pause, t: (min)		N/A
	Test sequence "CO"		
	- max. let-through current: (kApeak) L1: L2:		N/A
	L3:		-
	-Joule integral $I^2dt(A^2s)$ L1: L2:		N/A
	L3:		-

	The circuit-breaker shall remain closed for the short-time corresponding to the max. available time setting of the short-time delay short-circuit release.		N/A
	During this test the instantaneous override shall not operate		N/A
	- and the making current release shall operate		-
8.3.8.4	Operational performance capability with current.		-
	Rated current: In (A)		N/A
	Maximum rated operational voltage: Ue (V)		N/A
	Conductor cross-sectional area (mm^2):		N/A
	Number of operating cycles per hour		N/A
	Number (5% of the number given in column 4, tab. 8) of cycles with current (total) (closing mechanism energized at the rated Uc)		N/A
	Applied voltage: closing mechanism (V)		N/A
	For circuit-breaker fitted with adjustable releases, test shall be made with the overload setting at maximum and short-circuit setting at minimum.		N/A
	Conditions, make/break operations:		N/A
	- test voltage U/Ue = 1,0 (V) L1: L2: L3:		N/A
	-testcurrent I/Ie = 1,0 (A) L1: L2: L3:		N/A
	- power factor/time constant:		N/A
	- frequency: (Hz)		N/A
	- on-time (ms):		N/A
	- off-time (s):		N/A
	Electrical components do not exceed the value indicated in tab. 7.		N/A
8.3.8.5	Verification of dielectric withstand		-
	- equal to twice the rated operational voltage with a minimum of		-
	- no breakdown or flashover		N/A
	- the leaking current for circuit-breaker suitable for isolation: (<2mA/1,1 Ue)		N/A
8.3.8.7	Verification of temperature-rise		-
	- the values of temperature-rise do not exceed the those specified in tab. 7.		N/A
	Temperature rise of main circuit terminals. < 80 K (K):		N/A
	conductor cross-sectional area (mm^2):		N/A
	test current Ie (A):		N/A
8.3.8.7	Verification of overload releases		
	Test current: 1,45 times the value of their current setting at the reference temperature: (A)		N/A
	Conventional tripping time: <1 h when In < 63A, <2h when In > 63 A		N/A
	The operation of overload releases shall be		-

	verified at 2,5 times the value of their current setting on each pole separately.		
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		-
	- Operation time: (s) L1: L2: L3:		N/A
Annex C	Individual pole short-circuit test sequence		-
	Circuit-breaker for use on phase-earthed systems		-
C.2	Test of individual pole short-circuit breaking capacity		-
	A short-circuit test is made with a value of prospective current (Isu) equal to 25% of the ultimate rated short-circuit breaking capacity (Ieu)		-
	Type designation or serial number		-
	Sample no:		-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated ultimate short-circuit breaking capacity: (kA)		-
	Rated control supply voltage of closing mechanism: Uc (V)		-
	Rated control supply voltage of shunt release: Uc (V)		-
	The test sequence of operations is O -1 - CO		-
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.	-	N/A
	closing mechanism energized with 85% at the rated Uc: (V)		N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.		N/A
	Test made in free air:		N/A
	Distances of the metallic screen's: (all sides)		N/A
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		N/A
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65		N/A
	- size of hole: <30mm^2		N/A
	- finish: bare or conductive plating		N/A
	Test made in specified individual enclosure: Details of these tests, including the dimensions of the enclosure:		N/A
	Fuse "F": copper wire: diameter 0,8 mm, 50 mm long		N/A

	Circuit is earthed at: (load-star- or supply-star point)		N/A
	Conductor cross-sectional area (mm^2):		N/A
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening torques: (Nm)		N/A
	Test sequence of operation: O -1 - CO		-
	Test circuit according figure: 9		N/A

	test voltage U/Ue = 1,05 (V)		N/A
	L3:		-
	short-circuit test current (Isu): equal to 25% of the ultimate rated short-circuit breaking capacity (Icu)		N/A
	- r.m.s. test current AC/DC: (A):		N/A
	power factor/time constant:		N/A
	- Factor "n"		N/A
	- peak test current (Amax):		N/A
	Test sequence "O" L1		
	- max. let-through current: (kApeak).....		N/A
	- Joule integral I^2dt (A^2s).....		N/A
	Pause, t: (min)		N/A
	Test sequence "CO" L1		
	- max. let-through current: (kApeak).....		N/A
	- Joule integral I^2dt (A^2s).....		N/A
	Test sequence "O" L2		
	- max. let-through current: (kApeak).....		N/A
	- Joule integral I^2dt (A^2s).....		N/A
	Pause, t: (min)		N/A
	Test sequence "CO" L2		
	- max. let-through current: (kApeak).....		N/A
	- Joule integral I^2dt (A^2s).....		N/A
	Test sequence "O" L3		
	- max. let-through current: (kApeak).....		N/A
	- Joule integral I^2dt (A^2s).....		N/A
	Pause, t: (min)		N/A
	Test sequence "CO" L3		
	- max. let-through current: (kApeak) ..... L 3:		N/A
	- Joule integral I^2dt(A^2s) ..... L 3:		N/A
	Melting of the fusible element		N/A
	Holes in the PE-sheet for test sequence "O"		N/A
	Cracks observed		N/A
C.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of		N/A
	- no breakdown or flashover		N/A
C.4	Verification of overload releases		-

	The operation of overload releases shall be verified at 2.5 times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		-
	- Operation time: (s) ..... L 1: ..... L2 : ..... L3 :		N/A
Annex H	Individual pole short-circuit test sequence		-
	Circuit-breaker for use in IT systems		-
H.2	Test of individual pole short-circuit breaking capacity		-
	A short-circuit test is made on the individual poles of a multipole circuit-breaker at a value of prospective current ($I|_T$) equal to 1,2 times the max. setting of the short-time delay release tripping current or, in the absence of such a release, 1,2 time the max. setting of the tripping current of the instantaneous release, or, where relevant 1,2 times the max. setting of the definite time delay release tripping current, but not exceeding 50kA.		-
	Type designation or serial number		-
	Sample no:		-
	Rated current: In (A)		-
	Rated operational voltage: Ue (V)		-
	Rated ultimate short-circuit breaking capacity: (kA)		-
	Rated control supply voltage of closing mechanism: Uc (V)		-
	Rated control supply voltage of shunt release: Uc (V)		-
	or, where relevant 1,2 times the max. setting of the definite time delay release tripping current, but not exceeding 50kA.		N/A
	- r.m.s. test current AC/DC: (A)		P
	power factor/time constant:		P
	- Factor "n"		P
	- peak test current (Amax):		P
	Test sequence "O" L1		
	- max. let-through current: (kApeak)..... I 1-		P
	- Joule integral I^2dt (A^2s)..... I 1-		P
	Pause, t: (min)		P
	Test sequence "CO" L1		
	- max. let-through current: (kApeak)..... / V		P
	- Joule integral I^2dt (A^2s)..... I		P

	Test sequence "O" L2		-
	- max. let-through current: (kApeak)..... I?-		P
	- Joule integral I^2dt (A^2s)..... I?-		P
	Pause, t: (min)		P
	Test sequence "CO" L2		
	- max. let-through current: (kApeak)..... I?-		P
	- Joule integral I^2dt (A^2s)..... I?-		P
	Test sequence "O" L3		
	- max. let-through current: (kApeak)..... IS		P
	- Joule integral I^2dt (A^2s)..... IS		P
	Pause, t: (min)		P
	Test sequence "CO" L3		-
	- max. let-through current: (kApeak)..... I 3*		P
	- Joule integral I^2dt (A^2s)..... I 3"		P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
H.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of		P
	- no breakdown or flashover	No	P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA/1,1 Ue)		P
H.4	Verification of overload releases		-
	The operation of overload releases shall be verified at 2.5 times the value of their current setting on each pole separately.		-
	The operating time shall not exceed the max. value stated by the manufacturer for twice the current setting at the reference temperature, on a pole singly.		-
	Time specified by the manufacturer:		P
	- Operation time: (s) ..... L 1: ..... L2 : ..... L3 :		P
H.5	Marking		-
	Circuit-breaker for which all values of rated voltage have not been tested according to this annex or are not covered by such testing, shall be identified by	Compliance	P
	the symbol which shall be market on the circuit-breaker immediately following these values of rated voltage		-

- End of test report -

Type of equipment, model: Miniature Circuit Breaker , YCB1-125

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