Test Report issued under the responsibility of:

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

Report Number. ..... :	**CN23Y8T0 002**
Date of issue ..... :	**25.02.2024**
Total number of pages ..... :	**20**
Name of Testing Laboratory preparing the Report ..... :	**Hunan Electric Research Institute Testing Group Co.,Ltd.**
Applicant's name ..... :	**Elmark Industries SC**
Address ..... :	**2 Dobrudzha blvd.,Dobrich,BULGARIA**
Test specification:	
Standard ..... :	IEC 60898-1:2015, AMD1:2019
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	IEC60898_1E
Test Report Form(s) Originator .... :	DEKRA Certification B.V.
Master TRF ..... :	Dated 2021-10-17

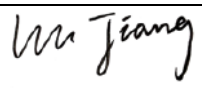
If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description	**Circuit Breaker for overcurrent protection**
Trade Mark.....	
Manufacturer	**Elmark Industries SC**
Model/Type reference.....	C61N,C62N,C63N,C64N
Ratings.....	Ue:230/400VAC(1P);230VAC(1P+N);400VAC(2,3,3P+N,4P) In: 1/2/4/6/10/16/20/25/32/40/50/63A; C-type; Uimp: 4,0kV; Icn=Ics=6,0kA; Icn1=Icn;

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	**Hunan Electric Research Institute Testing Group Co.,Ltd.**	
Testing location/ address..... :		**199 Xinxiangxi Road, Xiangxiang Kunlunqiao, Xiangtan, Hunan Province, China**	
Tested by (name, function, signature) ..... :		**Test engineer**	
Approved by (name, function, signature) ..... :		**Reviewer**	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address..... :			
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) ..... :			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address..... :			
Tested by (name + signature) ..... :			
Witnessed by (name, function, signature) ..... :			
Approved by (name, function, signature) ..... :			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature) ..... :			
Approved by (name, function, signature) ..... :			
Supervised by (name, function, signature) ..... :			

List of Attachments (including a total number of pages in each attachment):

N/A

Summary of testing:

This CB test report is Amendment No.1 to CB test report CN23Y8T0 001,dated 2023-11-09,it's created for updating of manufacturer and factory's name and address.

Before Change:

MAXGE ELECTRIC TECHNOLOGY CO., LTD.

NO. 299 EAST CHANGHONG ROAD DEQING ECONOMIC ZONE, WUKANG DEQING, 313200 Zhejiang P.R. China

After Change:

Elmark Industries SC

2 Dobrudzha blvd.,9300 DobrichBulgaria

Tests performed (name of test and test clause):	**Testing location:**
Marking and construction check.	**Zhejiang Testing & Inspection Institute for Mechanical and Electrical Products Quality Co., Ltd (ZTME)**

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

N/A

☒ **The product fulfils the requirements of _EN60898-1:2019_____ .**

EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES page 19	

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

Procedure number, issue date and title:

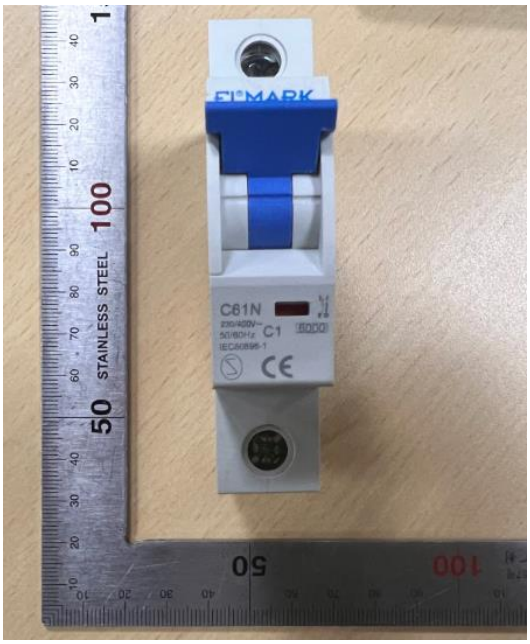
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☒ **Statement not required by the standard used for type testing**

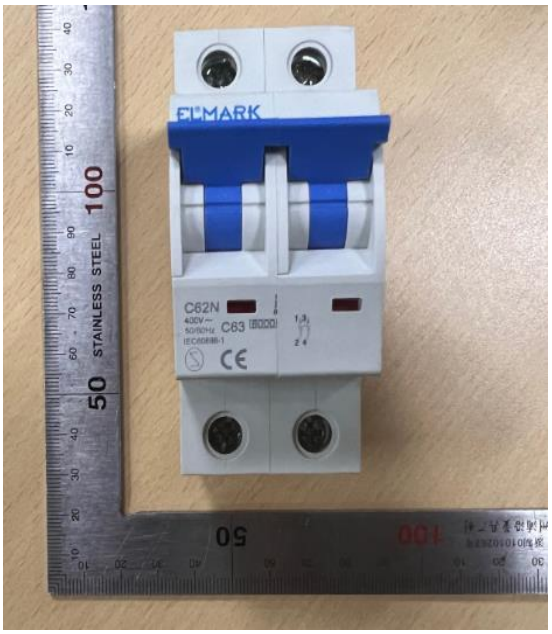
(Note: When IEC or ISO standard requires a statement concerning the uncertainty of the measurement systems used for tests, this should be reported above. The informative text in parenthesis should be delete in both cases after selecting the applicable option)

Copy of marking plate

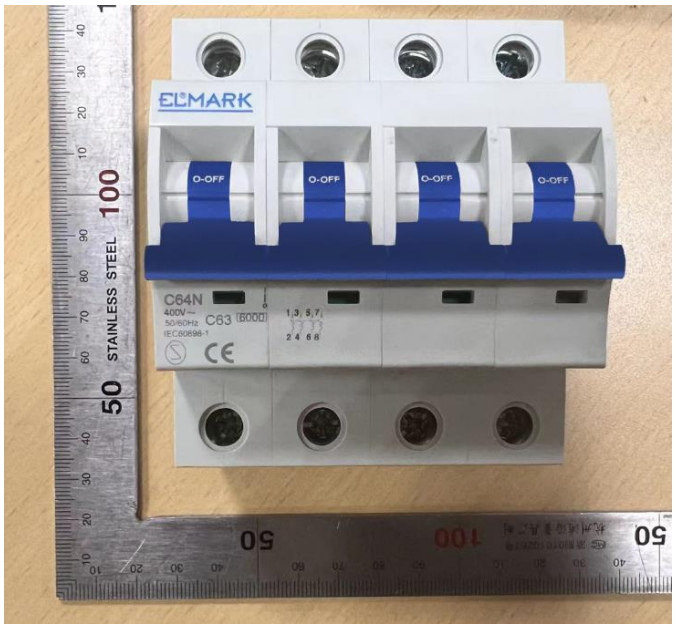
With sample of C1, 1P



With sample of C63, 2P



With sample of C63, 4P



Test item particulars.....:	**MCB**
Classification of installation and use.....:	**Circuit Breaker for overcurrent protection**
Supply Connection.....:	**not associated with the mechanical mounting**
.....:	
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	15.01.2024
Date (s) of performance of tests.....:	15.01.2024 to 27.01.2024

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

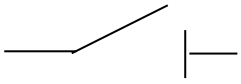
Name and address of factory (ies) .....: Elmark Industries SC
2 Dobrudzha blvd.,
9300 Dobrich
Bulgaria

General product information and other remarks:
The family products C61N,C62N,C63N,C64N are series product, according to Annex C in IEC / EN 60898-1.
Ratings:

Rated voltage 1P:	Ue = 230/400VAC
Rated voltage 1P+N:	Ue = 230VAC
Rated voltage 2P/3P/3P+N/4P:	Ue = 400V AC
Rated current In:	In= 1/2/4/6/10/16/20/25/32/40/50/63A
Instantaneous characteristic:	C-type
Short-circuit Capacity:	Icn=Ics=6,0kA

Test item particulars .....:	
Type of circuit-breaker .....:	Circuit Breaker for overcurrent protection
Number of poles .....:	☒ 1-P ☒ 1-P+N ☒ 2-P ☒ 3-P ☒ 3-P+N ☒ 4-P
Protection against external influences .....:	☐ enclosed ☒ unenclosed
Method of mounting .....:	☐ surface ☐ flush ☒ panel board
Method of connection .....:	☒not associated with the mechanical mounting ☐ associated with the mechanical mounting
Type of terminal .....:	☒ screw a) ~~b)~~ ☒ pillar a) ~~b)~~ ☐ cage a) b) ☐ plug ☐ screw less a) ☐ flat quick connect a) ☐ plug-in ☐ screw-in a) copper conductors ~~b) aluminium conductors~~
Instantaneous tripping current .....:	☐ B ☒ C ☐ D
I^2t characteristic .....:	
Value of rated operational voltage (Ue) .....:	☐ 120 V ☐ 230 V ☐ 240 V ☐ 120/240 V ☒ 230/400 V ☒ 400 V ☐ 240/415 V ☐ 415 V
Value of rated current (In) .....:	1-63A
Value of rated frequency .....:	☒ 50 Hz ☒ 60 Hz
Ambient air temperature (°C) .....:	☒ 30°C ☐ 40°C ☐ Other _____°C
Rated short-circuit capacity (Icn) .....:	☐ 1,5 kA ☐ 3 kA ☐ 4,5 kA ☒ 6 kA ☐ 10 kA ☐ 15 kA ☐ 20 kA ☐ 25 kA
Rated impulse withstand voltage (Uimp)	☐ 2,5 kV ☒ 4 kV ☐ declared ___kV

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	TESTS „A_1“ 1 SAMPLE FOR C63, 1P		--
6	**MARKING AND OTHER INFORMATION**		
	Circuit-breaker marked with:		--
	a) Manufacturer’s name or trade mark.....:	Trademark: 	P
	b) Type designation, catalogue number or other serial number.....:	C61N	P
	c) Rated voltage (V).....:	230/400V~	P
	d) Rated current without symbol "A", preceded by the symbol of instantaneous tripping.....:	C63	P
	e) Rated frequency (Hz) .....:	50Hz/60Hz	P
	f) Rated short circuit capacity (A).....:	6kA	P
	g) Wiring diagram	See copy of marking plate	P
	h) Ambient air temperature, if different from 3 0°C		N/A
	i) Degree of protection, if different from IP20		N/A
	j) For D-type circuit-breakers: the maximum instantaneous tripping current, if higher than 20 In see table 2)		N/A
	k) Rated impulse withstand voltage Uimp if it is 2,5 kV	4,0 kV	P
	l) Making and breaking capacity on an individual protected pole of multipole circuit-breakers (Icn1), if different from Icn		N/A
	Marking d) shall be readily visible when the CB is installed		P
	If, for small devices, the available space is insufficient, markings a), b), c), e), f), h), j) and l) may be put on the side or on the back of the CB		N/A
	Marking g) may be on the inside of any cover which has to be removed in order to connect the supply wires but shall not be on a label loosely attached to the CB		N/A
	Any other information not marked shall be given in the manufacturer’s documentation		P

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause
	The suitability for isolation, which is provided by all circuit-breakers of this standard, may be indicated by the symbol on the device		P
	I^2t characteristic (documentation)		N/A
	Symbols on supply and load terminal		N/A
	Terminal for neutral conductor N		N/A
	Earthing terminal if any (IEC 60417-5019)		N/A
	On - off position shall be clearly indicated - 0 I -		P
	For push-button CB the off push-button shall either be red or be marked with the symbol ´0´		N/A
	Red not used for other push-button		N/A
	For CB with multiple current ratings, the maximum value is marked, the adjusted value indicated without ambiguity		N/A
	For rail-mounted circuit-breakers, appropriate rail(s) shall be indicated in the manufacturer's documentation		N/A
	Marking shall be indelible and easily legible (not on removable parts), 15 s with water, 15 s with hexane (see cl. 9.3)		P
8.	**REQUIREMENTS FOR CONSTRUCTION AND OPERATION**		
8.1.1	**General**		P
	Circuit-breakers shall be so designed and constructed that, in normal use, their performance is reliable and without danger to the user or surroundings		P
8.1.2	**Mechanism**		P
	The moving contact shall be mechanically coupled so that all poles make and break together, whether operated manually or automatically, even if an overload occurs on one pole only		P
	The switched neutral shall close before and open after the protected pole (s)		N/A
	Neutral pole having adequate making and breaking capacity and CB with independent manual operation: all poles operate together including neutral pole		N/A

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause
	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.		N/A
	The action of the mechanism shall not be influenced by the position of enclosures		P
	If the cover is used as a guiding means for push-button, it shall not be possible to remove this button from the outside		N/A
	Operating means securely fixed, not possible to remove them without a tool		P
	For the up-down operating means the contacts shall be closed by the up movement.		P
8.1.3	**Clearances and creepage distances and operation**		P
	The minimum required clearances and creepage distances are based on the CB being designed for operating in an environment with pollution degree 2		P
	Parts of PCBs connected to live parts and protected against pollution by the use of a type 2 protection according to IEC 60664-3 are exempted from this verification		N/A
	The insulating materials are classified into material groups on the basis of their comparative tracking index (CTI) according to IEC 60664-1		N/A

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause

	For clearances on printed wiring material, footnote 3 in Table F.2 of IEC 60664-1:2007 applies. For creepage distances on printed wiring material, the distances from Table F.4 of IEC 60664-1:2007 for pollution degree 1 can be applied only if protected with a coating meeting IEC 60664-3 requirements and tests		N/A
8.1.3.1	Clearances		P
	Compliance for item 1 in Table 4 is checked by measurement and by the test of 9.7.5.4. The test is carried out with samples not submitted to the humidity treatment described in 9.7.1		P
	Compliance as regards items 2 and 4 in Table 4 is checked by measurement and, if the clearances are reduced, by the tests of 9.7.5.2		P
	The clearances of items 2 and 4 (except accessible surface after installation) may be reduced provided that the measured clearances are not shorter than the minimum allowed in IEC 60664-1 for homogenous field conditions.		P
	In this case, compliance as regards items 2 and 4 is always checked by the test of 9.7.5.2		P
	Compliance as regards item 3 in Table 4 is checked by measurement		P
	Minimum clearances (see table 4)		P
	Clearances [mm] Uimp		--
	4 kV (see table 4) 2,5 kV (see table 4)	☒ ☐	--
		minimum clearances 4,0 [mm]	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	5,92mm	P
	2.between live parts of different polarity.....:	Single pole	P
	3.between circuits supplied from different sources, one of which being PELV or SELV.....:	no such part	N/A
	4.between live parts and		P
	- accessible surfaces of operating means.....:	16,2 mm	P
	- screws or other means for fixing covers .....:	-	N/A
	- surface on which the base is mounted.....:	15,1 mm	P
	- screws or other means for fixing the circuit breaker .....:	-	N/A
	- metal covers or boxes .....:	-	N/A

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause

	- other accessible metal parts .....:		N/A
	- metal frames supporting the base (flush-type)..:	-	N/A
8.1.3.2	Creepage distances		P
	Compliance as regards items 1, 2, 3 and 4 of Table 4 is checked by measurement		
	Minimum creepage distances (see table 4)		
	Material group	☐ III_b ☒ III_a ☐ II ☐ I	--
		minimum creepage distances 4,0[mm]	--
	1.between live parts (of the main circuits) which are separated when the CB is in off position.....:	14,8 mm	P
	2.between live parts of different polarity.....:	Single pole	P
	3.between circuits supplied from different sources, one of which being PELV or SELV .....:	no such part	N/A
	4.between live parts and		P
	- accessible surfaces of operating means.....:	21,9 mm	P
	- screws or other means for fixing covers .....:	-	N/A
	- surface on which the base is mounted.....:	16,7mm	P
	- screws or other means for fixing the circuit breaker .....:	-	N/A
	- metal covers or boxes .....:	-	N/A
	- other accessible metal parts .....:		N/A
	- metal frames supporting the base (flush-type)..:		N/A
8.1.3.3	Solid insulation		P
	Compliance is checked by the tests according to 9.7.2, 9.7.3, 9.7.4 and 9.7.5, as applicable		P
8.1.4	**Screws, current-carrying parts and connections**		P
8.1.4.1	Connections, withstand mechanical stresses occurring in normal use		P
	Screws for mounting of the CB not of the thread-cutting type		N/A
	Test according to cl. 9.4:		P
	- 10 times (screw Ø / torque Nm)	Ø___mm___Nm (see table 11) Ø___mm___Nm	N/A
	- 5 times (screw Ø / torque Nm)	Ø_7__mm_2,5__Nm (see table 11) Ø___mm___Nm	P
	After test connections have not become loose nor electrical function impaired		P

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause
8.1.4.2	Screws with a thread of insulating material ensured correct introduction		N/A
8.1.4.3	Electrical connection: contact pressure not transmitted through insulating material, unless there is sufficient resilience in the metallic parts		N/A
8.1.4.4	Current-carrying parts including parts intended for protective conductors, if any, shall be made of a metal having, under the conditions occurring in the equipment, mechanical strength, electrical conductivity and resistance to corrosion adequate for their intended use. Examples below:		P
	- copper		N/A
	- alloy 58% copper for worked cold parts	For contact	P
	- alloy 50% copper for other parts		N/A
	- other metal	Zn plated Steel for screw	P
	In case of using ferrous alloys or suitably coated ferrous alloys, compliance to resistance to corrosion is checked by a test of resistance to rusting (see 9.16).		N/A
	The requirements of this subclause do not apply to contacts, magnetic circuits, heater elements, bimetals, shunts, electronic components, including printed circuit board or to screws, nuts, washers, clamping plates, similar parts of terminals and parts of the test circuit		P
	Compliance is checked by inspection in accordance with the manufacturer's declaration		P
8.1.5	**Terminals for external conductors**		--
	Compliance is checked by inspection and by the tests as relevant for the type of connection:		--
	by tests of clause 9.5 for screw-type terminals		P
	by specific tests for plug-in or bolt-on CBs included in this document		N/A
	by the tescots of Annexes J, K		N/A
8.1.5.1	Terminals ensure the necessary contact pressure		P
9.5	Torque test:		P
	- torque (Nm); diameter (mm).....:		--
	- torque (Nm); diameter (mm).....:		--
	- torque (Nm); diameter (mm).....:		--
	- max. cross-sectional area (mm²).....:		--

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause
9.5.2	Pull test:		P
	Terminals shall be suitable for all types of conductors: rigid (solid or stranded) and flexible, unless otherwise specified by the manufacturer.		--
	Min. cross-section solid / stranded / flexible (mm²).....:	1mm² for solid / flexible construction 1,5mm² for stranded construction	--
	Max. cross-section solid / stranded / flexible (mm²).....:	6mm² for solid construction 25mm² for stranded construction 16mm² for flexible construction	--
	Torque $^2/_3$ (Nm) .....:	1,67	--
	Pull for 1 min solid / stranded / flexible (N).....:	60-100N	P
	During the test no noticeable move of conductor		P
9.5.3	Torque test:		P
	- torque $^2/_3$ (Nm).....:	1,67Nm	--
	- min. cross-sectional area (mm²).....:	1mm²	--
	- max. cross-sectional area (mm²).....:	25mm²	--
	The conductor shows no undue damage nor severed strands		P
	Terminals have not worked loose and no damage		P
9.5.4	Terminals fitted with the largest cross-section area specified in Table 5, for stranded copper conductor.		P
	Max. cross-section stranded (mm²).....:	25mm²	--
	Torque $^2/_3$ (Nm) .....:	1,67Nm	--
	After the test no strand of conductor escaped outside		P
8.1.5.2	Terminals allow the connection of conductors of the following cross-sectional areas: (table 5)		P

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause

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

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause
8.1.5.11	Pillar terminals shall allow full insertion and reliable clamping of the conductor		N/A
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 the thread cutting type		P
8.1.6	**Non-interchangeability**		**N/A**
	For circuit-breakers intended to be mounted on bases forming a unit therewith (plug-in or screw-in type) it shall not be possible, without the aid of a tool, to replace a circuit-breaker when mounted as for normal use by another of the same make having a higher rated current, compliance is checked by inspection		N/A
8.1.7	**Mechanical mounting of plug-in circuit-breakers**		N/A
8.1.7.1	The mechanical mounting of plug-in circuit-breakers, the retention of which does not depend solely on their plug-in connection(s), shall be reliable and have adequate stability		N/A
8.1.7.2	Plug-in type circuit-breakers, the retention of which does not depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.1.7.3	Plug-in type circuit-breakers, the retention of which does depend solely on their plug-in connection(s) Compliance of the mechanical mounting is checked by the relevant test 9.13		N/A
8.14	**Electromagentic Immunity**		P
	Circuit-breakers for overcurrent protection for household and similar installations are not sesetive to normal electromagetic disturbance and the therefore no immunity tests are required		P
8.15	**Electromagnetic emission**		P
	Electromagnetic disturbance can only be generated by circuit-breakers for overcurrent protection for household and simliar installations during occasional switching or auomatic breaking operations. The duration of the distrubances is of the order of millisections		P

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause
	The frequency, the level and the consequences of the these emissions are considered as part of the normal eletromagnetic enviroment of low-voltage installations. Therefore the requirements for electromagnetic emssions are deemed to be satisfied and no verifications is necessary		P
8.2	**Protection against electric shock**		P
	Live parts not accessible in normal use		P
	For CB, other than plug-in type, external parts, other than screws and other means for fixing covers, which are accessible shall be of insulating material		P
	Unless the live parts are within an internal enclosure of insulating material: Lining - reliable fixed, - adequate thickness and - mechanical strength		P
	Inlet openings for cables shall be in insulating material or be provided with bushings or similar devices in insulating material Such device - shall be reliable fixed - shall have adequate mechanical strength		N/A
	For plug-in CB, external parts, other than screws and other means for fixing covers, which are accessible shall be in insulating material		N/A
	Metallic operating means insulated from live parts		N/A
	Metal parts of the mechanism not accessible and insulated from accessible metal parts, metal frames (for flush-type), screws or other means for fixing the base		P
	Replacement of plug-in CB possible without touching live parts		N/A
	Lacquer or enamel not considered		N/A
8.1.3	**Creepage distances [mm] (see table 4)**		P
	Internal parts only	See above	N/A
9.6	**Test of protection against electric shock**		P
	This verification is applicable to those parts of circuit breakers which are exposed to the operator when mounted as for normal use		P
	Use of test finger so designed that each jointed can be turned through an angle of 90° with respect to the finger		P

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause

	Circuit-breaker with enclosures of thermoplastic material are additional tested at 35 °C for 1 min with a force of 75 N		P
8.10	**Resistance to heat**		P
	CB sufficiently resistant to heat		P
9.14	**Test of resistance to heat**		P
9.14.1	Test:		P
	- without removable covers ..... 1 h (100 ± 2) °C		P
	- removable covers ..... 1 h (70 ± 2) °C		N/A
	After the test no access to live parts, marking still legible		P
9.14.2	Ball pressure test for external parts of insulating material (parts retaining current-carrying parts and parts of the protective circuit in position) T = 125°C Ø of impression ≤ 2 mm	Impression: 1,02mm for enclosure	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 9.8 Ø of impression ≤ 2 mm		P
8.12	**Resistance to rusting**		**P**
	Ferrous parts adequately protected against rusting		P
9.16	**Test of resistance to rusting:**		P
	- 10 min immersed in a cold chemical degreaser such as methyl-chloroform or refined petrol		P
	- 10 min immersed in a 10% solution of chloride in water at 20°C		P
	- 10 min at 95% humidity at 20°C		P
	- 10 min at 100°C		P
	No sign of rust		P

IEC60898_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60898-1

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

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

Attachment Form No. ..... : EU_GD_IEC60898_1D

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

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

CENELEC COMMON MODIFICATIONS (EN)		-
Test item particulars:		-
Type of circuit-breaker ..... :	C61N,C62N,C63N,C64N	-
Energy limiting class ..... :	☒ Class 1 ☐ Class 3	-
Value of rated operational voltage (Ue) and number of poles ..... :	☒ 230 V ☒ 230/400 V ☒ 400 V ☒ 1 P ☒ 1 P + N ☒ 2 P ☒ 3 P ☒ 3 P + N ☒ 4 P	P
Value of rated short-circuit capacities above 10 000 A up to and including 25 000 A..... :	☐ 15000 A ☐ 20000 A ☐ 25000 A	N/A
Rated impulse withstand voltage (Uimp)	4 kV	-

	Sequence A_1		
6	**MARKING AND OTHER INFORMATION**		**--**
6.1	***Standard marking:***		--
	f) Rated short circuit capacity in A within a rectangle, without symbol “A”	**6000 in rectangle**	P
	h) calibration temperature, if different from 30°C		P
	m) .....Energy limiting class in a square in accordance with annex ZA.		N/A
	Icn and the energy limiting class, when applied, marked both on the device and combined		P

IEC60898_1D ATTACHMENT			
Clause	Clause	Clause	Clause
	Irrespective of type (B, C or D), the manufacturer published in his literature the I^2t characteristic		P
	For rail mounting circuit-breakers, appropriate rail(s) are indicated in manufacturer's documentation.		P
6.2	***Additional marking***		--
	Additional marking to other standards (EN or IEC or other) is allowed under the follow conditions:		--
	- the circuit-breaker complies with all the requirements of the additional standard;		--
	- the relevant standard to which the additional marking refers is indicated adjacent to this marking and is clearly differentiated or separated from the standard marking according to cl. 6.1		--
6.3	**Guidance table for marking**		--
	Each CB shall be marked in a durable manner with all or, for small apparatus, according the guidance table for marking.		P
9.6	**TEST OF PROTECTION AGAINST ELECTRIC SHOCK**		--
	In case of knock-outs the test finger is applied with a force of 10 N		N/A

End