



TEST REPORT N°: NCR-16JY1939ITSP

SUMMARY TEST REPORT

To:	CNC Electric Group Co., Ltd Changcheng High-tech Industrial Zone, North Baixiang, Yueqing, Zhejiang, 325 603	Fax:	-
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This document includes: 45 pages		Order number:	-

SUPPLIER NAME:	CNC Electric Group Co., Ltd	Pictures see pages 2 & 3
STANDARDS USED (DATE):	IEC 60947-4-1:2009 (Third Edition) + A1:2012 EN60947-4-1:2010 + A1:2012	
TESTS REALISED:	Full type tests	
DATE OF TEST:	From July 01, 2016 To July 25, 2016	
REMARK / NOTE:	None	
CONCLUSION:	The samples satisfy the clauses examined.	
Test done by:	Approved by:	
Liyang WANG <i>Liyang Wang</i>	Stone SHI <i>Stone SHI</i>	

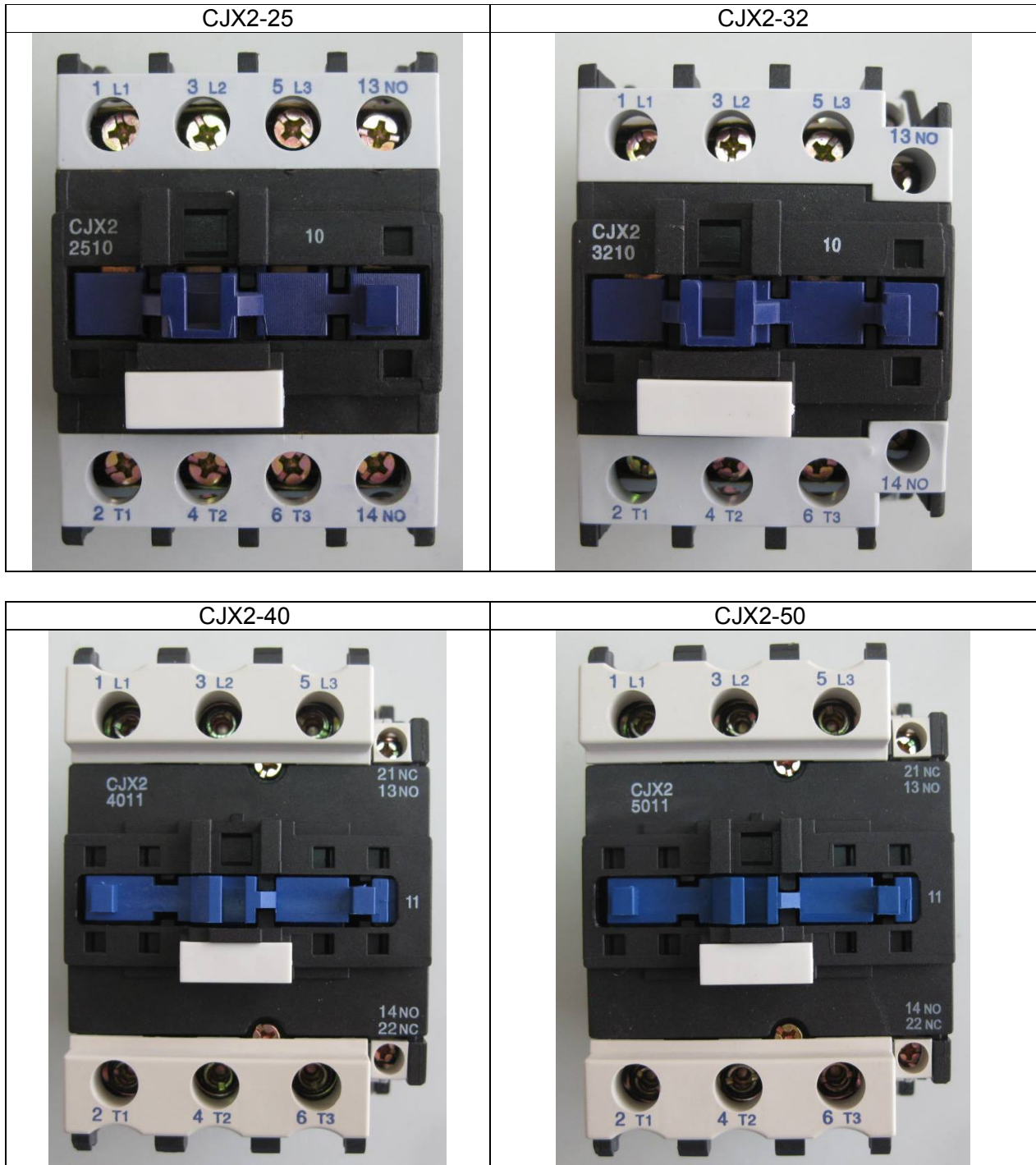
This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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Pictures of samples tested:





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CJX2-63	CJX2-80
	
CJX2-95	
	



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Possible test case verdicts:	
-Test object does meet the requirement:	P (Pass)
-Test case does not apply to the test object:	NA (Not applicable)
-Test object does not meet the requirement:	F (Fail)
-Test object does not demand:	ND (Not demanded)
General remarks:	
"(See remark #)" refers to a remark appended to the report.	
Throughout this report a comma is used as the decimal separator.	



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
6.2	MARKING		P
6.3	Instruction for installation, operation and maintenance		P
	The manufacture shall specify, in his documents or catalogues:		P
	- the conditions for installation, operation and maintenance, if any, of the equipment during operation and after a fault		P
	- the specify the measures to be taken with regard to EMC, if any,		NA
	- equipment only suitable in environment A shall provided with the following notice	<p style="text-align: center;">NOTICE</p> <p>This product has been designed for environment A. Use of this product in environment B may cause unwanted electromagnetic disturbances in which case the user may be required to taken adequate mitigation measures.</p>	NA
	- if necessary, the instructions for transport, installation and operation of the equipment shall indicate the measures that are particular importance for the proper and correct installation, commissioning and operation of the equipment.		P
	- manufacturer advice on the measures to be taken in the event of a short-circuit		P
	In case of protected starters (see 3.2.8), the manufacturer shall also provide the necessary mounting and wiring instruction		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.1	Constructional requirements		P
	The equipment with its enclosure, if any, whether integral or not, shall be designed and constructed to withstand the stresses occurring during installation and normal use and, in addition, shall provide a specified degree of resistance to abnormal heat and fire		P
8.1.2	Materials		P
7.1.2.1 Part 1	Parts of insulating materials which might be exposed to thermal stresses due to electrical effects, and the deterioration of which might impair the safety of the equipment, shall not be adversely affected by abnormal heat and by fire.		P
	Alternatively, the manufacturer may provide data from the insulating material supplier to demonstrate compliance with the requirements	Part 1 clause 7.1.2.2	P
7.1.2.2 Part 1	Glow wire testing	(See 8.2.1.1.1 part 1 below)	P
	When tests on the equipment or on sections taken from the equipment are used, parts of insulating materials necessary to retain current-carrying parts in position shall conform to the glow-wire tests of 8.2.1.1.1 of IEC 60947-1 at a test temperature of 850 °C		P
7.1.2.3 Part 1	Test based on flammability category	(See 8.2.1.1.2 part 1 below)	NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.3	Current-carrying parts and their connection		P
7.1. 3 Part 1	No contact pressure through insulating materials		P
8.1.4	CLEARANCES AND CREEPAGE DISTANCES		P
	Clearances		P
8.1.5	Actuator		P
	Means for padlocking the operating handle of the manually operated switching device of a combination starter may be provided		NA
7.1. 5.1 Part 1	Insulation		P
	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. Moreover:		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;		NA
	- 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.		P
7.1. 5.2 Part 1	Direction of movement		P
	The direction of operation for actuators of devices shall normally conform to IEC 60447.		P



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		NA
8.1.5.3	Mounting		NA
	Actuators mounted on removable panels or opening doors are so designed that when the panels are replaced or doors closed the actuator will engage correctly with the associated mechanism		NA
8.1.6	Indication of contact position		NA
7.1. 6.1 Part 1	Indication means, applies to manually operated starters		NA
	When an equipment is provided with means for indicating the closed and open positions, these positions shall be unambiguous and clearly indicated. This is done by means of a position indicating device		NA
	If symbols are used, they shall indicate the closed and open positions respectively, in accordance with IEC 60417-2: 60417-2-IEC-5007 I On (power) 60417-2-IEC-5008 O Off (power)		NA
	For equipment operated by means of two push-buttons, only the push-button designated for the opening operation shall be red or marked with the symbol "O"		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Red colour shall not be used for any other push-button		NA
	The colours of other push-buttons, illuminated push-buttons and indicator lights shall be in accordance with IEC 60073		NA
7.1. 6.2 Part 1	Indication by the actuator		NA
	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		NA
8.1.7	Additional safety requirements for equipment suitable for isolation		NA
7.1.7.1 part 1	Additional constructional requirements:		NA
	Equipment suitable for isolation shall provide in the open position an isolation distance in accordance with the requirements necessary to satisfy the isolating function		NA
	- minimum clearances across open contacts (see Table XIII, Part 1) (mm) :		NA
	- measured clearances (mm)		NA
	- test Uimp across gap (kV)		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Indication of the position of the main contacts shall be provided by one or more of the following means		NA
	- the position of the actuator		NA
	- a separate mechanical indicator		NA
	- visibility of the moving contacts		NA
	The effectiveness of each of the means of indication provided on the equipment and its mechanical strength shall be verified	(See 8.2.5 part 1 below)	NA
	When means are provided or specified by the manufacturer to lock the equipment in the open position, locking in that position shall only be possible when the main contacts are in the open position	(See 8.2.5 part 1 below)	NA
	Equipment shall be designed so that the actuator, front plate or cover are fitted to the equipment in a manner which ensures correct contact position indication and locking, if provided		NA
	For equipment provided with positions such as "tripped position" or "standby position", which are not the indicated open position, those positions shall be clearly identified. The marking of such positions shall not include the symbols "I" or "O"		NA
	An actuator having only one position of rest shall not be considered as appropriate to indicate the position of the main contact		NA
7.1.7.2 part 1	Supplementary requirements for equipment with provision for electrical interlocking with contactors or circuit-breakers:		NA
	Auxiliary switch is rated according to IEC 60947-5-1 (unless the equipment is rated AC-23)		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Time interval between opening of the contacts of the auxiliary contact and the contacts of the main poles: ≥ 20 ms		NA
	Measured time interval (ms)		NA
	During the closing operation the contacts of the auxiliary switch closes after or simultaneously with the contacts of the main poles		NA
7.1.7.3 part 1	Supplementary requirements for equipment provided with means for padlocking the open position:		NA
	The locking means is so designed that it cannot be removed with the appropriate padlock(s) installed		NA
	Test force F applied to the actuator in an attempt to operate to the closed position (N)		NA
	Rated impulse withstand voltage (kV)		NA
	Test Uimp on open main contacts at the test force		NA
8.1.8	Terminals		P
7.1.8.1 part 1	All parts of terminals which maintain contact and carry current shall be of metal having adequate mechanical strength	(see 8.2.4 part 1 below)	P
	Terminal connections shall be such that necessary contact pressure is maintained	(see 8.2.4 part 1 below)	P
	Terminals shall be so constructed that the conductor is clamped between suitable surfaces without damage to the conductor and terminal	(see 8.2.4 part 1 below)	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	(see 8.2.4 part 1 below)	P
	If required by application, terminals and conductors may be connected by means of cable lugs for copper conductors only		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
7.1.8.2 part 1	Connecting capacity		P
	type of conductors :	Rigid or Flexible	P
7.1.8.3 part 1	Connection		P
	terminals for connection to external conductors shall be readily accessible during installation		P
	clamping screws and nuts shall not serve to fix any other component		P
8.1.8.1	Terminal identification and marking,		P
	marking comply with Annex A		P
7.1.8.4 part 1	terminal intended exclusively for the neutral conductor		NA
	protective earth terminal		NA
	other terminals		NA
8.1.9	Additional requirements for equipment provided with a neutral pole		NA
7.1.9 part 1	marking of neutral pole		NA
	The switched neutral pole shall not break before and shall not make after the other poles		NA
	Conventional thermal current of neutral pole		NA
	If a pole having an appropriate short-circuit breaking and making capacity is used as a neutral pole, then all poles, including the neutral pole, may operate substantially together.		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Equipment having a value $I_{th} < 63$ A, this value shall be identical for all poles		NA
	For $I_{th} > 63$ A, the neutral pole may have a value of I_{th} different from that of the other poles, but not less than the half that value or 63 A, whichever is the higher.		NA
8.1.10	Provisions for earthing		NA
7.1.10.1 part 1	The exposed conductive parts shall be electrically interconnected and connected to a protective earth terminal		NA
7.1.10.2 part 1	The protective earth terminal shall be readily accessible		NA
	The protective earth terminal shall be suitably protected against corrosion		NA
	The electrical continuity between the exposed conductive parts of the protective earth terminal and the metal sheathing of connecting conductors		NA
	The protective earth terminal shall have no other functions		NA
7.1.10.3 part1	Protective earth terminal marking and identification		NA
8.1.11	Enclosure for equipment		NA
7.1.11.1 part1	Design		NA
	Starting resistors mounted within an enclosure shall be so located or guarded that issuing heat is not detrimental to other apparatus and materials within the enclosure.		NA
	For the specified case of combination starters, the cover or door shall be interlocked so that it cannot be opened without manually operated device being in open position.		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	However, provision may be made to open the door or cover with the manually operated switching device in the ON position by use of a tool.		NA
	The enclosure, when it is opened: all parts requiring access for installation and maintenance are readily accessible		NA
	Sufficient space shall be provided inside the enclosure		NA
	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		NA
	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		NA
	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		NA
	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		NA
7.1.11.2 part1	Insulation		NA
	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		NA
8.1.12	Degree of protection of enclosed equipment		NA



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Clause	Requirement + Test	Result - Remark	Verdict
7.1.12 part1	Degrees of protection of enclosed equipment and relevant tests are given in Annex C of IEC 60947-1	(see 8.2.3 part 1 below)	NA
8.1.13	Conduit pull-out, torque and bending with metallic conduits		NA
7.1.13 part1	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	(see 8.2.7 part 1 below)	NA
8.2	Performance requirements		P
A	Starters shall be so constructed that they:		NA
	a) are trip free;		NA
	b) can be caused to open their contacts by the means provided when running and at any time during the starting sequence;		NA
	c) will not function in other than the correct starting sequence.		NA
B	Starters employing contactors shall not trip due to the shocks caused by operation of the contactors when tested according to 9.3.3.1, after the starter has carried its rated full load current at the reference ambient temperature (i.e. +20 °C) and has reached thermal equilibrium at both minimum and maximum settings of the overload relay, if adjustable	(see 9.3.3.1 below)	NA



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Clause	Requirement + Test	Result - Remark	Verdict
C	For rheostatic starters, the overload relay shall be connected in the stator circuit.		NA
	Special arrangements may be made to protect the rotor contactors and resistors against overheating, if requested by the user		NA
D	When starters are used in conditions in which the overheating of the starting resistors or transformers would represent an exceptional hazard, it is recommended that a suitable device be fitted to switch off the starter automatically before a dangerous temperature is reached.		NA
E	The moving contacts of multipole equipment intended to make and break together shall be so coupled that all poles make and break substantially together, whether operated manually or automatically		NA
8.2.1.2	Limits of operation of contactors and power-operated starters	(see 9.3.3.2 below)	P
8.2.1.3	Limits of operation of under-voltage relays and releases	(see 9.3.3.2 below)	NA
8.2.1.4	Limits of operation of shunt-coil operated releases (shunt trip)	(see 9.3.3.2 below)	NA
8.2.1.5	Limits of operation of current sensing relays and releases	(see 9.3.3.2 below)	NA
8.2.2	Temperature rise	(see 9.3.3.3 below)	P
8.2.3	Dielectric properties	(see 9.3.3.4 below)	P



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.2.4	Normal load and overload performance requirements		P
8.2.4.1	Making and breaking capacities	(see 9.3.3.5 below)	P
8.2.4.2	Conventional operational performance	(see 9.3.3.6 below)	P
8.2.4.3	Durability	(see annex B below)	NA
8.2.4.4	Overload current withstand capability of contactors	(see 9.3.5 below)	P
8.2.4.5	Coil power consumption	(see 9.3.3.2.1.2 below)	NA
8.2.4.6	Pole impedance	(see 9.3.3.2.1.3 below)	NA
8.2.5	Co-ordination with short-circuit protective devices	(see 9.3.4 below)	P
8.3	Electromagnetic compatibility (EMC)		NA
	Environment A		NA
	Environment B		NA
	Power frequency magnetic field tests are not required because the devices are naturally submitted to such fields. Immunity is demonstrated by the successful completion of the operational performance capability tests (see 9.3.3.5 and 9.3.3.6)		NA
	This equipment is inherently sensitive to voltage dips and short time interruptions on the control supply; it shall react within the limits of 8.2.1.2 and this is verified by the operating limits tests given in 9.3.3.2		NA
8.3.2	Immunity	(see 9.4 below)	NA
8.3.3	Emission	(see 9.4 below)	NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
9.2	Compliance with constructional requirements		P
8.2.1 Part 1	Materials		P
8.2.1.1.1 part 1	Glow wire test (on equipment)		P
	The suitability of materials used is verified by making tests: a) on the equipment; or b) on sections taken from the equipment; or c) on samples of identical material	b)	P
	The suitability shall determined with respect to resistance to abnormal heat and fire		P
	The manufacturer shall indicate which tests, amongst a), b) and c), shall be used	<input type="checkbox"/> a) <input checked="" type="checkbox"/> b) <input type="checkbox"/> c)	P
	As described in IEC 60695-2-10 and -2-11		P
	parts retaining current-carrying parts Remark : a protective conductor is not considered as a current-carrying part	<input type="checkbox"/> 850 ± 15°C or <input checked="" type="checkbox"/> 960 ± 15°C 30s	P
	all other parts	<input checked="" type="checkbox"/> 650 ± 10°C 30s	P
	No visible flame, no sustained glowing or flames and glowing extinguish within 30 s		P
	For the purpose of this test, a protective conductor is not considered as a current-carrying part.		P



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.2.1.1.2 part 1	Flammability, hot wire ignition and arc ignition tests (on materials)		NA
	SUITABLE SPECIMENS OF MATERIAL SHALL BE SUBJECTED TO THE FOLLOWING TESTS: a) flammability tests, in accordance with IEC 60695-11-10 b) Hot wire ignition (HWI) test, as described in Annex M c) Arc ignition (AI) test, as described in Annex M		NA
	THE TEST C) IS REQUIRED ONLY IF THE MATERIAL IS LOCATED WITHIN THE 13 MM OF ARCING PARTS OR LIVE PARTS WHICH ARE SUBJECT TO LOOSENING OF CONNECTIONS.		NA
	MATERIALS LOCATED WITHIN 13 MM OF ARCING ARTS ARE EXEMPT FROM THIS TEST IF THE EQUIPMENT IS SUBJECTED TO MAKE/BREAK TESTING.		NA
a)	FLAMMABILITY TESTS, IN ACCORDANCE WITH IEC 60695-11-10		NA
	Test method	<input type="checkbox"/> A) – HORIZONTAL BURNING TEST <input type="checkbox"/> B) – Vertical burning test	NA
b)	HOT WIRE IGNITION (HWI) TEST, AS DESCRIBED IN ANNEX M		NA
c)	ARC IGNITION (AI) TEST, AS DESCRIBED IN ANNEX M		NA
8.2.3 part 1	Enclosure for equipments		NA
	Degree of protection	IP	NA
	Test for first characteristic		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Test for first numeral :	1: 2: 3: 4: 5: 6:	NA
	Test for second characteristic		NA
	Test for second numeral :	1: 2: 3: 4: 5: 6: 7: 8:	NA
8.2.4 part 1	Mechanical properties of terminals		P
8.2.4.2 part 1	Mechanical strength of terminals		P
8.2.4.3 part 1	Testing for damage to and accidental loosening of conductor (flexion test)		P
8.2.4.4 part 1	Pull-out test		P
8.2.4.5 part 1	Test for insertability of unprepared round copper conductors having the maximum cross-section		P
9.2.2	Electrical performance of screwless-type clamping units	Test according to subclause 9.8 of IEC 60999-1 and 9.8 of IEC 60999-2 See report _____	NA



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Clause	Requirement + Test	Result - Remark	Verdict
	A suitable test arrangement is shown in Figure 10.		NA
	If the measurement points cannot be positioned within the 10 mm to the point of contact, the voltage difference between the ideal and the actual measuring points shall be deducted from the voltage drop measured.		NA
	This voltage difference within the part of the conductor shall be determined with a suitable measurement method on one specimen at a stabilised temperature.		NA
	The test current is I_{th}		NA
9.2.3	Ageing test for screwless-type clamping units	Test according to subclause 9.10 of IEC 60999-1 and 9.10 of IEC 60999-2 See report _____	NA
	The test shall be done on the device equipped with the clamping units		NA
	The test current is I_{th}		NA
8.2.5 part 1	Verification of the effectiveness of indication of the main contact position of equipment suitable for isolation		NA
8.2.5.2.1 part 1	Dependent and independent manual operation		NA
	actuating force for opening (N) :		NA
	means to keep the contact(s) closed and the number of contacts.....:		NA
	test force for 10 s (N) :		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	After the test, when the test force is no longer applied, the actuator being left free, the open position shall not be indicated by any of the means provided		NA
	the equipment shall not show any damage such as to impair its normal operation		NA
	When the equipment is provided with a means of locking in the open position, it shall not be possible to lock the equipment while the test force is applied		NA
8.2.5.2.2 part 1	Dependent power operation		NA
	means to keep the contact(s) closed and the number of contacts.....:		NA
	Supply voltage of 110% of rated voltage (V).....:		NA
	Three attempts of 5 s to operate the equipment at intervals of 5 min.		NA
	During and after the test, the open position shall not be indicated by any of the means provided and the equipment shall not show any damage such as to impair its normal operation		NA
	When the equipment is provided with means for locking in the open position, it shall not be possible to lock the equipment during the test		NA
8.2.5.2.3 part 1	Independent power operation		NA
	means to keep the contact(s) closed and the number of contacts.....:		NA
	Three attempts to operate the equipment by the stored energy.		NA



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IEC/EN 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Lock ability of driving mechanism in OFF-position at test force and blocked main contacts :		NA
	Position indicator does not show OFF-position after capture of test force at blocked main contacts		NA
	During and after the test, the open position shall not be indicated by any of the means provided and the equipment shall not show any damage such as to impair its normal operation		NA
	When the equipment is provided with means for locking in the open position, it shall not be possible to lock the equipment during the test		NA
8.2.7 part 1	Conduit pull-out test, torque test and bending test with metallic conduits		NA
8.2.7.1 part 1	Pull-out test		NA
	Torque for screwing the conduit into the entry		NA
	Pull force (N)		NA
	5 min, the displacement of the conduit in relation with the entry shall be less than one thread depth		NA
	There shall be no evidence of damage impairing further use of the enclosure		NA
8.2.7.2 part 1	Bending test		NA
	A slowly increasing bending moment shall be applied without jerk to the free end of the conduit		NA
	Bending moment is maintained at		NA



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	1 min		NA
	The test is then repeated in a perpendicular direction		NA
	There shall be no evidence of damage impairing further use of the enclosure		NA
8.2.7.3 part 1	Torque test		NA
	Torque (Nm) :		NA
	it shall be possible to unscrew the conduit and there shall be no evidence of damage impairing further use of the enclosure		NA
9.3.1	Compliance with performance requirements		P
a)	TEST SEQUENCE 1		P
	- verification of temperature rise (Clause 9.3.3.3.)		P
	- verification of operation and operating limits (Clause 9.3.3.1 and 9.3.3.2)		P
	- verification of dielectric properties (Clause 9.3.3.4)		P
9.3.3.3	Temperature rise		P
	Sub clause 8.3.3.3. of part 1 applies		P
	ambient temperature 10-40 °C :	23°C	P
	Contactors		P
	test enclosure W x H x D (mm x mm x mm) :		NA
	material of enclosure :		NA
9.3.3.3.4	Main circuits, test conditions:		P
	Sub clause 8.3.3.3.4 of part 1 applies with following addition		P
	loaded as stated in 8.2.2.4		P
	- setting of the maximum current setting. :		NA
	- setting overload relay :		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	- conventional thermal current I _{th} (A) :		P
	- conventional enclosed thermal current I _{the} (A)		NA
	- for equipment intended for utilization category AC-6b, the test current for the temperature rise test shall be equal to 1,35 times I _e (the rated capacitive current).		NA
	- cable/busbar cross-section (mm ²) / (mm)	Part 1 table 9	P
	- temperature rise of main circuit terminals (K)	<70K	P
9.3.3.3.5	Control circuit, test conditions:		P
	Sub clause 8.3.3.3.5. of part 1 applies with following addition		NA
	The temperature rise shall be measures during the test of 9.3.3.3.4		NA
	- conventional thermal current I _{th} (A) at their rated voltage		NA
	- conventional enclosed thermal current I _{the} (A)		NA
	- cable/busbar cross-section (mm ²) / (mm)		NA
	- temperature rise of control circuit (K) ... :	<_____ K see page _____	NA
9.3.3.3.6	Coils and electromagnets circuit, test conditions:		P
	The coil with the highest power consumption, for a given frequency a.c. or d.c., according to 9.3.3.2.1.2.2 is deemed to be representative for all coils, for the same contactor, and shall be used for the temperature rise test.		P



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Clause	Requirement + Test	Result - Remark	Verdict
	a) Uninterrupted and eight-hour duty windings (8.2.2.6.1)		P
	The temperature rise shall be measures during the test of 9.3.3.3.4		P
	- temperature rise of control circuit terminals (K)	<100K	P
	b) Intermittent duty windings (8.2.2.6.2)		NA
	- no current flowing though the main circuit		NA
	- rated control supply voltage Us (V)		NA
	- class of insulating material		NA
	- intermittent duty class.....		NA
	- close open operating cycle		NA
	- on-load factor		NA
	- temperature rise of control circuit terminals (K)	< ____ K see page	NA
	c) temporary or periodic duty (8.2.2.6.3)		NA
	- no current flowing though the main circuit		NA
	- rated control supply voltage Us (V)		NA
	- class of insulating material		NA
	- close open operating cycle		NA
	- on-load time.....		NA
	- temperature rise of control circuit terminals (K)	< ____ K see page	NA
9.3.3.3.7	Auxiliary circuit, test conditions:		P
	Normally loaded with their maximum rated operational current at any convenient voltage		P
	The temperature rise shall be measures during the test of 9.3.3.3.4		P
	- conventional thermal current Ith (A)		P



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Clause	Requirement + Test	Result - Remark	Verdict
	- conventional enclosed thermal current I _{the} (A)		NA
	- cable/busbar cross-section (mm ²) / (mm)	Part 1 table 9	P
	- cable cross-section (mm ²)	Part 1 table 9	P
	- temperature rise of auxiliary circuit terminals (K)	<70K	P
9.3.3.3.8	Starting resistors for rheostatic rotor starters test conditions:		NA
	Normally loaded with their current value I _m		NA
	Number of starts per hour.....		NA
	Rated duty		NA
	Starting characteristic	See page _____	NA
	- cable/busbar cross-section (mm ²) / (mm)		NA
	- cable cross-section (mm ²)		NA
	- temperature rise of starting resistor terminals (K)	See table 3 of part 1	NA
	- temperature rise of starting resistor enclosure (K)	See table 3 of part 1	NA
	- temperature rise of issuing air (K)	See table 3 of part 1	NA
		
9.3.3.3.9	Auto-transformers for two-step auto-transformers starters		NA
	Normally loaded with max. Starting current multiplied with 0,8 x ^{starting voltage} / U _e		NA
	Number of starts per hour.....		NA
	Rated duty		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	Starting characteristic :	See page	NA
	- cable/busbar cross-section (mm ²) / (mm) :		NA
	Temperature rise of:		NA
	- windings (K), See table 5 (+15 K)..... :		NA
	- operating means (K) , See table 3 of part 1 :		NA
	- parts intended to be touched but not hand held (K) , See table 3 of part 1		NA
	- parts which need not be touched during normal operation (K) , See table 3 of part 1		NA
9.3.3	Performance under no load, normal load and overload conditions		NA
9.3.3.1	Operation		NA
	For starter only:		NA
	reference ambient temperature(i.e. +20 °C) :		NA
	Rated full load current (A) :		NA
	No tripping after 3 operations when stator has reached thermal equilibrium at minimum and maximum settings		NA
	For overload relay with combined stop and reset actuating mechanism only		NA
	With closed contactor, the resetting mechanism shall be operated and this shall cause the contactor drop out		NA
	For overload relay with either a reset or separate stop and reset mechanism only		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	With closed contactor and resetting mechanism in the reset position, the tripping mechanism shall be operated and the contactor shall have been caused to drop out		NA
9.3.3.2	OPERATING LIMITS		P
9.3.3.2.1	Power-operated equipment:		P
8.2.1.2.1	Electromagnetic contactors and starters		P
8.2.1.2.2	Contactors and starters with electronically controlled electromagnet		NA
8.2.1.2.3	Electro-pneumatic contactors and starters		NA
8.2.1.2.4	Capacitive drop out test		NA
9.3.3.2.1.2	Coil power consumption		NA
9.3.3.2.1.2.2	Holding power for conventional and electronically controlled electromagnet		NA
9.3.3.2.1.2.3	Pick-up power for a.c. controlled contactor or d.c. controlled contactor with separate pick-up and hold-on windings		NA
9.3.3.2.1.3	Pole impedance		NA
9.3.3.2.2	Relays and releases		NA
8.2.1.3	a) Operation of under-voltage relays and releases		NA
8.2.1.4	b) Shunt-coil operated releases		NA
8.2.1.5	Limits of operation of current sensing relays and releases		NA
8.2.1.5.1	Limits of operation of time-delay overload relays when all poles are energized		NA
8.2.1.5.1.1	Common requirements		NA
8.2.1.5.1.2	Thermal memory test verification		NA
8.2.1.5.2	Limits of operation of three-pole time-delay overload relays energized on two poles:		NA
8.2.1.5.3	Limits of operation of instantaneous magnetic overload relays		NA
8.2.1.5.4	Limits of operation of under-current relays and releases for automatic change over		NA
8.2.1.5.4.1	e) Limits of operation under-current relays		NA



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Clause	Requirement + Test	Result - Remark	Verdict
8.2.1.5.4.2	f) Limits of operation of automatic change over by under-current relays		NA
8.2.1.5.5.	g) Stall relays		NA
8.2.1.5.6.	h) Jam relays		NA
9.3.3.4	Test of dielectric properties, impulse withstand voltage (U_{imp} indicated):		P
	- verification by measurement of clearances instead of testing		NA
	Any actuator of insulating material and any integral non-metallic enclosure of equipment intended to be used without an additional enclosure shall be covered by a metal foil and connected to the frame or the mounting plate.		P
	Tests are also carried out according Annex R of IEC 60947-1, Ed. 5, application of the metal foil for dielectric testing on accessible parts during operation or adjustment		P
	Terminal holes covered	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no	P
	Test of dielectric properties, dielectric withstand voltage (U_{imp} not indicated):		P
	Equipment suitable for isolation		NA
	The leakage current shall be measured through each pole with the contacts in open position (< 0,5 mA)	1,1 times $U_e = \text{---}V$	NA



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Clause	Requirement + Test	Result - Remark	Verdict

9.3.1	Compliance with performance requirements		P
b)	TEST SEQUENCE 2		P
	Verification of rated making and breaking capacities, change-over ability and reversibility, where applicable (Clause 9.3.3.5.)		P
	- verification of conventional operational performance (Clause 9.3.3.6)		P
9.3.3.5	Making and breaking capacity		P
	Conditions, make operations only		P
	utilization category	AC-3	P
	Control voltage 25 times at 110% and 25 times at 85% for AC-3 and AC-4		P
	Behaviour and condition during and after the test:		P
	- no permanent arcing		P
	- no flash-over between poles		P
	- no blowing of the fusible element in the earth circuit		P
	- no welding of the contacts		P
	- the contacts shall operate when the contactor or starter is switched by the applicable method of control		P
	Conditions, make/break operations only. :		P
	utilization category	AC-3	
	For starters incorporated two contactors, 2 contactor shall be used with the following sequence: Close A – open A – close B – open B- off period		NA
	- number of operations	<input type="checkbox"/> 50 make <input checked="" type="checkbox"/> 50 make/ break	P
	Number of operation energized simultaneously		P
	Characteristic of transient recovery voltage for AC-3 and AC-4 only:		P
	oscillatory frequency (kHz)		P
	Measured oscillatory frequency (kHz) ... :		P



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Clause	Requirement + Test	Result - Remark	Verdict
	Factor y		P
	Behaviour and condition during and after the test:		P
	- no permanent arcing		P
	- no flash-over between poles		P
	- no blowing of the fusible element in the earth circuit		P
	- no welding of the contacts		P
	- the contacts shall operate when the contactor or starter is switched by the applicable method of control		P
9.3.3.6	Operational performance capability:		P
	utilization category	AC-3	P
	Conditions, make/break operations:		P
	- number of operations	<input type="checkbox"/> 6000 make <input checked="" type="checkbox"/> 6000 make/ break	P
	Number of operation energized simultaneously		P
	Characteristic of transient recovery voltage for AC-3 and AC-4 only:		P
	oscillatory frequency (kHz)		P
	Measured oscillatory frequency (kHz) ...		P
	Factor y		P
	Behaviour and condition during and after the test:		P
	- no permanent arcing		P
	- no flash-over between poles		P
	- no blowing of the fusible element in the earth circuit		P
	- no welding of the contacts		P
	- the contacts shall operate when the contactor or starter is switched by the applicable method of control		P
8.3.3.4	Dielectric verification		P



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Clause	Requirement + Test	Result - Remark	Verdict
	test voltage (2 Ui), min 1000 V for 5 s. (V)		P
	No flashover or breakdown		P
8.3.3.5	Leakage current equipment suitable for isolation		NA
	test voltage (1,1 Ue) (V)		NA
	Leakage current: ≤ 2 mA /pole		NA
9.3.1	Compliance with performance requirements		P
c)	TEST SEQUENCE 3		P
	- Performance under short-circuit conditions (Clause 9.3.4)		P
9.3.4	Performance under short-circuit conditions		P
	If devices tested in free air may also be used in an individual enclosure, they shall be additionally tested in the smallest of such enclosures stated by the manufacturer.		NA
	For devices tested only in free air, information shall be provided to indicate that the device has not been evaluated for use in an individual enclosure.		P
	The individual enclosure shall be in accordance with the manufacturer specifications. In case of multiple enclosure options are provided, the individual enclosure with the smallest volume shall be taken		NA
	Maximum Ie and maximum Ue for AC-3 are covered		P
	Sub clause 8.3.4.1.2 of part 1 applies except that, for type "1" co-ordination, the fusible element F and resistor are replaced by a solid 6 mm ² wire of 1,2 m to 1,8 m length connected to the neutral, or with the agreement of the manufacturer, to one of the phases	<input type="checkbox"/> neutral <input type="checkbox"/> phase ____	NA



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Clause	Requirement + Test	Result - Remark	Verdict
	Rated control supply voltage		P
9.3.4.2.1	Test at the prospective current "r":		P
9.3.4.2.3	Behaviour of the equipment during the test		P
	Both types of co-ordination (all devices):		P
	A - the fault current has been successfully interrupted by the SCPD, the combination starter or the combination switching device and the fuse or fusible element, or solid connection between the enclosure and supply shall not have melted		P
	B - the door or cover of the enclosure has not been blown open and it is possible to open the door or cover. Degree of protection by the enclosure is not less than IP2X		P
	C - there is no damage to the conductors or terminals and the conductors have not been separated from the terminals		P
	D – there is no cracking or breaking of an insulating base to the extent that the integrity of mounting of a live part is impaired		P
	Both types of co-ordination (combination starters and protected starters only):		NA
	E – the circuit breaker or switch is capable of being opened manually by its operating means		NA
	F - neither end of the SCPD is completely separated from its mounting means to an exposed conductive part		NA
	G - if a circuit breaker with rated ultimate short-circuit breaking capacity less than the rated conditional short-circuit current assigned to the combination starter, the combination switching device, the protected starter or the protected switching device is employed, the circuit breaker shall be tested to trip as follows:		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	a) circuit breaker with instantaneous trip relays or releases, at 120% of the trip current		NA
	b) circuit breaker with overload relays or releases, at 250% of the rated current of the circuit breaker		NA
	Type 1 co-ordination (all devices):		NA
	H - there has been no discharge of parts beyond the enclosure. Damage to the contactor and the overload relay is acceptable. The starter may be inoperative after each operation. The starter shall therefore be inspected and the contactor and/or the overload relay and the release of the circuit-breaker shall be reset if necessary and, in the case of fuse protection, all fuse-links shall be replaced.		NA
	Type 1 co-ordination (combination and protected starters only):		NA
	I - The adequacy of insulation in according with 8.3.3.4.1, item 4), of part 1 is verified after each operation (at currents "r" and "Iq" by a dielectric test on the complete unit under test (SCPD plus contactor/starter but before replacement of parts). The test voltage shall be applied to the incoming supply terminals, with the switch or circuit-breaker in open position, as follows:		NA
	I - dielectric verification test voltage (2 Ue) for 5 s (V) but not less than 1000V :	Test voltage: _____ V	NA
	- between each pole and all other poles connected to the frame of the starter		NA
	- between all live parts of all poles connected together and the frame of the starter		NA
	- between the terminals of the line side connected together and terminals of the other side connected together		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	For equipment suitable for isolation, the leakage current shall be measured through each pole, with the contacts in open position, at test voltage of 1,1 Ue and shall not exceed 6 mA	Test voltage: _____ V L1: _____ mA L2: _____ mA L3: _____ mA	NA
	Type 2 co-ordination (all devices)		P
	J - no damage to the overload relay or other parts has occurred, except that welding of contactor or starter contacts is permitted, if they are easily separated (e.g. by a screwdriver) without significant deformation, but no replacement of parts is permitted during the test, except that , in case of fuse protection, all fuse shall be replaced.	Contacts welded <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	P
	In the case of welded contact as described above, the functionality of the device shall be verified by carrying out 10 operations under the conditions of table 8 for the applicable utilization category.		NA
	Operational performance capability (9.3.3.6):		NA
	Type of product :		NA
	utilization category :		NA
	rated operational voltage Ue (V) :		NA
	rated operational current Ie (A) or power (kW) :		NA
	Conditions, make/break operations:		NA
	- test voltage U/Ue = 1,05 (V) :		NA
	- test current (A) I/Ie = 6 :		NA
	- power factor/time constant :		NA
	- on-time (ms) :		NA
	- off-time (s) :		NA
	- number of make/break operations :		NA
	Characteristic of transient recovery voltage for AC-3 and AC-4 only:		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	oscillatory frequency (kHz) :		NA
	Measured oscillatory frequency (kHz) :		NA
	Factor y :		NA
	Behaviour and condition during and after the test:		NA
	- no permanent arcing		NA
	- no flash-over between poles		NA
	- no blowing of the fusible element in the earth circuit		NA
	- no welding of the contacts		NA
	- the contacts shall operate when the contactor or starter is switched by the applicable method of control		NA
9.3.4.2.3	K The tripping of the overload relay shall be verified at a multiple of the current setting and shall conform to the published tripping characteristics, according to 5.7.5, both before and after the short-circuit test.	Test current: _____ A Measured: _____ s	NA
	L The adequacy of insulation in according with 8.3.3.4.1, item 4), of part 1 shall be verified by a dielectric test on the contactor , starter, the combination starter, the combination switching device , the protected starter or protected switching device as follows:		P
	L - dielectric verification test voltage (2 Ue) for 5 s (V) but not less than 1000V :	1320V	P
	- between all the terminals of the main circuit connected together (including the control and auxiliary circuits connected to the main circuit) and the enclosure or mounting plate, with the contacts in all normal positions of operation		P
	- between each pole of the main circuit and the other poles connected together and to the enclosure ore mounting plate with the contacts in all normal positions of operation		P



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Clause	Requirement + Test	Result - Remark	Verdict
	- between each control and auxiliary circuit not normally connected to the main circuit and: - the main circuit - the other circuits - the exposed conductive parts - the enclosure or mounting plate		P
	In case of combination starters, combination switching devices, protected starters and protecting switching devices, additional tests according to 8.3.3.4.1, item 3) of part 1 shall be made as follows:		NA
	Dielectric verification test voltage according table 12A of part 1) for 5 s (V)	Test voltage: _____ V	NA
	across the main poles of the device with the contacts of the switch or of the circuit-breaker open and the contacts of the starter closed		NA
	For equipment 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 2 mA	Test voltage: _____ V L1: _____ mA L1: _____ mA L1: _____ mA	NA
9.3.4.2.2	Test at the rated conditional short-circuit current "Iq"		NA
	Type of product..... :		NA
	Test circuit, figure 9, 10, 11, 12 :		NA
	type of SCPD :		NA
	ratings of SCPD, co-ordination type 1 ... :		NA
	ratings of SCPD, co-ordination type 2 ... :		NA
	rated operational current Ie (A) AC-3 :		NA
	rated operational voltage (V)		NA
	prospective current "Iq" (kA) :		NA
	Wire size (mm ²) type 1	_____ mm ²	NA
	Wire size (mm ²) type 2	_____ mm ²	NA



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Clause	Requirement + Test	Result - Remark	Verdict
	test voltage (V)	L1: L2: L3:	NA
	r.m.s. test current (A)	L1: L2: L3:	NA
	peak current (A)	L1: L2: L3:	NA
	power factor		NA
	1. one breaking operation of SCPD with all the switching devices closed prior to the test I^2t and I_p (A^2s / A)	L1: L2: L3:	NA
	2. one breaking operation of SCPD by closing the contactor or starter on to the short-circuit I^2t and I_p (A^2s / A)	L1: L2: L3:	NA
	3. one breaking operation of SCPD by closing the switching device on to the short-circuit I^2t and I_p (A^2s / A)	L1: L2: L3:	NA
	Behaviour of the equipment during the test		NA
	Both types of co-ordination (all devices):		NA
	A - the fault current has been successfully interrupted by the SCPD, the combination starter or the combination switching device and the fuse or fusible element, or solid connection between the enclosure and supply shall not have melted		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	B - the door or cover of the enclosure has not been blown open and it is possible to open the door or cover. Degree of protection by the enclosure is not less than IP2X		NA
	C - there is no damage to the conductors or terminals and the conductors have not been separated from the terminals		NA
	D – there is no cracking or breaking of an insulating base to the extent that the integrity of mounting of a live part is impaired		NA
	Both types of co-ordination (combination starters and protected starters only):		NA
	E – the circuit breaker or switch is capable of being opened manually by its operating means		NA
	F - neither end of the SCPD is completely separated from its mounting means to an exposed conductive part		NA
	G - if a circuit breaker with rated ultimate short-circuit breaking capacity less than the rated conditional short-circuit current assigned to the combination starter, the combination switching device, the protected starter or the protected switching device is employed, the circuit breaker shall be tested to trip as follows:		NA
	a) circuit breaker with instantaneous trip relays or releases, at 120% of the trip current		NA
	b) circuit breaker with overload relays or releases, at 250% of the rated current of the circuit breaker		NA
	Type 1 co-ordination (all devices):		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	H - there has been no discharge of parts beyond the enclosure. Damage to the contactor and the overload relay is acceptable. The starter may be inoperative after each operation. The starter shall there fore be inspected and the contactor and/or the overload relay and the release of the circuit-breaker shall be reset if necessary and, in the case of fuse protection, all fuse-links shall be replaced.		NA
	Type 1 co-ordination (combination and protected starters only):		NA
	I - The adequacy of insulation in according with 8.3.3.4.1, item 4), of part 1 is verified after each operation (at currents "r" and "Iq" by a dielectric test on the complete unit under test (SCPD plus contactor/starter but before replacement of parts). The test voltage shall be applied to the incoming supply terminals, with the switch or circuit-breaker in open position, as follows:		NA
	I - dielectric verification test voltage (2 Ue) for 5 s (V) but not less than 1000V	Test voltage: _____ V	NA
	- between each pole and all other poles connected to the frame of the starter		NA
	- between all live parts of all poles connected together and the frame of the starter		NA
	- between the terminals of the line side connected together and terminals of the other side connected together		NA
	For equipment suitable for isolation, the leakage current shall be measured through each pole, with the contacts in open position, at test voltage of 1,1 Ue and shall not exceed 6 mA	Test voltage: _____ V L1: _____ mA L2: _____ mA L3: _____ mA	NA
	Type 2 co-ordination (all devices)		NA



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	J - no damage to the overload relay or other parts has occurred, except that welding of contactor or starter contacts is permitted, if they are easily separated (e.g. by a screwdriver) without significant deformation, but no replacement of parts is permitted during the test, except that , in case of fuse protection, all fuse shall be replaced.	Contacts welded <input type="checkbox"/> yes <input type="checkbox"/> no	NA
	In the case of welded contact as described above, the functionality of the device shall be verified by carrying out 10 operations under the conditions of table 8 for the applicable utilization category.		NA
	Operational performance capability (9.3.3.6):		NA
	Type of product :		NA
	utilization category :		NA
	rated operational voltage U_e (V) :		NA
	rated operational current I_e (A) or power (kW) :		NA
	Conditions, make/break operations:		NA
	- test voltage $U/U_e = 1,05$ (V) :		NA
	- test current (A) $I/I_e = \underline{\quad}$:		NA
	- power factor/time constant :		NA
	- on-time (ms) :		NA
	- off-time (s) :		NA
	- number of make/break operations :		NA
	Characteristic of transient recovery voltage for AC-3 and AC-4 only:		NA
	oscillatory frequency (kHz) :		NA
	Measured oscillatory frequency (kHz) :		NA
	Factor y :		NA
	Behaviour and condition during and after the test:		NA
	- no permanent arcing		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	- no flash-over between poles		NA
	- no blowing of the fusible element in the earth circuit		NA
	- no welding of the contacts		NA
	- the contacts shall operate when the contactor or starter is switched by the applicable method of control		NA
9.3.4.2.3	K The tripping of the overload relay shall be verified at a multiple of the current setting and shall conform to the published tripping characteristics, according to 5.7.5, both before and after the short-circuit test.	Test current: _____ A Measured: _____ s	NA
	L The adequacy of insulation in according with 8.3.3.4.1, item 4), of part 1 shall be verified by a dielectric test on the contactor , starter, the combination starter, the combination switching device , the protected starter or protected switching device as follows:		NA
	L - dielectric verification test voltage (2 Ue) for 5 s (V) but not less than 1000V :	Test voltage:	NA
	- between all the terminals of the main circuit connected together (including the control and auxiliary circuits connected to the main circuit) and the enclosure or mounting plate, with the contacts in all normal positions of operation		NA
	- between each pole of the main circuit and the other poles connected together and to the enclosure ore mounting plate with the contacts in all normal positions of operation		NA
	- between each control and auxiliary circuit not normally connected to the main circuit and: - the main circuit - the other circuits - the exposed conductive parts - the enclosure or mounting plate		NA



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Clause	Requirement + Test	Result - Remark	Verdict
	In case of combination starters, combination switching devices, protected starters and protecting switching devices, additional tests according to 8.3.3.4.1, item 3) of part 1 shall be made as follows:		NA
	Dielectric verification test voltage according table 12A of part 1) for 5 s (V)	Test voltage: _____ V	NA
	across the main poles of the device with the contacts of the switch or of the circuit-breaker open and the contacts of the starter closed		NA
	For equipment 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 2 mA	Test voltage: _____ V L1: _____ mA L2: _____ mA L3: _____ mA	NA
9.3.1	Compliance with performance requirements		P
d)	TEST SEQUENCE 4		P
	- Verification of ability to withstand overload currents: Clause 9.3.5 (applicable for contactors only)		P
9.3.5	Verification of ability to withstand overload currents		P
	Overload current withstand capability of contactors AC-3 and AC-4:		P
	After the test, the contactor shall be substantially in the same condition as before the test (visual inspection)		P



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Clause	Requirement + Test	Result - Remark	Verdict
9.3.1	Compliance with performance requirements		P
e)	TEST SEQUENCE 5		P
	- Verification of mechanical properties of terminals: Clause 8.2.4 of IEC 6947-1:2007, 9.2.1 and 9.2.2 - Verification of degrees of protection of enclosed contactors and starters (see annex C of part 1)		P
8.2.4 part 1	Verification of mechanical properties of terminals	(see 8.2.4 part 1 above)	P
Annex C Part 1	Verification of degrees of protection of enclosed contactors and starters	(see 8.2.3 part 1 above)	P
	EMC tests		N/A
	TEST SEQUENCE Annex B		N/A
	TEST SEQUENCE Annex F		N/A
	TEST SEQUENCE Annex H		N/A
	TEST SEQUENCE Annex K		N/A
	TEST SEQUENCE Annex M (part 1)		N/A