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Clause	Requirement + Test	Result - Remark	Verdict
	Rated operational voltage: Ue (V)	415	
	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 :	28°C	P
	Number of operating cycles per hour	120	P
	Number of cycles without current (total) (closing mechanism energized at the rated Uc)		N/A
	Number of cycles without current (without releases)	1000	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 test.) Energized at the minimum rated Uc		N/A
	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.		N/A
8.3.3.3.4	Operational performance capability with current.		
	Rated current: In (A)	125	
	Maximum rated operational voltage: Ue (V)	415	
	Conductor cross-sectional area (mm²) :	50	P
	Number of operating cycles per hour	120	P
	Number of cycles with current (total) (closing mechanism energized at the rated Uc)	1000	P
	Applied voltage: closing mechanism (V)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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:	420 420 420	P
	- test current I/Ie = 1,0 (A).....L1: .....L2: L3:	128 128 128	P
	- power factor/~~time constant:~~	0,78	P
	- frequency: (Hz)	50	P
	- on-time (ms):	400	P
	- off-time (s):	30	P
	Electrical components do not exceed the value indicated in tab. 7.		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	HDB2	
	Sample no:	I-2	
	Rated current In (A)	125	
	Rated operational voltage: Ue (V)	415	
	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 :	30°C	P
	Number of operating cycles per hour	120	P
	Maximum rated operational voltage: Ue (V)	415	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Number of cycles with current (total) (closing mechanism energized at the rated Uc)	12	P
	Applied voltage: closing mechanism (V)		N/A
	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:	440 440 440	P
	- test current AC/~~DC~~: I/Ie = 6,0/~~2,5~~ (A) .....L1: .....L2: L3:	 752 752 752	P
	- power factor/~~time constant~~:	0,46	P
	- Number of cycles manually opened: 9	9	P
	- Number of cycles automatically opened by an overload release: 3	3	P
	- frequency: (Hz)	50	P
	- on-time max 2s:	<2s	P
8.3.3.5	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V for 5 seconds	1000V	P
	- no breakdown or flashover		P
	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 2 mA.	457V $3,11x10^{-3}$mA(maximum)	P
8.3.3.6	Verification of temperature-rise		
	- the values of temperature-rise do not exceed those specified in tab. 7.		P
	Temperature rise of main circuit terminals ≤ 80 K (K) :	60	P
	conductor cross-sectional area (mm²) :	50	P
	test current Ie (A) :	125	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)	181	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	56s	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) ..... :	20	—
	test force with blocked main contacts for 10 s (N) . :	60	—
	Dependent power operation		N/A
	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		N/A
	Three attempts to operate the equipment by the stored energy.		N/A
	Lock ability 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		P

8.3.4	TEST SEQUENCE II (Ics): 1 sample: 4P, 125A		
8.3.4.1	Test of rated service short-circuit breaking capacity		
	Test sequence of operation: O – t – CO – t – CO		
	Type designation or serial number	HDB2	
	Sample no:	II-1	
	Rated current: In (A)	125	
	Rated operational voltage: Ue (V)	415	
	Rated service short-circuit breaking capacity: (kA)	7,5	

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		P
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back: 0mm Front: 0mm Top: 45mm Botton: 45mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65	0,50	P
	- size of hole: <30mm^2	25	P
	- finish: bare or conductive plating	Bare	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		P
	Circuit is earthed at: (load-star- or supply-star point)	supply-star	P
	Conductor cross-sectional area (mm^2) :	50	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening torques: (Nm)	2,0	N/A
	Test sequence of operation: O – t – CO – t – CO		P
	- test voltage U/Ue = 1,05 (V).....L1: .....L2: L3:	438 438 438	P

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Clause	Requirement + Test	Result - Remark	Verdict
	- r.m.s. test current AC/~~DC~~: (kA) .....L1: .....L2: L3:	7,6 7,7 7,6	P
	power factor/time constant :	0,47	P
	- Factor "n"	1,7	P
	- peak test current (kA) :	10,8	P
	Test sequence "O"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	6,9 2,1 4,3	P
	- Joule integral I^2dt (kA^2s) .....L1: .....L2: L3:	157 27,5 85,8	P
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	6,0 4,1 3,6	P
	- Joule integral I^2dt (kA^2s) .....L1: .....L2: L3:	114 78,1 49,7	P
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	3,0 5,5 2,9	P
	- Joule integral I^2dt (kA^2s) .....L1: .....L2: L3:	49,3 110 48,1	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)	125	
	Maximum rated operational voltage: Ue (V)	415	
	Conductor cross-sectional area (mm^2) :	50	
	Number of operating cycles per hour	120	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Number (5% of the number given in column 4, tab. 8) of cycles with current (total) (closing mechanism energized at the rated Uc)	50	P
	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:	420 420 420	P
	- test current I/Ie = 1,0 (A) .....L1: .....L2: L3:	128 128 128	P
	- power factor/time constant:	0,78	P
	- frequency: (Hz)	50	P
	- on-time (ms):	300	P
	- off-time (s):	30	P
8.3.4.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V	1000V	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<2mA / 1.1 Ue)	457V $6{,}23 \times 10^{-3}$mA(maximum)	P
8.3.4.4	Verification of temperature-rise		
	- the values of temperature-rise do not exceed those specified in tab. 7.		P
	Temperature rise of main circuit terminals. ≤ 80 K (K) :	59	P
	conductor cross-sectional area (mm²) :	50	P
	test current Ie (A) :	125	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)	181	P
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	4min15s	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II (Ics): -1 sample: 4P, 63A		
8.3.4.1	Test of rated service short-circuit breaking capacity		
	Test sequence of operation: O – t – CO – t – CO		
	Type designation or serial number	HDB2	
	Sample no:	II-2	
	Rated current: In (A)	63	
	Rated operational voltage: Ue (V)	415	
	Rated service short-circuit breaking capacity: (kA)	7,5	
	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.		P
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back: 0mm Front: 0mm Top: 45mm Botton: 45mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65	0,50	P
	- size of hole: <30mm^2	25	P
	- finish: bare or conductive plating	Bare	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		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Circuit is earthed at: (load-star- or supply-star point)	supply-star	P
	Conductor cross-sectional area (mm²) :	16	N/A
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening torques: (Nm)	2,0	N/A
	Test sequence of operation: O – t – CO – t – CO		P
	- test voltage U/Ue = 1,05 (V).....L1: .....L2: L3:	438 438 438	P
	- r.m.s. test current AC/~~DC~~: (kA).....L1: .....L2: L3:	7,6 7,7 7,6	P
	power factor/time constant :	0,47	P
	- Factor "n"	1,7	P
	- peak test current (kA) :	10,8	P
	Test sequence "O"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	5,8 2,1 4,0	P
	- Joule integral I²dt (kA²s) .....L1: .....L2: L3:	99,5 25,8 48,4	P
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	1,3 3,2 5,5	P
	- Joule integral I²dt (kA²s) .....L1: .....L2: L3:	17,9 35,9 77,3	P
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	2,4 4,1 1,7	P
	- Joule integral I²dt (kA²s) .....L1: .....L2: L3:	28,4 51,2 16,7	P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		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:		
	- test voltage U/Ue = 1,0 (V) .....L1: .....L2: L3:	- - -	N/A
	- test current 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
8.3.4.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V	1000V	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<2mA / 1.1 Ue)	457V $5{,}55 \times 10^{-3}$mA(maximum)	P
8.3.4.4	Verification of temperature-rise		
	- the values of temperature-rise do not exceed those specified in tab. 7.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Temperature rise of main circuit terminals. ≤ 80 K (K) :		N/A
	conductor cross-sectional area (mm²) :		N/A
	test current Ie (A) :		N/A
8.3.4.5	Verification of overload releases		
	Test current: 1.45 times the value of their current setting at the reference temperature: (A)	91,4	P
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	1min27s	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) -1 sample: 4P, 125A		
	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 of this sequence.		
	Type designation or serial number	HDB2	
	Sample no:	III-1	
	Rated current: In (A)	125	
	Rated operational voltage: Ue (V)	415	
	Rated ultimate short-circuit breaking capacity: (kA)	10	
	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 Icu = Ics		
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:	⩽8min	P
	- Operation time: (s) .....L1: .....L2: .....L3: .....L4 :	1min57s 2min36s 1min56s 1min46s	P
8.3.5.2	Test of rated ultimate short-circuit breaking capacity		
	The test sequence of operations is O – t – CO		
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		P
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back: 0mm Front: 0mm Top: 45mm Botton: 45mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65	0,50	P
	- size of hole: <30mm^2	25	P
	- finish: bare or conductive plating	Bare	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		P
	Circuit is earthed at: (load-star- or supply-star point)	Supply-star	P
	Conductor cross-sectional area (mm^2) :	50	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	3,5	P
	Test sequence of operation: O – t – CO		P
	- test voltage U/Ue = 1,05 (V) .....L1: .....L2: L3:	440 440 440	P
	- r.m.s. test current AC/~~DC~~: (kA) .....L1: .....L2: L3:	10,3 10,3 10,3	P
	power factor/time constant :	0,47	P
	- Factor "n"	1,7	P
	- peak test current (kAmax) :	16,7	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test sequence "O"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	6,73 7,82 5,69	P
	- Joule integral I^2dt (kA^2s) .....L1: .....L2: L3:	162 311 75,6	P
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	6,18 5,52 7,25	P
	- Joule integral I^2dt (kA^2s) .....L1: .....L2: L3:	88,4 91,5 230	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
8.3.5.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V for 5 seconds	1000	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 Ue)	457V $7,03x10^{-3}$mA(maximum)	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:		N/A
	- Operation time: (s) .....L1: .....L2: .....L3: .....L4 :	51s 1min07s 46s 41s	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) -1 sample: 4P, 63A		
	Rated ultimate short-circuit breaking		
	Except where the combined test sequence applies, this test sequence applies to circuit-breaker of utllization 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 of this sequence.		
	Type designation or serial number	HDB2	
	Sample no:	III-1	
	Rated current: In (A)	63	
	Rated operational voltage: Ue (V)	415	
	Rated ultimate short-circuit breaking capacity: (kA)	10	
	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 Icu = Ics		
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:	⩽8min	P
	- Operation time: (s) .....L1: .....L2: .....L3: .....L4 :	1min11s 56s 48s 47s	P
8.3.5.2	Test of rated ultimate short-circuit breaking capacity		
	The test sequence of operations Is O – t – CO		
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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.		P
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back: 0mm Front: 0mm Top: 45mm Botton: 45mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65	0,50	P
	- size of hole: <30mm^2	25	P
	- finish: bare or conductive plating	Bare	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		P
	Circuit is earthed at: (load-star- or supply-star point)	Supply-star	P
	Conductor cross-sectional area (mm²) :	16	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	3,5	P
	Test sequence of operation: O – t – CO		P
	- test voltage U/Ue = 1,05 (V) .....L1: .....L2: L3:	438 438 438	P
	- r.m.s. test current AC/~~DC~~: (kA) .....L1: .....L2: L3:	10,3 10,3 10,3	P
	power factor/time constant :	0,47	P
	- Factor "n"	1,7	P
	- peak test current (kAmax) :	18,9	P

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Test sequence "O"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	8,1 2,1 5,9	P
	- Joule integral I^2dt (kA^2s) .....L1: .....L2: L3:	179 37,2 88,9	P
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: L3:	1,1 5,8 5,8	P
	- Joule integral I^2dt (kA^2s) .....L1: .....L2: L3:	5,9 59,4 59,3	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
8.3.5.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V for 5 seconds	1000	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 Ue)	458V $10,33x10^{-3}$mA(maximum)	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:		N/A
	- Operation time: (s) .....L1: .....L2: .....L3: .....L4 :	52s 41s 40s 32s	P

ВЯРНО С ОРИГИНАЛА

.503

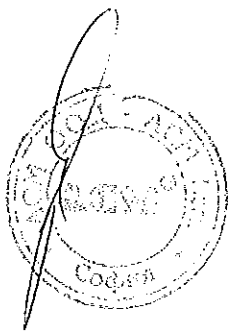
IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) -1 sample: 4P, 125A		
	Rated ultimate short-circuit breaking **– tested on the four pole and its adjacent pole**		
	Except where the combined test sequence applies, this test sequence applies to circuit-breaker 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 of this sequence.		
	Type designation or serial number	HDB2	
	Sample no:	III-3	
	Rated current: In (A)	125	
	Rated operational voltage: Ue (V)	415	
	Rated ultimate short-circuit breaking capacity: (kA)	10	
	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 Icu = Ics		
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:	⩽8min	P
	- Operation time: (s) .....L3: L4:	1min13s 1min06s	P
8.3.5.2	Test of rated ultimate short-circuit breaking capacity		
	The test sequence of operations is O – t – CO		
	For circuit-breaker fitted with adjustable releases, test shall be made with the current and time settings at maximum.		N/A

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		P
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back: 0mm Front: 0mm Top: 45mm Botton: 45mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65	0,50	P
	- size of hole: <30mm^2	25	P
	- finish: bare or conductive plating	Bare	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		P
	Circuit is earthed at: (load-star- or supply-star point)	Supply-star	P
	Conductor cross-sectional area (mm²) :	50	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	3,5	P
	Test sequence of operation: O – t – CO		P
	- test voltage U/Ue = 1,05 (V) .....L3: L4:	256 -	P
	- r.m.s. test current AC/~~DC~~: (kA) .....L3: L4:	6,13 -	P
	power factor/time constant :	0,68	P
	- Factor "n"	1,53	P
	- peak test current (kAmax) :	8,7	P
	Test sequence "O"		
	- max. let-through current: (kApeak) .....L3: L4:	7,8 -	P

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- Joule integral I²dt (kA²s) .....L3: L4:	203 -	P
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L3: L4:	8,9 -	P
	- Joule integral I²dt (kA²s) .....L3: L4:	243 -	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
8.3.5.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V for 5 seconds	1000	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 Ue)	458V $5{,}83 \times 10^{-3}$mA(maximum)	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:		N/A
	- Operation time: (s) .....L3: L4:	53s 50s	P



ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) -1 sample: 4P, 63A		
	Rated ultimate short-circuit breaking **– tested on the four pole and its adjacent pole**		
	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 utillzation 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 of this sequence.		
	Type designation or serial number	HDB2	
	Sample no:	III-10	
	Rated current: In (A)	63	
	Rated operational voltage: Ue (V)	415~	
	Rated ultimate short-circuit breaking capacity: (kA)	10	
	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 Icu = Ics		
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) .....L3: L4:	48s 57s	N/A
8.3.5.2	Test of rated ultimate short-circuit breaking capacity		
	The test sequence of operations is O – t – 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

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The circuit-breaker is mounted complete on its own support or an equivalent support.		P
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back: 0mm Front: 0mm Top: 45mm Botton: 45mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65	0,50	P
	- size of hole: <30mm^2	25	P
	- finish: bare or conductive plating	Bare	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		P
	Circuit is earthed at: (load-star- or supply-star point)	Supply-star	P
	Conductor cross-sectional area (mm²) :	16	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	3,5	P
	Test sequence of operation: O – t – CO		P
	- test voltage U/Ue = 1,05 (V) .....L3: L4:	256 -	P
	- r.m.s. test current AC/~~DC~~: (kA) .....L3: L4:	6,13 -	P
	power factor/time constant :	0,68	P
	- Factor "n"	1,53	P
	- peak test current (kAmax) :	8,7	P
	Test sequence "O"		
	- max. let-through current: (kApeak) .....L3: L4:	5,1 -	P
	- Joule integral I²dt (kA²s) .....L3: L4:	50,4 -	P

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Pause, t: (min)	3	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L3: L4:	2,1 -	P
	- Joule integral I^2dt (kA^2s) .....L3: L4:	6,5 -	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"	No	P
	Cracks observed	No	P
8.3.5.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V for 5 seconds	1000	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 Ue)	458V $7,91x10^{-3}$mA(maximum)	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:		N/A
	- Operation time: (s) .....L3: L4:	32s 40s	P

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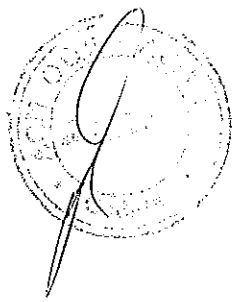
TABLE: TEMPERATURE RISE MEASUREMENTS				
temperature rise dT of part:		phase	dT (K)	required dT (K)
For clause 8.3.3.6 (125A, 4P)				
1	Terminals for external connections	Max for all	60	80
2	Enclosure	Max for all	38	50
3	Non-metallic handle	Max for all	6	35
For clause 8.3.4.4 (125A, 4P)				
1	Terminals for external connections	Max for all	59	80

TABLE: THREADED PART TORQUE TEST			
threaded part identification	diameter of thread (mm)	column number (I, II, or III)	applied torque (Nm)
Terminal screw	6,8	II	3,5
supplementary information:			

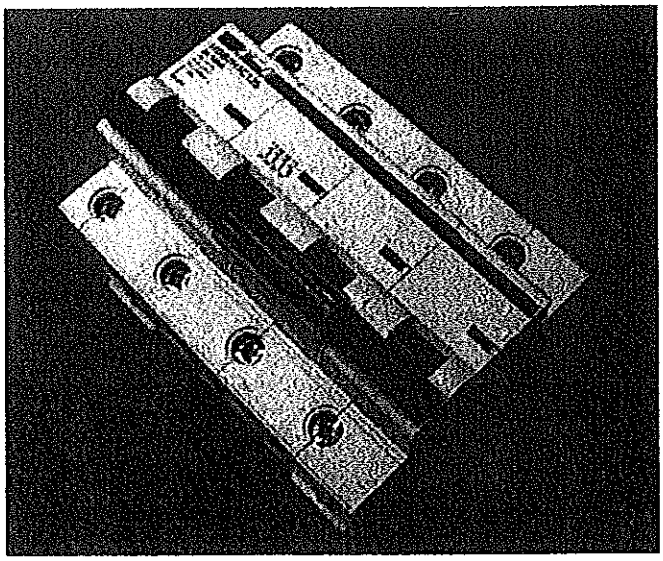
TABLE: GLOW WIRE TEST							
Part	Colour	Thick (mm)	Temp. °C	burning after t (s)	drops	support burning	Comments
Enclosure	Grey	2,5	960	2	No	No	OK
Non-metallic mechanical parts	Brown	2,0	960	-	No	No	OK
	Red	2,0	650	-	No	No	OK
	White	2,5	960	-	No	No	OK
Handle	Black	2,0	650	-	No	No	OK
supplementary information:							

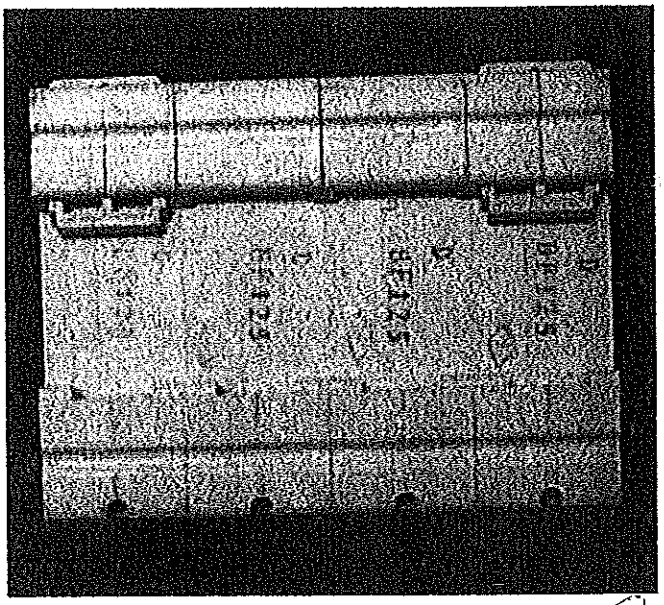


ВЯРНО С ОРИГИНАЛА

IEC 60947-2

Photos of samples: 4P



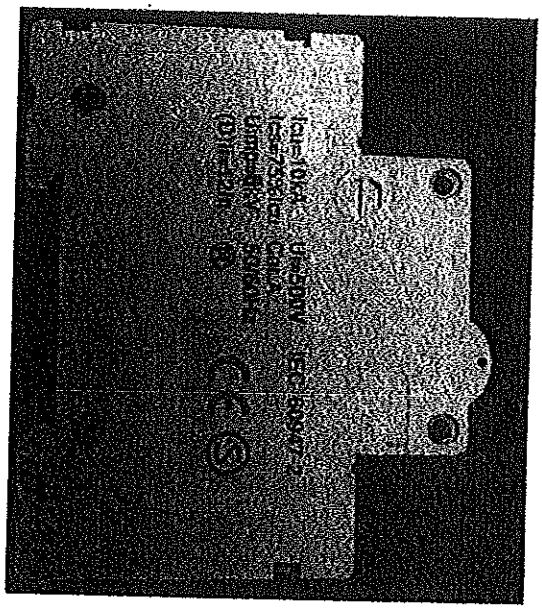


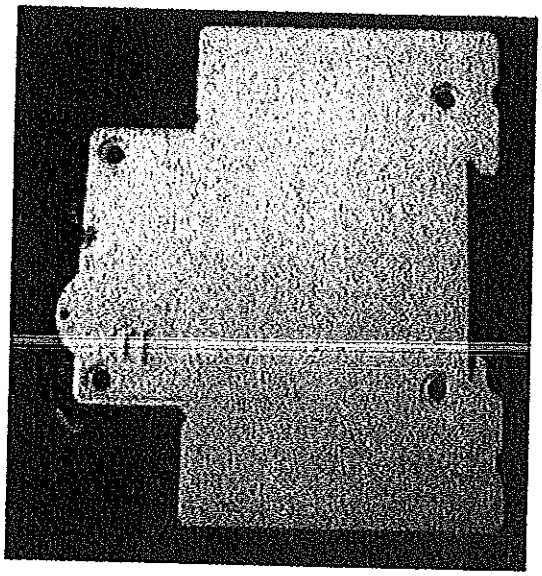
ВЯРНО С ОРИГИНАЛА

Photos of samples:

TRF No. IEC60947_2F

IEC 60947-2

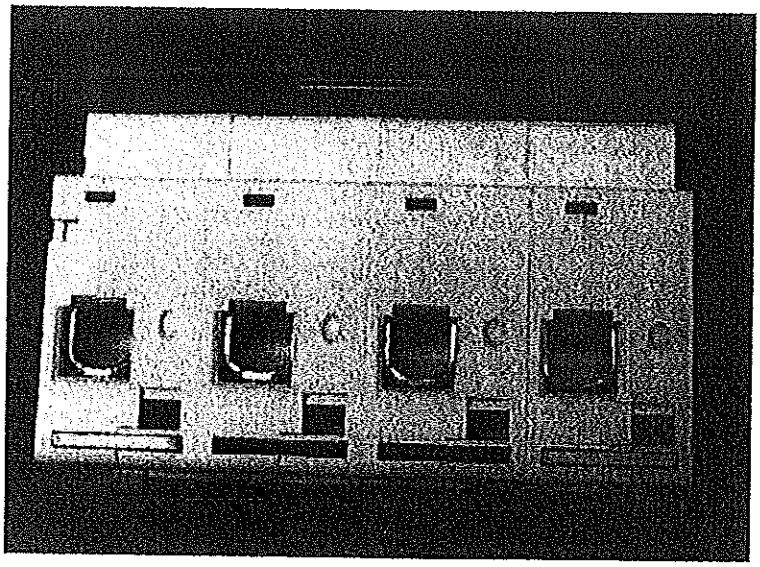


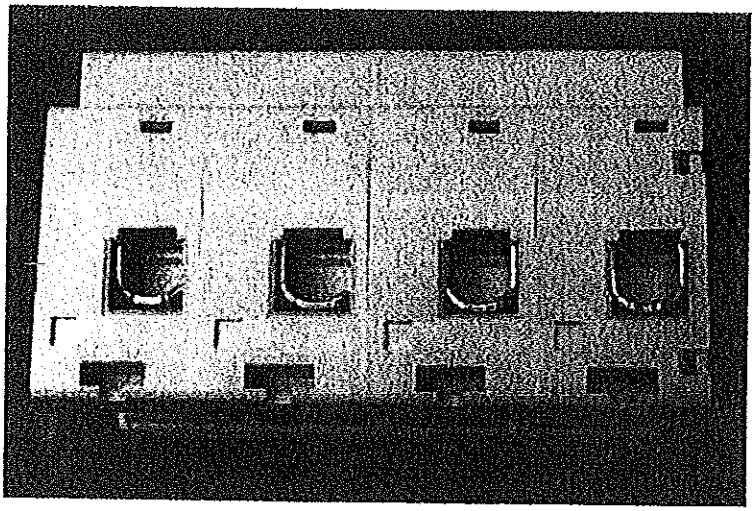


Photos of samples:

ВЯРНО С ОРИГИНАЛА

IEC 60947-2





ВЯРНО С ОРИГИНАЛА

АСМ ООД

1000 София, ул. "Стефан Караджа" №7, вх. Б, ет. 1, ап. 14, тел.: 02/9874960, 9874970, факс: 02/9874980, E-mail: office@acm-bg.com
6000 Стара Загора, ул."Цар Иван Шишман" 77, офис 42, тел.: 042/601555, 602555, факс: 042/604555, E-mail: office-stz@acm-bg.com
9009 Варна, ул. „Уста Колю Фичето" №25Б, ет.2, тел.:052/511559, факс:052/505051, E-mail: office-vn@acm-bg.com

СПИСЪК НА ПРОВЕДЕНИТЕ ИЗПИТВАНИЯ

I.Списък на проведените изпитвания за миниатюрен автоматичен прекъсвач HDB9H.

1. Общ преглед
1.1. Проверка на маркировката
1.1.1. Незаличимост на маркировката
1.2. Проверка на механизмите
1.3. Проверка на винтовете,тоководещи части и проводници
1.4. Проверка на защитата от къси съединения
1.5. Проверка на топлинната устойчивост
1.5.1 Проверка на устойчивоста при повишена топлина и огън
1.6. Изпитване на устойчивост срещу ръжда
1.7. Проверка на диелектричните свойства
1.8. Проверка при повишена температура
1.9. Провеждане на 28-дневни изпитвания
2. Изпитване на механичната и електрическата издържливост
2.1.Работа при намалени стойности на късо съединение
Проверка на прекъсвача след изпитване на късо съединение
2.2. Изпитване на късо съединение за издържливост на прекъсвачи използвни в IT системи
2.2.1. Проверка на прекъсвача след изпитване на късо съединение
3. Изпитване на изключващите характеристики
3.1 Устойчивост на механични удари и въздействия
3.2. Работа на късо съединение при 1500 A
3.2.1. Проверка на прекъсвача след изпитване на късо съединение
3.3. Обслужване при късо съединение (I_{cs})
3.3.1. Проверка на прекъсвача след изпитване на късо съединение
3.4. Работа при нормални стойности на късо съединение (I_{cn})
3.4.1. Проверка на прекъсвача след изпитване на късо съединение

II.Списък на проведените изпитвания за миниатюрен автоматичен прекъсвач HDB2.

1. Изпитване за незаличимост на маркировката
2. Изпитване за издръжливост на винтовете,тоководещите части и проводниците
3. Изпитване за издръжливост на крайните външни проводници
4. Изпитване за защита срещу късо съединение
5. Изпитване за диелектрични свойства и изолационни възможности
5.1. Устойчивост на влага
5.2. Изолационно съпротивление на главната верига
5.3. Диелектрична якост на главната верига
5.4. Диелектрична якост на помощните и контролни вериги
5.5. Стойност на изпитваното напрежение
5.6. Проверка импулсно съпротивление
6. Изпитване при повишение на температурата и измерване загубата на мощност

7. Провеждане на 28-дневно изпитване
8. Изпитване на изключващи характеристики
8.1. Изпитване на времетокови характеристики
8.2. Изпитване на незабавно изключване и правилно отваряне на контактите
8.3. Изпитване на еднополюсното натоварване на изключващите характеристики
8.4. Изпитване на влиянието на околната температура върху изключващите характеристики
9. Изпитване на механична и електрическа издръжливост
10. Изпитване на късо съединение
11. Механично натоварване
11.1. Механичен удар
11.2. Съпротивление срещу механично натоварване и удари
12. Изпитване на устойчивост на топлина
13. Устойчивост на необичайна топлина и пожар
14. Изпитване на устойчивост срещу ръжда

гр. София
14.07.2015 г.

Ангел Ангелов
/Управител/

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Intertek

Certificate

Intertek for European Product Safety

Reference No. 1209410

Moulded Case Circuit-breakers

Type designation	HDB2
Certificate holder	**Delixi Electric Ltd.** **Delixi High Tech Industrial Park,** **Liushi Town, Yueqing City,** **Zhejiang Province 325604,** **CHINA**
The product complies with the standard(s)	EN 60947-2:2006 and A1
Date of expiry	8 February 2017
EU Directive information	*The product satisfies the provisions for CE marking according to the Low Voltage Directive 2006/95/EC.*

ВЯРНО С ОРИГИНАЛА

Additional information in Appendix.

Certification Body Intertek Semko AB, Product Certification *Place* Kista - Stockholm

Signed Bo Berglöf *Date* 8 February 2012

This certificate is issued in accordance with the terms and conditions set out in the Appendix.

Intertek

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Appendix

Reference No. 1209410

Technical data

Type designation/	HDB2
Trade mark /	Himel
Rated Voltage (V) /	240V
Rated Current (A) /	63, 80, 100, 125A
Frequency (Hz) /	50/60Hz
IP-class /	20
Poles No. /	1
Product information /	I_{cs}= 7500A, I_{cu}= 10000A

Type designation/	HDB2
Trade mark /	Himel
Rated Voltage (V) /	415V
Rated Current (A) /	63, 80, 100, 125A
Frequency (Hz) /	50/60Hz
IP-class /	20
Poles No. /	2
Product information /	I_{cs}= 7500A, I_{cu}= 10000A

ВЯРНО С ОРИГИНАЛА

Type designation/	HDB2
Trade mark /	Himel
Rated Voltage (V) /	415V
Rated Current (A) /	63, 80, 100, 125A
Frequency (Hz) /	50/60Hz
IP-class /	20
Poles No. /	3
Product information /	I_{cs}= 7500A, I_{cu}= 10000A

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Appendix

Reference No. 1209410

Type *designation/*	HDB2
Trade mark /	Hiwell
Rated Voltage (V) /	415
Rated Current (A) /	63, 80, 100, 125
Frequency (Hz) /	50/60
IP-class /	20
Poles No. /	4
Product information /	I_{cs}= 7500A, I_{cu}= 10000A

Manufacturing site(s)

Delixi Electric Ltd.
Delixi High Tech Industrial Park,
Liushi Town, Yueqing City,
Zhejiang Province 325604,
CHINA

This certificate, which includes production control, is considered to constitute sufficient support for an EC Declaration of Conformity and CE marking of the product according to the Low Voltage Directive 73/23/EEC and 93/68/EEC.

Certification Body Intertek Semko AB, Product Certification *Place* Kista - Stockholm

Signed Bo Berglöf *Date* 8 February 2012

ВЯРНО С ОРИГИНАЛА

Превод от английски на български език

Интертек
(Лого)

СЕРТИФИКАТ

С
Интертек
(Лого)

за Европейска Безопасност на Продуктите

Референтен № 1209410

Прекъсвачи с лят корпус

Търговско обозначение HDB2

Притежател на сертификата **Деликси Електрик Лтд.**
Деликси Индустриален Парк за Високи Технологии
Люши Таун, Июегинг Сити,
Провинция Джъдзян 325604,
КИТАЙ

Продуктът съответства на стандарт (и) EN 60947-2:2006 и A1

Валидност до 8 февруари 2017

Информация за ЕС Директива Продуктът отговаря на разпоредбите за маркировката CE, съгласно Директива за ниско напрежение 2006/95 / ЕО

Допълнителна информация в Допълнение.

Сертифициращ Орган Интертек Семко АБ, Продуктово Сертифициране *Място* Киста-Стокхолм

Подписал Подпис /не се чете/
Бо Бергльоф

Дата 8 Февруари 2012

Този сертификат е издаден в съответствие с правилата и условията, заложени в Допълнение.

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Интертек
(Лого)

С
Интертек
(Лого)

Допълнение

Референтен № 1209410

Технически данни

Типово обозначение/	HDB2
Търговска марка /	*Химел (Лого)*
Номинално напрежение(V) /	240V
Номинален ток (A) /	63, 80, 100, 125A
Честота (Hz) /	50/60Hz
IP-клас /	20
Брой полюси /	1
Продуктова информация /	Ics=7500A, Icu=10000A

Типово обозначение/	HDB2
Търговска марка /	*Химел (Лого)*
Номинално напрежение(V) /	415V
Номинален ток (A) /	63, 80, 100, 125A
Честота (Hz) /	50/60Hz
IP-клас /	20
Брой полюси /	2
Продуктова информация /	Ics=7500A, Icu=10000A

Типово обозначение/	HDB2
Търговска марка /	*Химел (Лого)*
Номинално напрежение(V) /	415V
Номинален ток (A) /	63, 80, 100, 125A
Честота (Hz) /	50/60Hz
IP-клас /	20
Брой полюси /	3
Продуктова информация /	Ics=7500A, Icu=10000A

Интертек
(Лого)

С
Интертек
(Лого)

Допълнение

Референтен № 1209410

Технически данни

Типово обозначение/	HDB2
Търговска марка /	*Химел (Лого)*
Номинално напрежение(V) /	415V
Номинален ток (A) /	63, 80, 100, 125A
Честота (Hz) /	50/60
IP-клас /	20
Брой полюси /	4
Продуктова информация /	I_{cs}=7500A, I_{cu}=10000A

Производствен обект(и) / Деликси Електрик Лтд.
Деликси Индустриален Парк за Високи Технологии
Люши Таун, Июегинг Сити,
Провинция Джъдзян 325604,
КИТАЙ

Този сертификат, който включва контрол на производството, се счита за достатъчна подкрепа за ЕО Декларация за съответствие и СЕ маркировка на продукта в съответствие с Директива за ниско напрежение 73/23 / ЕИО и 93/68 / ЕИО.

Сертифициращ Орган Интертек Семко АБ, Продуктово Сертифициране *Място* Киста-Стокхолм

Подписал Подпис /не се чете/ *Дата* 8 Февруари 2012
Бо Бергльоф

Този сертификат е за изключително ползване от Клент на Интертек и се предоставя в съответствие с договора за сертифициране между Интертек и неговия Клиент. Отговорността и задълженията на Интертек се ограничават до реда и условията на споразумението. Интертек не поема отговорност за всяка страна, различна от Клиента в съответствие със споразумението, за всяка загуба, разход или вреди, причинени от използването на този сертификат. Само на Клиентът се разрешава да позволи копиране или разпространение на този сертификат и то само в своята цялост. Използването на сертификатна марка Интертек е ограничено до условията, посочени в споразумението. Всяко по-нататъшно използване на името Интертек за продажба или реклама на тествания материал, продукт или услуга, първо трябва да се одобрява писмено от Интертек. Началните фабрични оценки и проследяване на услугите са за целите на осигуряването на подходящо използване на марката за сертифициране в съответствие с настоящото споразумение, те не са за целите на контрола на качеството на продукцията и не освобождават Клиента от задълженията му в това отношение.

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Ref. Certif. No.

SE-65958

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product Produit	Moulded case circuit-breakers
Name and address of the applicant Nom et adresse du demandeur	Delixi Electric Ltd, Delixi High Tech Industrial Park, Liushi Town, Yueqing City, Zhejiang Province 325604, CHINA
Name and address of the manufacturer Nom et adresse du fabricant	Same as above
Name and address of the factory Nom et adresse de l'usine Note: *When more than one factory, please report on page 2* Note: *Lorsque il y plus d'une usine, veuillez utiliser la 2ème*	Same as applicant
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	Ue= 240V~(1-pole), 415V~(2-, 3-, 4-poles) In= 63, 80, 100, 125A, Icu= 10000A, Ics= 7500A
Trademark (if any) Marque de fabrique (si elle existe)	Hiwell
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	-
Model / Type Ref. Ref. De type	HDB2
Additional Information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2ème page)	-
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60947-2:2006 and A1
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	SH11090550-001, 002, 003, 004

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

Intertek Semko AB
Box 1103
SE-164 22 Kista, Sweden
Int +46 8 750 00 00

Intertek

Signature:

Bo Berglöf

Date: 8 February 2012

SUR

ВЯРНО С ОРИГИНАЛА

Превод от двуезичен-английски/ френски на български език

IEC IECEE
CB
SCHEME
(Лого)

Реф. Сертификат No.
SE-65958

СИСТЕМА ПО СТАНДАРТА IEC ЗА ВЗАИМНО РАЗПОЗНАВАНЕ НА ТЕСТОВИ СЕРТИФИКАТИ ЗА ЕЛЕКТРООБОРУДВАНЕ (IECEE) CB СХЕМА

CB ТЕСТОВИ СЕРТИФИКАТ

Продукт	Прекъсвачи с лят корпус
Име и адрес на ищеца	Деликси Електрик Лтд. Деликси Индустриален Парк за Високи Технологии Люши Таун, Июегинг Сити, Провинция Джъдзян 325604, КИТАЙ
Име и адрес на производителя	Същите както по-горе
Име и адрес на фабриката Забележка: При повече от една фабрика, моля докладвайте на страница 2	Същите като на ищеца
Оценки и основни характеристики	Ue=240V~(1-полюс), 415V~(2-,3-,4-полюса) In=63, 80, 100, 125A, Icu=10000A, Ics=7500A
Търговска марка (ако има такава)	*Химел (Лого)*
Вид на използваните от производителя - лаборатории за изпитване	
Модел/Тип Реф.	HDB2
Допълнителна информация (при необходимост може да се отчете също на страница 2)	-
Проба от продукта беше тествана и е установено, че съответства на	IEC 60947-2:2006 и A1
Както е показано в Тестови Доклад Реф. №, който формира част от този Сертификат	SH11090550-001, 002, 003, 004

Този CB Тестови Сертификат е издаден от Националния Сертифициращ Орган

Интертек Семко АБ
Кутия 1103
СЕ-164 22 Киста, Швеция
Вътр. +46 8 750 00 00

Дата: 8 Февруари 2012

Интертек (Лого)

Подпис /не се чете/

Бо Бергльоф

535

Intertek Testing Services Shanghai,
Building No.86, 1198 Qinzhou Road (North),
Caohejing Development Zone,
Shanghai 200233, China
Tel:86 21 6127 8200 Fax:86 21 6495 6263

Test Verification of Conformity

On the basis of the referenced test report(s), the sample(s) of the below product has been found to comply with the relevant harmonized standard(s) to the directive(s) listed on this verification at the time the tests were carried out.
The manufacturer may indicate compliance to only the said directives by signing a DoC himself and may affix the CE marking to products identical to the tested sample(s) if the product complies with all CE marking directives that has the product in their scope. In addition, the manufacturer shall file and keep the documentation according to the rules of the applicable directive(s) and shall consider changes of the standards as they may occur. Additional requirements, additional directives and local laws may be applicable.

Applicant Name & Address	:	**DELIXI ELECTRIC LTD** **Delixi High Tech Industrial Park, Liushi Town, Yueqing City, Zhejiang Province, China 325604**
Manufacturing site Name & Address		**Same as applicant**
Product(s) Tested	:	**Moulded case circuit-breakers**
Ratings and principal characteristics	:	**U_e= 240V~(1-pole), 415V~(2-, 3-, 4-poles)** **I_n= 63, 80, 100, 125A** **I_{cu}= 10000A, I_{cs}= 7500A**
Model(s)	:	**HDB2**
Brand name	:	**Himel**
Relevant Standard(s) / Specification(s) / Directive(s)	:	**EN 60 947-2:2006 +A1:2009** **the Low Voltage Directive 2006/95/EC**
Verification Issuing Office Name & Address	:	**Intertek Testing Services Shanghai** **Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China**
Verification Number	:	**SH11090550-V1**
Report Number(s)		**SH11090550-001, 002, 003, 004**

NOTE 1: This verification is part of the full test report(s) and should be read in conjunction with it.

CE

Oliver Wei
Manager
February 15, 2012

ВЯРНО С ОРИГИНАЛА

Превод от английски на български език

Интертек
(Лого)

Интертек Услуги за Изпитване Шанхай
Сграда №86, 1198 Куинжоу Роуд (Север),
Каохейжинг Дивелъпмънт Зоун,
Шанхай 200233, Китай
Тел: 86 21 6127 8200 Факс: 86 21 6495 6263

Тестово Удостоверение за Съответствие

На базата на съотнесените тестови доклад(и), пробата(ите) на долуописания продукт отговарят на съответните хармонизирани стандарт(и) на директивите, описани в това удостоверение по време на проведените изпитвания.
Производителят може да показва съответствие само на посочените директиви чрез собственоръчно подписване на документ и може да нанесе CE маркировката на продукти, идентични на изследваните проби, ако продуктът отговаря и попада в обхвата на всички директиви за CE маркировка. В допълнение, производителят трябва да подаде и съхранява документацията в съответствие с правилата на приложимата директива и с мистъл за промени в стандартите, тъй като те могат да се появят. Могат да бъдат приложими допълнителни изисквания, допълнителни директиви и местни закони.

Име на ищеца и Адрес :	ДЕЛИКСИ ЕЛЕКТРИК ЛТД Деликси Индустриален Парк за Високи Технологии, Люши Таун, Июегинг Сити, Провинция Джъдзян, Китай 325604
Производствен обект Име и Адрес	Същите като на ищеца
Тестван(и) продукт(и) :	Прекъсвачи с лят корпус
Оценки и основни характеристики:	Ue=240V~(1-полюс), 415V~(2-,3-,4-полюса) In=63, 80, 100, 125A, Icu=10000A, Ics=7500A
Модел(и) :	HDB2
Марка име:	*Химел (Лого)*
Съотносим(и) Стандарт(и) / Спецификация(и) / Директива (и):	EN 60 947-2:2006 + A1:2009 Директивата за ниско напрежение 2006/95 / ЕО
Име на офис и Адрес на издаващият Удостоверението:	Интертек Услуги за Изпитване Шанхай Сграда №86, 1198 Куинжоу Роуд (Север), Каохейжинг Дивелъпмънт Зоун, Шанхай 200233, Китай
Номер Удостоверение :	SH11090550-V1
Доклад Номер(а) :	SH11090550-001, 002, 003, 004

ЗАБЕЛЕЖКА 1: Това удостоверение е част от пълният тестови доклад и трябва да бъде четено във връзка с него.

Знак за съответствие
(Лого)

Подпис /не се чете/
Оливър Вей
Мениджър
15 Февруари 2012

АСМ ООД

1000 София, ул. "Стефан Караджа" №7, вх. Б, ет. 1, ап. 14, тел.: 02/9874960, 9874970, факс: 02/9874980, E-mail: office@acm-bg.com
6000 Стара Загора, ул."Цар Иван Шишман" 77, офис 42, тел.: 042/601555, 602555, факс: 042/604555, E-mail: office-stz@acm-bg.com
9009 Варна, ул. „Уста Колю Фичето" №25Б, ет.2, тел.:052/511559, факс:052/505051, E-mail: office-vn@acm-bg.com

ИНСТРУКЦИЯ ЗА ТРАНСПОРТИРАНЕ

1. Продуктите, производство на компанията Деликси Електрик Лтд следва да бъдат транспортирани в оригиналните опаковки на производителя, небрежното опаковане може да доведе до повреда по време на транспортирането.

2. Стоката се транспортира с обикновен сухопътен транспорт на европалета и трябва да бъде правилно позиционирана и добре укрепена в транспортното средство.

3. Върху стоката да не се товарят други стоки.

Транспортната компания, осъществяваща транспорта на стоките, следва да има грижата на добър стопанин до предаване на продуктите до крайната точка на транспортиране.

Забележка: Пренасяйте прекъсвачите внимателно. Не изпускайте или хвърляйте прекъсвачите. Това може да доведе до повреди.

гр. София
14.07.2015 г.

Ангел Ангелов
/Управител/

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	test impulse voltage (see table 12 part 1)		
	test impulse voltage for isolating (see table 14 part 1)		
M.8.4.1.2	Verification of rated impulse withstand voltage with respect to the monitored circuit		
M.8.4.1.2.1	Test for terminal type MRCD		N/A
M.8.4.1.2.2	Tests for MRCDs of through-conductor type		N/A
M.8.4.1.3	Verification of rated impulse withstand voltage of the voltage source circuit (if applicable)		N/A
M.8.5	Verification of the operation of the test device at the limits of the rated voltage		
	For MRCDs having an adjustable time-delay the test is made at the maximum setting of time-delay:	_____ s	
M.8.5.a	Setting IΔn or minimum setting of IΔn	_____ A	
	Test voltage (1,1 x Ue max)	_____ V	
	Number of operations	25	
	Interval time	5 s	
	Tripping	☐ Yes / ☐ No	N/A
M.8.5.b	Setting IΔn or minimum setting of IΔn	_____ A	
	Test voltage (0,85 x Ue max)	_____ V	
	Number of operations	3	
	Interval time	5 s	
	Tripping	☐ Yes / ☐ No	N/A
M.8.5.c	Setting IΔn or minimum setting of IΔn	_____ A	
	Test voltage (1,1 x Ue max)	_____ V	
	Number of operations	1	
	Operating means of the test device held in close position	5 s	
	Tripping	☐ Yes / ☐ No	N/A
M.8.6	Verification of the limiting value of non-operating current under overcurrent conditions , in case of a single phase load.		
M.8.6	Circuit diagram	Fig. M4 ____	
	Setting IΔn or minimum setting of IΔn if adjustable	_____ A	

ВЯРНО С ОРИГИНАЛА

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Test current equal to the lower value of: ☐ 6 x In or ☐ 80 % of the maximum short-circuit release current setting	_____ A	
	Test voltage: ☐ rated voltage or ☐ any convenient voltage	_____ V	
	Test frequency	_____ Hz	
	Power factor (0,5)	_____	
	Current flow time	2 s	
	Interval time	60 s	
	Calibration plot number	_____	
	No tripping / change of state		N/A
M.8.7	Resistance against unwanted tripping due to surge currents resulting from impulse voltages		
M.8.7.2	Verification of the resistance to unwanted tripping in case of loading of the network capacitance		N/A
B.8.6.1	Current surge test for RMCDs (0,5 µs / 100kHz ring wave test)		
	One pole of the MRCD is submitted to 10 applications of a surge current according to the following requirements:		
	- peak value: 200 A + 10/0%		
	- virtual front time: 0,5 µs ± 30%		
	- period of the following oscillatory wave: 10 µs ± 20%		
	- each successive peak: about 60% of the preceding peak		
	The polarity shall be inverted after every two applications		
	The interval between two consecutive applications shall be about 30 s		
	During the test the MRCD shall not trip:	-	N/A
M.8.7.3	Verification of the resistance to unwanted tripping in case of flashover without follow-on current.		
B.8.6.2	Verification of behaviour at surge current up to 250 A (8/20 µs surge current test)		N/A

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	One pole of the MRCD is submitted to 10 applications of a surge current according to the following requirements:		
	- peak value: 250 A + 10/0%		
	- virtual front time: 8 µs ± 20%		
	- virtual time to half value: 20 µs ± 20%		
	- peak of reverse current:: less than 30% of peak value		
	The polarity shall be inverted after every two applications		
	The interval between two consecutive applications shall be about 30 s		
	During the test the MRCD shall not trip:		N/A
M.8.8	Verification of the behaviour in case of an earth fault current comprising a d.c. component.		
M.8.8.2	Type A MRCD		
	For MRCDs the operation of which depends on a voltage source the test are made at 1,1 and 0,85 times the rated voltage of the voltage source (Us).		
M.8.8.2.2	Verification of operation in case of a continuous rise of a residual pulsating direct current		
	Rated voltage	____ V	
B.8.7.2.1	- steady increase from zero to: 1,4 IΔn for IΔn > 0,015 A with 1,4 IΔn/30 A/s (mA)	____ mA	
	- steady increase from zero to: 2 IΔn for IΔn ≤ 0,015 A with 2 IΔn/30 A/s (mA)	____ mA	
	- angle = 0 (+/-) :		
	- angle = 90 (+/-) :		
	- angle = 135 (+/-) :		
	No value exceeds the relevant specified limiting values		N/A
M.8.8.2.3	Verification of operation in case of a suddenly appearing residual pulsating direct current		
B.8.7.2.2	Verification of the correct operation in case of suddenly appearing residual pulsating direct currents by closing S2 (angle = 0°)		
	Rated voltage	____ V	
	RCCB's with IΔn > 0,015 A:		

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- maximum break time (ms) at: 1,4 IΔn (+/-) :		
	- maximum break time (ms) at: 2,8 IΔn (+/-) :		
	- maximum break time (ms) at: 7 IΔn (+/-) :		
	- maximum break time (ms) at: 14 IΔn (+/-) :		
	No value exceeds the relevant specified limiting value		N/A
	RCCB's with IΔn ≤ 0,015 A:		N/A
	- maximum break time (ms) at: 2 IΔn (+/-) :		
	- maximum break time (ms) at: 4 IΔn (+/-) :		
	- maximum break time (ms) at: 10IΔn (+/-) :		
	- maximum break time (ms) at: 20 IΔn (+/-) :		
	No value exceeds the relevant specified limiting value		N/A
M.8.8.2.4	Verification of operation with load at reference temperature		
	Rated voltage	_____ V	
B.8.7.2.1	- steady increase from zero to: 1,4 IΔn for IΔn > 0,015 A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- steady increasé from zero to: 2 IΔn for IΔn ≤ 0,015 A with 2 IΔn/30 A/s (mA)	_____ mA	
	- angle = 0 (+/-) :		
	- angle = 90 (+/-) :		
	- angle = 135 (+/-) :		
	No value exceeds the relevant specified limiting values		N/A
M.8.8.2.5	Verification of operation of a residual pulsating direct current superimposed by a smooth direct current of 6 mA.		
	Rated voltage	_____ V	
B.8.7.2.1	- steady increase from zero to: 1,4 IΔn for IΔn > 0,015 A with 1,4 IΔn/30 A/s (mA) + 6 mA	_____ mA	
	-steady increase from zero to: 2 IΔn for IΔn ≤ 0,015 A with 2 IΔn/30 A/s (mA) + 6 mA	_____ mA	
	- angle = 0 (+/-) :		
	No value exceeds the relevant specified limiting values		N/A
M.8.8.3	Type B MRCD		

ВЯРНО С ОРИГИНАЛА

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
M.8.8.3.2	Verification of operation in case of a slowly rising residual smooth direct current		
	Rated voltage (1,1*Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
	Rated voltage (0,85*Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)		
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
M.8.8.3.3	Verification of operation in case of a suddenly appearing residual smooth direct current		
B.8.7.2.2	Verification of the correct operation in case of suddenly appearing a smooth residual direct currents by closing S2		
	Rated voltage (1,1*Un)	_____ V	
	RCCB's with IΔn > 0,015 A:		
	- maximum break time (ms) at: 2 IΔn (+/-) :		
	- maximum break time (ms) at: 4 IΔn (+/-) :		
	- maximum break time (ms) at: 10 IΔn (+/-) :		
	- maximum break time (ms) at: 20 IΔn (+/-) :		
	No value exceeds the relevant specified limiting value		N/A
B.8.7.2.2	Verification of the correct operation in case of suddenly appearing a smooth residual direct currents by closing S2		
	Rated voltage (0,85*Un)	_____ V	
	RCCB's with IΔn > 0,015 A:		
	- maximum break time (ms) at: 2 IΔn (+/-) :		
	- maximum break time (ms) at: 4 IΔn (+/-) :		
	- maximum break time (ms) at: 10 IΔn (+/-) :		
	- maximum break time (ms) at: 20 IΔn (+/-) :		
	No value exceeds the relevant specified limiting value		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.8.8.3.4	Verification of operation in case of a slowly rising residual current resulting from a fault in a circuit fed by a three-pulse star or a six-pulse connection.		
	Rated voltage (1,1*Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
	Rated voltage (0,85*Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
M.8.8.3.5.	Verification of operation in case of a slowly rising residual current resulting from a fault in a circuit fed by two-pulse bridge connection line-to-line.		
	Rated voltage (Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 0 (+/-) :		
	Operation shall occur between 0,5 and 1,4Idn		N/A
M.8.8.3.6	Verification of operation with load at the reference temperature		
M.8.8.3.6-M.8.8.3.2	Verification of operation in case of a slowly rising residual smooth direct current		
	Rated voltage (1,1*Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
	Rated voltage (0,85*Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
M.8.8.3.6-M.8.8.3.4	Verification of operation in case of a slowly rising residual current resulting from a fault in a circuit fed by a three-pulse star or a six-pulse connection		
	Rated voltage (1,1*Un)	_____ V	

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Clause	Requirement + Test	Result - Remark	Verdict
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
	Rated voltage (0,85*Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 90 (+/-) :		
	Operation shall occur between 0,5 and 2Idn		N/A
M.8.8.3.6-M.8.8.3.5.	Verification of operation in case of a slowly rising residual current resulting from a fault in a circuit fed by two-pulse bridge connection line-to-line.		
	Rated voltage (Un)	_____ V	
B.8.7.2.1	- steady increase from zero to: 2 IΔn A with 1,4 IΔn/30 A/s (mA)	_____ mA	
	- angle = 0 (+/-) :		
	Operation shall occur between 0,5 and 1,4Idn		N/A
M.8.9.	Verification of the behaviour of MRCDs with separate sensing means in case of a failure of the sensing means connection		
M.8.9.2	Test method 1		
	Rated voltage of the sensing means		
	Interval time Required <5 sec		N/A
M.8.9.3	Test method 2		
	Test shall be carried out as follows: - The test device is activated - The sensing means are disconnected and the test device is activated. The MRCD shall not operate		
	Rated voltage of the sensing means		
	Test device activated MRCD shall operate		N/A
	Rated voltage of the sensing means		
	Sensing device disconnected and Test device activated MRCD shall not operate		N/A
M.8.10	Verification of temperature-rise of terminal type MRCDs		
M.8.10.2	Tambient: _____ °C		

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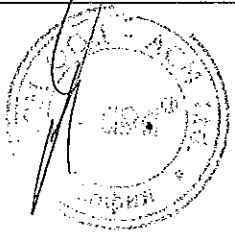
Clause	Requirement + Test	Result - Remark	Verdict
8.3.2.5	Main circuits		
	Conventional thermal current I_{th}	_____ A	
	Conventional thermal current for enclosure I_{the}	_____ A	
	Conventional thermal current for the neutral pole	_____ A	
	Cabling characteristics		
	Cable	_____ mm^2	
	Bar / number / length	_____ mm / ___ / ____ m	
	Arrangement	☐ 3 phase - ☐ poles on serie	
	Tightening torque	_____ Nm	
	Neutral pole (if applicable)		
	Cable	_____ mm^2	
	Bar / number / length	_____ mm / ___ / ____ m	
	Tightening torque	_____ Nm	
	Terminals(see table 2)		
	Manual operating means		
	Parts which need not be touched but not hand held		
	Parts which need not be touched during normal operation		
M.8.11	Verification of mechanical and electrical endurance		
	For MRCDs having more than one output rating, two tests shall be made: – a test at the highest rated current at the corresponding voltage; – a test at the highest rated voltage at the corresponding current.		
	500 off-load operations controlled by the test device		
	Rated voltage:	_____ V ☐ ac ☐ dc	
	Result:	after___ operations,	N/A
	500 off load operations by passing the rated residual operating current IΔn through one current path		
	Rated voltage:	_____ V ☐ ac ☐ dc	
	Rated residual current	____ mA	
	Result:	after___ operations,	N/A
	500 on-load operations controlled by the test device		



ВЯРНО С ОРИГИНАЛА

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated voltage:	____V ☐ ac ☐ dc	
	Test current	____A	
	Power factor	____	
	Test circuit		
	Result:	after___ operations,	N/A
	500 on-load operations by passing the rated residual operating current IΔn through one current path.		
	Rated voltage:	____V ☐ ac ☐ dc	
	Test current	____A	
	Power factor	____	
	Test circuit		
	Rated residual current	____ mA	
	Result:	after___ operations,	N/A
	Show no damage		N/A
	High voltage test: twice rated voltage	Test voltage: _____ V	N/A
	A residual current is sudden appear on the MRCD of IΔn (_____ mA) Required : no value exceeds the specified limiting value of Table B1 (300 ms) or Table B2 (500 ms) and a non actuating time of 60 ms		N/A
M.8.12.	Verification of the behaviour of MRCDs in case of failure of the voltage source for MRCDs classified under M.3.2.2.1		
M.8.12.2	Determination of the limiting value of the voltage source		
	Source voltage (Us)	Max Us: _____ V ☐ac ☐ dc	
		Min Us: _____ V ☐ac ☐dc	
	Adjustable residual current setting	_____ mA (lowest)	
	Adjustable time-delay setting	_____ s	
	Time period of voltage decreasing	30 s or a period enough with respect to delayed opening	
	Min voltage to automatic opening (U > 0,85 x Us)		

ВЯРНО С ОРИГИНАЛА

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Clause	Requirement + Test	Result - Remark	Verdict
	A residual current is sudden appear on the MRCD of IΔn (_____ mA) at a value just above highest measured value Required : no value exceeds the specified limiting value of Table B1: 300 ms		N/A
	It's not possible to switch "ON" by manual operating means at a lower value than the lower measured value.		N/A
M.8.12.3	Verification of automatic opening in case of voltage source failure		
	Source voltage (Us)	Max Us: _____ V ☐ac ☐ dc	
		Min Us: _____ V ☐ac ☐dc	
	Adjustable residual current setting	_____ mA (lowest)	
	Adjustable time-delay setting	_____ s	
	Time period	Max 1 s or max. 1 s+time delay setting	
	Time period to automatic opening		
	No value exceeds the relevant specified limiting value		N/A
M.8.13	Verification of the behaviour of MRCDs with voltage source as classified under M.3.2.2.2 in case of failure of the voltage source.		
	Source voltage (Us)	Max Us: _____ V ☐ac ☐ dc	
		Min Us: _____ V ☐ac ☐dc	
	Adjustable residual current setting	_____ mA (lowest)	
	Adjustable time-delay setting	_____ s	
	Switch off and reclosed Sa or S1 and reduced the source voltage to 70 %	70% Us = _____ V ☐ac ☐ dc	N/A
	Time period to automatic opening		N/A
MII	Test sequence MII		
M.8.14	Verification of the behaviour of the MRCD under short-circuit conditions		
	Type designation or serial number		
	Sample no:		

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Clause	Requirement + Test	Result - Remark	Verdict
M.8.14.3	Verification of the rated conditional short-circuit current (I_{cc})		
	Verification of the coordination between the MRCD and the SCPD		
	Test circuit according to figure:		
	Point of test circuit which is directly earthed:		
	Grid distance "a" (mm):		
	Silver wire diameter (mm):		
	Used SCPD during the tests		
	Prospective current (A):		
	Prospective current obtained (A):		
	Power factor / ratio *n*:		
	Power factor / ratio *n* obtained:		
	Plot no.		
	Test sequence: O-t-O		
	I^2t (kA^2s); Ip (kA):	First O: Ip :_____kA I^2t; _____kA^2s Plot no. _____	
		Second O: Ip :_____kA I^2t; _____kA^2s Plot no.: _____	
	If tested at separate testing station see report	No.: _____ of _____ testing station	
	During tests no endangering of operator, no permanent arcing, no flashover and no melting of fuse F		N/A
	After the tests no damage impairing further use		N/A
8.3.3.5	Dielectric strength test of the main circuit at test voltage of 2 Un for 1 min:		
	Test voltage		N/A
B.8.10.3.2	The RCCB shall trip with a test current of 1,25 IΔn (ms) in minimum setting:	I test: _____ mA trip time: ____ ms	N/A
M.8.12.3	Verification of automatic opening in case of voltage source failure		

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Clause	Requirement + Test	Result - Remark	Verdict
	Source voltage (Us)	Max Us: _____ V ☐ac ☐ dc	
		Min Us: _____ V ☐ac ☐dc	
	Adjustable residual current setting	_____ mA (lowest)	
	Adjustable time-delay setting	_____ s	
	Time period	Max 1 s or max. 1 s+time delay setting	
	Time period to automatic opening		N/A
	No value exceeds the relevant specified limiting value		N/A
	The polyethylene sheet shows no holes		N/A
M.8.14.4	Verification of rated short-time withstand current (I_{cw})		
	Test circuit according to figure:		
	Point of test circuit which is directly earthed:		
	Grid distance "a" (mm):		
	Prospective current (A):		
	Prospective current obtained (A):		
	Power factor / ratio *n*:		
	Power factor / ratio *n* obtained:		
	Plot no.		
	Test sequence: O		
	I^2t (kA^2s); Ip (kA):	Ip :_____kA I^2t; _____kA^2s Test duration: _____ms Plot no. _____	
	If tested at separate testing station see report	No.: _____ of _____ testing station _____	
	During tests no endangering of operator, no permanent arcing, no flashover and no melting of fuse F		N/A
	After the tests no damage impairing further use		N/A
8.3.3.5	Dielectric strength test of the main circuit at test voltage of 2 Un for 1 min:		

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Clause	Requirement + Test	Result - Remark	Verdict
	Test voltage	-	N/A
B.8.10.3.2	The RCCB shall trip with a test current of 1,25 IΔn (ms) in minimum setting:	I test: _____ mA trip time: ____ ms	N/A
M.8.12.3	Verification of automatic opening in case of voltage source failure		
	Source voltage (Us)	Max Us: _____ V ☐ac ☐ dc	
		Min Us: _____ V ☐ac ☐dc	
	Adjustable residual current setting	_____ mA (lowest)	
	Adjustable time-delay setting	_____ s	
	Time period	Max 1 s or max. 1 s+time delay setting	
	Time period to automatic opening		N/A
	No value exceeds the relevant specified limiting value		N/A
	The polyethylene sheet shows no holes		N/A
M.8.14.5	Verification of the rated conditional residual short-circuit current (IΔc)		
	Test circuit according to figure:		
	Point of test circuit which is directly earthed:		
	Grid distance "a" (mm):		
	Silver wire diameter (mm):		
	Used SCPD during the tests		
	Prospective current (A):		
	Prospective current obtained (A):		
	Power factor / ratio *n*:		
	Power factor / ratio *n* obtained:		
	Plot no.		
	Test sequence: O-t-O		

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	I^2t (kA^2s); Ip (kA):	First O: Ip :_____kA I^2t; _____kA^2s Plot no. _____	
		Second O: Ip :_____kA I^2t; _____kA^2s Plot no.: _____	
	If tested at separate testing station see report	No.: _____ of _____ testing station _____	
	During tests no endangering of operator, no permanent arcing, no flashover and no melting of fuse F		N/A
	After the tests no damage impairing further use		N/A
8.3.3.5	Dielectric strength test of the main circuit at test voltage of 2 Un for 1 min:		
	Test voltage	-	N/A
B.8.10.3.2	The RCCB shall trip with a test current of 1,25 IΔn (ms) in minimum setting:	I test: _____ mA trip time: ____ ms	N/A
M.8.12.3	Verification of automatic opening in case of voltage source failure		
	Source voltage (Us)	Max Us: _____ V ☐ac ☐ dc	
		Min Us: _____ V ☐ac ☐dc	
	Adjustable residual current setting	_____ mA (lowest)	
	Adjustable time-delay setting	_____ s	
	Time period	Max 1 s or max. 1 s+time delay setting	
	Time period to automatic opening		N/A
	No value exceeds the relevant specified limiting value		N/A
	The polyethylene sheet shows no holes		N/A
M.8.14.6	Verification of rated residual short-time withstand current (IΔw)		
	Test circuit according to figure		

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