

Test Report issued under the responsibility of:

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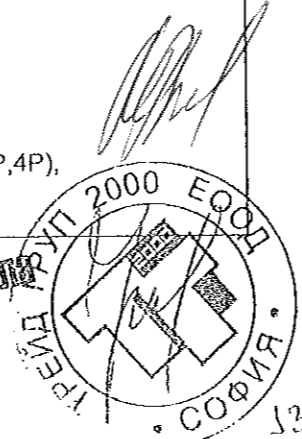


TEST REPORT IEC/EN 60947-2 Low-voltage switchgear and controlgear - Part 2: Circuit-breakers	
Report Reference No.	C-040-13CB0008-S
Date of issue	2013-05-30
Total number of pages	142 Pages
CB/CCA Testing Laboratory	Suzhou Electrical Apparatus Science Research Institute Stock Co., Ltd.(EETI)
Address	No.7 Yonghe Street, Binhe Road, New District, Suzhou,China
Applicant's name	Sassin International Electric Shanghai Co.,Ltd.
Address	No.2588 Jinhai Road, Shanghai
Test specification:	
Standard	<input checked="" type="checkbox"/> IEC 60 947-2:2006 (4 th Edition) and/or <input type="checkbox"/> EN 60 947-2:2006 (4 th Edition)
Test procedure	CB / CCA
Non-standard test method	N/A
Test Report Form No.	IECEN60947_2B
Test Report Form(s) Originator	KEMA
Master TRF	Dated 2008-10
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Test item description	Moulded-Case Circuit Breaker
Trade Mark	SASSIN
Manufacturer	Sassin International Electric Shanghai Co.,Ltd.
Model/Type reference	3SB71-125
Ratings	Ui: 500V, 50Hz; 1P,2P,3P,4P, Ue: AC230V(1P),AC230/400V(2P),AC400V(3P,4P), In: 80A,100A,125A, Ics: 7.5kA,Icu: 10kA,Utilization Category:A.

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Важно с оригиналом

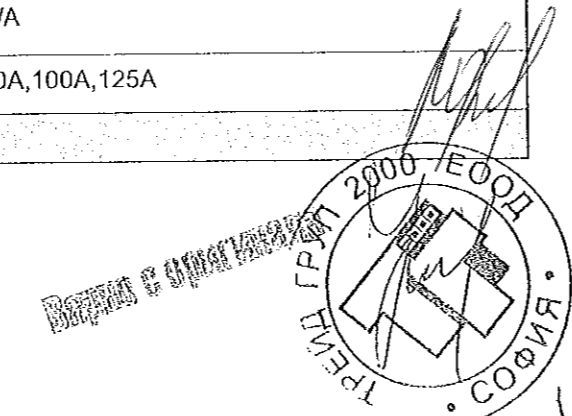


Particulars: test item vs. test requirements

3. Classification

3.1. Utilization category: (A or B).....	: A
3.2. Interruption medium: (air, vacuum, gas Break).....	: Air
3.3. Design: (open construction, moulded case).....	: Moulded case
3.4. Method of controlling the operation mechanism: (dependent manual, independent manual, dependent power, independent power)	: Independent manual
3.5. Suitability for insulation: (suitable, not -suitable)	: Suitable
3.6. Provision for maintenance: (maintainable, non maintainable).....	: Non maintainable
3.7. Method of installation: (fixed, plug in, withdrawable.....	: Fixed
3.8. Degree of protection: (IP code).....	: N/A
4.8. Integral fuses (integrally fused circuit-breakers) Type and characteristics of SCPD.....	: N/A
4.9. Switching overvoltages: (when Uimp. is declared)	: N/A
7.3 Electromagnetic compatibility (EMC) Environment A or B	: N/A
Circuit-breaker for use on phase-earthed systems.....	: N/A
Circuit-breaker for use in IT systems.....	: N/A
Rated and limiting values, main circuit	
- rated operational voltage: Ue (V).....	: AC230V(1P),AC230/400V(2P),AC400V(3P,4P)
- rated insulation voltage: Ui (V).....	: 500V
- rated impulse withstand voltage: Uimp (kV).....	: 6kV
- rated operational current: Ie (A).....	: 80A,100A,125A
- kind of current.....	: AC
- conventional free air thermal current: Ith (A).....	: 80A,100A,125A
- conventional enclosed thermal current: Ithe (A)	: N/A
- current rating for four-pole circuit-breakers: (A).....	: 80A,100A,125A
- number of poles	: 3 poles , 4 poles
- rated frequency: (Hz)	: 50Hz
- integral fuses (rated values)	: N/A
Rated duty :	
- eight-hour duty	: N/A
- uninterrupted duty: Iu (A)	: 80A,100A,125A
Short-circuit characteristic :	

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Releases :

1) shunt release..... : N/A

2) Over-current release..... : N/A

a) instantaneous..... : Yes

b) definite time delay..... : N/A

c) inverse time delay..... : Yes

- independent of previous load..... : N/A

- dependent on previous load; (for example thermal type release)..... : Thermal magnetic

3) Undervoltage release (for opening)..... : N/A

4) Other releases..... : N/A

Characteristics :

1) Shunt release and undervoltage release (for opening) .. :

- rated control circuit voltage: U_c (nature, frequency, V) ... : N/A

- kind of current..... : N/A

- rated frequency: (if AC)..... : N/A

2) Over-current release..... :

- rated current..... : 80A,100A,125A

- kind of current..... : AC

- rated frequency: (if AC)..... : 50Hz

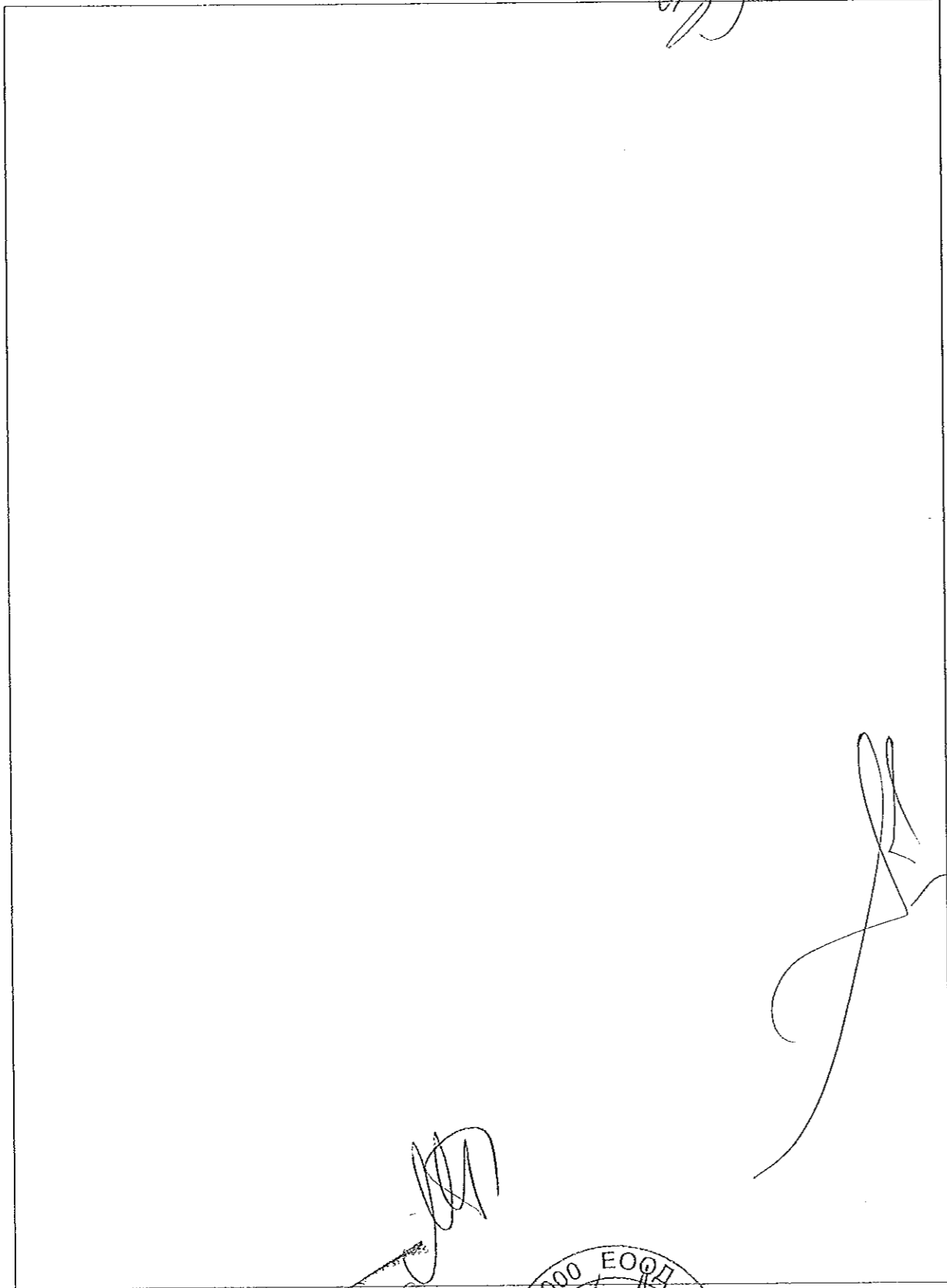
- current setting (or range of settings)..... : Instantaneous:
 $10I_n \pm 20\%$ (distribution protection)
Inverse time delay:
 I_n (distribution protection)

- time settings (or range of settings)..... : Instantaneous tripping: <200ms
Inverse time delay: $1.05I_n > 2$ hours non-tripping
 $1.3I_n \leq 2$ hours tripping

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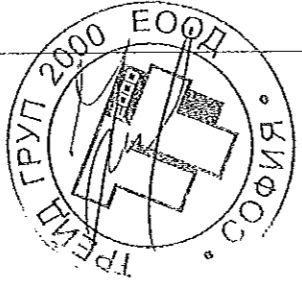


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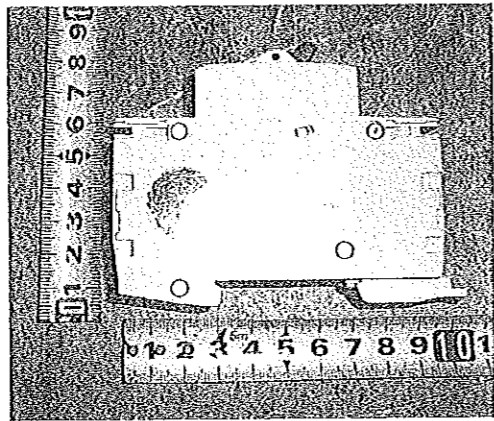
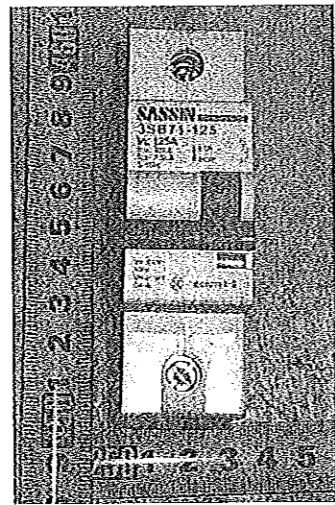
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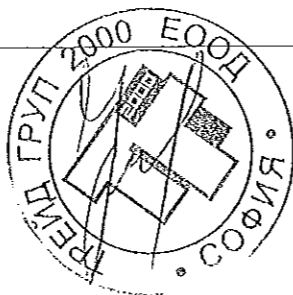
Sample picture of the devices



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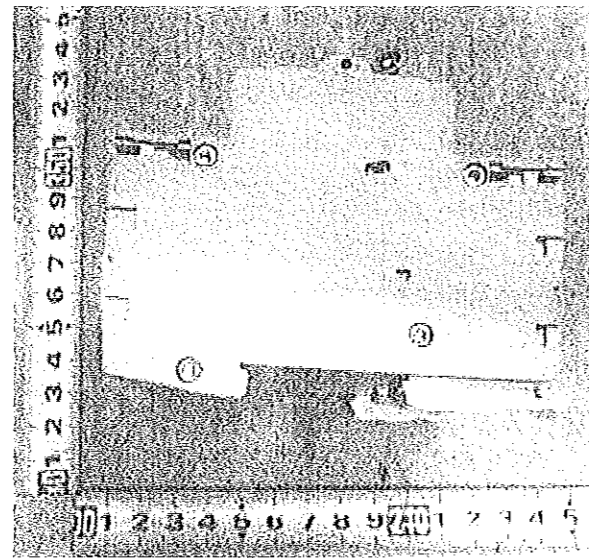
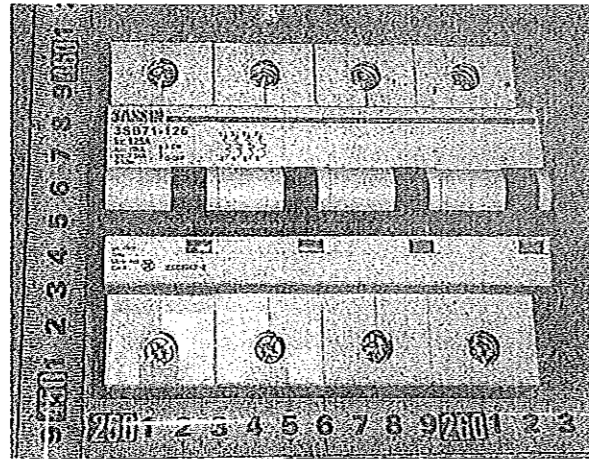
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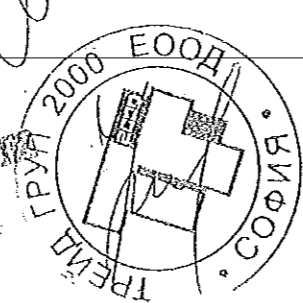
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Sample picture of the devices



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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict

5.2	MARKING		
a)	The following data shall be marked on the circuit-breaker itself or on a name plate or nameplates attached to the circuit-breaker, and located in a place such that they are visible and legible when the circuit-breaker is installed.		
	- rated current:	125A	
	- suitability for isolation, if applicable, with the symbol 		P
	- indication of the open and closed position: with O and I respectively, if symbols are used	O and I	P
b)	Marking on equipment not needed to be visible after mounting:		
	- manufacturer's name or trademark	SASSIN	P
	- type designation or serial number	3SB71-125	P
	- IEC 60947-2 if the manufacturer claims compliance with this standard.	IEC 60947-2	P
	- utilization category	A	P
	- rated operational voltage(s) Ue	AC400V	P
	- Circuit-breaker for use in IT systems: Circuit-breaker for which all values of rated voltage have not been tested according to annex H or are not covered by such testing, shall be identified by the symbol  which shall be marked on the circuit-breaker immediately following these values of rated voltage	 marked	P
	- value (or range) of the rated frequency and/or the indication DC (or symbol)	50Hz	B
	- rated service short-circuit breaking capacity. Ics	7.5kA	P
	- rated ultimate short-circuit breaking capacity. Icu	10kA	P
	- rated short-time withstand current, (Icw) and associated short-time delay, for utilization category B		N/A
	- line and load terminals, unless their connection is immaterial	LINE /LOAD marked	P
	- neutral pole terminals, if applicable, by the letter N		P
	- protective earth terminal, where applicable, by the symbol acc. 7.1.9.3 of part 1		N/A
	- ref. temperature for non-compensated thermal releases, if different from 30°C		N/A

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Відомо з документації



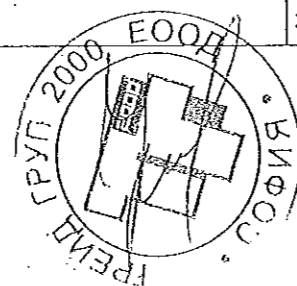
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- terminal of shunt release (B)		N/A
	- terminals of under-voltage release (D)		N/A
	- terminals of interlocking electromagnets (E)		N/A
	- terminals of indicated light devices (X)		N/A
	- terminals of contact elements for switching devices (no)		N/A

7.1	CONSTRUCTION		
7.1.1	Withdrawable circuit-breaker		N/A
	In the disconnected position (main- and auxiliary circuits)		
	Isolating distances for circuit-breaker suitable for isolating warranted:		N/A
	Mechanism fitted with a reliable indicating device with indicates the position of the isolating contacts.		N/A
	Mechanism fitted with interlocks which only permit the isolating contacts to be separate or re-closed when main contacts are open		N/A
	Mechanism fitted with interlock, which only permit the main contacts to be closed when the isolating contacts are fully closed.		N/A
	Mechanism fitted with interlock, which only permit the main contacts to be closed when in disconnected position.		N/A
	The isolating distances between the isolating contacts cannot be inadvertently reduced.		N/A
7.1.1.1 part 1	Resistance to abnormal heat and fire		P
7.1.2 part 1	Current-carrying parts and their connection		P
7.1.3	Clearances and creepage distances:		
	For circuit-breakers for which the manufacturer has declared a value of rated impulse withstand voltage. (Uimp.)		
	Clearances distances:		
	- Uimp is given as:	6kV	
	- max. value of rated operational voltage to earth	AC400V	
	- nominal voltage of supply system:	AC400V	
	- overvoltage category:	IV	
	- pollution degree:	3	

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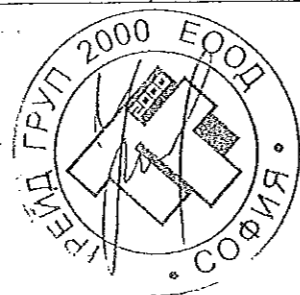
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	If symbols are used, they shall indicate the closed and open position respectively, in accordance with IEC 60417-2:		
	- 60417-2-IEC-5007 I On (power)		P
	- 60417-2-IEC-5007 O Off (power)		P
	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"		N/A
	Red colour shall not be used for any other push-button		N/A
	The colours of other push-buttons, illuminated push-buttons and indicator lights shall be in accordance with IEC 60073		N/A
7.1.5.2 part 1	Indication by the actuator		
	When the actuator is used to indicate the position of the contacts, it shall automatically take up or stay, when released, in the position corresponding to that of the moving contacts; in this case, the actuator shall have two distinct rest positions corresponding to those of the moving contacts, but for automatic opening a third distinct position of the actuator may be provided		P
7.1.6	Additional safety requirements for equipment suitable for isolation		
7.1.6.1	Additional constructional requirements for equipment suitable for isolation (Ue > 50 V):		
	Equipment suitable for isolation shall provide in the open position an isolation distance in acc. with the requirements necessary to satisfy the isolating function. Indication of the main contacts shall be provide by one or more of the following means:		
	- the position of the actuator		P
	- a separate mechanical indicator		N/A
	- visibility of the moving contacts		N/A
	When means are provided or to lock the equipment in the open position, locking only be possible when contacts are in the open position		N/A
	Actuator front-plate fitted to the equipment in a manner which ensures correct contact position indication and locking		N/A
	The indicated open position is the only position in which the specified isolation distances between the contacts is ensured.		P

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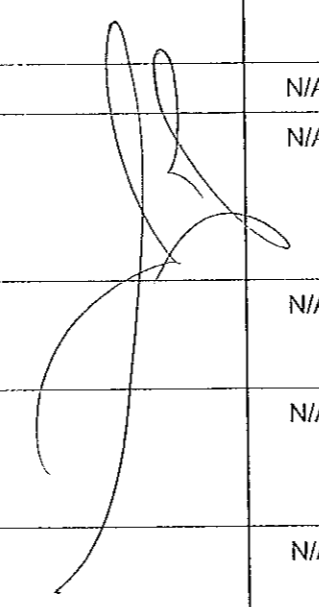
IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	rated impulse withstand voltage (kV) :		N/A
	test Uimp on open main contacts at the test force		N/A
7.1.7	Terminals		
7.1.7.1	All parts of terminals which maintain contact and carry current shall be of metal having adequate mechanical strength		P
	Terminal connections shall be such that necessary contact pressure is maintained		P
	Terminals shall be so constructed that the conductor is clamped between suitable surfaces without damage to the conductor and terminal		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		P
7.1.7.2	Connection capacity		
	type of conductors :	rigid	P
	minimum cross-sectional area of conductor (mm ²) :	25mm ²	P
	maximum cross-sectional area of conductor (mm ²) :	50mm ²	P
	number of conductors simultaneously connectable to the terminal :	1	P
7.1.7.3	Connection		
	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
7.1.7.4	Terminal identification and marking		
	terminal intended exclusively for the neutral conductor		N/A
	protective earth terminal		N/A
	other terminals		N/A
7.1.8 part 1	Additional requirements for equipment provided with a neutral pole		
	When an equipment is provided with a pole intended only for connecting the neutral, this pole shall be clearly identified to that effect by the letter N (see 7.1.7.4.).		N/A
	A switched neutral pole shall break not before and shall make not after the other poles		N/A

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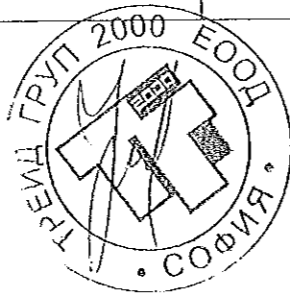
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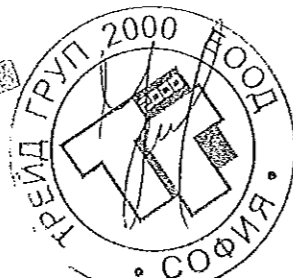
IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The protective earth terminal shall have no other function, except when it is intended to be connected to a PEN conductor (see 2.1.1.5 – Note). In this case, it shall also have the function of a neutral terminal in addition to meeting the requirements applicable to the protective earth terminal		N/A
7.1.9.3	Protective earth terminal marking and identification		
	The protective earth terminal shall be clearly and permanently identified by its marking		N/A
	The identification shall be achieved by colour (green-yellow mark) or by the notation PE, or PEN, as applicable, in accordance with IEC 60445, subclause 5.3, or, in the case of PEN, by a graphical symbol for use on equipment		N/A
	Graphical symbol to be used: 60417-2-IEC-5019  Protective earth (ground) in accordance with IEC 60417-2		N/A
7.1.10	Enclosure for equipment		
7.1.10.1	Design		
	The enclosure, when it is opened: all parts requiring access for installation and maintenance are readily accessible		N/A
	Sufficient space shall be provided inside the enclosure		N/A
	The fixed parts of a metal enclosure shall be electrically connected to the other exposed conductive parts of the equipment and connected to a terminal which enables them to be earthed or connected to a protective conductor		N/A
	Under no circumstances shall a removable metal part of the enclosure be insulated from the part carrying the earth terminal when the removable part is in place		N/A
	The removable parts of the enclosure shall be firmly secured to the fixed parts by a device such that they cannot be accidentally loosened or detached owing to the effects of operation of the equipment or vibrations		N/A
	When an enclosure is so designed as to allow the covers to be opened without the use of tools, means shall be provided to prevent loss of the fastening devices		N/A
	If the enclosure is used for mounting push-buttons, it shall not be possible to remove the buttons from the outside of the enclosure		N/A

ЗАКОН С ОМАНДИ



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
7.2.1.1.1	Dependent manual closing		
	For a circuit-breaker having a dependent manual closing mechanism, it is not possible to assign a short-circuit making capacity rating irrespective of the conditions of mechanical operation		N/A
	Such a circuit-breaker should not be used in circuits having a prospective peak making current exceeding 10 kA		N/A
	However, this does not apply in the case of a circuit-breaker having a dependent manual closing mechanism and incorporating an integral fast-acting opening release which causes the circuit-breaker to break safely, irrespective of the speed and firmness with which it is closed on to prospective peak currents exceeding 10 kA; in this case, a rated short-circuit making capacity can be assigned		N/A
7.2.1.1.2	Independent manual closing		
	A circuit-breaker having an independent manual closing mechanism can be assigned a short-circuit making capacity rating irrespective of the conditions of mechanical operation		P
7.2.1.1.3	Dependent power closing		
	At 110% of the rated control supply voltage, the closing operation performed on no-load shall not cause any damage to the circuit-breaker.		N/A
	At 85% of the rated control supply voltage, the closing operation shall be performed when the current established by the circuit-breaker is equal to its rated making capacity within the limits allowed by the operation of its relays or releases and, if a maximum time is stated for the closing operation, in a time not exceeding this maximum time limit.		N/A
7.2.1.1.4	Independent power closing		
	A circuit-breaker having an independent power closing operation can be assigned a rated short-circuit making capacity irrespective of the conditions of power closing		N/A
	Means for charging the operating mechanism, as well as the closing control components, shall be capable of operating in accordance with the manufacturer's specification		N/A
7.2.1.1.5	Stored energy closing		
	Capable ensuring closing of the circuit-breaker in any condition between no-load and its rated making capacity		N/A

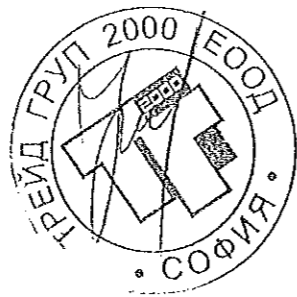
СЕРТИФИКАТОР



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
7.2.1.2.3	Opening by shunt releases		N/A
7.2.1.4 part 1	Limits of operation of shunt releases		
	A shunt release for opening shall cause tripping under all operating conditions of an equipment when the supply voltage of the shunt release measured during the tripping operation remains between 70% and 110% of the rated control supply voltage and, if a.c., at the rated frequency		N/A
7.2.1.5 part 1	Limits of operation of current operated relays and releases		
	Limits of operation of current operated relays and releases shall be stated in the relevant product standard		N/A
7.2.1.2.4	Opening by over-current releases		
a)	Opening under short-circuit conditions		
	The short-circuit release shall cause tripping of the circuit-breaker with an accuracy of 20% of the tripping current value of the current setting for all values of the current setting of the short-circuit current release		P
	Where necessary for over-current co-ordination the manufacturer shall provide information (usually curves) showing		N/A
	- maximum cut-off (let-through) peak current as a function of prospective current (r.m.s. symmetrical)		N/A
	- I^2t characteristics for circuit-breakers of utilization category A and, if applicable, B for circuit-breakers with instantaneous override (see note to 8.3.5)		N/A
b)	Opening under overload conditions		
1)	Instantaneous or definite time-delay operation		N/A
	The release shall cause tripping of the circuit-breaker with an accuracy of $\pm 10\%$ of the tripping current value of the current setting for all values of current setting of the overload release		N/A
2)	Inverse time-delay operation		
	At the reference temperature and at 1,05 times the current setting with the conventional non-tripping current, the opening release being energized on all poles, tripping shall not occur in less than the conventional time from the cold state, i.e. with the circuit-breaker at the reference temperature		P

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Clause	Requirement + Test	Result - Remark	Verdict
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		N/A
	Pull-out test		
	force (N) :		
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		N/A
	conductor of the largest cross-sectional area (mm ²) :		
	number of conductors of the largest cross section :		
	diameter of bushing hole (mm) :		
	height between the equipment and the platen :		
	mass at the conductor(s) (kg) :		
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		N/A
	Pull-out test		
	force (N) :		
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		N/A
	conductor of the largest and smallest cross-sectional area (mm ²) :		
	number of conductors of the smallest cross section, number of conductors of the largest cross section :		
	diameter of bushing hole (mm) :		
	height between the equipment and the platen :		
	mass at the conductor(s) (kg) :		
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		N/A
	Pull-out test		
	force (N) :		
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		N/A

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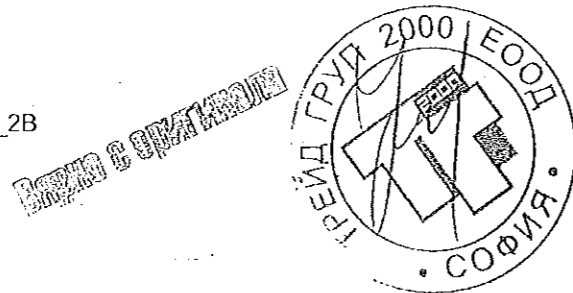


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IEC 60947-2

Clause	Requirement + Test	Result - Remark	Verdict
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Test current: 80% of the maximum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Test current: 120% of the maximum adjustable setting current: (A)		N/A
	Operating time: <0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	For circuit-breakers with an electronic overcurrent release, the operation of the short-circuit releases shall be verified by one test only on each pole individually.		N/A
	Electronic overcurrent releases		
	Test current: 80% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A

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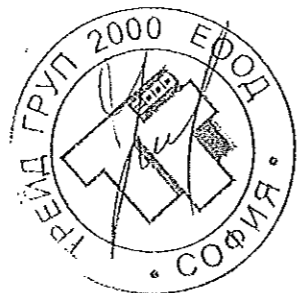
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IEC 60947-2

Clause	Requirement + Test	Result - Remark	Verdict
	Operating time: < 0,2 s in case of instantaneous release: L1: L2: L3: N:	33ms 41ms 39ms	P
	Operating time: < twice time delay stated by manufacturer in case of definite time delay releases L1: L2: L3: N:		N/A
8.3.3.1.3	Opening under overload conditions		
a)	Instantaneous or definite time-delay releases		
	Manufacturer's name or trademark		
	Type designation or serial number		
	Sample no:		
	Rated operational voltage: Ue (V)		
	Rated current: In (A)		
	Ambient temperature 10-40 °C :		N/A
	Value of the tripping current declared by the manufacturer for a single pole, at which value they shall operate.		N/A
	Range of adjustable setting current. (A)		N/A
	Time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 90% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 90% of the maximum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A

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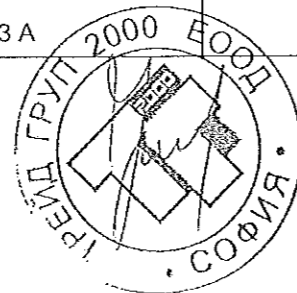


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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Releases, dependent of ambient air temperature: Reference temperature (°C)	30°C	P
	Releases, independent of ambient air temperature: at 30°C		N/A
	Test current: 105% of the rated, or minimum adjustable setting current: (A)	131A	P
	Conventional non-tripping time: 1h when I _n < 63A, 2h when I _n > 63 A	>2h	P
	Test current: 130% of the rated, or minimum adjustable setting current: (A)	162A	P
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when I _n < 63A, <2h when I _n > 63 A	129s	P
	Test current: 105% of the maximum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when I _n < 63A, 2h when I _n > 63 A		N/A
	Test current: 130% of the maximum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when I _n < 63A, <2h when I _n > 63 A		N/A
	Releases, independent of ambient air temperature: at 20°C or 40°C		
	Test ambient air temperature:		N/A
	Test current: 105% of the rated, or minimum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when I _n < 63A, 2h when I _n > 63 A		N/A
	Test current: 130% of the rated, or minimum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when I _n < 63A, <2h when I _n > 63 A		N/A

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	for circuit-breakers having an identified neutral pole provided with an overload release, the test current for this release shall be 1,5 times the current setting;		N/A
	<u>short-circuit releases</u>		N/A
	Electromagnetic release: two poles in series carrying the test current, using successively all possible combinations of poles having a short-circuit release.		N/A
	Electronic releases: on one pole chosen at random.		N/A
	Test current: 1,5 times of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time, <u>overload releases</u> : (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Test current: 1,5 times of the maximum adjustable setting current: (A)		N/A
	Operating time, <u>overload releases</u> : (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A

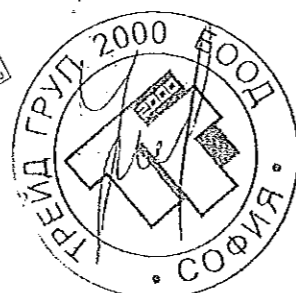
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Then, the current is reduced to the rated current and maintained at this value for twice the time-delay stated by the manufacturer. The circuit-breaker shall not trip.		
	Test current: of the rated, or minimum adjustable setting current: (A)		N/A
	Time interval: twice the delay-time stated by the manufacturer: (s)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Test current: maximum adjustable setting current: (A)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
8.3.3.2	Test of dielectric properties, impulse withstand voltage (U _{imp} indicated):		
8.3.3.4 part1	The 1,2/50µs impulse voltage shall be applied five times for each polarity at intervals of 1s minimum		
	- rated impulse withstand voltage (kV) :	6kV for main circuit	P
	- sea level of the laboratory:	Sea level	P
	- test U _{imp} main circuits (kV) :	6.2 kV	P
	- test U _{imp} auxiliary circuits (kV) :		N/A
	- test U _{imp} control circuits (kV) :		N/A

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict

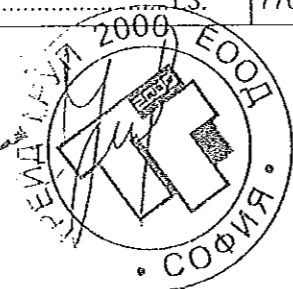
	- between the terminals of one side connected together and the terminals of the other side connected together.		P
b)	Control and auxiliary circuits		
1)	- between all the control and auxiliary circuits which are not normally connected to the main circuit, connected together, and the frame of the circuit-breaker.		N/A
2)	- where appropriate, between each part of the control an auxiliary circuits which may be isolated from the other parts during normal operation and all the other parts connected together.		N/A
	No unintentional disruptive discharge during the tests		P
8.3.3.2	For circuit-breaker suitable for isolation, the leakage current shall be measured through each pole with the contacts in the open position, at a test voltage of 1,1 Ue, and shall not exceed 0,5mA.	440V ≤0.0046mA	P
8.3.3.3	Mechanical operation and operational performance capability		
8.3.3.3.2	Construction and mechanical operation		
a)	Construction		
	A withdrawable circuit-breaker shall be checked for the requirements stated in 7.1.1		N/A
	A circuit-breaker with stored energy operation shall be checked for compliance with 7.2.1.1.5, regarding the charge indicator and the direction of operation of manual energy storing		N/A
b)	Mechanical operation		
	A circuit-breaker with dependent power operation shall comply with the requirements stated in 7.2.1.1.3		N/A
	A circuit-breaker with dependent power operation shall operate with the operating mechanism charged to the minimum and maximum limits stated by the manufacturer		N/A
	A circuit-breaker with stored energy operation shall comply with the requirements stated in 7.2.1.5 with the auxiliary supply voltage at 85% and 110% of the rated control supply voltage.		N/A
	It shall also be verified that the moving contacts cannot be moved from the open position when the operating mechanism is charged to slightly below the full charge as evidenced by the indicating device		N/A

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
iii)	Performance under overvoltage conditions		
	With the circuit-breaker closed and without current in the main circuit, it shall be verified that the undervoltage release will withstand the application of 110% rated control supply voltage for 4 h without impairing its functions		N/A
d)	Shunt releases		
	Shunt releases shall comply with the requirements of 7.2.1.4 of Part 1. For this purpose, the release shall be fitted to a circuit-breaker having the maximum rated current for which the release is suitable		N/A
	It shall be verified that the release will operate to open the circuit-breaker at 70% rated control supply voltage when tested at an ambient temperature of $+55\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ without current in the main poles of the circuit-breaker		N/A
	In the case of a release having a range of rated control supply voltages, the test voltage shall be 70% of the minimum rated control supply voltage		N/A
8.3.3.3.3	Operational performance capability without current.		
	Type designation or serial number	3SB71-125	
	Sample no:	#01	
	Rated current I_n (A)	125A	
	Rated operational voltage: U_e (V)	AC400V	
	Rated control supply voltage of closing mechanism: U_c (V)		
	Rated control supply voltage of shunt releases: U_c (V)		
	Rated control supply voltage undervoltage releases: U_c (V)		
	Ambient temperature 10-40 $^{\circ}\text{C}$:	13 $^{\circ}\text{C}$	P
	Number of operating cycles per hour	120	P
	Number of cycles without current (total) (closing mechanism energized at the rated U_c)	7000	P
	Number of cycles without current (without releases)		N/A
	Applied voltage: closing mechanism (V)		N/A

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	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	3SB71-125	
	Sample no:	#01	
	Rated current In (A)	125A	
	Rated operational voltage: Ue (V)	AC400V	
	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 :	14°C	P
	Number of operating cycles per hour	120	P
	Maximum rated operational voltage: Ue (V)	400V	P
	Number of operating cycles per hour	120	P
	Number 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/short-circuit settings at maximum.		N/A
	Conditions, overload operations:		P
	- test voltage U/Ue = 1,05 (V) L1: 425V L2: 429V L3: 427V		P
	- test current AC/DC: I/Ie = 6,0/2.5 (A) L1: 760A L2: 765A L3: 770A		P

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REPORT & CERTIFICATE



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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A

8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS 3SB71-125, 125A,2P sample no.: #02		
8.3.3.1	Tripping limits and characteristic		
8.3.3.1.2	Opening under short-circuit conditions		
	Manufacturer's name or trademark	SASSIN	
	Type designation or serial number	3SB71-125	
	Sample no:	#02	
	Rated operational voltage: Ue (V)	AC230V,AC400V, tested at AC400V	
	Rated current: In (A)	125A	
	Ambient temperature 10-40 °C :	11°C	P
	Value of the tripping current declared by the manufacturer for a single pole, at which value they shall operate.		N/A
	Range of adjustable setting current. (A)		N/A
	Time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Electromagnetic overcurrent releases		
	Test current: 80% of the rated, or minimum adjustable setting current: (A)	1000A	P
	Operating time: >0,2s in case of instantaneous releases:	>0.2s	P
		L1-L2:	
		L1-L3:	
		L2-L3:	
		N-Lx:	

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ВЕРИТЕ С ОУПАТОВАНИМ



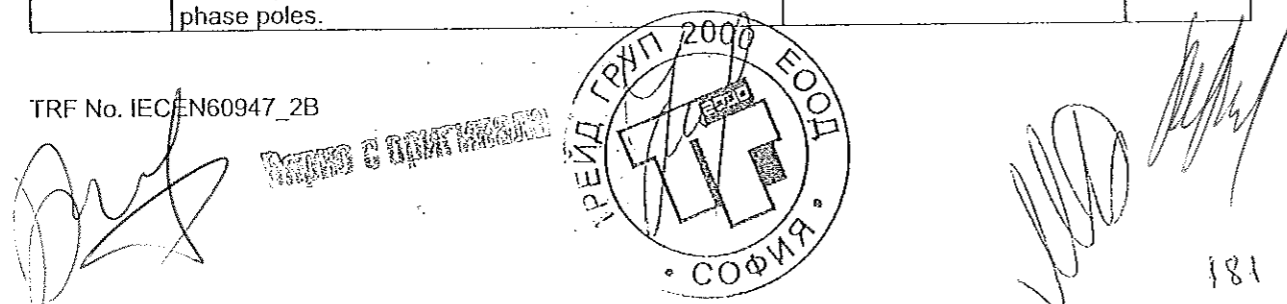
IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	For circuit-breakers with an electronic overcurrent release, the operation of the short-circuit releases shall be verified by one test only on each pole individually.		N/A
	Electronic overcurrent releases		
	Test current: 80% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1: L2: L3: N:		N/A
	Test current: 120% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: <0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1: L2: L3: N:		N/A
	Test current: 80% of the maximum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1: L2: L3: N:		N/A
	Test current: 120% of the maximum adjustable setting current: (A)		N/A

ВСТАНОВКА И ОПЫТ РАБОТЫ



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 90% of the maximum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 110% of the rated, or minimum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)		N/A
	Operating time: <0,2s in case of instantaneous releases:		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 110% of the maximum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)		N/A
	Operating time: <0,2s in case of instantaneous releases		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
b)	Inverse time delay releases		
	Manufacturer's name or trademark	SASSIN	
	Type designation or serial number	3SB71-125	
	Sample no:	#02	
	Rated operational voltage: Ue (V)	AC230V, AC400V, tested at AC400V	
	Rated current: In (A)	125A	
	For releases dependent of ambient air temperature: Reference temperature	30°C	P
	Test ambient temperature (°C)	30°C	P
	For electronic releases, the operating characteristic shall be verified at the ambient temperature of the test room (see 6.1.1 of IEC 60947-1), the release being energised on all phase poles.		N/A

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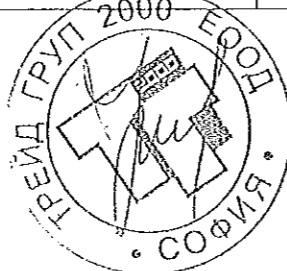


IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Test current: 105% of the rated, or minimum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when $I_n < 63A$, 2h when $I_n > 63A$		N/A
	Test current: 130% of the rated, or minimum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when $I_n < 63A$, <2h when $I_n > 63A$		N/A
	Test current: 105% of the maximum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when $I_n < 63A$, 2h when $I_n > 63A$		N/A
	Test current: 130% of the maximum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when $I_n < 63A$, <2h when $I_n > 63A$		N/A
	An additional test, at a current specified by the manufacturer to verify the time/current characteristic of the releases conform to the curves provided by the manufacturer		
	Releases, dependent of ambient air temperature: Reference temperature (°C)		N/A
	Releases, independent of ambient air temperature: at 30°C		N/A
	Test current: at current specified by the manufacturer to verify the time/current characteristic of the releases conform to the curves provided by the manufacturer. % at the rated, or minimum adjustable setting current: (% or A)		N/A
	Tripping time acc. time/current characteristic of the releases conform to the curves provided by the manufacturer. (within the stated tolerances)		N/A
	Releases, independent of ambient air temperature: at 20°C or 40°C		
	Test ambient air temperature:		N/A



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Operating time, <u>overload releases</u> : (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
b)	Non-tripping duration		
	Firstly, the test current equal to 1,5 times the current setting is maintained for a time interval equal to the non-tripping duration stated by the manufacturer.		
	<u>overload releases</u> : (all phase poles loaded)		N/A
	for circuit-breakers having an identified neutral pole provided with an overload release, the test current for this release shall be 1,5 times the current setting;		N/A
	<u>short-circuit releases</u>		N/A
	Electromagnetic release: two poles in series carrying the test current, using successively all possible combinations of poles having a short-circuit release.		N/A
	Electronic releases: on one pole chosen at random.		N/A
	Test current: 1,5 times of the rated, or minimum adjustable setting current: (A)		N/A
	Time interval: non-tripping duration stated by the manufacturer: (s)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A

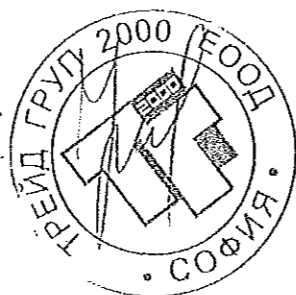
СЕРТИФИКАТ НА КОМПЕТЕНТНОСТ



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.2	Test of dielectric properties, impulse withstand voltage (Uimp indicated):		
8.3.3.4 part1	The 1,2/50µs impulse voltage shall be applied five times for each polarity at intervals of 1s minimum		
	- rated impulse withstand voltage (kV) :	6kV for main circuit	P
	- sea level of the laboratory:	Sea level	P
	- test Uimp main circuits (kV) :	6.0 kV	P
	- test Uimp auxiliary circuits (kV) :		N/A
	- test Uimp control circuits (kV) :		N/A
	- test Uimp on open main contacts (equipment suitable for isolating) (kV) :	6.2 kV	P
a)	Application of test voltage		P
	i) Between all terminals of the main circuit connected together (incl. control and auxiliary circuits connected to the main circuit) and the enclosure or mounting plate, with the contacts in all normal positions of operation.		P
	ii) Between all terminals of the main circuit and the other poles connected together and to the enclosure or mounting plate, with the contacts in all normal positions of operation.		P
	iii) Between each control and auxiliary circuit not normally connected to the main circuit and:		N/A
	- the main circuit		N/A
	- other circuits		N/A
	- exposed conductive parts		N/A
	- enclosure of mounting plate		N/A
	iv) equipment suitable for isolation		P
	equipment not suitable for isolation		N/A
	- no unintentional disruptive discharge during the test's		P
	Test of dielectric properties, dielectric withstand voltage (Uimp not indicated):		
	- rated insulation voltage (V) :	500V for main circuit	P
	- main circuits, test voltage for 1 min (V)	1890V, 5s	P
	- auxiliary circuits, test voltage for 1 min (V)		N/A
	- control circuits, test voltage for 1 min (V)		N/A

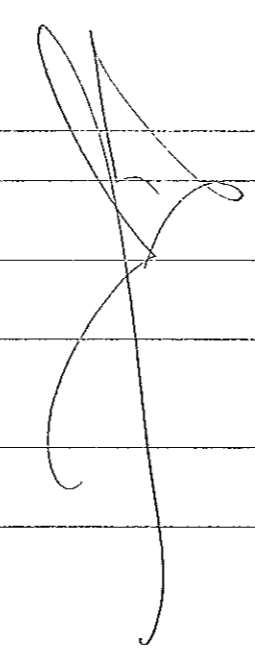
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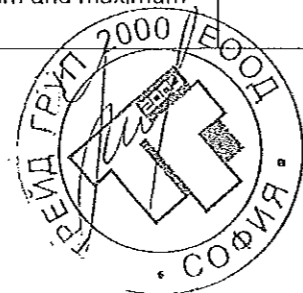
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	A circuit-breaker with dependent power operation shall operate with the operating mechanism charged to the minimum and maximum limits stated by the manufacturer		N/A
	A circuit-breaker with stored energy operation shall comply with the requirements stated in 7.2.1.5 with the auxiliary supply voltage at 85% and 110% of the rated control supply voltage.		N/A
	It shall also be verified that the moving contacts cannot be moved from the open position when the operating mechanism is charged to slightly below the full charge as evidenced by the indicating device		N/A
	For a trip-free circuit-breaker it shall not be possible to maintain the contacts in the touching or closed position when the tripping release is in the position to trip the circuit-breaker		P
	If the closing and opening times of a circuit-breaker are stated by the manufacturer, such times shall comply with the stated values		N/A
c)	Undervoltage releases		
	Undervoltage releases shall comply with the requirements of 7.2.1.3 of Part 1. For this purpose, the release shall be fitted to a circuit-breaker having the maximum current rating for which the release is suitable		N/A
i)	Drop out voltage		
	It shall be verified that the release operates to open the circuit-breaker between the voltage limits specified		N/A
	The voltage shall be reduced from rated voltage at a rate to reach 0 V in approximately 30 s		N/A
	The test for the lower limit is made without current in the main circuit and without previous heating of the release coil		N/A
	In the case of a release with a range of rated voltages, this test applies to the maximum voltage of the range		N/A
	The test for the upper limit is made starting from a constant temperature corresponding to the application of rated control supply voltage to the release and rated current in the main poles of the circuit-breaker		N/A
	This test may be combined with the temperature-rise test of 8.3.3.6		N/A
	In the case of a release with a range of rated voltages, this test is made at both the minimum and maximum rated control supply voltages		N/A

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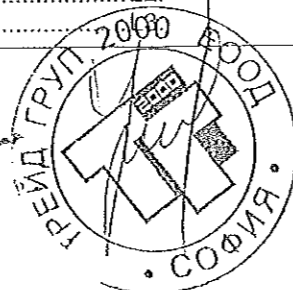


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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Number of operating cycles per hour	120	P
	Number of cycles without current (total) (closing mechanism energized at the rated Uc)	7000	P
	Number of cycles without current (without releases)		N/A
	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)	125A	
	Maximum rated operational voltage: Ue (V)	400V	
	Conductor cross-sectional area (mm ²) :	50×1mm ²	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
	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:		P
	- test voltage U/Ue = 1,0 (V)L1:L2:L3:	406V	P
	- test current I/Ie = 1,0 (A).....L1:L2:	127A	P

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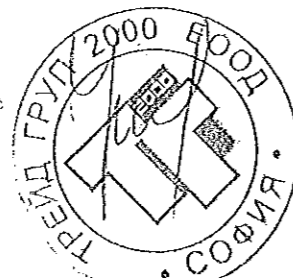
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Clause	Requirement + Test	Result - Remark	Verdict
	- test voltage U/Ue = 1,05 (V)L1:L2:L3:	427V	P
	- test current AC/DC: I/Ie = 6,0/2.5 (A) .....L1: .....L2: .....L3:	769A	P
	- power factor/time constant:	0.50	P
	- Number of cycles manually opened: 9	9	P
	- Number of cycles automatically opened by an overload release: 3	3	P
	- frequency: (Hz)	50Hz	P
	- on-time max 2s:	657ms	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,5s Leakage current ≤ 0.0051mA	P
	- no breakdown or flashover		P
8.3.3.6	Verification of temperature-rise		
	- the values of temperature-rise do not exceed the those specified in tab. 7.		P
	Temperature rise of main circuit terminals ≤ 80 K (K) :	See in table 1	P
	conductor cross-sectional area (mm ²) :	50 × 1 mm ²	P
	test current Ie (A) :	125A	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)	181A	P
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	67s	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 -		P
	and shall operate at 35% of the maximum control supply voltage.		P
	Circuit-breaker fitted with shunt releases. The release shall operate at 70% of the minimum rated control supply voltage. Test made at room temperature.		P

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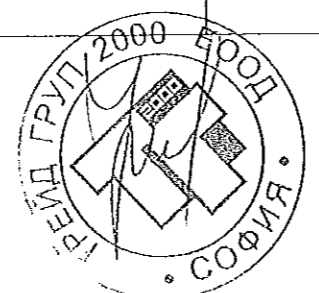
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Clause	Requirement + Test	Result - Remark	Verdict
	Operating time: >0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:	>0.2s	P
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Test current: 120% of the rated, or minimum adjustable setting current: (A)	1500A	P
	Operating time: <0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:	22ms	P
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Test current: 80% of the maximum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Test current: 120% of the maximum adjustable setting current: (A)		N/A
	Operating time: <0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A

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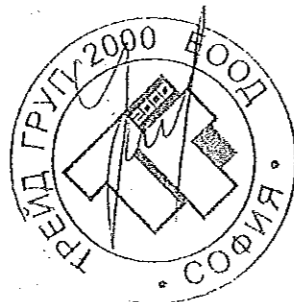
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Clause	Requirement + Test	Result - Remark	Verdict
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1: L2: L3: N:		N/A
	Test current: 120% of the maximum adjustable setting current: (A)		N/A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

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	For releases dependent of ambient air temperature: Reference temperature	30°C	P
	Test ambient temperature (°C)	30°C	P
	For electronic releases, the operating characteristic shall be verified at the ambient temperature of the test room (see 6.1.1 of IEC 60947-1), the release being energised on all phase poles.		N/A
	For releases dependent on ambient air temperature, the operating characteristics shall be verified at the reference temperature, the release being energized on all phase poles. If the test made at a different ambient temperature, a correction shall be made in accordance with the manufacturer's correction temperature/current data		N/A
	Range of adjustable setting current: (A)		N/A
	For releases independent of ambient temperature: Tests shall be made at 30°C and 20°C or 40°C		N/A
	Test ambient air temperature:		N/A
	Releases, dependent of ambient air temperature: Reference temperature (°C)	30°C	P
	Releases, independent of ambient air temperature: at 30°C		N/A
	Test current: 105% of the rated, or minimum adjustable setting current: (A)	131A	P
	Conventional non-tripping time: 1h when $I_n < 63A$, 2h when $I_n > 63A$	>2h	P
	Test current: 130% of the rated, or minimum adjustable setting current: (A)	162A	P
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when $I_n < 63A$, <2h when $I_n > 63A$	107s	P
	Test current: 105% of the maximum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when $I_n < 63A$, 2h when $I_n > 63A$		N/A
	Test current: 130% of the maximum adjustable setting current: (A)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test current: at current specified by the manufacturer to verify the time/current characteristic of the releases conform to the curves provided by the manufacturer. % at the rated, or minimum adjustable setting current: (% or A)		N/A
	Tripping time acc. time/current characteristic of the releases conform to the curves provided by the manufacturer. (within the stated tolerances)		N/A
	Releases, independent of ambient air temperature: at 20°C or 40°C		
	Test ambient air temperature:		N/A
	Test current: at current specified by the manufacturer to verify the time/current characteristic of the releases conform to the curves provided by the manufacturer. % at the rated, or minimum adjustable setting current: (% or A)		N/A
	Tripping time acc. time/current characteristic of the releases conform to the curves provided by the manufacturer. (within the stated tolerances)		N/A
8.3.3.1.4	Additional test for definite time-delay releases		
a)	Time delay		
	Test is made at a current equal to 1,5 times the current setting		
	overload releases: (all phase poles loaded)		N/A
	for circuit-breakers having an identified neutral pole provided with an overload release, the test current for this release shall be 1,5 times the current setting;		N/A
	short-circuit releases		N/A
	Electromagnetic release: two poles in series carrying the test current, using successively all possible combinations of poles having a short-circuit release.		N/A
	Electronic releases: on one pole chosen at random.		N/A
	Test current: 1,5 times of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time, overload releases: (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A

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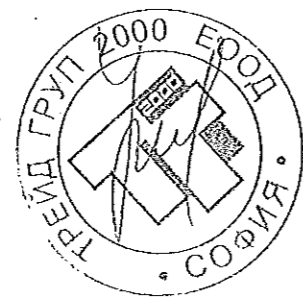
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Clause	Requirement + Test	Result - Remark	Verdict
	Test current: 1,5 times of the rated, or minimum adjustable setting current: (A)		N/A
	Time interval: non-tripping duration stated by the manufacturer: (s)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Test current: 1,5 times of maximum adjustable setting current: (A)		N/A
	Time interval: non-tripping duration stated by the manufacturer: (s)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Then, the current is reduced to the rated current and maintained at this value for twice the time-delay stated by the manufacturer. The circuit-breaker shall not trip.		
	Test current: of the rated, or minimum adjustable setting current: (A)		N/A
	Time interval: twice the delay-time stated by the manufacturer: (s)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A

ВЕРИЖА С ОПРАТНИМ
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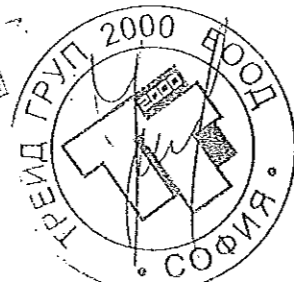
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Clause	Requirement + Test	Result - Remark	Verdict
	- enclosure of mounting plate		N/A
	iv) equipment suitable for isolation		P
	equipment not suitable for isolation		N/A
	- no unintentional disruptive discharge during the test's		P
	Test of dielectric properties, dielectric withstand voltage (U _{imp} not indicated):		
	- rated insulation voltage (V) :	500V for main circuit	P
	- main circuits, test voltage for 1 min (V)	1890V, 5s	P
	- auxiliary circuits, test voltage for 1 min (V)		N/A
	- control circuits, test voltage for 1 min (V)		N/A
8.3.3.2.2	Application of test voltage		
1)	with circuit-breaker in the closed position		
	- between all live parts of all poles connected together and the frame of the circuit-breaker .		P
	- between each pole and all the other poles connected to the frame of the circuit-breaker		N/A
2)	with the circuit-breaker in the open position and, additionally, in the tripped position, if any.		
	- between all live parts of all poles connected together and the frame of the circuit-breaker.		P
	- between the terminals of one side connected together and the terminals of the other side connected together.		P
b)	Control and auxiliary circuits		
1)	- between all the control and auxiliary circuits which are not normally connected to the main circuit, connected together, and the frame of the circuit-breaker.		N/A
2)	- where appropriate, between each part of the control an auxiliary circuits which may be isolated from the other parts during normal operation and all the other parts connected together.		N/A
	No unintentional disruptive discharge during the tests		P
8.3.3.2	For circuit-breaker suitable for isolation, the leakage current shall be measured through each pole with the contacts in the open position, at a test voltage of 1,1 U _e , and shall not exceed 0,5mA.	253V ≤0.004mA	P

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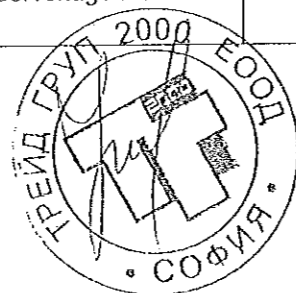
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Clause	Requirement + Test	Result - Remark	Verdict
	The test for the lower limit is made without current in the main circuit and without previous heating of the release coil		N/A
	In the case of a release with a range of rated voltages, this test applies to the maximum voltage of the range		N/A
	The test for the upper limit is made starting from a constant temperature corresponding to the application of rated control supply voltage to the release and rated current in the main poles of the circuit-breaker		N/A
	This test may be combined with the temperature-rise test of 8.3.3.6		N/A
	In the case of a release with a range of rated voltages, this test is made at both the minimum and maximum rated control supply voltages		N/A
ii)	Test for limits of operation		
	Starting with the circuit-breaker open, at the temperature of the test room, and with the supply voltage at 30% rated maximum control supply voltage, it shall be verified that the circuit-breaker cannot be closed by the operation of the actuator		N/A
	When the supply voltage is raised to 85% of the minimum control supply voltage, it shall be verified that the circuit-breaker can be closed by the operation of the actuator		N/A
iii)	Performance under overvoltage conditions		
	With the circuit-breaker closed and without current in the main circuit, it shall be verified that the undervoltage release will withstand the application of 110% rated control supply voltage for 4 h without impairing its functions		N/A
d)	Shunt releases		
	Shunt releases shall comply with the requirements of 7.2.1.4 of Part 1. For this purpose, the release shall be fitted to a circuit-breaker having the maximum rated current for which the release is suitable		N/A
	It shall be verified that the release will operate to open the circuit-breaker at 70% rated control supply voltage when tested at an ambient temperature of $+55\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ without current in the main poles of the circuit-breaker		N/A
	In the case of a release having a range of rated control supply voltages, the test voltage shall be 70% of the minimum rated control supply voltage		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Number of operating cycles per hour	120	P
	Number of cycles with current (total) (closing mechanism energized at the rated U _c)	1000	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:		P
	- test voltage U/U _e = 1,0 (V) L1: L2: L3:	232V	P
	- test current I/I _e = 1,0 (A)..... L1: L2: L3:	126A	P
	- power factor/time constant:	0.82	P
	- frequency: (Hz)	50Hz	P
	- on-time (ms):	651ms	P
	- off-time (s):	30s	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	3SB71-125	
	Sample no:	#03	
	Rated current I _n (A)	125A	
	Rated operational voltage: U _e (V)	AC230V	
	Rated control supply voltage of closing mechanism: U _c (V)		
	Rated control supply voltage of shunt releases: U _c (V)		
	Rated control supply voltage undervoltage releases: U _c (V)		

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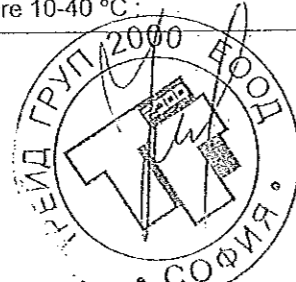
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Clause	Requirement + Test	Result - Remark	Verdict

	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	61s	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 -		P
	and shall operate at 35% of the maximum control supply voltage.		P
	Circuit-breaker fitted with shunt releases. The release shall operate at 70% of the minimum rated control supply voltage. Test made at room temperature.		P

8.3.3.9	Verification of the main contact position for circuit-breakers for isolation		P
	actuating force for opening (N)	10N	—
	test force with blocked main contacts for 10 s (N) ..	50N	—
	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		N/A

8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS		
	3SB71-125, 100A, 1P sample no.: #07		
8.3.3.1	Tripping limits and characteristic		
8.3.3.1.2	Opening under short-circuit conditions		
	Manufacturer's name or trademark	SASSIN	
	Type designation or serial number	3SB71-125	
	Sample no:	#07	
	Rated operational voltage: Ue (V)	AC230V	
	Rated current: In (A)	100A	
	Ambient temperature 10-40 °C:	11°C	P



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Clause	Requirement + Test	Result - Remark	Verdict
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Test current: 120% of the maximum adjustable setting current: (A)		N/A
	Operating time: <0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	For circuit-breakers with an electronic overcurrent release, the operation of the short-circuit releases shall be verified by one test only on each pole individually.		N/A
	Electronic overcurrent releases		
	Test current: 80% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1: L2: L3: N:		N/A
	Test current: 120% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: <0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A

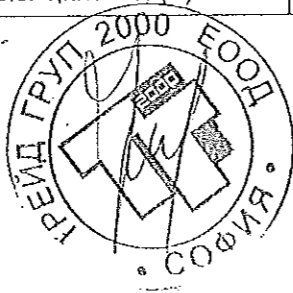
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.1.3	Opening under overload conditions		
a)	Instantaneous or definite time-delay releases		
	Manufacturer's name or trademark		
	Type designation or serial number		
	Sample no:		
	Rated operational voltage: U_e (V)		
	Rated current: I_n (A)		
	Ambient temperature 10-40 °C :		N/A
	Value of the tripping current declared by the manufacturer for a single pole, at which value they shall operate.		N/A
	Range of adjustable setting current. (A)		N/A
	Time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 90% of the rated, or minimum adjustable setting current: (A)	<i>Large handwritten signature</i>	N/A
	Operating time: >0,2s in case of instantaneous releases:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 90% of the maximum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 110% of the rated, or minimum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)		N/A
	Operating time: <0,2s in case of instantaneous releases:		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 110% of the maximum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)		N/A

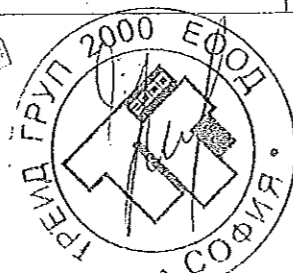
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Clause	Requirement + Test	Result - Remark	Verdict
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	114s	P
	Test current: 105% of the maximum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A		N/A
	Test current: 130% of the maximum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		N/A
	Releases, independent of ambient air temperature: at 20°C or 40°C		N/A
	Test ambient air temperature:		N/A
	Test current: 105% of the rated, or minimum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A		N/A
	Test current: 130% of the rated, or minimum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		N/A
	Test current: 105% of the maximum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A		N/A
	Test current: 130% of the maximum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Operating time, <u>overload releases</u> : (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Test current: 1,5 times of the maximum adjustable setting current: (A)		N/A
	Operating time, <u>overload releases</u> : (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
b)	Non-tripping duration		
	Firstly, the test current equal to 1,5 times the current setting is maintained for a time interval equal to the non-tripping duration stated by the manufacturer.		
	<u>overload releases</u> : (all phase poles loaded)		N/A
	for circuit-breakers having an identified neutral pole provided with an overload release, the test current for this release shall be 1,5 times the current setting;		N/A
	<u>short-circuit releases</u>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Test current: maximum adjustable setting current: (A)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
8.3.3.2	Test of dielectric properties, impulse withstand voltage (Uimp indicated):		N/A
8.3.3.3	Mechanical operation and operational performance capability		N/A
8.3.3.4	Overload performance		N/A
8.3.3.5	Verification of dielectric withstand		N/A
8.3.3.6	Verification of temperature-rise		N/A
8.3.3.7	Verification of overload releases		N/A
8.3.3.8	Verification of undervoltage and shunt releases		N/A
8.3.3.9	Verification of the main contact position for circuit-breakers for isolation		N/A

8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS 3SB71-125, 80A, 1P sample no.: #06		
8.3.3.1	Tripping limits and characteristic		
8.3.3.1.2	Opening under short-circuit conditions		
	Manufacturer's name or trademark	SASSIN	
	Type designation or serial number	3SB71-125	
	Sample no:	#06	
	Rated operational voltage: Ue (V)	AC230V	



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Test current: 120% of the maximum adjustable setting current: (A)		N/A
	Operating time: <0,2s in case of instantaneous releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases: L1-L2: L1-L3: L2-L3: N-Lx:		N/A
	For circuit-breakers with an electronic overcurrent release, the operation of the short-circuit releases shall be verified by one test only on each pole individually.		N/A
	Electronic overcurrent releases		
	Test current: 80% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases: L1: L2: L3: N:		N/A
	Test current: 120% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: <0,2s in case of instantaneous releases: L1: L2: L3: N:		N/A

СЕРТИФИКАТ
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ЦЕНТРА



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.1.3	Opening under overload conditions		
a)	Instantaneous or definite time-delay releases		
	Manufacturer's name or trademark		
	Type designation or serial number		
	Sample no:		
	Rated operational voltage: Ue (V)		
	Rated current: In (A)		
	Ambient temperature 10-40 °C :		N/A
	Value of the tripping current declared by the manufacturer for a single pole, at which value they shall operate.		N/A
	Range of adjustable setting current. (A)		N/A
	Time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 90% of the rated, or minimum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases:		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 90% of the maximum adjustable setting current: (A)		N/A
	Operating time: >0,2s in case of instantaneous releases		N/A
	Operating time: > twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 110% of the rated, or minimum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)		N/A
	Operating time: <0,2s in case of instantaneous releases:		N/A
	Operating time: < twice time delay stated by the manufacturer, in the case of definite time delay releases.		N/A
	Test current: 110% of the maximum adjustable setting current: (A) circuit-breaker with neutral pole: 1,2x110% (A)		N/A

ВАНКО С. СТОИЧЕВ



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	100s	P
	Test current: 105% of the maximum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A		N/A
	Test current: 130% of the maximum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		N/A
	Releases, independent of ambient air temperature: at 20°C or 40°C		
	Test ambient air temperature:		N/A
	Test current: 105% of the rated, or minimum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A		N/A
	Test current: 130% of the rated, or minimum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		N/A
	Test current: 105% of the maximum adjustable setting current: (A)		N/A
	Conventional non-tripping time: 1h when In < 63A, 2h when In > 63 A		N/A
	Test current: 130% of the maximum adjustable setting current: (A)		N/A
	For circuit-breakers having an identified neutral pole provided with an overload release (see 8.3.3.1.1), the test current at the conventional tripping current shall be multiplied by the factor 1,2.		N/A
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A		N/A

ВАНКО С ПРАТНИКОВ



IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Operating time, <u>overload releases</u> : (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Test current: 1,5 times of the maximum adjustable setting current: (A)		N/A
	Operating time, <u>overload releases</u> : (s)		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Time-delay: between the limits stated by the manufacturer:		N/A
b)	Non-tripping duration		
	Firstly, the test current equal to 1,5 times the current setting is maintained for a time interval equal to the non-tripping duration stated by the manufacturer.		
	<u>overload releases</u> : (all phase poles loaded)		N/A
	for circuit-breakers having an identified neutral pole provided with an overload release, the test current for this release shall be 1,5 times the current setting;		N/A
	<u>short-circuit releases</u>		N/A

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Up

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Clause	Requirement + Test	Result - Remark	Verdict
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
	Test current: maximum adjustable setting current: (A)		N/A
	Operating time, <u>overload releases</u> : the circuit-breaker does not trip:		N/A
	Operating time, <u>short-circuit releases (electromagnetic)</u> : (s) L1-L2: L1-L3: L2-L3:		N/A
	Operating time, <u>short-circuit releases (electronic)</u> : (s) L1: L2: L3:		N/A
8.3.3.2	Test of dielectric properties, impulse withstand voltage (U _{imp} indicated):		N/A
8.3.3.3	Mechanical operation and operational performance capability		N/A
8.3.3.4	Overload performance		N/A
8.3.3.5	Verification of dielectric withstand		N/A
8.3.3.6	Verification of temperature-rise		N/A
8.3.3.7	Verification of overload releases		N/A
8.3.3.8	Verification of undervoltage and shunt releases		N/A
8.3.3.9	Verification of the main contact position for circuit-breakers for isolation		N/A

8.3.4	TEST SEQUENCE II (Ics): 3SB71-125, 125A,4P sample no.: #04		
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	3SB71-125	
	Sample no:	#04	

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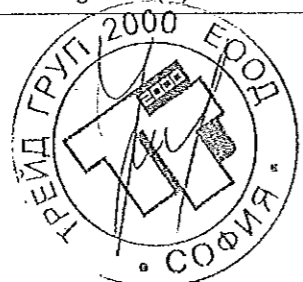
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Up

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- test voltage U/Ue = 1,05 (V)L1:L2:L3:	427V 425V 429V	P
	- r.m.s. test current AC/DC: (A) .....L1: .....L2: .....L3:	7.52 kA 7.51 kA 7.53 kA	P
	power factor/time constant :	0.47	P
	- Factor "n"	1.70	P
	- peak test current (A) :	12.9 kA	P
	Test sequence "O"		
	- max. let-through current: (kApeak) .....L1: .....L2: .....L3:	13.0 kA 10.9 kA 11.7 kA	P
	- Joule integral I ² dt (A ² s) .....L1: .....L2: .....L3:	817 kA ² s 548 kA ² s 559 kA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: .....L3:	11.2 kA 6.56 kA 11.9 kA	P
	- Joule integral I ² dt (A ² s) .....L1: .....L2: .....L3:	571 kA ² s 259 kA ² s 602 kA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kApeak) .....L1: .....L2: .....L3:	12.5 kA 7.48 kA 12.9 kA	P
	- Joule integral I ² dt (A ² s) .....L1: .....L2: .....L3:	696 kA ² s 323 kA ² s 713 kA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	Cracks observed	No	P
8.3.4.2	Operational performance capability with current.		
	Rated current: In (A) .	125A	
	Maximum rated operational voltage: Ue (V)	AC400V	

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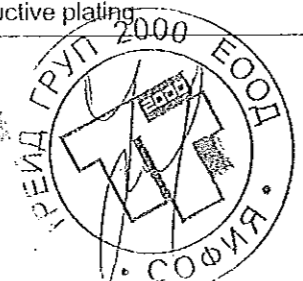
IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.4.5	Verification of overload releases		
	Test current: 1.45 times the value of their current setting at the reference temperature: (A)	181A	P
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	89s	P

8.3.4	TEST SEQUENCE II (Ics): 3SB71-125, 80A,4P sample no.: #05		
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	3SB71-125	
	Sample no:	#05	
	Rated current: In (A)	80A	
	Rated operational voltage: Ue (V)	AC400V	
	Rated service short-circuit breaking capacity: (kA)	7.5kA	
	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:55mm Bottom:55mm 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		P
	- size of hole: <30mm ²		P
	- finish: bare or conductive plating		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	12.0 kA 10.3 kA 8.23 kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	597 kA ² s 468 kA ² s 320 kA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	Cracks observed	No	P
8.3.4.2	Operational performance capability with current.		
	Rated current: I _n (A)		
	Maximum rated operational voltage: U _e (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 U _c)		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/U _e = 1,0 (V) L1: L2: L3:		N/A
	- test current I/I _e = 1,0 (A)..... L1: L2: L3:		N/A
	- power factor/time constant:		N/A
	- frequency: (Hz)		N/A
	- on-time (ms):		N/A
	- off-time (s):		N/A
	Electrical components do not exceed the value indicated in tab. 7.		N/A
8.3.4.3	Verification of dielectric withstand		
	- equal to twice the rated operational voltage with a minimum of 1000 V	1000V	P

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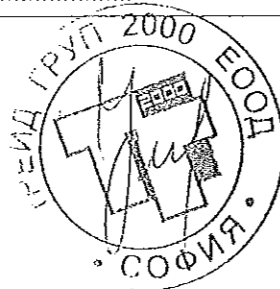


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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Distances of the metallic screen's: (all sides)	Back:0mm Front:0mm Top: 55mm Bottom: 55mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65		P
	- size of hole: <30mm ²		P
	- finish: bare or conductive plating		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)	Load-star	P
	Conductor cross-sectional area (mm ²):	50 × 1 mm ²	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening torques: (Nm)	2.5Nm	P
	Test sequence of operation: O – t – CO – t – CO		
	- test voltage U/Ue = 1,05 (V)..... L1: L2: L3:	247V	P
	- r.m.s. test current AC/DC: (A) L1: L2: L3:	7.52 kA	P
	power factor/time constant :	0.45	P
	- Factor "n"	1.70	P
	- peak test current (A) :	12.9 kA	P
	Test sequence "O"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	10.6 kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	505 kA ² s	P

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Clause	Requirement + Test	Result - Remark	Verdict
	- power factor/time constant:	0.81	P
	- frequency: (Hz)	50Hz	P
	- on-time (ms):	≤2s	P
	- off-time (s):	3min	P
	Electrical components do not exceed the value indicated in tab. 7.		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)	253V 0.0048mA	P
8.3.4.4	Verification of temperature-rise		
	- the values of temperature-rise do not exceed the those specified in tab. 7.		P
	Temperature rise of main circuit terminals. ≤ 80 K (K) :	Max.47K	P
	conductor cross-sectional area (mm ²) :	50×1 mm ²	P
	test current Ie (A) :	125A	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)	116A	P
	Conventional tripping time: <1h when In < 63A, <2h when In > 63 A	55s	P
8.3.4	TEST SEQUENCE II (Ics): 3SB71-125 80A,1P sample no.: #09		
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	3SB71-125	
	Sample no:	#09	
	Rated current: In (A)	80A	
	Rated operational voltage: Ue (V)	AC230V	
	Rated service short-circuit breaking capacity: (kA)	7.5kA	
	Rated control supply voltage of closing mechanism: Uc (V)		

Важно с клиентом

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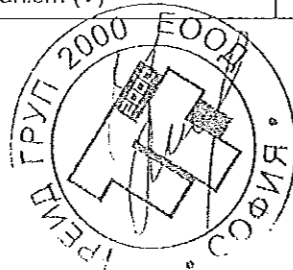
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- Factor "n"	1.70	P
	- peak test current (A) :	12.9 kA	P
	Test sequence "O"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	8.47 kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	318 kA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	7.65 kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	203 kA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	9.01 kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	441 kA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	Cracks observed	No	P
8.3.4.2	Operational performance capability with current.		
	Rated current: I _n (A)		
	Maximum rated operational voltage: U _e (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 U _c)		N/A
	Applied voltage: closing mechanism (V)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) 3SB71-125, 125A, 4P sample no.: #10		
	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	3SB71-125	
	Sample no:	#10	
	Rated current: In (A)	125A	
	Rated operational voltage: Ue (V)	AC400V	
	Rated ultimate short-circuit breaking capacity: (kA)	10 kA	
	Rated control supply voltage of closing mechanism: U _c (V)		
	Rated control supply voltage of shunt release: U _c (V)		
	This test sequence need not be made when I _{cu} = I _{cs}		
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:	≤10min	P
	- Operation time: (s) L1:	99s	P
	..... L2:	119s	
	..... L3:	110s	
	..... N:		
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 U _c (V)		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	- Joule integral I ² dt (A ² s) L1: L2: L3:	1.28 MA ² s 1.00 MA ² s 1.19 MA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	14.9 kA 13.1 kA 15.5 kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	1.50 MA ² s 1.03 MA ² s 1.21 MA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	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	1000V	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 U _e)	440V ≤0.0051mA	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:	≤10min	P
	- Operation time: (s) L1: L2: L3: N :	55s 60s 45s	P

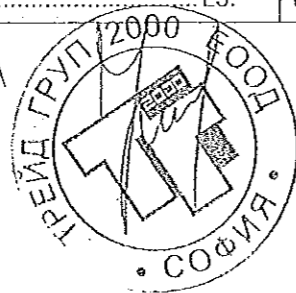
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back:0mm Front:0mm Top: 55mm Bottom: 55mm Left: 10mm Right: 10mm	P
	The characteristics of the metallic screen:		
	- woven wire mesh		N/A
	- perforated metal		P
	- expanded metal		N/A
	- ratio hole area/total area: 0,45-0,65		P
	- size of hole: <30mm ²		P
	- finish: bare or conductive plating		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)	Load-star	P
	Conductor cross-sectional area (mm ²):	50x1 mm ²	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	2.5 Nm	P
	Test sequence of operation: O – t – CO		P
	- test voltage U/Ue = 1,05 (V) L1: L2: L3:	427V 429V 425V	P
	- r.m.s. test current AC/DC: (A) L1: L2: L3:	10.2 kA 10.3 kA 10.4 kA	P
	power factor/time constant :	0.48	P
	- Factor "n"	1.70	P
	- peak test current (Amax) :	17.3 kA	P
	Test sequence "O"		
	- max. let-through current: (kApeak) L1: L2: L3:	13.0 kA 13.5 kA 15.7 kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	1.28 MA ² s 1.00 MA ² s 1.19 MA ² s	P

Відомості про виконання



Up

IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) 3SB71-125,80A,4P sample no.: #11		
	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	3SB71-125	
	Sample no:	#11	
	Rated current: In (A)	80A	
	Rated operational voltage: Ue (V)	AC400V	
	Rated ultimate short-circuit breaking capacity: (kA)	10 kA	
	Rated control supply voltage of closing mechanism: Uc (V)		
	Rated control supply voltage of shunt release: Uc (V)		
	This test sequence need not be made when 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:	≤10min	P
	- Operation time: (s) L1:	87s	P
	..... L2:	94s	
	..... L3:	89s	
	..... N :		
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

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- Joule integral I ² dt (A ² s)L1:L2:L3:	1.38 MA ² s 1.21 MA ² s 902 kA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) .....L1: .....L2: .....L3:	14.6kA 14.6kA 14.8kA	P
	- Joule integral I ² dt (A ² s) .....L1: .....L2: .....L3:	1.10 MA ² s 1.12 MA ² s 1.17 MA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	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	1000V	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 U _e)	440V ≤0.0052mA	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:	≤10min	P
	- Operation time: (s)L1:L2:L3: N :	45s 49s 51s	P

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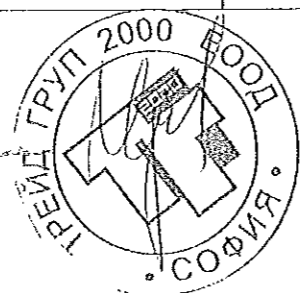
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	The circuit-breaker is mounted complete on its own support or an equivalent support.		P
	Test made in free air:		P
	Distances of the metallic screen's: (all sides)	Back:0mm Front:0mm Top: 55mm Bottom: 55mm 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		P
	- size of hole: <30mm ²		P
	- finish: bare or conductive plating		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)	Load-star	P
	Conductor cross-sectional area (mm ²):	50x1 mm ²	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	2.5 Nm	P
	Test sequence of operation: O - t - CO		P
	- test voltage U/Ue = 1,05 (V) L1: L2: L3:	427V	P
	- r.m.s. test current AC/DC: (A) L1: L2: L3:	10.2 kA	P
	power factor/time constant :	0.47	P
	- Factor "n"	1.70	P
	- peak test current (Amax) :	17.5kA	P
	Test sequence "O"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	12.5kA	P

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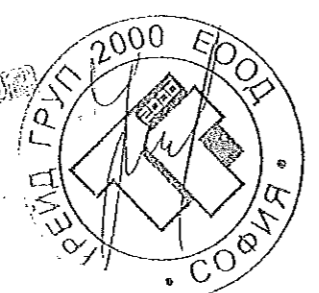
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) 3SB71-125,80A,2P sample no.: #13		
	Rated ultimate short-circuit breaking		
	Except where the combined test sequence applies, this test sequence applies 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	3SB71-125	
	Sample no:	#13	
	Rated current: In (A)	80A	
	Rated operational voltage: Ue (V)	AC400V	
	Rated ultimate short-circuit breaking capacity: (kA)	10 kA	
	Rated control supply voltage of closing mechanism: Uc (V)		
	Rated control supply voltage of shunt release: Uc (V)		
	This test sequence need not be made when 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:	≤10min	P
	- Operation time: (s) L1:	88s	P
	..... L2:	80s	
	..... L3:		
	..... N:		
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

ВНЕШНИЙ ОТДЕЛ
ПО ТЕХНИЧЕСКОМУ КОНТРОЛЮ

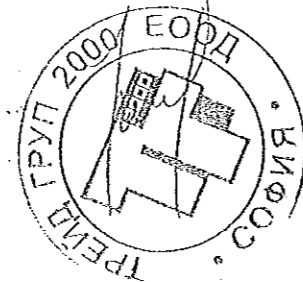


IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- Joule integral I ² dt (A ² s) L1: L2: L3:	305kA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	7.58kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	300 kA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	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	1000V	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 U _e)	440V ≤0.0051mA	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:	≤10min	P
	- Operation time: (s) L1: L2: L3: N:	41s 36s	P

ВЕРИТЕЛНИ СЕРТИФИКАТ



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: 55mm Bottom: 55mm 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		P
	- size of hole: <math><30\text{mm}^2</math>		P
	- finish: bare or conductive plating		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)	Load-star	P
	Conductor cross-sectional area (mm ²):	50x1 mm ²	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	2.5 Nm	P
	Test sequence of operation: O – t – CO		P
	- test voltage U/U _e = 1,05 (V) L1: L2: L3:	247V	P
	- r.m.s. test current AC/DC: (A) L1: L2: L3:	10.3 kA	P
	power factor/time constant :	0.48	P
	- Factor "n"	1.70	P
	- peak test current (A _{max}):	17.5kA	P
	Test sequence "O"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	15.2kA	P

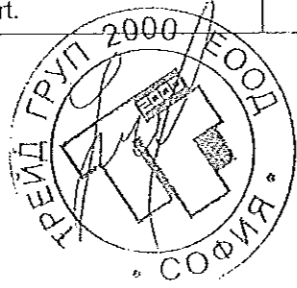


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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) 3SB71-125,80A,1P sample no.: #15		
	Rated ultimate short-circuit breaking		
	Except where the combined test sequence applies, this test sequence applies 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	3SB71-125	
	Sample no:	#15	
	Rated current: In (A)	80A	
	Rated operational voltage: Ue (V)	AC230V	
	Rated ultimate short-circuit breaking capacity: (kA)	10 kA	
	Rated control supply voltage of closing mechanism: U _c (V)		
	Rated control supply voltage of shunt release: U _c (V)		
	This test sequence need not be made when I _{cu} = I _{cs}		
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:	≤10min	P
	- Operation time: (s) L1: L2: L3: N :	79s	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
	closing mechanism energized with 85% at the rated U _c (V)		N/A
	The circuit-breaker is mounted complete on its own support or an equivalent support.		P

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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	12.2kA	P
	- Joule integral I ² dt (A ² s) L1: L2: L3:	342kA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	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	1000V	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 U _e)	253V 0.0051mA	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:	≤10min	P
	- Operation time: (s) L1: L2: L3: N:	50s	P

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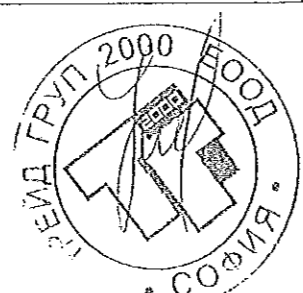
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СЕРТИФИКАТ



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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: 55mm Bottom: 55mm 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		P
	- size of hole: <math><30\text{mm}^2</math>		P
	- finish: bare or conductive plating		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)	Load-star	P
	Conductor cross-sectional area (mm ²):	50×1 mm ²	P
	If terminals unmarked: line connected at: (underside/upside)		N/A
	Tightening, torques: (Nm)	2.5 Nm	P
	Test sequence of operation: O – t – CO		P
	- test voltage U/U _c = 1,05 (V) .....L1: .....L2: .....L3:	247V	P
	- r.m.s. test current AC/DC: (A) .....L1: .....L2: .....L3:	6.18 kA	P
	power factor/lime constant :	0.67	P
	- Factor "n"	1.5	P
	- peak test current (Amax) :	9.30kA	P
	Test sequence "O"		
	- max. let-through current: (kA _{peak})L1:L2:L3:	5.55kA	P



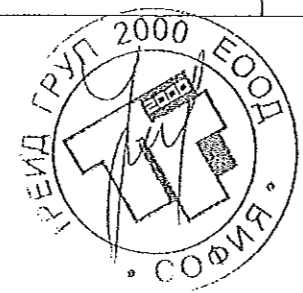
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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III (Icu) 3SB71-125, 80A, 4P sample no.: #17 Phase + N test		
	Rated ultimate short-circuit breaking		
	Except where the combined test sequence applies, this test 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	3SB71-125	
	Sample no:	#17	
	Rated current: In (A)	80A	
	Rated operational voltage: Ue (V)	AC400V	
	Rated ultimate short-circuit breaking capacity: (kA)	10 kA	
	Rated control supply voltage of closing mechanism: Uc (V)		
	Rated control supply voltage of shunt release: Uc (V)		
	This test sequence need not be made when 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:	≤10min	P
	- Operation time: (s) .....L1:	102s	P
	.....L2:		
	.....L3:		
	.....N :	109s	
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

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ВРАНО Е СЪСТАВИЛО



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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict
	- Joule integral I^2dt (A ² s) L1: L2: L3:	129 kA ² s	P
	Pause, t: (min)	3 min	P
	Test sequence "CO"		
	- max. let-through current: (kA _{peak}) L1: L2: L3:	6.71 kA	P
	- Joule integral I^2dt (A ² s) L1: L2: L3:	124 kA ² s	P
	Melting of the fusible element	No	P
	Holes in the PE-sheet for test sequence "O"		N/A
	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	1000V	P
	- no breakdown or flashover		P
	- the leaking current for circuit-breaker suitable for isolation: (<6mA / 1,1 U _e)	440V ≤0.0052mA	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:	≤10min	P
	- Operation time: (s) L1: L2: L3: N :	49s 51s	P
8.3.6	TEST SEQUENCE IV		N/A
8.3.7	TEST SEQUENCE V		N/A

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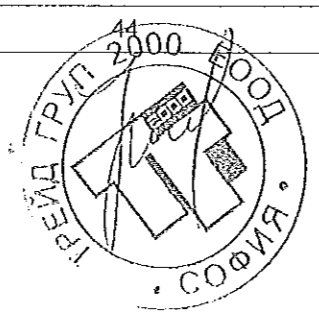
IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE 1 : temperature rise measurements			P
#01	Test current(A).....: 125A		—
	Ambient(°C).....: 12°C		—
Thermocouple Locations	Max. temperature measured, (°C)	Max. temperature limit, (°C)	
Terminal, Line L1	44	80	
Terminal, Line L3	49	80	
Terminal, Line L5	45	80	
Terminal, Load L2	45	80	
Terminal, Load L4	52	80	
Terminal, Load L6	47	80	
Terminal, Line	40	80	
Terminal, N	46	80	
Terminal, Load	43	80	
Terminal, N	39	80	
Handle	3	35	
Enclosure	36	50	
Back	30	60	
#02	Test current(A).....: 125A		—
	Ambient(°C).....: 12°C		—
Thermocouple Locations	Max. temperature measured, (°C)	Max. temperature limit, (°C)	
Terminal, Line L1	42	80	
Terminal, Line L3	46	80	
Terminal, Load L2	48	80	
Terminal, Load L4	51	80	
Handle	4	35	
Enclosure	34	50	
Back	27	60	
#03	Test current(A).....: 125A		—
	Ambient(°C).....: 12°C		—
Thermocouple Locations	Max. temperature measured, (°C)	Max. temperature limit, (°C)	
Terminal, Line L1	39	80	
Terminal, Line L2		80	

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ВЕРИТЕ С НАМИ



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IEC 60947-2			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE2: clearance and creepage distance measurements						
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
Between poles	4000V	500V	3	19.2	8	21.2
supplementary information:						

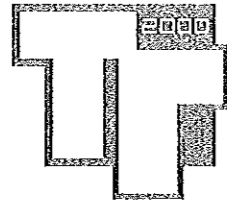
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ИЗДАНИЕ С КОМПЬЮТЕРНОЙ ПОМОЩЬЮ



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ТРЕЙД ГРУП 2000

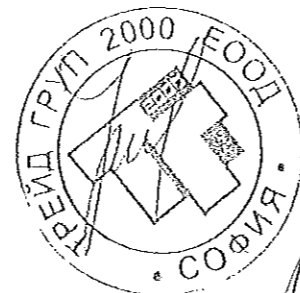
Гр. София, бул. "Рожен" №9
тел.: 02/981 28 87; 980 20 15
факс: 02/981 29 35; 980 20 16

Гр. София 1000, п.к. 1130, E-mail: sales@tradegroup2000.com

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СПИСЪК НА ОТДЕЛНИТЕ ТИПОВИ ИЗПИТАНИЯ

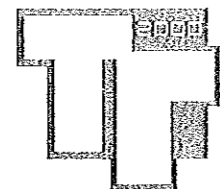
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Оферта за участие в търг с предмет
„Доставка на еднополюсни и триполюсни миниатюрни автоматични прекъсвачи”, Реф. № PPD 15-032

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факс: 02/981 29 35; 980 20 16

Гр. София 1000, п.к. 1130, E-mail: sales@tradegroup2000.com

СПИСЪК НА ПРОВЕДЕНИТЕ ИЗПИТВАНИЯ
ЗА МИНИАТЮРНИ АВТОМАТИЧНИ ПРЕКЪСВАЧИ 3SB71, ДО 125A

Тестова поредица	Клауза / подклауза	Тест (инспекция)
...	5.2.	Маркировка
	7.1.	Конструкция
	7.1.4.	Изолация
	7.1.7.	Клеми и свързки
	7.2.1.	Изключващи характеристики
I*	8.3.3.1.	Изключващи характеристики
	8.3.3.2.	Диелектрични характеристики, издръжливост при импулсно напрежение
	8.3.3.3.	Конструкция и механиъм
	8.3.3.3.3.	Работа без напрежение
	8.3.3.3.4.	Работа при напрежение
	8.3.3.4.	Работа при пренатоварване
	8.3.3.5.	Проверка на диелектрична издръжливост
	8.3.3.6.	Проверка при повишена температура
	8.3.3.7.	Проверка при пренатоварване
8.3.3.8.	Проверка при работа при ниско напрежение	
8.3.3.9.	Проверка изолация	
II**	8.3.4.1.	Капацитет късо съединение (I_{cs})
	8.3.4.2.	Работа при нормално напрежение
	8.3.4.3.	Проверка на диелектрична издръжливост
	8.3.4.4.	Проверка при повишена температура
	8.3.4.5.	Проверка при пренатоварване
III***	8.3.5.1.	Работа при пренатоварване
	8.3.5.2.	Капацитет късо съединение
	8.3.5.3.	Проверка на диелектрична издръжливост
	8.3.5.4.	Проверка при пренатоварване

*) Тестовата поредица е повторена 5 пъти с различни мостри на продуктите.

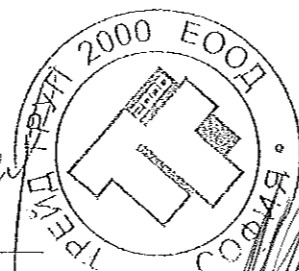
***) Тестовата поредица е повторена 4 пъти с различни мостри на продуктите.

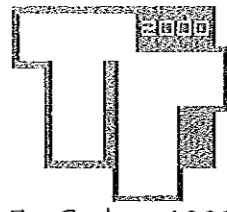
***) Тестовата поредица е повторена 9 пъти с различни мостри на продуктите.

Дата 22.07.2015 г.

ПОДПИС и ПЕЧАТ:

Иван Русев
Управител, "Трейд Груп 2000" ЕООД





ТРЕЙД ГРУП 2000

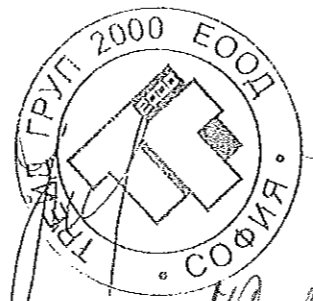
Гр. София, бул. "Рожен" №9
тел.: 02/981 28 87; 980 20 15
факс: 02/981 29 35; 980 20 16

Гр. София 1000, п.к. 1130, E-mail: sales@tradegroup2000.com

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СЕРТИФИКАТ/АКРЕДИТАЦИЯ НА НЕЗАВИСИМАТА ИЗПИТВАТЕЛНА ЛАБОРАТОРИЯ

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Оферта за участие в търг с предмет
„Доставка на еднополюсни и триполюсни миниатюрни автоматични прекъсвачи“, Реф. № РРД 15-037

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International Electrotechnical
Commission



IEC System of Conformity Assessment
Schemes for Electrotechnical
Equipment and Components (IECEE)

CERTIFICATE OF ACCEPTANCE

TO PARTICIPATE IN THE IECEE CB-SCHEME AND FACTORY SURVEILLANCE SERVICE

Intertek Semko AB
Torshamnsgatan 43, Box 1103, SE-164 22, Kista, Sweden

has been assessed and determined to fully comply with the requirements of ISO/IEC Guide 65: 1996-06, The Basic Rules, IECEE 01: 2012-06 and Rules of Procedure IECEE 02: 2012-06, and the relevant IECEE CB-Scheme Operational Documents.

Intertek Semko AB

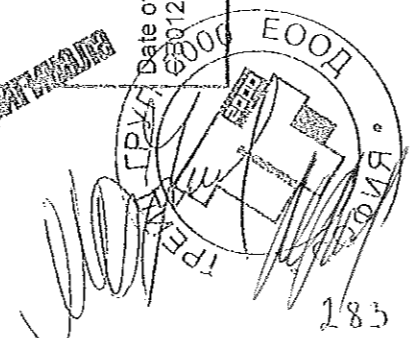
is therefore entitled to operate as a Swedish Issuing and Recognising National Certification Body within the IECEE CB Scheme for the Scope (Product Category(ies) and Standard(s)) as listed in the relevant part of the IECEE Web Site at www.iecee.org, and is subject to all other terms as set forth in the IECEE Basic Rules and Rules of Procedure.

This certificate remains valid until October 18th 2015, at which time it will be reissued by the IECEE Executive Secretary upon successful completion of the normally scheduled 3-year Reassessment Programme administered by the IECEE CB Scheme.

DEPT C OPERATIONS

Date of Issue: 2014-10-02

2012



Signed by:

[Handwritten signature]

Kerry McMANAMA
IECEE EXECUTIVE SECRETARY AND COO

[Handwritten initials]

СЕРТИФИКАТ ЗА ИЗПИТВАНЕ
УЧАСТВА В ИЕЦЕЕ СЪ СХЕМА И ПРОИЗВОДСТВЕН НАДЗОР

Интертек Семко АБ
Торшамнстатан 43, П.К. 1103, SE-164 22 Киста, Швеция

е оценено по и съответства изцяло с изискванията на ISO/IEC 65: 1996-06, Общи Изисквания, ИЕЦЕЕ 01:2012-06 и изисквания по Процедура ИЕЦЕЕ 02:2012-06, и съответният ИЕЦЕЕ СБ - Схематични Оперативни Документи.

Интертек Семко АБ

следователно има право да оперира като Шведска СБ Лаборатория за Изпитване и Национален Орган за Сертификация в ИЕЦЕЕ СБ Схемата в Сферата (Продуктова Категория(и) и Стандарт(и)), както е записано в съответната част на ИЕЦЕЕ интернет страницата на www.iecee.org и е обект на всички други условия, зададени в Общите Принципи и Процедурни Правила на ИЕЦЕЕ.

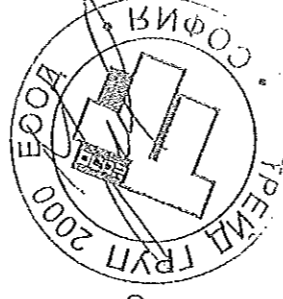
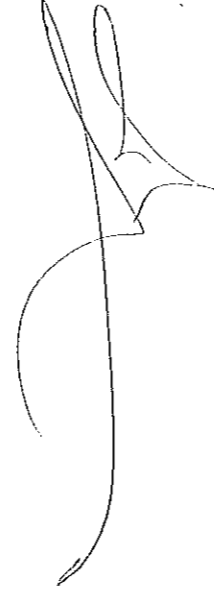
Настоящият сертификат е валиден до 18 октомври 2015, като след това ще бъде преиздаден от ИЕЦЕЕ при успешно изпълнение на планираната 3-годишна програма по пресечка, администрирана от ИЕЦЕЕ СБ Схеми.

Подписан от:
Подпис /не се чете/

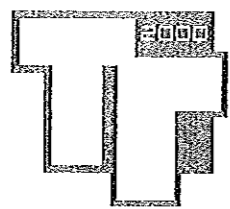
Керри Мкманам
Дата на публикуване: 2014-10-02

СБ012

285



ИЕЦЕЕ Изпълнителен Секретар



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Гр. София, бул. "Рожен" №9

тел.: 02/981 28 87; 980 20 15

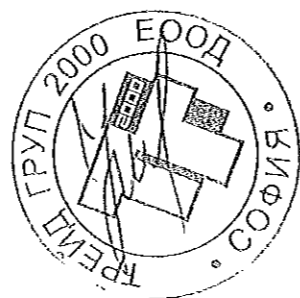
факс: 02/981 29 35; 980 20 16

Гр. София 1000, п.к. 1130, E-mail: sales@tradegroup2000.com

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ИНСТРУКЦИИ

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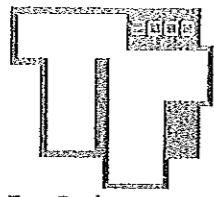


Оферта за участие в търг с предмет

„Доставка на еднополюсни и триполюсни миниатюрни автоматични прекъсвачи“, Реф. № PPD 15-032

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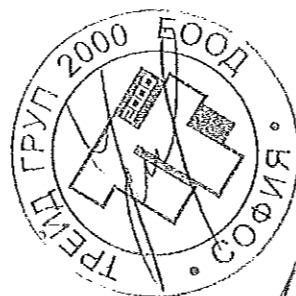
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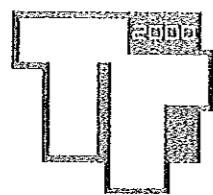
Гр. София, бул. "Рожен" №9
тел.: 02/981 28 87; 980 20 15
факс: 02/981 29 35; 980 20 16

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Приложение №3

**ИНСТРУКЦИИ ЗА ТРАНСПОТИРАНЕ,
СКЛАДИРАНЕ, МОНТАЖ, ПОДДРЪЖКА**





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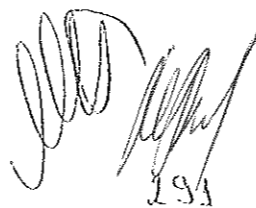
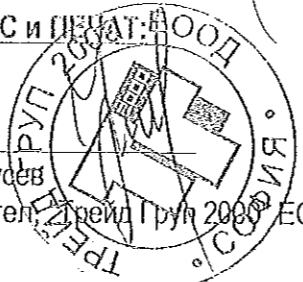
ИНСТРУКЦИЯ ЗА ТРАНСПОРТИРАНЕ

Електроапаратурата се транспортира в оригинални опаковки на производителя. Всеки продукт е в отделна опаковка - индивидуално или в комплект по шест броя, дванадесет броя и т.н. При транспортиране, стоката се опакова в палета или по-големи кашони, обезопасени, позиционирани коректно и здраво укрепени. При наличие на празно пространство в кашоните, то се запълва с пълнеж. Върху кашоните/палетата не се поставя друга стока по време на транспортиране.

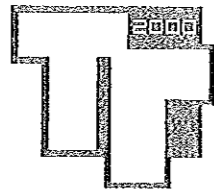
Некоректното опаковане на стоката при транспорт може да доведе до повреда на електроапаратурата. Хвърлянето и изпускането на прекъсвачите може да доведе до повреди.

Дата 22.07.2015 г.

ПОДПИС И ПЕЧАТ: ЕООД
Иван Русев
Управител, Трейд Груп 2000 ЕООД



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ТРЕЙД ГРУП 2000

Гр. София, бул. "Рожен" №9

тел.: 02/981 28 87; 980 20 15

факс: 02/981 29 35; 980 20 16

Гр. София 1000, п.к. 1130, E-mail: sales@tradegroup2000.com

ИНСТРУКЦИЯ ЗА СКЛАДИРАНЕ

Складирането и съхранението на електроапаратурата, трябва да бъде извършено под следните условия:

- да се спазва отговорно посочените в техническите данни на стоката изисквания, а именно - температура на съхранение, влажност.
- да се съхраняват и складираат в оригинална опаковка в закрити складови помещения, където да бъдат предпазени от увреждания.

Повредите, причинени в следствие на неправилен транспорт, съхранение, употреба не по предназначение, неспазване на указанията за правилен монтаж, природни стихии, се отстраняват за сметка на клиента.

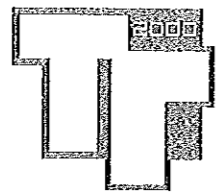
Дата 22.07.2015 г.

ПОДПИС И ПЕЧАТ

Иван Русев

Управител, "Трейд Груп 2000" ЕООД





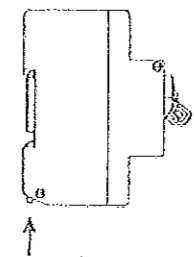
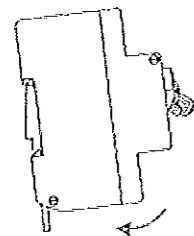
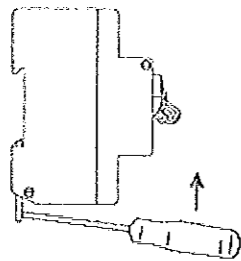
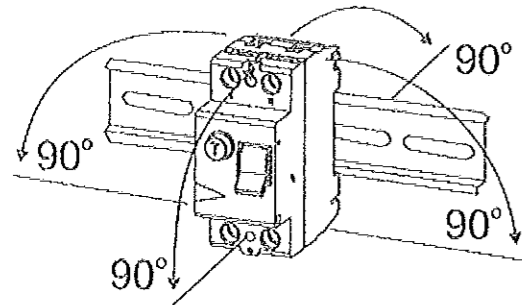
ТРЕЙД ГРУП 2000

Гр. София, бул. "Рожен" №9
тел.: 02/981 28 87; 980 20 15
факс: 02/981 29 35; 980 20 16

Гр. София 1000, п.к. 1130, E-mail: sales@tradegroup2000.com

ИНСТРУКЦИЯ ЗА МОНТАЖ

СХЕМА НА МОНТАЖ:



ИНСТРУКЦИИ:

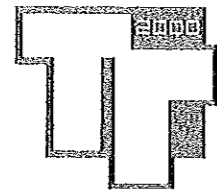
1. Монтажът трябва да бъде извършван само от електро специалисти.
2. Монтажът се извършва в съответствие с посочената схема.
3. Преди започване на монтажът, преценете правилното позициониране на апаратурата - възможност за хоризонтален и вертикален монтаж.
4. Захванете апарата със заключваща се позиция на DIN шината, в съответствие с EN 50022

ПОДПИС и ПЕЧАТ:

Иван Русев
Управител, "Трейд Груп 2000" ЕООД



Дата 22.07/2015 г.



ТРЕЙД ГРУП 2000

Гр. София, бул. "Рожен" №9
тел.: 02/981 28 87; 980 20 15
факс: 02/981 29 35; 980 20 16

Гр. София 1000, п.к. 1130, E-mail: sales@tradegroup2000.com

ИНСТРУКЦИЯ ЗА ПОДДРЪЖКА

Продуктите се монтират, поддържат и обслужват само от оторизирани лица - електро специалисти.

Монтажът трябва да бъде извършван съгласно инструкциите на производителя.

Работната среда и околните условия трябва да съответстват с инструкциите на производителя.

Съхранението/складирането на продуктите трябва да се извършва в съответствие с инструкциите на производителя.

Повредите, причинени в следствие на неправилен транспорт, съхранение, употреба не по предназначение, неспазване на указанията за правилен монтаж, неизправност в електрическата мрежа, природни стихии, се отстраняват за сметка на клиента. Повреди, причинени от други средства и уреди, се отстраняват за сметка на клиента.

Дата 22.07.2015 г.

ПОДПИС И ПЕЧАТ:

Иван Русев
Управител, "Трейд Груп 2000" ЕООД



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