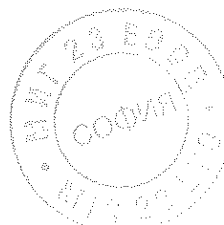
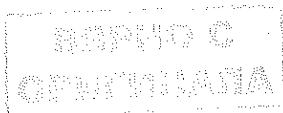


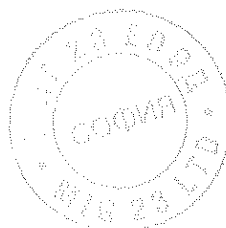
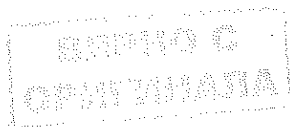
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
	Devices, which have been disconnected for the power-frequency withstand voltage test .....		N/A
	Equipment suitable for isolation, leakage current not exceed 0,5 mA		—
	Test voltage 1,1 Ue (V) .....	440 V (tested with 759 V)	—
	Measured leakage current (mA) .....	0,001 mA	P
8.3.3.3	Making and breaking capacity		P
	- utilization category .....	AC-22B	—
	- rated operational voltage Ue (V) .....	400 V	—
	- rated operational current Ie (A) or power (kW) ....	32 A	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Conditions for make/break operations or make operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—
	Conditions for break operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—

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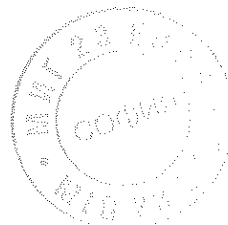
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
	Conditions for make/break operations, other than AC-23A/B:		P
	- test voltage, $U = 1,05 U_e$ ..... (V):	L1: 420 V L2: — L3: —	—
	- test current, $I =$ ..... $3 \times I_e$ (A):	L1: 98 A L2: — L3: —	—
	- power factor/ time constant .....	0,66	—
	Number of make/break or make and break operations .....	5	P
	- recovery voltage duration ( $\geq 50$ ms)	> 50 ms	P
	- current duration (ms) .....	90 ms	—
	- time interval between operations .....	30 s	P
	Characteristic of transient recovery voltage for AC-22 and AC-23 only		P
	- oscillatory frequency (kHz) .....	41,29 kHz	—
	- measured oscillatory frequency (kHz) .....	L1: 40,5 kHz L2: — L3: —	P
	- factor $\gamma$ .....	L1: 1,1 L2: — L3: —	P
8.3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.3.3.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	8,4 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P

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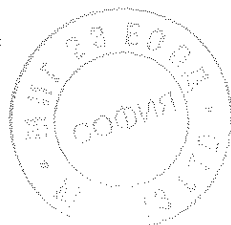
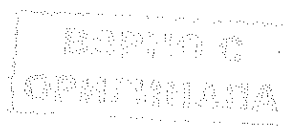


IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.4	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.3.5	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B): $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories): $\leq 2$ mA/pole) .....	< 2 mA	P
8.3.3.6	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.3.6 on page 105	P
8.3.3.7	Strength of actuator mechanism		P
8.2.5	Verification of the strength of actuator mechanism and position indicating device		
	- actuator type (fig.) .....	figure 1b (one-finger operated)	—
8.2.5.2.1	Dependent and independent manual operation	dependent manual operation	P
	- actuating force for opening (N) .....	10,4 N	—
	- test force with blocked main contacts (N) .....	50 N	—
	- used method to keep the contact closed .....	Fuse-links were held tight with a piece of wire	—
	During and after the test, open position not indicated .....		P
	Equipment with locking mean, no locking in the open position while test force is applied .....		P

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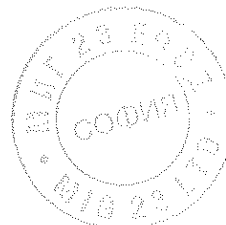
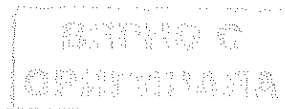


IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.2.5.2.2	Dependent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- 110% of the rated supply voltage applied to the equipment (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A
8.2.5.2.3	Independent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- stored energy of the power operator released (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A



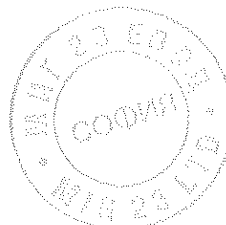
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS (Sample No. 4: AC-22B, 400 V, 32 A, 2-poles)		P
8.3.3.1	Temperature-rise		P
	ambient temperature 10-40 °C .....	22,7 °C	—
	test enclosure W x H x D (mm x mm x mm) .....		—
	material of enclosure .....		—
	Main circuits, test conditions:		—
	- rated operational current I <sub>e</sub> (A) .....	32 A	—
	- cable/busbar cross-section (mm <sup>2</sup> ) / length (mm) .....	6 mm <sup>2</sup> cables / 1000mm long	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page 105	P
	Auxiliary circuits, test conditions:		N/A
	- rated operation current (A) .....		—
	- cable cross-section (mm <sup>2</sup> ) .....		—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page __	N/A
8.3.3.2	Test of dielectric properties		P
	Rated impulse withstand voltage (kV) .....	6 kV	—
	- test U <sub>imp</sub> main circuits (kV) .....	7,3 kV	P
	- test U <sub>imp</sub> auxiliary circuits (kV) .....		N/A
	- test U <sub>imp</sub> on open main contacts (equipment suitable for isolation) (kV) .....	9,8 kV	P
	Power-frequency withstand voltage (V) .....	800 V	—
	- main circuits, test voltage for 5 sec. (V) .....	2000 V	P
	- control and auxiliary circuits, test voltage for 5 sec. (V) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Devices, which have been disconnected for the power-frequency withstand voltage test .....		N/A
	Equipment suitable for isolation, leakage current not exceed 0,5 mA		—
	Test voltage 1,1 Ue (V) .....	440 V (tested with 759 V)	—
	Measured leakage current (mA) .....	0,001 mA	P
8.3.3.3	Making and breaking capacity		P
	- utilization category .....	AC-22B	—
	- rated operational voltage Ue (V) .....	400 V	—
	- rated operational current Ie (A) or power (kW) ....	32 A	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Conditions for make/break operations or make operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—
	Conditions for break operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—

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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
	Conditions for make/break operations, other than AC-23A/B:		P
	- test voltage, $U = 1,05 U_e$ ..... (V):	L1: 420 V (242,5 V x $\sqrt{3}$ ) L2: 420 V (242,5 V x $\sqrt{3}$ ) L3: —	—
	- test current, $I =$ ..... 3 x $I_e$ (A):	L1: 98 A L2: 98 A L3: —	—
	- power factor/ time constant .....	0,66	—
	Number of make/break or make and break operations .....	5	P
	- recovery voltage duration ( $\geq 50$ ms)	> 50 ms	P
	- current duration (ms) .....	70 ms	—
	- time interval between operations .....	30 s	P
	Characteristic of transient recovery voltage for AC-22 and AC-23 only		P
	- oscillatory frequency (kHz) .....	41,29 kHz	—
	- measured oscillatory frequency (kHz) .....	L1: 40,5 kHz L2: 40,5 kHz L3: —	P
	- factor $\gamma$ .....	L1: 1,1 L2: 1,1 L3: —	P
8.3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.3.3.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	17,8 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P

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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.4	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.3.5	Leakage current		P
	test voltage ( $1,1 U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B): $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories): $\leq 2$ mA/pole) .....	< 2 mA	P
8.3.3.6	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.3.6 on page 105	P
8.3.3.7	Strength of actuator mechanism		P
8.2.5	Verification of the strength of actuator mechanism and position indicating device		
	- actuator type (fig.) .....	figure 1b (one-finger operated)	—
8.2.5.2.1	Dependent and independent manual operation	dependent manual operation	P
	- actuating force for opening (N) .....	22 N	—
	- test force with blocked main contacts (N) .....	66 N	—
	- used method to keep the contact closed .....	Fuse-links were held tight with a piece of wire	—
	During and after the test, open position not indicated .....		P
	Equipment with locking mean, no locking in the open position while test force is applied .....		P





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Clause	Requirement + Test	Result - Remark	Verdict
8.2.5.2.2	Dependent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- 110% of the rated supply voltage applied to the equipment (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A
8.2.5.2.3	Independent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- stored energy of the power operator released (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A

IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS (Sample No. 5: AC-22B, 500 V, 25 A, 2-pole)		P
8.3.3.1	Temperature-rise		P
	ambient temperature 10-40 °C .....	22,7 °C	—
	test enclosure W x H x D (mm x mm x mm) .....		—
	material of enclosure .....		—
	Main circuits, test conditions:		—
	- rated operational current I <sub>e</sub> (A) .....	25 A	—
	- cable/busbar cross-section (mm <sup>2</sup> ) / length (mm) ..	4 mm <sup>2</sup> cables / 1000 mm long	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page 106	P
	Auxiliary circuits, test conditions:		N/A
	- rated operation current (A) .....		—
	- cable cross-section (mm <sup>2</sup> ) .....		—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page __	N/A
8.3.3.2	Test of dielectric properties		P
	Rated impulse withstand voltage (kV) .....	6 kV	—
	- test U <sub>imp</sub> main circuits (kV) .....	7,3 kV	P
	- test U <sub>imp</sub> auxiliary circuits (kV) .....		N/A
	- test U <sub>imp</sub> on open main contacts (equipment suitable for isolation) (kV) .....	9,8 kV	P
	Power-frequency withstand voltage (V) .....	800 V	—
	- main circuits, test voltage for 5 sec. (V) .....	2000 V	P
	- control and auxiliary circuits, test voltage for 5 sec. (V) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Devices, which have been disconnected for the power-frequency withstand voltage test .....		N/A
	Equipment suitable for isolation, leakage current not exceed 0,5 mA		—
	Test voltage 1,1 Ue (V) .....	550 V (tested with 759 V)	—
	Measured leakage current (mA) .....	0,001 mA	P
8.3.3.3	Making and breaking capacity		P
	- utilization category .....	AC-22B	—
	- rated operational voltage Ue (V) .....	500 V	—
	- rated operational current Ie (A) or power (kW) .....	25 A	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Busmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Conditions for make/break operations or make operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—
	Conditions for break operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—

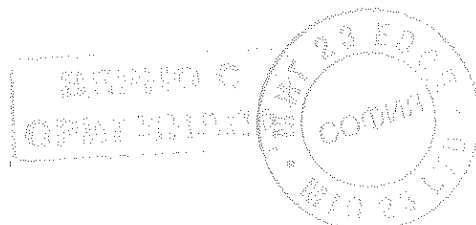
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ВЕРНО С  
ОПРЕДЕЛЕНА

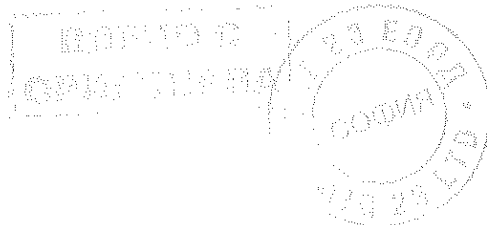
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
	Conditions for make/break operations, other than AC-23/AB:		
	- test voltage, $U = 1,05 U_e$ ..... (V):	L1: 525 V (303 V x $\sqrt{3}$ ) L2: 525 V (303 V x $\sqrt{3}$ ) L3: —	—
	- test current, $I =$ ..... 3 x $I_e$ (A):	L1: 78 A L2: 78 A L3: —	—
	- power factor/ time constant .....	0,68	—
	Number of make/break or make and break operations .....	5	P
	- recovery voltage duration ( $\geq 50$ ms)	> 50 ms	P
	- current duration (ms) .....	70 ms	—
	- time interval between operations .....	30 s	P
	Characteristic of transient recovery voltage for AC-22 and AC-23 only		P
	- oscillatory frequency (kHz) .....	32,88 kHz	—
	- measured oscillatory frequency (kHz) .....	L1: 32,2 kHz L2: 32,2 kHz L3: —	P
	- factor $\gamma$ .....	L1: 1,1 L2: 1,1 L3: —	P
8.3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.3.3.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	20,4 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.4	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.3.5	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	550 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B): $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories): $\leq 2$ mA/pole) .....	$< 2$ mA	P
8.3.3.6	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	4 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	25 A	—
	Measured temperature-rise .....	see appended table 8.3.3.6 on page 106	P
8.3.3.7	Strength of actuator mechanism		P
8.2.5	Verification of the strength of actuator mechanism and position indicating device		
	- actuator type (fig.) .....	figure 1b (one-finger operated)	—
8.2.5.2.1	Dependent and independent manual operation	dependent manual operation	P
	- actuating force for opening (N) .....	22,6 N	—
	- test force with blocked main contacts (N) .....	67,8 N	—
	- used method to keep the contact closed .....	Fuse-links were held tight with a piece of wire	—
	During and after the test, open position not indicated .....		P
	Equipment with locking mean, no locking in the open position while test force is applied .....		P

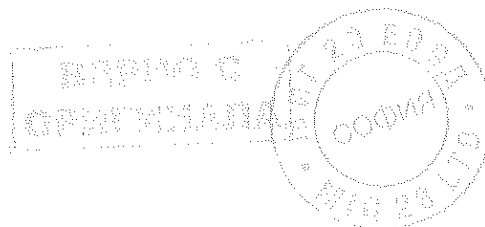


IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.2.5.2.2	Dependent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- 110% of the rated supply voltage applied to the equipment (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A
8.2.5.2.3	Independent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- stored energy of the power operator released (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS (Sample No. 6: AC-22B, 690 V, 10 A, 2-pole)		P
8.3.3.1	Temperature-rise		P
	ambient temperature 10-40 °C .....	22,7 °C	—
	test enclosure W x H x D (mm x mm x mm) .....		—
	material of enclosure .....		—
	Main circuits, test conditions:		—
	- rated operational current I <sub>e</sub> (A) .....	10 A	—
	- cable/busbar cross-section (mm <sup>2</sup> ) / length (mm) .....	1,5 mm <sup>2</sup> cables / 1000mm long	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page 106	P
	Auxiliary circuits, test conditions:		N/A
	- rated operation current (A) .....		—
	- cable cross-section (mm <sup>2</sup> ) .....		—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page __	N/A
8.3.3.2	Test of dielectric properties		P
	Rated impulse withstand voltage (kV) .....	6 kV	—
	- test U <sub>imp</sub> main circuits (kV) .....	7,3 kV	P
	- test U <sub>imp</sub> auxiliary circuits (kV) .....		N/A
	- test U <sub>imp</sub> on open main contacts (equipment suitable for isolation) (kV) .....	9,8 kV	P
	Power-frequency withstand voltage (V) .....	800 V	—
	- main circuits, test voltage for 5 sec. (V) .....	2000 V	P
	- control and auxiliary circuits, test voltage for 5 sec. (V) .....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Devices, which have been disconnected for the power-frequency withstand voltage test .....		N/A
	Equipment suitable for isolation, leakage current not exceed 0,5 mA		—
	Test voltage 1,1 Ue (V) .....	759 V	—
	Measured leakage current (mA) .....	0,001 mA	P
8.3.3.3	Making and breaking capacity		P
	- utilization category .....	AC-22B	—
	- rated operational voltage Ue (V) .....	690 V	—
	- rated operational current Ie (A) or power (kW) .....	10 A	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	Conditions for make/break operations or make operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—
	Conditions for break operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—





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Clause	Requirement + Test	Result - Remark	Verdict
	Conditions for make/break operations, other than AC-23A/B:		
	- test voltage, $U = 1,05 U_e$ ..... (V):	L1: 725 V (418,5 V x $\sqrt{3}$ ) L2: 725 V (418,5 V x $\sqrt{3}$ ) L3: —	—
	- test current, $I =$ ..... 3x $I_e$ (A):	L1: 31 A L2: 31 A L3: —	—
	- power factor/ time constant .....	0,65	—
	Number of make/break or make and break operations .....	5	P
	- recovery voltage duration ( $\geq 50$ ms)	> 50 ms	P
	- current duration (ms) .....	80 ms	—
	- time interval between operations .....	30 s	P
	Characteristic of transient recovery voltage for AC-22 and AC-23 only		P
	- oscillatory frequency (kHz) .....	21,15 kHz	—
	- measured oscillatory frequency (kHz) .....	L1: 21,0 kHz L2: 21,0 kHz L3:	P
	- factor $\gamma$ .....	L1: 1,1 L2: 1,1 L3:	P
8.3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.3.3.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	22,5 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P

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MİR 23 LİB.

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.4	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.3.5	Leakage current		P
	test voltage ( $1,1 U_e$ ) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B): $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories): $\leq 2$ mA/pole) .....	< 2 mA	P
8.3.3.6	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	1,5 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	10 A	—
	Measured temperature-rise .....	see appended table 8.3.3.6 on page 107	P
8.3.3.7	Strength of actuator mechanism		P
8.2.5	Verification of the strength of actuator mechanism and position indicating device		
	- actuator type (fig.) .....	figure 1b (one-finger operated)	—
8.2.5.2.1	Dependent and independent manual operation	dependent manual operation	P
	- actuating force for opening (N) .....	24,4 N	—
	- test force with blocked main contacts (N) .....	73,2 N	—
	- used method to keep the contact closed .....	Fuse-links were held tight with a piece of wire	—
	During and after the test, open position not indicated .....		P
	Equipment with locking mean, no locking in the open position while test force is applied .....		P



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Clause	Requirement + Test	Result - Remark	Verdict
8.2.5.2.2	Dependent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- 110% of the rated supply voltage applied to the equipment (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A
8.2.5.2.3	Independent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- stored energy of the power operator released (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A

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РОССТАН  
СТАНДАРТА

ВНТ 23 ЕВРО  
СОВМЕСТНО

IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.3	TEST SEQUENCE I: GENERAL PERFORMANCE CHARACTERISTICS (Sample No. 7: AC-22B, 690 V, 32 A, 3-pole+N)		P
8.3.3.1	Temperature-rise		P
	ambient temperature 10-40 °C .....	22,7 °C	—
	test enclosure W x H x D (mm x mm x mm) .....		—
	material of enclosure .....		—
	Main circuits, test conditions:		—
	- rated operational current I <sub>e</sub> (A) .....	32 A	—
	- cable/busbar cross-section (mm <sup>2</sup> ) / length (mm) ..	6 mm <sup>2</sup> cables / 1000mm long	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page 107	P
	Auxiliary circuits, test conditions:		N/A
	- rated operation current (A) .....		—
	- cable cross-section (mm <sup>2</sup> ) .....		—
	Measured temperature-rise .....	see appended table 8.3.3.1 on page __	N/A
8.3.3.2	Test of dielectric properties		P
	Rated impulse withstand voltage (kV) .....	6 kV	—
	- test U <sub>imp</sub> main circuits (kV) .....	7,3 kV	P
	- test U <sub>imp</sub> auxiliary circuits (kV) .....		N/A
	- test U <sub>imp</sub> on open main contacts (equipment suitable for isolation) (kV) .....	9,8 kV	P
	Power-frequency withstand voltage (V) .....	800 V	—
	- main circuits, test voltage for 5 sec. (V) .....	2000 V	P
	- control and auxiliary circuits, test voltage for 5 sec. (V) .....		N/A

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ИСТРУКЦИОННОЕ ПОСОБИЕ  
ОПИСАНИЕ



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
	Devices, which have been disconnected for the power-frequency withstand voltage test .....		N/A
	Equipment suitable for isolation, leakage current not exceed 0,5 mA		—
	Test voltage 1,1 Ue (V) .....	759 V	—
	Measured leakage current (mA) .....	0,001 mA	P
8.3.3.3	Making and breaking capacity		P
	- utilization category .....	AC-22B	—
	- rated operational voltage Ue (V) .....	690 V	—
	- rated operational current Ie (A) or power (kW) .....	32 A	—
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Busmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Conditions for make/break operations or make operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—
	Conditions for break operation, AC-23A and AC-23B only:		N/A
	- test voltage, U = 1,05 Ue .....	L1: L2: L3:	—
	- test current, I = ..... x Ie (A):	L1: L2: L3:	—
	- power factor .....	L1: L2: L3:	—



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Clause	Requirement + Test	Result - Remark	Verdict
	Conditions for make/break operations, other than AC-23A/B:		
	- test voltage, $U = 1,05 U_e$ ..... (V):	L1: 725 V (418,5 V x $\sqrt{3}$ ) L2: 725 V (418,5 V x $\sqrt{3}$ ) L3: 725 V (418,5 V x $\sqrt{3}$ )	—
	- test current, $I =$ ..... 3 x $I_e$ (A):	L1: 99 A L2: 98 A L3: 100 A	—
	- power factor/ time constant .....	0,63	—
	Number of make/break or make and break operations .....	5	P
	- recovery voltage duration ( $\geq 50$ ms)	> 50 ms	P
	- current duration (ms) .....	70 ms	—
	- time interval between operations .....	30 s	P
	Characteristic of transient recovery voltage for AC-22 and AC-23 only		P
	- oscillatory frequency (kHz) .....	26,69 kHz	—
	- measured oscillatory frequency (kHz) .....	L1: 27,5 kHz L2: 27,5 kHz L3: 27,5 kHz	P
	- factor $\gamma$ .....	L1: 1,1 L2: 1,1 L3: 1,1	P
8.3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.3.3.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	46,2 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.4	Dielectric verification		P
	test voltage: 2*Ue with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.3.5	Leakage current		P
	test voltage (1,1 Ue) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B): ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories): ≤ 2 mA/pole) .....	< 2 mA	P
8.3.3.6	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm²) .....	6 mm²	—
	- test current Ie (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.3.6 on page 107	P
8.3.3.7	Strength of actuator mechanism		P
8.2.5	Verification of the strength of actuator mechanism and position indicating device		
	- actuator type (fig.) .....	figure 1b (one-finger operated)	—
8.2.5.2.1	Dependent and independent manual operation	dependent manual operation	P
	- actuating force for opening (N) .....	41,2 N	—
	- test force with blocked main contacts (N) .....	123,6 N	—
	- used method to keep the contact closed .....	Fuse-links were held tight with a piece of wire	—
	During and after the test, open position not indicated .....		P
	Equipment with locking mean, no locking in the open position while test force is applied .....		P



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Clause	Requirement + Test	Result - Remark	Verdict
8.2.5.2.2	Dependent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- 110% of the rated supply voltage applied to the equipment (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A
8.2.5.2.3	Independent power operation		N/A
	- main contacts fixed together in the closed position:		N/A
	- used method to keep the contact closed .....		N/A
	- stored energy of the power operator released (3 times) .....		N/A
	During and after the test, open position not indicated .....		N/A
	Equipment show no damage impairing its normal operation .....		N/A
	Equipment with locking mean, no locking in the open position while test force is applied .....		N/A





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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY (Sample No. 8: AC-21B, 500 V, 25 A, 1-pole)		P
8.3.4.1	Operational performance test		P
	- utilization category .....	AC-21B	—
	- rated operational voltage (V) .....	500 V	—
	- rated operational current (A) .....	25 A	—
	Test conditions for electrical operation cycles:		
	- test voltage (V) .....	L1: 506 V L2: — L3: —	—
	- test current (A) .....	L1: 25,6 A L2: — L3: —	—
	- power factor/time constant .....	L1: 0,95 L2: — L3: —	—
	Number of cycles with current .....	300	P
	Number of cycles without current .....	1700	P
	First test sequence (with/without current) .....	Without current	—
	Second test sequence (with/without current) .....	With current	—
	- time interval between first and second test sequence .....	515 minutes	—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P



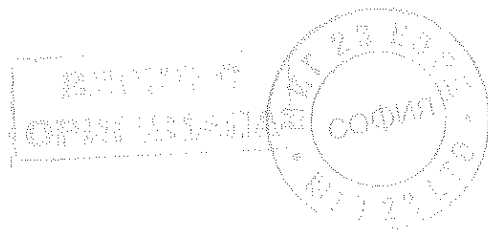
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	11,2 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.4.2	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No breakdown or flashover		P
8.3.4.3	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	550 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2$ mA/pole .....	< 2 mA	P
8.3.4.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	4 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	25 A	—
	Measured temperature-rise .....	see appended table 8.3.4.4 on page 108	P



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY (Sample No. 9: AC-21B, 690 V, 10 A, 1-pole)		P
8.3.4.1	Operational performance test		P
	- utilization category .....	AC-21B	—
	- rated operational voltage (V) .....	690 V	—
	- rated operational current (A) .....	10 A	—
	Test conditions for electrical operation cycles:		
	- test voltage (V) .....	L1: 690 V L2: — L3: —	—
	- test current (A) .....	L1: 10,2 A L2: — L3: —	—
	- power factor/time constant .....	L1: 0,95 L2: — L3: —	—
	Number of cycles with current .....	300	P
	Number of cycles without current .....	1700	P
	First test sequence (with/without current) .....	Without current	—
	Second test sequence (with/without current) .....	With current	—
	- time interval between first and second test sequence .....	1125 minutes	—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	8,0 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.4.2	Dielectric verification		P
	test voltage: 2*Ue with a minimum of 1000V~ .....	1380 V	—
	No breakdown or flashover		P
8.3.4.3	Leakage current		P
	test voltage (1,1 Ue) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories) ≤ 2 mA/pole .....	0,005 mA	P
8.3.4.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	- conductor cross-section (mm²) .....	1,5 mm²	—
	- test current Ie (A) .....	10 A	—
	Measured temperature-rise .....	see appended table 8.3.4.4 on page 108	P



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY (Sample No. 10: AC-22B, 400 V, 32 A, 1-pole)		P
8.3.4.1	Operational performance test		P
	- utilization category .....	AC-22B	—
	- rated operational voltage (V) .....	400 V	—
	- rated operational current (A) .....	32 A	—
	Test conditions for electrical operation cycles:		
	- test voltage (V) .....	L1: 414 V L2: L3: —	—
	- test current (A) .....	L1: 32,1 A L2: L3: —	—
	- power factor/time constant .....	L1: 0,79 L2: L3: —	—
	Number of cycles with current .....	300	P
	Number of cycles without current .....	1700	P
	First test sequence (with/without current) .....	Without current	—
	Second test sequence (with/without current) .....	With current	—
	- time interval between first and second test sequence .....	315 minutes	—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P

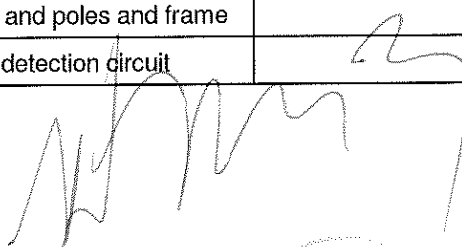
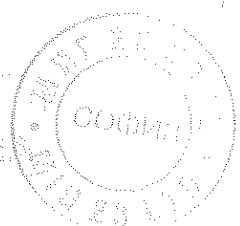



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	11,4 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.4.2	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No breakdown or flashover		P
8.3.4.3	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2$ mA/pole .....	0,006 mA	P
8.3.4.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.4.4 on page 108	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY (Sample No. 11: AC-22B, 400 V, 32 A, 2-poles)		P
8.3.4.1	Operational performance test		P
	- utilization category .....	AC-22B	—
	- rated operational voltage (V) .....	400 V	—
	- rated operational current (A) .....	32 A	—
	Test conditions for electrical operation cycles:		
	- test voltage (V) .....	L1: 414 V (239 V x $\sqrt{3}$ ) L2: 414 V (239 V x $\sqrt{3}$ ) L3: —	—
	- test current (A) .....	L1: 32,2 A L2: 32,2 A L3: —	—
	- power factor/time constant .....	L1: 0,8 L2: 0,8 L3: —	—
	Number of cycles with current .....	300	P
	Number of cycles without current .....	1700	P
	First test sequence (with/without current) .....	Without current	—
	Second test sequence (with/without current) .....	With current	—
	- time interval between first and second test sequence .....	315 minutes	—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	21,4 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.4.2	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No breakdown or flashover		P
8.3.4.3	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2$ mA/pole .....	0,006 mA	P
8.3.4.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.4.4 on page 109	P

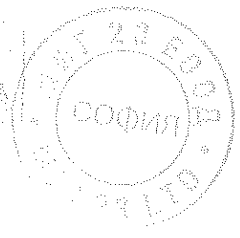


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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY (Sample No. 12: AC-22B, 500 V, 25 A, 2-poles)		P
8.3.4.1	Operational performance test		P
	- utilization category .....	AC-22B	—
	- rated operational voltage (V) .....	500 V	—
	- rated operational current (A) .....	25 A	—
	Test conditions for electrical operation cycles:		
	- test voltage (V) .....	L1: 510 V (294,4 V x √3) L2: 510 V (294,4 V x √3) L3:—	—
	- test current (A) .....	L1: 24,9 A L2: 24,9 A L3: —	—
	- power factor/time constant .....	L1: 0,78 L2: 0,78 L3: —	—
	Number of cycles with current .....	300	P
	Number of cycles without current .....	1700	P
	First test sequence (with/without current) .....	Without current	—
	Second test sequence (with/without current) .....	With current	—
	- time interval between first and second test sequence .....	315 minutes	—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	21,6 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.4.2	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No breakdown or flashover		P
8.3.4.3	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	550 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2$ mA/pole .....	< 2 mA	P
8.3.4.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	4 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	25 A	—
	Measured temperature-rise .....	see appended table 8.3.4.4 on page 109	P

БЕЛТАС  
ОПРЕДЕЛЕНИЕ



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY (Sample No. 13: AC-22B, 690 V, 10 A, 2-poles)		P
8.3.4.1	Operational performance test		P
	- utilization category .....	AC-22B	—
	- rated operational voltage (V) .....	690 V	—
	- rated operational current (A) .....	10 A	—
	Test conditions for electrical operation cycles:		
	- test voltage (V) .....	L1: 690 V (398,4 V x √3) L2: 690 V (398,4 V x √3) L3:—	—
	- test current (A) .....	L1: 10 A L2: 10 A L3: —	—
	- power factor/time constant .....	L1: 0,78 L2: 0,78 L3: —	—
	Number of cycles with current .....	300	P
	Number of cycles without current .....	1700	P
	First test sequence (with/without current) .....	Without current	—
	Second test sequence (with/without current) .....	With current	—
	- time interval between first and second test sequence .....	315 minutes	—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	21,8 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.4.2	Dielectric verification		P
	test voltage: 2*Ue with a minimum of 1000V~ .....	1380 V	—
	No breakdown or flashover		P
8.3.4.3	Leakage current		P
	test voltage (1,1 Ue) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories) ≤ 2 mA/pole .....	0,008 mA	P
8.3.4.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	1,5 mm <sup>2</sup>	—
	- test current Ie (A) .....	10 A	—
	Measured temperature-rise .....	see appended table 8.3.4.4 on page 109	P



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4	TEST SEQUENCE II: OPERATIONAL PERFORMANCE CAPABILITY (Sample No. 14: AC-22B, 690 V, 32 A, 3-poles+N)		P
8.3.4.1	Operational performance test		P
	- utilization category .....	AC-22B	—
	- rated operational voltage (V) .....	690 V	—
	- rated operational current (A) .....	32 A	—
	Test conditions for electrical operation cycles:		
	- test voltage (V) .....	L1: 690 V (398,4 V x $\sqrt{3}$ ) L2: 690 V (398,4 V x $\sqrt{3}$ ) L3: 690 V (398,4 V x $\sqrt{3}$ )	—
	- test current (A) .....	L1: 33 A L2: 33 A L3: 33 A	—
	- power factor/time constant .....	L1: 0,8 L2: 0,8 L3: 0,8	—
	Number of cycles with current .....	300	P
	Number of cycles without current .....	1700	P
	First test sequence (with/without current) .....	Without current	—
	Second test sequence (with/without current) .....	With current	—
	- time interval between first and second test sequence .....	315 minutes	—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	44,6 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.4.2	Dielectric verification		P
	test voltage: 2*Ue with a minimum of 1000V~ .....	1380 V	—
	No breakdown or flashover		P
8.3.4.3	Leakage current		P
	test voltage (1,1 Ue) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories) ≤ 2 mA/pole .....	0,01 mA	P
8.3.4.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current Ie (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.4.4 on page 110	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.5	TEST SEQUENCE III: SHORT-CIRCUIT PERFORMANCE CAPABILITY		N/A
8.3.5.1	Short-time withstand current test		N/A
	Rated short-time withstand current I <sub>sw</sub> (A) (>12 I <sub>e</sub> max) .....		N/A
	test voltage (V) .....	L1: L2: L3:	—
	r.m.s. test current (A) .....	L1: L2: L3:	—
	peak test current (A) .....	L1: L2: L3:	—
	power factor/time constant .....	L1: L2: L3:	—
	test duration (s) .....		—
8.3.5.1.5	Behaviour of the equipment during the test		N/A
	Test performed without:		—
	- endanger to the operator		N/A
	- cause damage to adjacent equipment		N/A
	No permanent arcing		N/A
	No flash over between poles and poles and frame		N/A
	No melting of the fuse in the detection circuit		N/A
8.3.5.1.6	Condition of the equipment after making and breaking capacity tests		N/A
	Immediately after the test equipment must work satisfactorily		N/A
	- required opening force not greater than the test force of 8.2.5.2 and table 8		N/A
	- equipment is able to carry its rated current after normal closing operation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.5.2	Short-circuit making capacity		N/A
	Rated short-circuit making capacity $I_{cm}$ (A) .....		N/A
	test voltage ( $1.05 \times U_e$ ) ..... (V):	L1: L2: L3:	—
	r.m.s. test current (A) .....	L1: L2: L3:	—
	maximum peak test current (factor n)		N/A
	power factor/time constant .....	L1: L2: L3:	N/A
	current duration (s) .....		—
	Time interval between the cycles		—
8.3.5.2.5	Behaviour of the equipment during the test		N/A
	Test performed without:		—
	- endanger to the operator		N/A
	- cause damage to adjacent equipment		N/A
	No permanent arcing		N/A
	No flash over between poles and poles and frame		N/A
	No melting of the fuse in the detection circuit		N/A
8.3.5.2.6	Condition of the equipment after making and breaking capacity tests		N/A
	Immediately after the test equipment must work satisfactorily		N/A
	- required opening force not greater than the test force of 8.2.5.2 and table 8		N/A
	- equipment is able to carry its rated current after normal closing operation		N/A
8.3.5.3	Dielectric verification		N/A
	test voltage: $2 \times U_e$ with a minimum of 1000V~ .....		—
	No flashover or breakdown		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.5.4	Leakage current		N/A
	test voltage (1,1 Ue) (V) .....		—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories) ≤ 2,0 mA/pole .....		N/A
8.3.5.5	Temperature-rise verification		N/A
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....		—
	- manufacturer's model or type reference .....		—
	- rated current (A) .....		—
	- power loss (W) .....		—
	- rated breaking capacity (kA) .....		—
	- conductor cross-section (mm²) .....		—
	- test current Ie (A) .....		—
	Measured temperature-rise .....	see appended table 8.3.5.5 on page __	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 15: 400 V, 32 A, 1-pole)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated voltage (V) .....	400 V	—
	- rated current (A) .....	32 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 420 V L2: — L3: —	—
	test current (kA) .....	L1: 101 kA L2: — L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,19	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		—
	- max. let-through current (kA) .....	L1: 6,5 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 7000 A <sup>2</sup> s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 4,94 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 5000 A <sup>2</sup> s L2: — L3: —	—



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	8,7 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,008 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 110	P



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 16: 400 V, 32 A, 1-pole+N)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated voltage (V) .....	400 V	—
	- rated current (A) .....	32 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 420 V L2: — L3: —	—
	test current (kA) .....	L1: 101 kA L2: — L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,19	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 6,54 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 7000 A <sup>2</sup> s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 3,7 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 4000 A <sup>2</sup> s L2: — L3: —	—

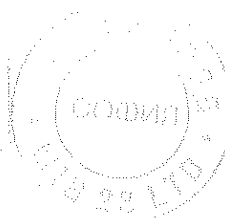
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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	24,8 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,002 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 111	P

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БСРНО С  
ОПШТИНА СКОПЈЕ

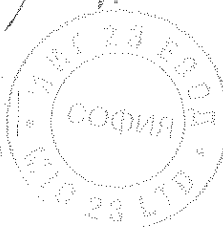


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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 17: 400 V, 32 A, 2-poles)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated voltage (V) .....	400 V	—
	- rated current (A) .....	32 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 420 V (242,5 V x $\sqrt{3}$ ) L2: 420 V (242,5 V x $\sqrt{3}$ ) L3: —	—
	test current (kA) .....	L1: 101 kA L2: 101 kA L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,19	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 6,35 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 5000 A <sup>2</sup> s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 6,15 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 5000 A <sup>2</sup> s L2: — L3: —	—

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ВРПНО С  
ОРМТУНАКА



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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	22 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,001 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 111	P

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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 18: 400 V, 32 A, 3-poles+N)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated voltage (V) .....	400 V	—
	- rated current (A) .....	32 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 420 V (242,5 V x $\sqrt{3}$ ) L2: 420 V (242,5 V x $\sqrt{3}$ ) L3: 420 V (242,5 V x $\sqrt{3}$ )	—
	test current (kA) .....	L1: 103 kA L2: 100 kA L3: 101 kA	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,19	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 0,4 kA L2: 4,8 kA L3: 4,8 kA	—
	- Joule integral $I^2dt$ (A <sup>2</sup> s) .....	L1: 0 A <sup>2</sup> s L2: 4000 A <sup>2</sup> s L3: 4000 A <sup>2</sup> s	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 1,6 kA L2: 4,2 kA L3: 4,4 kA	—
	- Joule integral $I^2dt$ (A <sup>2</sup> s) .....	L1: 0 A <sup>2</sup> s L2: 4000 A <sup>2</sup> s L3: 4000 A <sup>2</sup> s	—

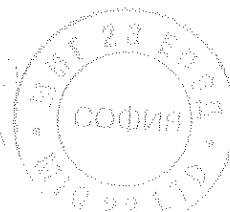




IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	49,1 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	440 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,001 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 111	P

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СТАНДАРТ  
ОБЪЕКТОВ



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 19: 500 V, 25 A, 1-pole)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated voltage (V) .....	500 V	—
	- rated current (A) .....	25 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 537 V L2: — L3: —	—
	test current (kA) .....	L1: 107 kA L2: — L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,2	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 2,59 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 1000 A <sup>2</sup> s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 3,56 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 2000 A <sup>2</sup> s L2: — L3: —	—

ВІСНОВОК  
ОРИГІНАЛ

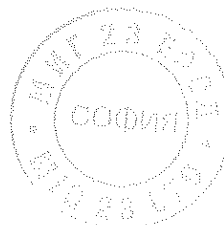
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	11,4 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	550 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,001 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	4 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	25 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 112	P

TRF No. IEC60947\_3B



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 20: 500 V, 25 A, 1-pole+N)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated voltage (V) .....	500 V	—
	- rated current (A) .....	25 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 537 V L2: — L3: —	—
	test current (kA) .....	L1: 107 kA L2: — L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,2	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 3,8 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 2000 A <sup>2</sup> s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 2,22 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 1000 A <sup>2</sup> s L2: — L3: —	—

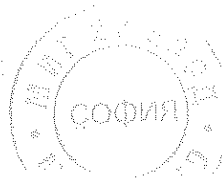
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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	20,6 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	550 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,001 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	4 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	25 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 112	P

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ВАРНО С  
ОРИГИНАЛ



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 21: 500 V, 25 A, 2-poles)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated voltage (V) .....	500 V	—
	- rated current (A) .....	25 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 537 V (310 V x √3) L2: 537 V (310 V x √3) L3: —	—
	test current (kA) .....	L1: 107 kA L2: 107 kA L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,2	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 3,71 kA L2: — L3: —	—
	- Joule integral I²dt (A²s) .....	L1: 1000 A²s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 3,64 kA L2: — L3: —	—
	- Joule integral I²dt (A²s) .....	L1: 1000 A²s L2: — L3: —	—

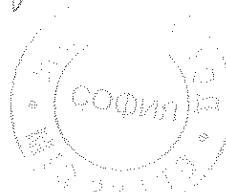
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ВЕРИТИ С  
ОПРАТОВАНА

IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	31,2 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	550 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,005 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	4 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	25 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 112	P

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ВЕРНО С  
ОПРЕДЕЛЕНА



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 22: 500 V, 25 A, 3-poles+N)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated voltage (V) .....	500 V	—
	- rated current (A) .....	25 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 U <sub>e</sub> ) (V) .....	L1: 730 V (421,5 V x √3) L2: 730 V (421,5 V x √3) L3: 730 V (421,5 V x √3)	—
	test current (kA) .....	L1: 102 kA L2: 102 kA L3: 101 kA	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,2	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 1,9 kA L2: 3,8 kA L3: 2,0 kA	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 1000 A <sup>2</sup> s L2: 2000 A <sup>2</sup> s L3: 1000 A <sup>2</sup> s	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,4 m/s	—
	- max. let-through current (kA) .....	L1: 0 kA L2: 3,16 kA L3: 3,16 kA	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 0 A <sup>2</sup> s L2: 1000 A <sup>2</sup> s L3: 1000 A <sup>2</sup> s	—



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	46,4 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1000 V (tested with 1380 V)	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	550 V (tested with 759 V)	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,002 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G25	—
	- rated current (A) .....	25 A (gG)	—
	- power loss (W) .....	2,6 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	4 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	25 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 113	P

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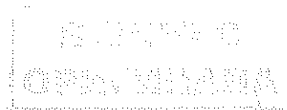
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 23: 690 V, 10 A, 1-pole)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated voltage (V) .....	690 V	—
	- rated current (A) .....	10 A (gR)	—
	- rated breaking capacity (kA) .....	200 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 725 V L2: — L3: —	—
	test current (kA) .....	L1: 52,7 kA L2: — L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,13	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 2,0 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 0 A <sup>2</sup> s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 0,77 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 0 A <sup>2</sup> s L2: — L3: —	—

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IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	18,8 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,002 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	1,5 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	10 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 113	P



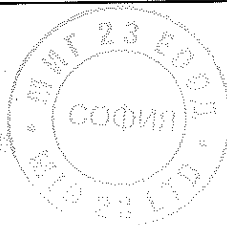
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 24: 690 V, 10 A, 1-pole+N)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated voltage (V) .....	690 V	—
	- rated current (A) .....	10 A (gR)	—
	- rated breaking capacity (kA) .....	200 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 726 V L2: — L3: —	—
	test current (kA) .....	L1: 52,7 kA L2: — L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,13	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		—
	- max. let-through current (kA) .....	L1: 1,02 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 0 A <sup>2</sup> s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 0,78 kA L2: — L3: —	—
	- Joule integral I <sup>2</sup> dt (A <sup>2</sup> s) .....	L1: 0 A <sup>2</sup> s L2: — L3: —	—



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	25,4 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,001 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	1,5 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	10 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 113	P

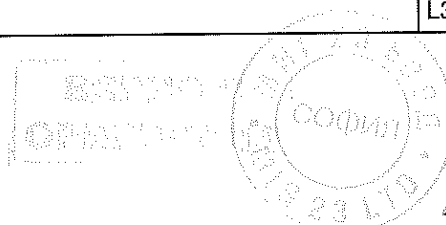
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ВЕРНО  
ОПРЕДЕЛЕНА



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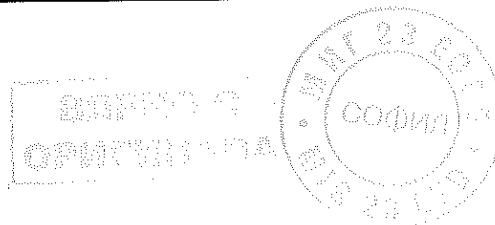
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 25: 690 V, 10 A, 2-poles)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated voltage (V) .....	690 V	—
	- rated current (A) .....	10 A (gR)	—
	- rated breaking capacity (kA) .....	200 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 726 V (419,16 V x √3) L2: 726 V (419,16 V x √3) L3: —	—
	test current (kA) .....	L1: 52,7 kA L2: 52,7 kA L3: —	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,13	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 0,61 kA L2: — L3: —	—
	- Joule integral I²dt (A²s) .....	L1: 0 A²s L2: — L3: —	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,5 m/s	—
	- max. let-through current (kA) .....	L1: 0,55 kA L2: — L3: —	—
	- Joule integral I²dt (A²s) .....	L1: 0 A²s L2: — L3: —	—



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	34,2 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,003 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	SIBA	—
	- manufacturer's model or type reference .....	50 179 06.10	—
	- rated current (A) .....	10 A (gR)	—
	- power loss (W) .....	2,3 W	—
	- rated breaking capacity (kA) .....	200 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	1,5 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	10 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 114	P

IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6	TEST SEQUENCE IV: CONDITIONAL SHORT-CIRCUIT CURRENT (Sample No. 26: 690 V, 32 A, 3-poles+N)		P
	Protective device details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated voltage (V) .....	400 V	—
	- rated current (A) .....	32 A (gG)	—
	- rated breaking capacity (kA) .....	120 kA	—
8.3.6.2	Fuse protected short-circuit withstand		P
	test voltage (1,05 Ue) (V) .....	L1: 726 V (419,16 V x √3) L2: 726 V (419,16 V x √3) L3: 726 V (419,16 V x √3)	—
	test current (kA) .....	L1: 50,9 kA L2: 52,2 kA L3: 51,0 kA	—
	rated frequency (Hz) .....	50 Hz	—
	power factor .....	0,23	—
	Time constant (ms) .....	—	—
	Fuse protected short-circuit withstand (equipment in closed position)		
	- max. let-through current (kA) .....	L1: 0,9 kA L2: 5,6 kA L3: 5,6 kA	—
	- Joule integral I²dt (A²s) .....	L1: 2000 A²s L2: 8000 A²s L3: 6000 A²s	—
	Fuse protected short-circuit making		P
	- mean velocity of 15 manually under no-load conditions operations (m/s) .....	1,6 m/s	—
	- point at which the measurement is made .....	point of rotation	—
	- test speed during the fuse protected short-circuit making (m/s) .....	1,4 m/s	—
	- max. let-through current (kA) .....	L1: 5,3 kA L2: 5,3 kA L3: 0 kA	—
	- Joule integral I²dt (A²s) .....	L1: 5000 A²s L2: 5000 A²s L3: 0 A²s	—

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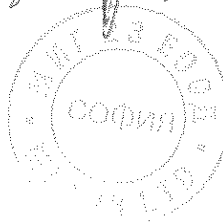




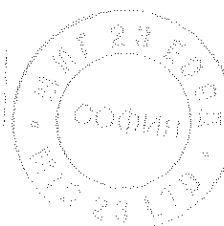
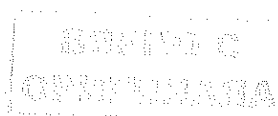
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.2.5	Behaviour of the equipment during the test		P
	Test performed without:		—
	- endanger to the operator		P
	- cause damage to adjacent equipment		P
	No permanent arcing		P
	No flash over between poles and poles and frame		P
	No melting of the fuse in the detection circuit		P
8.3.6.2.6	Condition of the equipment after making and breaking capacity tests		P
	Immediately after the test equipment must work satisfactorily		P
	- required opening force not greater than the test force of 8.2.5.2 and table 8	51,6 N (required opening force) 150 N (test force acc. tab. 8)	P
	- equipment is able to carry its rated current after normal closing operation		P
8.3.6.3	Dielectric verification		P
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.6.4	Leakage current		P
	test voltage (1,1 $U_e$ ) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2,0$ mA/pole .....	0,002 mA	P
8.3.6.5	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current $I_e$ (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.6.5 on page 114	P

IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.7	TEST SEQUENCE V: OVERLOAD PERFORMANCE CAPABILITY (Sample No. 27: 690 V, 32 A, 1-pole)		P
8.3.7.1	Overload test		P
	ambient temperature 10-40 °C .....	25,6 °C	—
	test enclosure W x H x D (mm x mm x mm) .....	—	—
	material of enclosure .....	—	—
	test current 1,6xI <sub>th</sub> or 1,6xI <sub>th</sub> (A) .....	52	—
	cable/busbar cross-section (mm <sup>2</sup> ) / length (mm) ...	6 mm <sup>2</sup> cable / 1000 mm long	—
	Fuse-link details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- time duration of the overload test (s) .....	824 s	—
	Within 3 to 5 min after the fuse(s) has(have) operated (or 1 h), the equipment has been operated once, i.e. opened and closed		P
	Required opening force not greater than the test force of 8.2.5.2 and table 8	14 N (required opening force) 150 N (test force acc. tab. 8)	P
	The equipment has not undergone any impairment hindering such operation		P
8.3.7.2	Dielectric verification		P
	test voltage: 2*U <sub>e</sub> with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.7.3	Leakage current		P
	test voltage (1,1 U <sub>e</sub> ) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories) ≤ 2 mA/pole .....	0,002 mA	P

ВСТУПНОЕ  
ОПИСАНИЕ

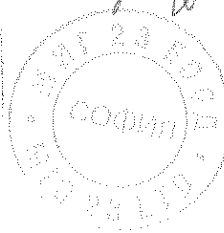


IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.7.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Fuse links aged during the overload test are replaced by new fuse-links .....		P
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current I <sub>e</sub> (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.7.4 on page 114	P



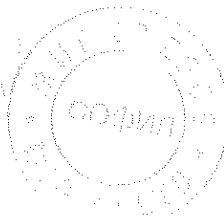
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.7	TEST SEQUENCE V: OVERLOAD PERFORMANCE CAPABILITY (Sample No. 28: 690 V, 32 A, 2-poles)		P
8.3.7.1	Overload test		P
	ambient temperature 10-40 °C .....	23,6 °C	—
	test enclosure W x H x D (mm x mm x mm) .....	—	—
	material of enclosure .....	—	—
	test current 1,6xI <sub>th</sub> e or 1,6xI <sub>th</sub> h (A) .....	52	—
	cable/busbar cross-section (mm <sup>2</sup> ) / length (mm) ...	6 mm <sup>2</sup> cable / 1000 mm long	—
	Fuse-link details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- time duration of the overload test (s) .....	573 s	—
	Within 3 to 5 min after the fuse(s) has(have) operated (or 1 h), the equipment has been operated once, i.e. opened and closed		P
	Required opening force not greater than the test force of 8.2.5.2 and table 8	17,2 N (required opening force) 150 N (test force acc. tab. 8)	P
	The equipment has not undergone any impairment hindering such operation		P
8.3.7.2	Dielectric verification		P
	test voltage: 2*U <sub>e</sub> with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.7.3	Leakage current		P
	test voltage (1,1 U <sub>e</sub> ) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories) ≤ 2 mA/pole .....	0,001 mA	P

ВЕРИО С  
ОТСТАВНАНА



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.7.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Fuse links aged during the overload test are replaced by new fuse-links .....		P
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current I <sub>e</sub> (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.7.4 on page 115	P

МОНТАЖ  
ОПЫТНАЯ



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.7	TEST SEQUENCE V: OVERLOAD PERFORMANCE CAPABILITY (Sample No. 29: 690 V, 32 A, 3-poles+N)		P
8.3.7.1	Overload test		P
	ambient temperature 10-40 °C .....	23,6 °C	—
	test enclosure W x H x D (mm x mm x mm) .....	—	—
	material of enclosure .....	—	—
	test current 1,6xIthe or 1,6xIth (A) .....	52	—
	cable/busbar cross-section (mm <sup>2</sup> ) / length (mm) ....	6 mm <sup>2</sup> cable / 1000 mm long	—
	Fuse-link details:		P
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	- time duration of the overload test (s) .....	540 s	—
	Within 3 to 5 min after the fuse(s) has(have) operated (or 1 h), the equipment has been operated once, i.e. opened and closed		P
	Required opening force not greater than the test force of 8.2.5.2 and table 8	35,2 N (required opening force) 150 N (test force acc. tab. 8)	P
	The equipment has not undergone any impairment hindering such operation		P
8.3.7.2	Dielectric verification		P
	test voltage: 2*Ue with a minimum of 1000V~ .....	1380 V	—
	No flashover or breakdown		P
8.3.7.3	Leakage current		P
	test voltage (1,1 Ue) (V) .....	759 V	—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) ≤ 0,5 mA/pole .....		N/A
	Leakage current (other utilization categories) ≤ 2 mA/pole .....	0,001 mA	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3.7.4	Temperature-rise verification		P
	Fuse-link details (fuse-combination units only):		—
	- manufacturer's name, trademark or identification mark .....	Bussmann	—
	- manufacturer's model or type reference .....	C10G32	—
	- rated current (A) .....	32 A (gG)	—
	- power loss (W) .....	2,9 W	—
	- rated breaking capacity (kA) .....	120 kA	—
	Fuse links aged during the overload test are replaced by new fuse-links .....		P
	- conductor cross-section (mm <sup>2</sup> ) .....	6 mm <sup>2</sup>	—
	- test current I <sub>e</sub> (A) .....	32 A	—
	Measured temperature-rise .....	see appended table 8.3.7.4 on page 115	P

8.4	ELECTROMAGNETIC COMPATIBILITY TESTS		N/A
8.4.1	Immunity		N/A
8.4.1.1	Equipment not incorporating electronic circuits: no tests necessary		N/A
8.4.1.2	Equipment incorporating electronic circuits:		N/A
	Equipment utilizing circuits in which all components are passive are not required to be tested		N/A
	All other equipment, requirements according to 7.3.3.2 and limits according table 6 apply		N/A
	Performed tests.....	see _____	N/A
	No unintentional separation or closing of contacts has occurred during these tests .....		N/A
8.4.2	Emission		N/A
8.4.2.1	Equipment not incorporating electronic circuits: no tests necessary		N/A
8.4.2.2	Equipment incorporating electronic circuits:		N/A
	Equipment utilizing circuits in which all components are passive are not required to be tested		N/A
	All other equipment, requirements according to 7.3.3.2 and limits according table 7 apply		N/A
	Performed tests.....	see _____	N/A



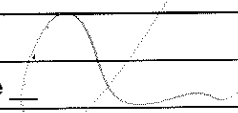
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
<b>Annex A (normative)</b>			N/A
A	Equipment for direct switching of a single motor		N/A
A.1	Additional rated duties.....:		N/A
A.1.1	- intermittent periodic duty		N/A
	- intermittent duty		N/A
A.1.1.1	Classes of intermittent duty .....		N/A
	-class 1: up to 1 operating cycle per hour		N/A
	-class 3: up to 3 operating cycle per hour		N/A
	-class 12: up to 12 operating cycles per hour		N/A
	-class 30: up to 30 operating cycles per hour		N/A
	-class 120: up to 120 operating cycles per hour		N/A
A.1.2	Temporary duty.....:		N/A
A.5	Mechanical durability:		N/A
	Equipment mounted according to manufacturer's instruction		N/A
	Preferred number of no-load operating cycles expressed in millions.....:		N/A
	0,001 – 0,003 – 0,01 – 0,03 – 0,1 – 0,3 - 1		N/A
	If no mechanical endurance is stated by the manufacturer, a minimum mechanical endurance according to the class of intermittent duty shall be tested.	Class of intermittent duty:	N/A
	Number of no-load operating cycles performed.....:		N/A
A.6	Electrical durability:		N/A
	- test according to manufacturer's instruction		N/A
A.7	Verification of making and breaking capacities:		N/A
	- utilization category .....		—
	- rated operational voltage $U_e$ (V) .....		—
	- rated operational current $I_e$ (A) or power (kW) .....		—
	Conditions for make/break operations or make operations:		—
	- test voltage, $U = 1,05 U_e$ ..... (V):	L1: L2: L3:	—
	- test current, $I =$ ..... x $I_e$ (A):	L1: L2: L3:	—

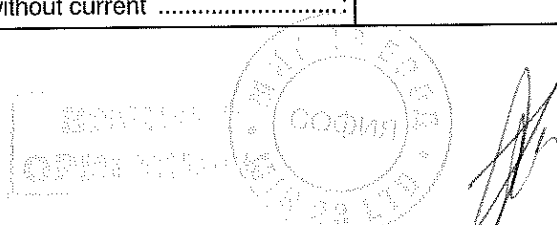




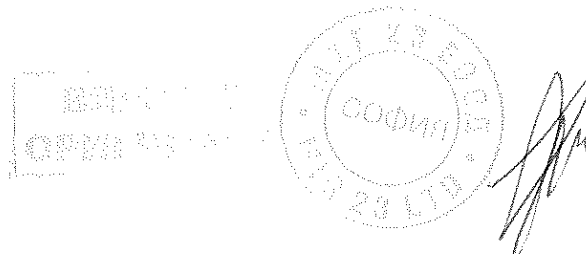
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
	- power factor .....	L1: L2: L3:	—
	Conditions for make/break operations:		N/A
	- test voltage, $U = 1,05 U_e$ ..... (V):	L1: L2: L3:	—
	- test current, $I =$ ..... x $I_e$ (A):	L1: L2: L3:	—
	- power factor/ time constant .....	L1: L2: L3:	—
	Number of make/break or make and break operations .....		N/A
	- recovery voltage duration ( $\geq 50$ ms)		N/A
	- current duration (ms) .....		—
	- time interval between operations .....		N/A
	Characteristic of transient recovery voltage if necessary:		N/A
	- oscillatory frequency (kHz) .....		—
	- measured oscillatory frequency (kHz) .....	L1: L2: L3:	N/A
	- factor $\gamma$ .....	L1: L2: L3:	N/A
8.3.3.3.5	Behaviour of the equipment during making and breaking capacity tests		N/A
	Test performed without:		—
	- endanger to the operator		N/A
	- cause damage to adjacent equipment		N/A
	No permanent arcing		N/A
	No flash over between poles and poles and frame		N/A
	No melting of the fuse in the detection circuit		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
8.3.3.3.6	Condition of the equipment after making and breaking capacity tests		N/A
	Immediately after the test equipment must work satisfactorily		N/A
	- required opening force not greater than the test force of 8.2.5.2 and table 8		N/A
	- equipment is able to carry its rated current after normal closing operation		N/A
8.3.3.4	Dielectric verification		N/A
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....		—
	No flashover or breakdown		N/A
8.3.3.5	Leakage current		N/A
	test voltage (1,1 $U_e$ ) (V) .....		—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B): $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories): $\leq 2$ mA/pole) .....		N/A
8.3.3.6	Temperature-rise verification		N/A
	- conductor cross-section (mm <sup>2</sup> ) .....		—
	- test current $I_e$ (A) .....		—
	Measured temperature-rise .....	see 	N/A
A.8	Operational performance test:		N/A
	- utilization category .....		—
	- rated operational voltage (V) .....		—
	- rated operational current (A) .....		—
	Test conditions for electrical operation cycles:		N/A
	- test voltage (V) .....	L1: L2: L3:	—
	- test current (A) .....	L1: L2: L3:	—
	- power factor/time constant .....	L1: L2: L3:	—
	Number of cycles with current .....		N/A
	Number of cycles without current .....		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	First test sequence (with/without current) .....		—
	Second test sequence (with/without current) .....		—
	- time interval between first and second test sequence .....		—
8.3.4.1.5	Behaviour of the equipment during the operational performance test		N/A
	Test performed without:		—
	- endanger to the operator		N/A
	-cause damage to adjacent equipment		N/A
	No permanent arcing		N/A
	No flash over between poles and poles and frame		N/A
	No melting of the fuse in the detection circuit		N/A
8.3.4.1.6	Condition of the equipment after making and breaking capacity tests		N/A
	Immediately after the test equipment must work satisfactorily		N/A
	- required opening force not greater than the test force of 8.2.5.2 and table 8		N/A
	- equipment is able to carry its rated current after normal closing operation		N/A
8.3.4.2	Dielectric verification		N/A
	test voltage: $2 \cdot U_e$ with a minimum of 1000V~ .....		—
	No breakdown or flashover		N/A
8.3.4.3	Leakage current		N/A
	test voltage (1,1 $U_e$ ) (V) .....		—
	Leakage current (utilization categories AC-20A, AC-20B, DC-20A and DC-20B) $\leq 0,5$ mA/pole .....		N/A
	Leakage current (other utilization categories) $\leq 2$ mA/pole .....		N/A
8.3.4.4	Temperature-rise verification		N/A
	- conductor cross-section (mm <sup>2</sup> ) .....		—
	- test current $I_e$ (A) .....		—
	Measured temperature-rise .....	see ___	N/A
A.9	Special tests:	see ___	N/A



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Clause	Requirement + Test	Result - Remark	Verdict
<b>Annex C (normative)</b>			N/A
C	Single pole operated three pole switches		N/A
C.1	Three pole operated switches of fundamentally the same design, already successfully tested are deemed to satisfy the requirements of individually operated three pole devices.		N/A
C.2	Additional-tests to be performed on single pole operated three pole switches		N/A
	Test "8.3.3.3 Making and breaking capacities" according to test sequence I with following modifications		N/A
	L1 and L2 are closed, L3 is subjected to the required make-break operation cycle .....		N/A
	L2 closed and L3 opened, L1 is subjected to the required make-break operation cycle .....		N/A
	Test performed in a three phase circuit		N/A
	Test "8.3.4.1 Operational performance" according to test sequence II with following modifications		N/A
	L1 and L2 are closed, L3 is subjected to the required make-break operation cycle .....		N/A
	L2 closed and L3 opened, L1 is subjected to the required make-break operation cycle .....		N/A
	Test performed in a three phase circuit		N/A
	Test "8.3.6.2 Fuse protected short circuit test" according to test sequence IV with following modifications		N/A
	For the making test L1 shall be open and L2 closed, L3 is subjected to the required make operation cycle .....		N/A
	L2 closed and L3 opened, L1 is subjected to the required make-break operation cycle .....		N/A
	Test performed in a three phase circuit		N/A
C.5	Instruction for use		N/A
	The product literature includes following statement:		N/A
	These devices are intended for power distribution systems where switching and/or isolating of an individual phase may be necessary and shall not be used for the switching of the primary circuit of three-phase equipment.		N/A



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Clause	Requirement + Test	Result - Remark	Verdict

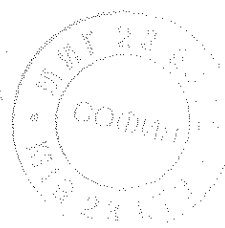
7.1.4	TABLE: Clearance and creepage distance measurements					
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
Between active parts and parts intended to be touched	7300	800	2	>5,5	11	>11
Between active parts and enclosure	7300	800	2	>5,5	11	>11
Between active parts and fuse-link with the contacts in open position	9800	800	2	>5,5	11	>11
supplementary information:						

8.3.3.1	TABLE: Temperature-rise (measurements) (Sample No. 1: I <sub>e</sub> = 25 A)		P
Temperature rise dT of part:	dT (K) measured	dT (K) required	
Above terminals (cable connection)	39,3	70	
Below terminals (cable connection)	35,3	70	
Manual operating means: metallic / non-metallic	4,3	25	
Parts intended to be touched but not hand-held: metallic / non-metallic	8,5	40	
Parts which need not be touched during normal operation: metallic / non-metallic	12,8	50	
supplementary information:		Ambient temperature:	22,7 °C

8.3.3.6	TABLE: Temperature-rise (measurements) (Sample No. 1: I <sub>e</sub> = 25 A)		P
Temperature rise dT of part:	dT (K) measured	dT (K) required	
Terminals	37,2	80	
Manual operating means: metallic / non-metallic	4,6	35	
Parts intended to be touched but not hand-held: metallic / non-metallic	6,1	50	
Parts which need not be touched during normal operation: metallic / non-metallic	17,0	60	
supplementary information:		Ambient temperature:	22,9 °C

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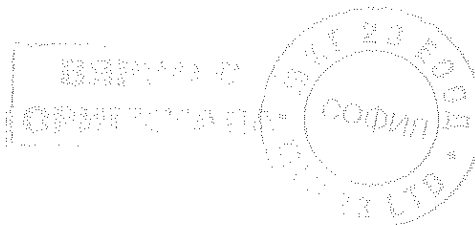
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.3.1	TABLE: Temperature-rise (measurements) (Sample No. 2: I <sub>e</sub> = 10 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Above terminals (cable connection)		31,7	70
Below terminals (cable connection)		29,8	70
Manual operating means: metallic / non-metallic		5,0	25
Parts intended to be touched but not hand-held: metallic / non-metallic		8,8	40
Parts which need not be touched during normal operation: metallic / non-metallic		15,3	50
<b>supplementary information:</b>		Ambient temperature:	22,7 °C

8.3.3.6	TABLE: Temperature-rise (measurements) (Sample No. 2: I <sub>e</sub> = 10 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		32,9	80
Manual operating means: metallic / non-metallic		3,7	35
Parts intended to be touched but not hand-held: metallic / non-metallic		5,4	50
Parts which need not be touched during normal operation: metallic / non-metallic		19,4	60
<b>supplementary information:</b>		Ambient temperature:	23,8 °C

8.3.3.1	TABLE: Temperature-rise (measurements) (Sample No. 3: I <sub>e</sub> = 32 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Above terminals (cable connection)		45,0	70
Below terminals (cable connection)		37,5	70
Manual operating means: metallic / non-metallic		5,5	25
Parts intended to be touched but not hand-held: metallic / non-metallic		13,8	40
Parts which need not be touched during normal operation: metallic / non-metallic		12,0	50
<b>supplementary information:</b>		Ambient temperature:	22,7 °C

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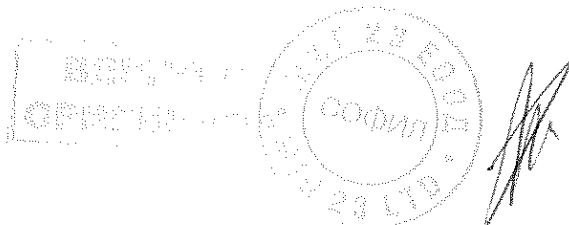
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.3.6	TABLE: Temperature-rise (measurements) (Sample No. 3: $I_e = 32$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		39,0	80
Manual operating means: metallic / non-metallic		4,8	35
Parts intended to be touched but not hand-held: metallic / non-metallic		5,4	50
Parts which need not be touched during normal operation: metallic / non-metallic		21,1	60
<b>supplementary information:</b>		Ambient temperature:	24,3 °C

8.3.3.1	TABLE: Temperature-rise (measurements) (Sample No. 4: $I_e = 32$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Above terminals (cable connection)		48,5	70
Below terminals (cable connection)		47,3	70
Manual operating means: metallic / non-metallic		7,8	25
Parts intended to be touched but not hand-held: metallic / non-metallic		21,8	40
Parts which need not be touched during normal operation: metallic / non-metallic		14,5	50
<b>supplementary information:</b>		Ambient temperature:	22,7 °C

8.3.3.6	TABLE: Temperature-rise (measurements) (Sample No. 4: $I_e = 32$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		49,0	80
Manual operating means: metallic / non-metallic		8,8	35
Parts intended to be touched but not hand-held: metallic / non-metallic		12,9	50
Parts which need not be touched during normal operation: metallic / non-metallic		26,9	60
<b>supplementary information:</b>		Ambient temperature:	24,4 °C

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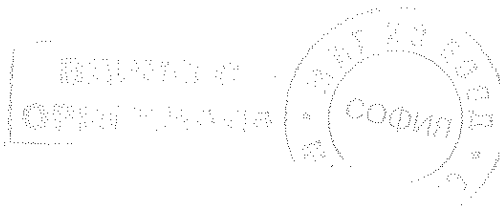
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Clause	Requirement + Test	Result - Remark	Verdict

8.3.3.1	TABLE: Temperature-rise (measurements) (Sample No. 5: $I_e = 25$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Above terminals (cable connection)		44,3	70
Below terminals (cable connection)		42,9	70
Manual operating means: metallic / non-metallic		10,6	25
Parts intended to be touched but not hand-held: metallic / non-metallic		13,3	40
Parts which need not be touched during normal operation: metallic / non-metallic		15,2	50
<b>supplementary information:</b>		Ambient temperature:	22,7 °C

8.3.3.6	TABLE: Temperature-rise (measurements) (Sample No. 5: $I_e = 25$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		47,5	80
Manual operating means: metallic / non-metallic		8,9	35
Parts intended to be touched but not hand-held: metallic / non-metallic		16,2	50
Parts which need not be touched during normal operation: metallic / non-metallic		22,8	60
<b>supplementary information:</b>		Ambient temperature:	22,9 °C

8.3.3.1	TABLE: Temperature-rise (measurements) (Sample No. 6: $I_e = 10$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Above terminals (cable connection)		44,5	70
Below terminals (cable connection)		40,8	70
Manual operating means: metallic / non-metallic		9,3	25
Parts intended to be touched but not hand-held: metallic / non-metallic		19,5	40
Parts which need not be touched during normal operation: metallic / non-metallic		14,8	50
<b>supplementary information:</b>		Ambient temperature:	22,7 °C

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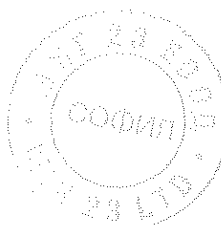
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Clause	Requirement + Test	Result - Remark	Verdict

8.3.3.6	TABLE: Temperature-rise (measurements) (Sample No. 6: $I_e = 10\text{ A}$ )		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		50,4	80
Manual operating means: metallic / non-metallic		6,3	35
Parts intended to be touched but not hand-held: metallic / non-metallic		13,8	50
Parts which need not be touched during normal operation: metallic / non-metallic		27,0	60
<b>supplementary information:</b>		Ambient temperature:	23,8 °C

8.3.3.1	TABLE: Temperature-rise (measurements) (Sample No. 7: $I_e = 32\text{ A}$ )		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Above terminals (cable connection)		63,8	70
Below terminals (cable connection)		63,9	70
Manual operating means: metallic / non-metallic		16,9	25
Parts intended to be touched but not hand-held: metallic / non-metallic		32,8	40
Parts which need not be touched during normal operation: metallic / non-metallic		22,3	50
<b>supplementary information:</b>		Ambient temperature:	22,7 °C

8.3.3.6	TABLE: Temperature-rise (measurements) (Sample No. 7: $I_e = 32\text{ A}$ )		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		59,9	80
Manual operating means: metallic / non-metallic		11,2	35
Parts intended to be touched but not hand-held: metallic / non-metallic		23,7	50
Parts which need not be touched during normal operation: metallic / non-metallic		27,6	60
<b>supplementary information:</b>		Ambient temperature:	24,4 °C

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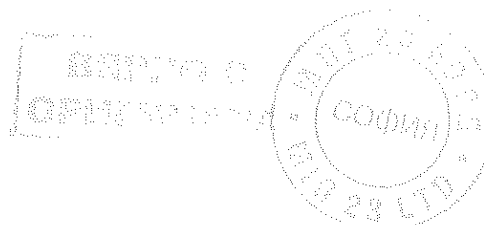
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Clause	Requirement + Test	Result - Remark	Verdict

8.3.4.4	TABLE: Temperature-rise (measurements) (Sample No. 8: $I_e = 25\text{ A}$ )		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		39,6	80
Manual operating means: metallic / non-metallic		5,5	35
Parts intended to be touched but not hand-held: metallic / non-metallic		17,6	50
Parts which need not be touched during normal operation: metallic / non-metallic		25,9	60
<b>supplementary information:</b>		Ambient temperature:	25,3 °C

8.3.4.4	TABLE: Temperature-rise (measurements) (Sample No. 9: $I_e = 10\text{ A}$ )		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		43,1	80
Manual operating means: metallic / non-metallic		3,3	35
Parts intended to be touched but not hand-held: metallic / non-metallic		14,0	50
Parts which need not be touched during normal operation: metallic / non-metallic		20,3	60
<b>supplementary information:</b>		Ambient temperature:	25,3 °C

8.3.4.4	TABLE: Temperature-rise (measurements) (Sample No. 10: $I_e = 32\text{ A}$ )		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		47,5	80
Manual operating means: metallic / non-metallic		10,8	35
Parts intended to be touched but not hand-held: metallic / non-metallic		24,4	50
Parts which need not be touched during normal operation: metallic / non-metallic		26,1	60
<b>supplementary information:</b>		Ambient temperature:	25,3 °C

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Clause	Requirement + Test	Result - Remark	Verdict

8.3.4.4	TABLE: Temperature-rise (measurements) (Sample No. 11: I <sub>e</sub> = 32 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		42,5	80
Manual operating means: <del>metallie</del> / non-metallic		9,2	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		22,1	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		22,5	60
<b>supplementary information:</b>		Ambient temperature:	25,3 °C

8.3.4.4	TABLE: Temperature-rise (measurements) (Sample No. 12: I <sub>e</sub> = 25 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		48,9	80
Manual operating means: <del>metallie</del> / non-metallic		8,4	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		28,8	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		30,4	60
<b>supplementary information:</b>		Ambient temperature:	25,3 °C

8.3.4.4	TABLE: Temperature-rise (measurements) (Sample No. 13: I <sub>e</sub> = 10 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		43,8	80
Manual operating means: <del>metallie</del> / non-metallic		9,3	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		28,5	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		28,7	60
<b>supplementary information:</b>		Ambient temperature:	25,3 °C

TRF No. IEC60947\_3B



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.4.4	TABLE: Temperature-rise (measurements) (Sample No. 14: $I_e = 32$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		44,1	80
Manual operating means: metallic / non-metallic		14,5	35
Parts intended to be touched but not hand-held: metallic / non-metallic		34,0	50
Parts which need not be touched during normal operation: metallic / non-metallic		23,3	60
<b>supplementary information:</b>		Ambient temperature:	25,3 °C

8.3.5.5	TABLE: Temperature-rise (measurements)		N/A
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals			
Manual operating means: metallic / non-metallic			
Parts intended to be touched but not hand-held: metallic / non-metallic			
Parts which need not be touched during normal operation: metallic / non-metallic			
<b>supplementary information:</b>			

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 15: $I_e = 32$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		53,5	80
Manual operating means: metallic / non-metallic		6,0	35
Parts intended to be touched but not hand-held: metallic / non-metallic		16,8	50
Parts which need not be touched during normal operation: metallic / non-metallic		26,3	60
<b>supplementary information:</b>		Ambient temperature:	23,5 °C

TRF No. IEC60947\_3B



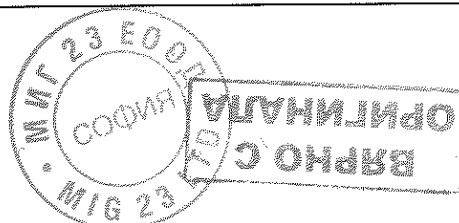
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 16: I <sub>e</sub> = 32 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		58,5	80
Manual operating means: <del>metallic</del> / non-metallic		10,2	35
Parts intended to be touched but not hand-held: <del>metallic</del> / non-metallic		21,8	50
Parts which need not be touched during normal operation: <del>metallic</del> / non-metallic		40,5	60
<b>supplementary information:</b>		Ambient temperature:	24,9 °C

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 17: I <sub>e</sub> = 32 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		65,9	80
Manual operating means: <del>metallic</del> / non-metallic		14,1	35
Parts intended to be touched but not hand-held: <del>metallic</del> / non-metallic		28,4	50
Parts which need not be touched during normal operation: <del>metallic</del> / non-metallic		44,7	60
<b>supplementary information:</b>		Ambient temperature:	24,6 °C

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 18: I <sub>e</sub> = 32 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		60,3	80
Manual operating means: <del>metallic</del> / non-metallic		16,6	35
Parts intended to be touched but not hand-held: <del>metallic</del> / non-metallic		35,0	50
Parts which need not be touched during normal operation: <del>metallic</del> / non-metallic		33,5	60
<b>supplementary information:</b>		Ambient temperature:	24,2 °C

TRF No. IEC60947\_3B



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 19: I <sub>e</sub> = 25 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		35,6	80
Manual operating means: metallic / non-metallic		6,5	35
Parts intended to be touched but not hand-held: metallic / non-metallic		15,7	50
Parts which need not be touched during normal operation: metallic / non-metallic		22,0	60
<b>supplementary information:</b>		Ambient temperature:	24,6 °C

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 20: I <sub>e</sub> = 25 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		42,1	80
Manual operating means: metallic / non-metallic		8,6	35
Parts intended to be touched but not hand-held: metallic / non-metallic		19,1	50
Parts which need not be touched during normal operation: metallic / non-metallic		24,3	60
<b>supplementary information:</b>		Ambient temperature:	24,6 °C

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 21: I <sub>e</sub> = 25 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		46,6	80
Manual operating means: metallic / non-metallic		12,9	35
Parts intended to be touched but not hand-held: metallic / non-metallic		26,5	50
Parts which need not be touched during normal operation: metallic / non-metallic		28,2	60
<b>supplementary information:</b>		Ambient temperature:	24,6 °C

TRF No. IEC60947\_3B



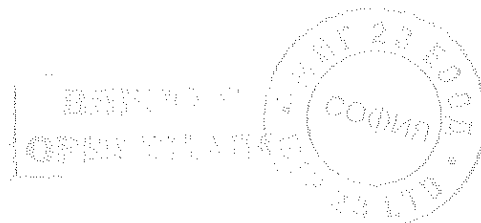
IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 22: $I_e = 25$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		57,7	80
Manual operating means: metallic / non-metallic		16,8	35
Parts intended to be touched but not hand-held: metallic / non-metallic		33,8	50
Parts which need not be touched during normal operation: metallic / non-metallic		30,6	60
<b>supplementary information:</b>		Ambient temperature:	24,6 °C

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 23: $I_e = 10$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		33,5	80
Manual operating means: metallic / non-metallic		3,5	35
Parts intended to be touched but not hand-held: metallic / non-metallic		13,0	50
Parts which need not be touched during normal operation: metallic / non-metallic		19,0	60
<b>supplementary information:</b>		Ambient temperature:	23,3 °C

8.3.6.5	TABLE: Temperature-rise (measurements) (Sample No. 24: $I_e = 10$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		31,9	80
Manual operating means: metallic / non-metallic		6,1	35
Parts intended to be touched but not hand-held: metallic / non-metallic		17,1	50
Parts which need not be touched during normal operation: metallic / non-metallic		19,3	60
<b>supplementary information:</b>		Ambient temperature:	23,3 °C

TRF No. IEC60947\_3B



IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict
8.3.6.5	<b>TABLE: Temperature-rise (measurements)</b> (Sample No. 25: $I_e = 10$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		45,7	80
Manual operating means: <del>metallie</del> / non-metallic		8,4	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		24,1	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		25,3	60
<b>supplementary information:</b>		Ambient temperature:	23,3 °C

8.3.6.5	<b>TABLE: Temperature-rise (measurements)</b> (Sample No. 26: $I_e = 32$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		56,8	80
Manual operating means: <del>metallie</del> / non-metallic		13,5	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		33,0	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		30,8	60
<b>supplementary information:</b>		Ambient temperature:	24,6 °C

8.3.7.4	<b>TABLE: Temperature-rise (measurements)</b> (Sample No. 27: $I_e = 32$ A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		42,5	80
Manual operating means: <del>metallie</del> / non-metallic		2,8	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		14,0	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		21,6	60
<b>supplementary information:</b>		Ambient temperature:	22,6 °C

TRF No. IEC60947\_3B

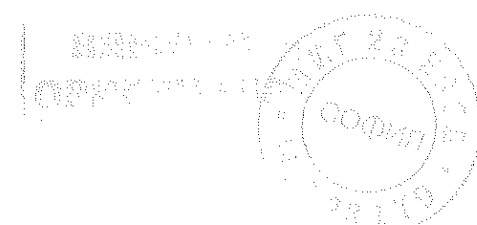




IEC 60947-3			
Clause	Requirement + Test	Result - Remark	Verdict

8.3.7.4	TABLE: Temperature-rise (measurements) (Sample No. 28: I <sub>e</sub> = 32 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		46,8	80
Manual operating means: <del>metallie</del> / non-metallic		11,7	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		31,8	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		35,4	60
<b>supplementary information:</b>		Ambient temperature: 23,4 °C	

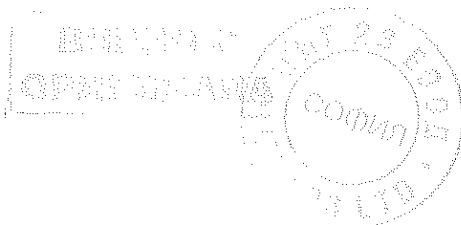
8.3.7.4	TABLE: Temperature-rise (measurements) (Sample No. 29: I <sub>e</sub> = 32 A)		P
Temperature rise dT of part:		dT (K) measured	dT (K) required
Terminals		53,6	80
Manual operating means: <del>metallie</del> / non-metallic		17,5	35
Parts intended to be touched but not hand-held: <del>metallie</del> / non-metallic		33,4	50
Parts which need not be touched during normal operation: <del>metallie</del> / non-metallic		41,5	60
<b>supplementary information:</b>		Ambient temperature: 23,8 °C	



**List of test equipment used:**

(Note: This is an example of the required attachment. Other forms with a different layout but containing similar information are also acceptable.)

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
		Not applicable, only required for the MT programs		



# AMO 90

AMO 90 ЕООД  
БЮРО ЗА ПРЕВОДИ  
1000 София  
ул. Г.С.Раковски 127, офис 336  
тел. 0889 319 040  
0887 314 090

3200 Бяла Слатина  
ул. Климент Охридски 63  
тел. 0915 827 48  
E-mail: amo90@abv.bg  
www.amo90.com

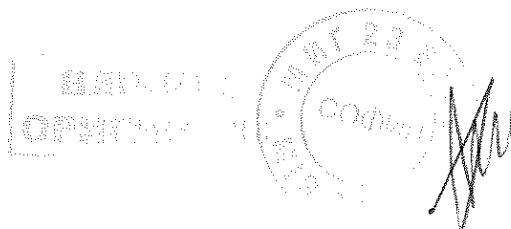
Превод от немски език

**wöhner**  
ALLES MIT SPANNUNG

## Декларация на производителя

За съответствие на образец на държачи за цилиндрични предпазители в конструктивно изпълнение на производителя Вьонер ГмбХ и Ко КГ./ Wöhner GmbH & Co. KG/ и OEZ с.р.о/OEZ, s.r.o./,.

Вьонер ГмбХ и Ко КГ.	OEZ с.р.о.	
No на Вьонер.	ID код	изделие
31.971.062	41003	OPVF10-1
31.974.062	41004	OP VF 10-2
31.110.162	41005	OPVA10-1
31.130.162	41006	OPVA10-1-S
31.111.162	41007	OPVA10-1N
31.112.162	41008	OPVA10-2
31.132.162	41009	OPVA10-2-S
31.113.162	41010	OPVA10-3
31.133.162	41011	OPVA10-3-S
31.114.162	41012	OPVA10-3N
31.275.062	41013	OPVP10-1
31.276.062	41014	OPVP10-2
31.277.062	41015	OPVP10-3
31.115.162	41016	OPVA14-1
31.135.162	41017	OPVA14-1-S
31.116.162	41018	OPVA14-1N
31.117.162	41019	OPVA14-2
31.137.162	41020	OPVA14-2-S
31.118.162	41021	OPVA14-3
31.138.162	41022	OPVA14-3-S
31.119.162	41023	OPVA14-3N
31.278.062	41024	OPVP14-1
31.279.062	41025	O PVP 14-2
31.280.062	41026	OPVP14-3
31.120.162	41027	OPVA22-1
31.140.162	41028	OPVA22-1-S
31.121.162	41029	OPVA22-1N
31.122.162	41030	OPVA22-2



31.142.162	41031	OPVA22-2-S
31.123.162	41032	OPVA22-3
31.143.162	41033	OPVA22-3-S
31.124.162	41034	OPVA22-3N
31.281.062	41035	OPVP22-1
31.282.062	41036	OPVP22-2
31.283.062	41037	OPVP22-3

Производствена база за посочените по-горе държачи на предпазителите:  
Вьонер ГмбХ и Ко КГ. Мьонхрьоденер црасе 10 D - 96472 Рьодентал

Номер на дело на VDE

DE 1-49452	249800-4402-0705/152633	(10x38)
DE 1-29569	249800-4402-0705/26504	(14x51)
DE1-50312	249800-4402-0708/158641	(22x58)

В момента се обработва (10x38 PV)

С настоящето декларираме, че посочените по-горе държачи за предпазител на производителя Вьонер ГмбХ и Ко КГ и ОЕЗ с.р.о са произведени в посочената производствена база в съответствие със същите чертежи.

Потвърждаваме, че държачите за предпазител могат да се продават и под името на фирмата ОЕЗ с.р.о.

Изпълненията на двете изделия са идентични по отношение на конструкцията и на използваните материали, а се различават само по външния дизайн и надписите.

Рьодентал 28.06.2012

Алекс Бютнер  
(Управител)

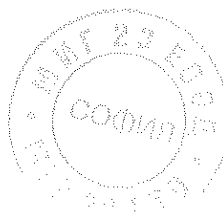
Подписаната, Аксиния Асенова Ганева, удостоверявам верността на превода направен от мен от немски на български език на приложения документ – Декларация на производителя. Преводът се състои от 2 страници.

Преводач: на основание чл2 от 33ЛД



Аксиния Асенова Ганева

ВАЖНО С  
ОРКУЛАЦИЯ

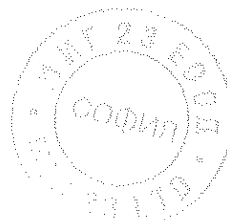


## Herstellereklärung

zur Baumusterkonformität der Sicherungshalter für zylindrische Sicherungen in den Bauartausführungen der Hersteller Wöhner GmbH & Co. KG und OEZ, s.r.o.,

Wöhner GmbH & Co. KG	OEZ s.r.o.	
Wöhner Nr.	ID code	ITEM
31.971.062	41003	OPVF10-1
31.974.062	41004	OPVF10-2
31.110.162	41005	OPVA10-1
31.130.162	41006	OPVA10-1-S
31.111.162	41007	OPVA10-1N
31.112.162	41008	OPVA10-2
31.132.162	41009	OPVA10-2-S
31.113.162	41010	OPVA10-3
31.133.162	41011	OPVA10-3-S
31.114.162	41012	OPVA10-3N
31.275.062	41013	OPVP10-1
31.276.062	41014	OPVP10-2
31.277.062	41015	OPVP10-3
31.115.162	41016	OPVA14-1
31.135.162	41017	OPVA14-1-S
31.116.162	41018	OPVA14-1N
31.117.162	41019	OPVA14-2
31.137.162	41020	OPVA14-2-S
31.118.162	41021	OPVA14-3
31.138.162	41022	OPVA14-3-S
31.119.162	41023	OPVA14-3N
31.278.062	41024	OPVP14-1
31.279.062	41025	OPVP14-2
31.280.062	41026	OPVP14-3
31.120.162	41027	OPVA22-1
31.140.162	41028	OPVA22-1-S
31.121.162	41029	OPVA22-1N
31.122.162	41030	OPVA22-2

ВЕРИТИ С  
ОПРАВИЛА



31.142.162	41031	OPVA22-2-S
31.123.162	41032	OPVA22-3
31.143.162	41033	OPVA22-3-S
31.124.162	41034	OPVA22-3N
31.281.062	41035	OPVP22-1
31.282.062	41036	OPVP22-2
31.283.062	41037	OPVP22-3

Fertigungsstätte für die oben genannten Sicherungshalter:

Wöhner GmbH & Co. KG  
Mönchrödener Strasse 10  
D - 96472 Rödental

VDE-Aktenzeichen

DE1-49452 249800-4402-0705/152633 (10x38)  
DE1-29569 249800-4402-0705/26504 (14x51)  
DE1-50312 249800-4402-0708/158641 (22x58)

Zurzeit noch in Bearbeitung (10x38 PV)

Hiermit erklären wir, dass die oben genannten Sicherungshalter der Hersteller Wöhner GmbH & Co. KG und OEZ, s.r.o. in der angegebenen Fertigungsstätte nach denselben Zeichnungen gefertigt werden.

Wir bestätigen, dass die Sicherungshalter auch unter dem Firmennamen OEZ, s.r.o. vertrieben werden können.

Beide Geräteausführungen besitzen einen identischen Aufbau bezüglich der Konstruktion und des verwendeten Materials und unterscheiden sich nur im äußeren Design und in den Aufschriften.

Rödental, den 28.06.2012

на основании чл2 от  
33ЛД

Alex Büttner  
(Geschäftsleitung)

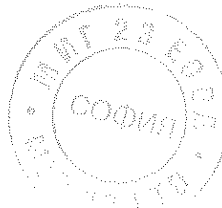
БАРНО С  
ОРМГУМАНА



Списък на изпитванията от типови изпитания:

- Техническа характеристика
  - Тип Код;
  - Номинално напрежение;
  - Номинален ток;
  - Номинална честота;
  - Номинална изключвателна възможност;
  - Размер.
  
- Типов тест;
  - Рутинен тест;
  - Тестване на образци;
  - Съответствие с изискванията за конструкции;

ВЯРНО С  
ОРИГИНАЛА



## Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV

Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

## Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the testing laboratory

**VDE Prüf- und Zertifizierungsinstitut GmbH**

at the following locations:

**Merianstraße 28, 63069 Offenbach**

**Goethering 43, 63067 Offenbach**

**Landsberger Allee 378a, 12681 Berlin**

is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:

Verification of technical documentation and investigation of airborne acoustical noise of equipment and machines listed in this annex according to article 12 of Directive 2000/14/EG; Measurement of sound power level for equipment and machines according to article 13 of Directive 2000/14/EG; Safety of machines as defined by Directive 2006/42/EG for products listed in the annex;

Type testing covered by the authorization for granting the GS Mark according to the German Product Safety Act (ProdSG) for products listed in the annex;

Safety of electrical equipment and their components; Electronic components; Industrial low-voltage switchgear and controlgear and installations; Electric tools and power drive systems; Cables and cords; Laboratory equipment; Photometry; Optics; Energy efficiency; Environmental tests and methods for performance measuring; Accumulators and batteries; Electromagnetic Compatibility (EMC) and radio; Acoustics and noise emission; Electric bicycles (Pedelec);

Analytic chemistry; Functional safety; Energy Star Program (EPA) for the products listed in the annex;

Technical Directive for power generation units and power installations - Part 3: Determination of electric characteristics of power generation units for medium-voltage power grid, high-voltage grid and supergrid; Construction products;

Testing of construction products (system for evaluation and inspection of performance reliability 3) according to Regulation (EU) No. 305/2011 for determination of harmonised conditions for marketing of construction products (Constructional Products Regulation CPR)

The accreditation certificate shall only apply in connection with the notice of accreditation of 23.03.2018 with the accreditation number D-PL-12061-01 and is valid until 16.06.2021. It contains on the reverse side of the cover sheet and the following annex with a total of 197 pages.

Registration number of the certificate: **D-PL-12061-01-01**

Frankfurt am Main,  
23.03.2018

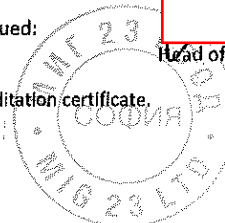
Dipl.-Ing. (FH) Ralf Egner  
Head of Division

Translation issued:  
23.03.2018

Head of Division

This document is a translation. The definitive version is the original German accreditation certificate.  
See notes overleaf.

ОРИГИНАЛ





# Deutsche Akkreditierungsstelle GmbH

Office Berlin  
Spittelmarkt 10  
10117 Berlin

Office Frankfurt am Main  
Europa-Allee 52  
60327 Frankfurt am Main

Office Braunschweig  
Bundesallee 100  
38116 Braunschweig

The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkKS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkKS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 30). DAkKS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). The signatories to these agreements recognise each other's accreditations.

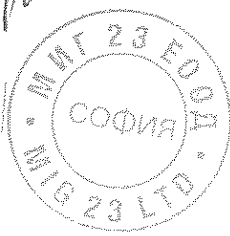
The up-to-date state of membership can be retrieved from the following websites:

EA: [www.european-accreditation.org](http://www.european-accreditation.org)

ILAC: [www.ilac.org](http://www.ilac.org)

IAF: [www.iaf.nu](http://www.iaf.nu)

ВЯРНО С  
ОРИГИНАЛА



АМО 90 ЕООД  
БЮРО ЗА ПРЕВОДИ  
1000 София  
ул. Г.С.Раковски 127, офис 336  
тел. 0889 319 040  
0878 314 090

3200 Бяла Слатина  
ул. Климент Охридски 63  
тел. 0915 827 48  
E-mail: amo90@abv.bg  
www.amo90.com

Превод от немски език

## Уведомление на орган в рамките на директивата за техническа хармонизация

от : Централен орган на провинциите за до: Европейска комисия  
безопасност (ZLS) Генерална дирекция РАСТЕЖ  
Розенкавалиерплац 2 200 Rue de la Loi,  
D-8 1925 Мюнхен В-1049 Брюксел.  
Германия Други държави-членки

референция :

Законодателство: 2000/14 / ЕО Емисии на шум в околната  
среда на съоръжения за използване на открито

Име на органа, адрес, телефон, факс, имейл, уебсайт :

Институт за изпитване и сертифициране VDE / VDE - Prüf- und Zertifizierungsinstitut GmbH/  
Мерианщрасе 28  
63069 Офенбах  
Германия  
Тел : +49 (0) 69 8306 0  
факс : +49 (0) 69 8306 555  
Email : vde-institut@vde.com  
Website : www.vde.com

Орган :

NB 0366

Създаден: неизвестно (Уведомления до 2006 не са включени в тези списъци) | последна  
актуализация : 15/08/2016

Органът официално е акредитиран по:

EN 45012 - EN ISO/IEC 17021

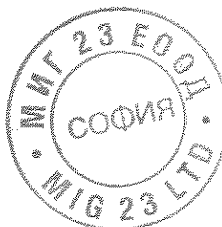
EN 45001 - EN ISO/IEC 17025

EN 45011 - EN ISO/IEC 17065

Наименование на Националния орган по акредитация (NAB): DAkkS (Deutsche  
Akkreditierungsstelle GmbH)

Акредитацията обхваща категориите продукти и процедурите за оценка на  
съответствието, засегнатите от това уведомление : Да

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ОРИГИНАЛА



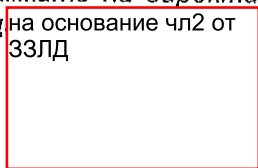
**Задачи, изпълнени от органа :**

Създаден : 03/05/2016 | последна актуализация : 03/05/2016

Продуктова линия, продукт /използване по предназначение/продуктова гама	Процедура/модули	Анекси или членове на директиви
<p>Оборудване, обект на ограничение на шума</p> <ul style="list-style-type: none"> <li>- уплътнителни машини (само вибрационни и не-вибрационни валащи, вибрационни плочи и трамбовки)</li> <li>- компресори (&lt;350 кВт)</li> <li>- бетонни къртачи и къртачни чукове, ръчни</li> <li>- хидравлични агрегати</li> <li>- Косачки за трева (с изключение на земеделска и горска техника и многоцелеви устройства, чийто основен моторизиран елемент има инсталирана мощност над 20 кВт)</li> <li>- тример за трева / тример за тревата в краищата на лехи</li> <li>- Мотокултиватори (&lt;3 кВт)</li> <li>- Електрически генератори (&lt;400 кВт)</li> <li>- заваръчни генератори</li> </ul>	<p>Пълно гарантиране на качеството</p> <p>Вътрешен контрол на продукцията с оценка на техническата документация и периодичен контрол</p> <p>Верификация на модула</p>	<p>Annex VIII</p> <p>Annex VI</p> <p>Annex VII</p>

Подписаната, Аксиния Асенова Ганева, удостоверявам верността на превода направен от мен от английски и немски на български език на приложения документ – Уведомление на орган в рамките на директивата за техническа хармонизация. Преводът се състои от 2 страници на основание чл2 от ЗЗЛД

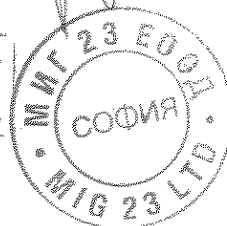
Преводач:



Аксиния Асенова Ганева



**ВЯРНО С  
ОРИГИНАЛА**



# Notification of a Body in the framework of a technical harmonization directive

**From :** Zentralstelle der Länder für  
Sicherheitstechnik (ZLS)  
Rosenkavalierplatz 2  
D-81925 München  
Germany

**To :** **European Commission**  
GROWTH Directorate-General  
200 Rue de la Loi,  
B-1049 Brussels.  
**Other Member States**

**Reference :**

Legislation : 2000/14/EC Noise emission in the environment by equipment for use outdoors

**Body name, address, telephone, fax, email, website :**

VDE - Prüf- und Zertifizierungsinstitut GmbH  
Merianstraße 28  
63069 Offenbach  
Germany  
Phone : +49 (0) 69 8306 0  
Fax : +49 (0) 69 8306 555  
Email : vde-institut@vde.com  
Website : www.vde.com

**Body :**

**NB 0366**

**Created :** Unknown (Notifications pre-dating 2006 are not available in these lists) | **Last update :** 15/08/2016

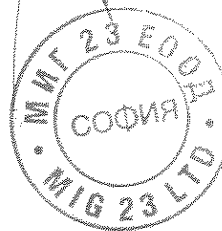
**The body is formally accredited against :**

EN 45012 - EN ISO/IEC 17021  
EN 45001 - EN ISO/IEC 17025  
EN 45011 - EN ISO/IEC 17065

**Name of National Accreditation Body (NAB) :** DAkkS (Deutsche Akkreditierungsstelle GmbH)

**The accreditation covers the product categories and conformity assessment procedures concerned by this notification :** Yes

ВЯРНО С  
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**Tasks performed by the Body :**

Created : 03/05/2016 | Last update : 03/05/2016

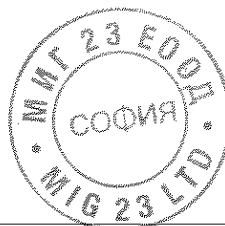
Product family, product //Intended use/Product range	Procedure/Modules	Annexes or articles of the directives
<p>Equipment subject to noise limits</p> <ul style="list-style-type: none"> <li>- compaction machines (only vibrating and non-vibrating rollers, vibratory plates and vibratory rammers)</li> <li>- compressors (&lt; 350 kW)</li> <li>- concrete-breakers and picks, hand-held</li> <li>- hydraulic power packs</li> <li>- lawnmowers (excluding agricultural and forestry equipment, and multi-purpose devices, the main motorised component of which has an installed power of more than 20 kW)</li> <li>- lawn trimmers/lawn edge trimmers</li> <li>- motor hoes (&lt; 3 kW)</li> <li>- power generators (&lt; 400 kW)</li> <li>- welding generators</li> </ul>	<p>Full quality assurance</p> <p>Internal control of production with assessment of technical documentation and periodical checking</p> <p>Unit verification</p>	<p>Annex VIII</p> <p>Annex VI</p> <p>Annex VII</p>

*[Handwritten signature]*

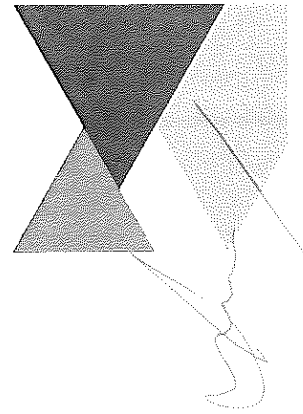
*[Handwritten signature]*

*[Handwritten signature]*

**ВЯРНО С  
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*[Handwritten signature]*



## GENERAL RECOMMENDATIONS FOR OEZ DEVICES

### Preventive inspections of OEZ devices

#### 1. General characteristic of OEZ devices

OEZ devices are designed as maintenance-free devices, however there are plants, where general or local safety regulations require regular preventive inspections of the devices in switchboards. Before putting new devices in service or in course of switchboard shutdown, we recommend checking whether the devices have operating conditions ensured as necessary for their correct functioning. The device operation and handling instructions are stated in the operation manual which is delivered together with the devices. The operation manuals can also be downloaded from [www.oez.cz](http://www.oez.cz). Installation of the devices in the switchboard and the tests of correct function of the control circuits, if the device is equipped with them, can only be performed by persons with appropriate electrical qualification. The tests and prescribed inspections of the switchboard or of the entire plant can only be performed by persons with corresponding electrical qualification and relevant certification.

Electronic function of releases including their setting shall be verified by the personnel of the OEZ service department or by specialized firms. The condition of these activities is ownership of special test equipment.

Unless local operating regulations state otherwise, we recommend performing preventive inspections in intervals:

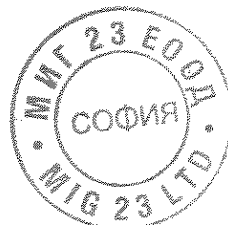
- once a year or
- after 1000 switching operations or
- after switching off a heavy short-circuit

#### 1.1 Activities before putting a switchboard into operation

- Check of correct installation of the device in the switchboard according to documentation.
- Removal of foreign objects (filings, wire residues, tools, etc.), possibly evacuation of dust and conductive particles from insulating parts of the device.
- Check of tightening of terminal screws by tightening torque according to instructions for use.
- Check of fastening of inlet and outlet conductors against effect of electrodynamic forces.
- Check of marking of the device with reverse connection by a warning table (with circuit breaker switched off, voltage is present on lower terminals of the circuit breaker).

#### 1.2 Activities that can be performed by trained operator of the user in preventive inspection

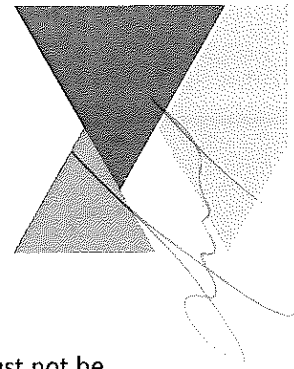
- Check of device contamination, possibly evacuation of dust, both from conductive and insulating parts of the device.
- Check of insulating covers and their replacement, if damaged.
- Measuring insulation state. The most serious failure in operation is switching the circuit breaker or fuse off due to short circuit (on the device or in the switchboard there are visible traces left by the



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E mail:





interrupted column of the arc). After switching off the short-circuit current the device must not be further used, if its insulation resistance  $R_{isol}$  drops under 2 MΩ Insulation resistance is measured:

- with disconnected contacts between terminals 1-2, 3-4, 5-6
- with connected contacts between terminals 1-3 and 3-5
- Measuring temperature rise of the device terminals and connections of power conductors in the switchboard during operation. With rated load, according to standard ČSN EN 947-1,2 temperature rise of the terminals must not exceed 70 K . If temperature rise of a connection is higher than
- 70 K, it is necessary to demount the connection, clean contact surfaces, and tighten the connection by prescribed torque. (Terminal temperature rise = terminal temperature – ambient temperature [ K, °C, °C ] catalogue reference temperature is 40 °C ).
- Check of tightening of terminal screws by tightening torque according to instructions for use.

1.3 Complete overhaul - shall be performed by the OEZ service

Once in 5 years in important and continuous processes.

The check of function is performed and the service report is issued by the OEZ service. Diagnostics and maintenance is performed in one-time operation.



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ОЕZ s.r.o  
Седивска 339, Летоград  
Чехия

Летоград, 18.02.2009

## Инструкции за монтаж на апаратурата доставена от ОЕZ s.r.o

### ПРЕВОД

Общи препоръки за апаратура на ОЕZ  
Превантивни проверки на ОЕZ устройства

#### 1. Обща характеристика на ОЕZ устройствата

ОЕZ устройствата са конструирани като устройства без специална поддръжка, но има фабрики, където общите или местните правилата за безопасност изискват редовни превантивни проверки на устройствата в таблата.

Преди да поставите нови устройства в експлоатация или в хода на табло за изключване, ние препоръчваме да се провери дали устройствата са експлоатирани в работни условия, необходими за правилното им функциониране. Инструкции за експлоатация и работа са посочени в ръководството за експлоатация, което се доставя заедно с устройствата. Оперативните ръководства могат да бъдат изтеглени също така и от [www.oez.cz](http://www.oez.cz).

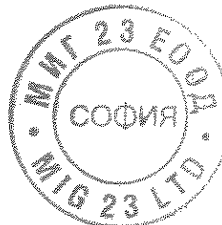
Инсталиране на устройствата в таблото и тестове на правилното функциониране на управляващите вериги, ако устройството е оборудвано с тях, могат да се извършват само от лица с подходяща електрическа квалификация и съответния сертификат. Тестовите и предписаните инспекции на таблото или на цялата инсталация може да се извършва само от лица със съответната квалификация и сертификат. Електронното функциониране на защитите, включително тяхното настройка трябва да бъдат проверени от сервизния отдел на ОЕZ или от специализирани фирми. Състоянието на тези дейности е обхванато от специален тест оборудване. Освен ако местните разпоредби за експлоатационно състояние не предписват друго, ние препоръчваме извършване на превантивни проверки на интервали:

- веднъж годишно или
- след 1000 преключвания или
- след изключване на тежко късо съединение

#### 1.1 Дейности преди поставяне на табло в експлоатация

- проверка на правилния монтаж на устройството в табло по документация.

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- Премахване на чужди предмети (стружки, кабели остатъци, инструменти и т.н.), евентуално отстраняване на прах и проводими частици от изолационни части на устройството.
- Проверка на затягане на винтовете на клемите с момент на затягане в съответствие с инструкциите за употреба.
- проверка на закрепването на входните и изходните проводници срещу ефекта на електродинамични сили.
- Проверка на маркировката на устройството с обратно свързване с преупредителна табела с изключен прекъсвач, напрежението присъства на долните клеми на прекъсвача.

1.2 Дейности, които могат да бъдат извършвани от обучен оператор на потребителя в превантивна инспекция

- проверка на замърсяване на устройството, евентуална отстраняване на прах, както от проводящите и изолацираните части на устройството.
- Проверка на изолиращи прегради и тяхната подмяна, ако са повредени.
- Измерване на изолационното състояние. Най-сериозената повреда в експлоатация е изключване на прекъсвача или предпазител поради късо съединение (в устройството или в разпределително табло има видими следи, оставени от прекъсвача или прекъсвачи секции на дъгата). След изключване на тока на късо съединение устройството не трябва да бъде използвано по-нататък, ако неговото  $R_{isul}$  изолационното съпротивление се понижи под  $2\text{ M}\Omega$ . Съпротивление на изолацията се измерва:
  - с несвързани контакти между клеми 1-2, 3-4, 5-6
  - със свързани контакти между клеми 1-3 и 3-5
- Измерване на повишаване на температурата на устройството на клемите и връзките на силовите проводници в таблото по време на работа. С номинално натоварване, съгласно стандарта ČSN EN 947-1,2 покачване на температурата на клемите не трябва да надвишава  $70\text{ K}$ . Ако покачването на температурата на връзка е по-висока от  $70\text{ K}$  е необходимо да се демонтира връзката, почистване на контактни повърхности, и затегане на връзката с предписания въртящ момент. (повишаване на температурата на клемата = температура на клемата - температурата на околната среда) каталожната референтна температура е  $40\text{ }^\circ\text{C}$ .
- Проверка на затягане на винтовете на клемите със момент на затягане, в съответствие с инструкциите за употреба. •

1.3 Цялостен ремонт се извършва от отдел на OEZ

Веднъж на 5 години във важни и непрекъснати процеси.

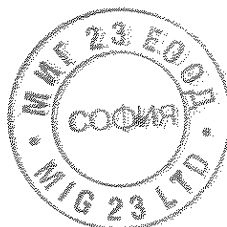
Извършва се проверка на функционирането и се издава сервизен доклад от OEZ.

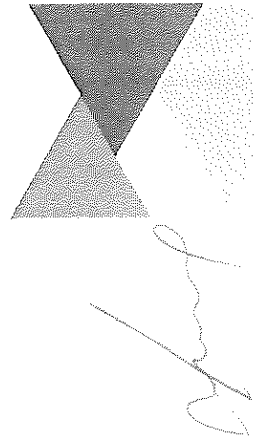
Диагностиката и поддръжката се извършва по едно и също време

Хана Ваврова  
Регионален мениджър експорт

OEZ s.r.o., Седивска 339, Летоград, Чехия  
тел.: +420 465 672 268, факс: +420 465 672 398 e-mail: [hana.vavrova@oez.com](mailto:hana.vavrova@oez.com),  
[www.oez.com](http://www.oez.com)

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**OEZ s.r.o**  
**Sedivska 339, Letohrad,**  
**Czech Republic**

Letohrad, 25. 6. 2012

**INSTRUCTIONS FOR STORAGE FOR THE DEVICES DELIVERED BY OEZ s.r.o.**

The devices must not be stored in the environment with high humidity, presence of corrosive substances or rapid changes of temperature and condensing vapours. The devices are delivered and must be stored in disengaged condition.

The device must be store in an environment with the following parameters as ČSN EN 60721-3-1: 1K2/1Z1/1B1/1C2/1S2/1M2.



OEZ s.r.o.  
 Sedivska 339, Letohrad 561 51

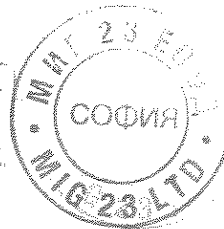
на основание чл. 2 от ЗЗЛД

IN  
 F

OEZ s.r.o., Sedivska 339, 561 51 Letohrad, Czech Republic  
 phone: +420 465 672 268, fax: +420 465 672 398, e-mail: [ivan.hanzl@oez.com](mailto:ivan.hanzl@oez.com) , [www.oez.com](http://www.oez.com)



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ОЕЗ с.г.о  
Седивска 339, Летоград  
Чехия

Летоград, 25.06.2012

## Инструкции за съхранение на апаратурата доставена от ОЕЗ с.г.о

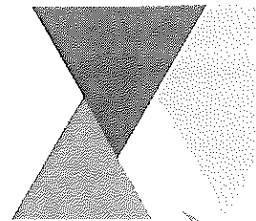
Устройствата не трябва да се съхраняват в среда с висока влажност на въздуха , наличието на корозивни вещества или резки промени на температурата и кондензни изпарения. Устройствата са доставени и трябва да се съхраняват в разединено състояние.

Устройството трябва да се съхранява в среда със следните параметри като CSN EN 60721-3-1 : 1K2 / 1Z1 / 1B1 / 1C2 / 1S2 / 1M2 .

Иван Ханзал  
Регионален мениджър експорт

ОЕЗ с.г.о, Седивска 339, Летоград, Чехия  
тел.: +420 465 672 268, факс: +420 465 672 398 e-mail:  
[hana.vavrova@oez.com](mailto:hana.vavrova@oez.com), [www.oez.com](http://www.oez.com)





OEZ s.r.o

Sedivska 339, Letohrad,  
Czech Republic

Letohrad, 25. 6. 2012

### INSTRUCTIONS FOR TRANSPORTATION FOR THE DEVICES DELIVERED BY OEZ s.r.o.

The devices must not be transported in the environment with high humidity, presence of corrosive substances or rapid changes of temperature and condensing vapours. The devices are delivered and must be stored in disengaged condition.

The devices must be transported in an environment with the following parameters as EN 60721-3-1.

Transport conditions are treated in compliance with the Incoterms 2010 devised and published by the International Chamber of Commerce. Each commercial invoice issued by OEZ s.r.o. clearly specify the beforehand agreed delivery term.




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## Инструкции за транспорт на апаратурата доставена от OEZ s.r.o

Условията на транспортиране са в съответствие с Инкотермс 2000, подразделени и публикувани от Международната камера за търговия. Всяка търговска фактура, издадена от OEZ s.r.o точно спесифицира предварително уговорените условия на доставка.

Иван Ханзал  
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ВЯРНО С  
ОРИГИНАЛА

