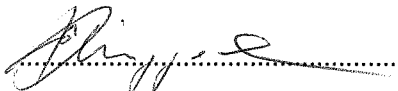




Test Report issued under the responsibility of

electrosuisse 

TEST REPORT IEC 60 947-2 Low-voltage switchgear and controlgear Part 2: Circuit – breakers	
Report reference No.:	05-IK-0334.02
Tested by (name+signature).....:	Ernst Pinggera 
Witnessed by (name+signature)..:	N
Supervised by (name+signature) .:	N
Approved by (name+signature) ...:	Bernardo Rieder 
Date of issue	16.10.2006
Testing Procedure	CBTL <input checked="" type="checkbox"/> RMT <input type="checkbox"/> SMT <input type="checkbox"/> WMT <input type="checkbox"/> TMP <input checked="" type="checkbox"/>
CB Testing Laboratory	Electrosuisse
Address	Luppenstrasse 1, CH-8320 Fehraltorf
TMP Testing Laboratory	ABB Schweiz AG, CMC Low Voltage Products
Address	Fulachstrasse 150, CH-8201 Schaffhausen
	
STS 001	
Applicant's Name	ABB Schweiz AG, CMC Low Voltage Products
Address	Fulachstrasse 150, CH-8201 Schaffhausen Switzerland
Test specification	
Standard	IEC 60947-2:03 3 rd Edition
Test procedure	CB / TMP scheme
Non-standard test method	---
Test Report Form	IEC60947_2D
TRF originator.:	KEMA Nederland B.V.
Master TRF	Dated 2006-04
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Test item description	Circuit breaker
Trade Mark	ABB
Model Type reference	Series S400: for connecting on smissline system Series S450: for connecting on Top hat rail acc. to IEC 60715
Ratings	Ue: max 440VAC for multi poles Ue: max 254VAC for single pole, (or 1p+N) All poles are protected Ie: 0.5, 1, 1.6, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, and 63A see page 3 ... 5

Particulars: test item vs. test requirements

3. Classification

3.1. Utilization category: (A or B)	A
3.2. Interruption medium: (air, vacuum, gas Break).....	Air
3.3. Design: (open construction, moulded case).....	Moulded case
3.4. Method of controlling the operation mechanism: (dependent manual operation, independent manual operation, dependent power operation, independent power operation)	dependent manual operation
3.5. Suitability for insulation: (suitable, not -suitable).....	suitability for insulation
3.6. Provision for maintenance: (maintainable, non maintainable).....	non maintainable
3.7. Method of installation: (fixed, plug in, withdrawable:	Series S400: (snap on contacts) connecting on smissline system Series S450: connecting on Top hat rail acc. to IEC 60715
3.8. Degree of protection: (IP code).....	IP40 (actuating side only) terminals IPOO
4.8. Integral fuses (integrally fused circuit-breakers) Type and characteristics of SCPD.....	---
4.9. Switching overvoltages:	< 4kV
7.3 Electromagnetic compatibility (EMC) Environment A or B	N (no electronic circuits)
Mounting distances	Upside: 60mm, Backside: < 1mm
Circuit-breaker for use on phase-earthed systems	---
Circuit-breaker for use in IT systems.....	yes
Rated and limiting values, main circuit :	
- rated operational voltage: U_e max.(V).....	440VAC
- rated insulation voltage: U_i (V).....	440VAC
- rated impulse withstand voltage: U_{imp} (kV).....	4kV
- rated current: I_n (A).....	0.5, 1, 1.6, 2, 3, 4, 6, 8, 10, 13, 16, 20, 25, 32, 40, 50, and 63A
- kind of current	AC
- conventional free air thermal current: I_{th} (A).....	63A
- conventional enclosed thermal current: I_{the} (A).....	---
- eight-hour duty; uninterrupted duty: I_u (A).....	uninterrupted duty: 63A
- current rating for four-pole circuit-breakers: (A)	63A
- number of poles	1, 1+N, 2, 3 and 3+N All poles are full protected
- rated frequency: (Hz)	50/60Hz

Rated short-circuit making capacity: I _{cm} (kApk)..... :	400VAC: 0.5 ...2A:	105kApk	(n=2.1)	
	3 ... 20A:	52.5kApk	(n=2.1)	
	25 ... 63A:	17kApk	(n=1.7)	
	440VAC: 0.5 ...2A:	30kApk	(n=2.0)	
	3 ... 10A:	17kApk	(n=1.7)	
	13 ... 63A:	9kApk	(n=1.5)	
	rated ultimate short-circuit breaking capacity: I _{cu} (kA)	400VAC: 0.5 ...2A:	50kA	
		3 ... 20A:	25kA	
		25 ... 63A:	10kA	
	440VAC: 0.5 ...2A:	15kA		
	3 ... 10A:	10kA		
	13 ... 63A:	6kA		
	rated service short-circuit breaking capacity: I _{cs} (kA).. :	400VAC: 0.5 ... 2A:	50kA	
		3 ... 20A:	15kA	
	25 ... 63A:	7.5kA		
	440VAC: 0.5 ...2A:	15kA		
	3 ... 10A:	6kA		
	13 ... 63A:	3kA		
	rated short-time withstand current: I _{cw} (kA/s)..... :	N		

Type of terminals	Screw type and snap on contact
Conductor.....	Cu, 1..25mm ²
- comparative tracking index (V).....	620V
- pollution degree	2
- material group.....	I

Releases :	
1) shunt release	N
2) Over current release:	
a) instantaneous	K type: 12x I _n C type: 8x I _n
b) definite time delay.....	---
c) inverse time delay:	
- independent of previous load	---
- dependent on previous load; (for example thermal type release)	Thermal types: K type: calibrated at 40°C C type: calibrated at 40°C
3) Undervoltage release (for opening).....	---
4) Other releases	---