Test Report issued under the responsibility of:

TEST REPORT
IEC/EN 60947-2
Low-voltage switchgear and controlgear - Part 2: Circuit-breakers

Report Reference No.....:	00901-CB2015CQC066214
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CB/CCA Testing Laboratory.....:	Shanghai Testing & Inspection Institute for Electrical Equipment (STIEE)
Address .....:	505 Wu Ning Rd. Shanghai 200063, P.R. CHINA
Applicant's name.....:	Zhejiang Tengen Electrics Co., Ltd.
Address .....:	TENGEN Industry Zone, Liushi, Yueqing, Zhejiang, P.R.China
Test specification:	
Standard .....:	☒IEC 60947-2:2006 (4th Edition) and/or ☐ EN 60947-2:2006 (4th Edition)
Test procedure .....:	CB
Non-standard test method……..:	N/A
Test Report Form No.....:	IECEN60947_2B
Test Report Form(s) Originator .....:	KEMA
Master TRF .....:	Dated 2008-10

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Test item description .....:	Moulded Case Circuit-Breaker
Trade Mark .....:	TENGEN
Manufacturer .....:	Zhejiang Tengen Electrics Co., Ltd. TENGEN Industry Zone, Liushi, Yueqing, Zhejiang, P.R.China
Model/Type reference.....:	TGM1-250
Ratings .....:	Ue: AC415V, AC690V In: 100A, 125A, 160A, 180A, 200A, 225A, 250A

Testing procedure and testing location:	
☒ **CB/CCA Testing Laboratory**:	Shanghai Testing & Inspection Institute for Electrical Equipment (STIEE)
Testing location/ address ..... :	505 Wu Ning Rd. Shanghai 200063, P.R. CHINA
☐ **Associated CB Laboratory:**	N/A
Testing location/ address ..... :	N/A
Tested by (name + signature) ..... :	Cheng Yanmin
Approved by (+ signature) ..... :	Zeng Jingjing
☐ Testing procedure: TMP	N/A
Tested by (name + signature) ..... :	N/A
Approved by (+ signature) ..... :	N/A
Testing location/ address ..... :	N/A
☐ Testing procedure: WMT	N/A
Tested by (name + signature) ..... :	N/A
Witnessed by (+ signature) ..... :	N/A
Approved by (+ signature) ..... :	N/A
Testing location/ address ..... :	N/A
☐ Testing procedure: SMT	N/A
Tested by (name + signature) ..... :	N/A
Approved by (+ signature) ..... :	N/A
Supervised by (+ signature) ..... :	N/A
Testing location/ address ..... :	N/A
☐ Testing procedure: RMT	N/A
Tested by (name + signature) ..... :	N/A
Approved by (+ signature) ..... :	N/A
Supervised by (+ signature) ..... :	N/A
Testing location/ address ..... :	N/A

Particulars: test item vs. test requirements 3. Classification	
3.1. Utilization category: (A or B)..... :	A
3.2. Interruption medium: (air, vacuum, gas Break) ..... :	Air
3.3. Design: (open construction, moulded case) .... :	Moulded case
3.4. Method of controlling the operation mechanism: (dependent manual, independent manual, dependent power, independent power) ..... :	Independent manual, dependent power
3.5. Suitability for insulation: (suitable, not -suitable) .... :	Suitable
3.6. Provision for maintenance: (maintainable, non maintainable) ..... :	Non maintainable
3.7. Method of installation: (fixed, plug in, withdrawable) .... :	Fixed, plug in
3.8. Degree of protection: (IP code) ..... :	N/A
4.8. Integral fuses (integrally fused circuit-breakers) Type and characteristics of SCPD ..... :	N/A
4.9. Switching overvoltages: (when Uimp. is declared) . ..... :	N/A
7.3 Electromagnetic compatibility (EMC) Environment A or B ..... :	A
Circuit-breaker for use on phase-earthed systems ..... :	N/A
Circuit-breaker for use in IT systems ..... :	N/A
Rated and limiting values, main circuit .... :	
- rated operational voltage: Ue (V) ..... :	AC415V, AC690V
- rated insulation voltage: Ui (V) ..... :	800V
- rated impulse withstand voltage: Uimp (kV) ..... :	8kV
- rated operational current: Ie (A) ..... :	100A, 125A, 160A, 180A, 200A, 225A, 250A
- kind of current..... :	AC
- conventional free air thermal current: Ith (A) ..... :	100A, 125A, 160A, 180A, 200A, 225A, 250A
- conventional enclosed thermal current: Ithe (A)..... :	N/A
- current rating for four-pole circuit-breakers: (A) ..... :	100A, 125A, 160A, 180A, 200A, 225A, 250A
- number of poles ..... :	2P(AC415V); 3P, 4P(AC415/690V)
- rated frequency: (Hz)..... :	50/60Hz
- integral fuses (rated values)..... :	N/A
Rated duty :	
- eight-hour duty..... :	N/A
- uninterrupted duty: Iu (A)..... :	100A, 125A, 160A, 180A, 200A, 225A, 250A
Short-circuit characteristic :	
rated short-time making capacity: Icm (kA) ..... :	Type L: 73,5kA/AC415V, 7,65kA/AC690V Type M: 105kA/AC415V, 17kA/AC690V

rated ultimate short-circuit breaking capacity: Icu (kA).. ..... :	Type L: 35kA/AC415V, 5kA/AC690V Type M: 50kA/AC415V, 10kA/AC690V
rated service short-circuit breaking capacity: Ics (kA) ..... :	Type L: 22kA/AC415V, 4kA/AC690V Type M: 35kA/AC415V, 5kA/AC690V
rated short-time withstand current: Icw (kA/s) ..... :	N/A
Control circuits :	
Electrical control circuits :	
- kind of current: (AC, DC)..... :	AC
- rated frequency: (Hz)..... :	50/60Hz
- rated control circuit voltage: Uc (nature, frequency, V) ... :	AC 50/60Hz 240V, 415V
- rated control supply voltage: Us (nature, frequency V) ... :	AC 50/60Hz 240V, 415V
Air supply control circuits: (pneumatic or electro-pneumatic) :	
- rated pressure and its limit..... :	N/A
- volumes of air, at atmospheric pressure, required for each closing and each opening operation ..... :	N/A
Auxiliary circuits :	
Rated and limiting values, auxiliary circuits..... :	
- rated operational voltage Ue (V) ..... :	AC415V; DC220V
- rated insulation voltage: Ui (V) ..... :	690V
- rated operational current: Ie (A) ..... :	0,3A(AC415V); 0,15A(DC220V)
- kind of current..... :	AC, DC
- rated frequency: (Hz)..... :	50/60Hz
- number of circuits..... :	N/A
- number and kind of contact elements ..... :	1NO+1NC, 2NO+2NC, 4NO+4NC
- rated uninterrupted current: Iu (A)..... :	3A
- utilization category: (AC, DC, current and voltage)..... :	AC-15, DC-13
Short-circuit characteristic :	
- Rated conditional short-circuit current (kA) ..... :	1kA
- Co-ordination of short-circuit protective devices..... :	RL6-25/6
- kind of protective device..... :	Fuse

Releases :		
1) shunt release	:	Yes
2) Over-current release	:	Yes
a) instantaneous	:	Yes
b) definite time delay	:	N/A
c) inverse time delay	:	Yes
- independent of previous load	:	N/A
- dependent on previous load; (for example thermal type release)	:	Yes
3) Undervoltage release (for opening)	:	Yes
4) Other releases	:	N/A
Characteristics :		
1) Shunt release and undervoltage release (for opening)	:	
- rated control circuit voltage: Uc (nature, frequency, V)	:	Shunt release : AC 50/60Hz 240V, 415V; DC 24V, 110V Undervoltage release: AC 50/60Hz 240V, 415V
- kind of current	:	Shunt release :AC, DC Undervoltage release: AC
- rated frequency: (if AC)	:	50/60Hz
2) Over-current release	:	
- rated current	:	100A, 125A, 160A, 180A, 200A, 225A, 250A
- kind of current	:	AC
- rated frequency: (if AC)	:	50/60Hz
- current setting (or range of settings)	:	Instantaneous: 10In(Power Distribution Protection); 12In(Motor Protection) Inverse time delay: In
- time settings (or range of settings)	:	N/A