

CERTIFICATE

Issued to:
Applicant:
HIMEL HONG KONG LIMITED
11/F KERRY CTR 683 KING'S RD
999077 Quarry Bay, Hong Kong

Licensee:
DELIXI ELECTRIC LTD
Delixi High-Tech Industrial Park, Liushi Town,
325604 Yueqing City Zhejiang, China

Product : Air Circuit Breaker
Trade name(s) : HIMEL
Type(s)/model(s) : HDW3-1000M

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:

- a type test according to the standard(s) EN 60947-2:2017, EN 60947-2:2017/A1:2020, IEC 60947-2:2016 and IEC 60947-2:2016/A1:2019
- an inspection of the factory location according to CENELEC Operational Document CIG 021
- a DEKRA certification agreement with the number 2028558

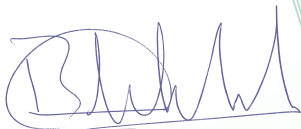
DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

The KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration and under the conditions of the KEMA-KEUR certification agreement.

This certificate is issued on 22 March 2022 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 33-122936

DEKRA Certification B.V.



B.T.M. Holtus
Managing Director



H.R.M. Barends
Certification Manager

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SPECIFICATION OF THE CERTIFIED PRODUCT
Product data

Product	: Air Circuit Breaker
Trade name(s)	: HIMEL
Type(s)/model(s)	: HDW3-1000M
Number of poles	: 3P and 4P (N pole with overcurrent protection)
Protected pole	: 3 or 4
Rated operational voltage (U _e)	: 220 / 230 / 240 / 380 / 400 / 415 / 440 / 480 / 500 / 525 / 550 / 660 / 690 Vac
Rated insulation voltage (U _i)	: 1000 V
Rated impulse withstand voltage (U _{imp})	: 12 kV
Rated frequency	: 50 / 60 Hz
Rated current (I _n)	: 200 A, 400 A, 630 A, 800 A, 1000 A
Conventional thermal current (I _{th})	: Equal to I _n
Current rating for four-pole circuit-breakers	: Equal to I _n
Rated service short-circuit breaking capacity (I _{cs})	: 30 kA at 220 / 230 / 240 / 380 / 400 / 415 Vac, 25 kA at 440 / 480 / 500 / 525 / 550 / 660 / 690 Vac
Rated ultimate short-circuit breaking capacity (I _{cu})	: 42 kA at 220 / 230 / 240 / 380 / 400 / 415 Vac, 25 kA at 440 / 480 / 500 / 525 / 550 / 660 / 690 Vac
Rated short-time withstand current (I _{cw})	: 30 kA - 1 s at 220 / 230 / 240 / 380 / 400 / 415 Vac, 20 kA - 1 s at 440 / 480 / 500 / 525 / 550 / 660 / 690 Vac
Suitable for isolation	: Suitable
Selectivity category	: B
Safety distance (screen-circuit breaker)	: All sides: 0 mm
Method of mounting	: Fixed or withdrawable
EMC environment	: A
Tightening torque for terminals	: M10 / 50 Nm
Line/load terminal	: Immaterial
Connection	: Minimum cross-sectional area of conductor (copper conductor with cable lug): 95 mm ² Maximum cross-sectional area of conductor (Copper busbar): (60 x 5) mm ² x 2
Inverse time delay release	: For trip unit: iTR326H, iTR326, Genius 4.0H and Genius 4.0: I _r : (0,4 / 0,5 / 0,6 / 0,7 / 0,8 / 0,9 / 0,95 / 0,98 / 1) x I _n For trip unit: iTR326A and Genius 4.0A: I _r : (0,4 - 1) x I _n , in steps of 1 A
Time setting of the inverse time delay release	: t _r : 1 s / 2 s / 4 s / 8 s / 12 s / 16 s / 20 s / 24 s / 30 s, with tolerance of ± 10% (at 6 I _r) tripping time at 2 I _r : 8,1 s - 9,9 s (t _r = 1 s) 243 s - 297 s (t _r = 30 s)
Short time delay release	: For trip unit: iTR326H, iTR326, Genius 4.0H and Genius 4.0: I _{sd} : (1,5 / 2,0 / 3,0 / 4,0 / 5,0 / 6,0 / 8,0 / 10) x I _r , off For trip unit: iTR326A and Genius 4.0A: I _{sd} : (1,5 - 10) x I _r , off in steps of 1 A for I _{sd} < 10 kA, in steps of 0,01 kA for I _{sd} ≥ 10 kA

Time setting of the short time delay release	: tsd: 0,1 s / 0,2 s / 0,3 s / 0,4 s (I^2t off) 0,1 s, with tolerance of 80 ms - 140 ms 0,2 s, with tolerance of 140 ms - 200 ms 0,3 s, with tolerance of 230 ms - 320 ms 0,4 s, with tolerance of 350 ms - 500 ms non-tripping duration: Set at 0,1 s: 80 ms Set at 0,2 s: 140 ms Set at 0,3 s: 230 ms Set at 0,4 s: 350 ms
Instantaneous release	: For trip unit: iTR326H, iTR326, Genius 4.0H and Genius 4.0: li: (2 / 3 / 4 / 6 / 8 / 10 / 12 / 15) x I_n , off For trip unit: iTR326A and Genius 4.0A: li: (2 - 15) x I_n , off in steps of 1 A for $I_i < 10$ kA, in steps of 0,01 kA for $I_i \geq 10$ kA
Making current release (MCR)	: 16 kA
Ground fault release	: For trip unit: iTR326H, iTR326, Genius 4.0H and Genius 4.0: lg: (0,2 / 0,3 / 0,4 / 0,5 / 0,6 / 0,8 / 0,9 / 1,0) x I_n , off For trip unit: iTR326A and Genius 4.0A: lg: (0,2 - 1,0) x I_n , OFF, in steps of 1 A tg: 0,1, 0,2, 0,3, 0,4 s 0,1 s, with tolerance of 80 ms - 140 ms 0,2 s, with tolerance of 140 ms - 200 ms 0,3 s, with tolerance of 230 ms - 320 ms 0,4 s, with tolerance of 350 ms - 500 ms
Shunt release	: 220 / 230 Vac, 380 / 400 Vac (50/60 Hz) 110 Vdc, 220 Vdc
Under-voltage release	: 220 / 230 Vac, 380 / 400 Vac (50/60 Hz)
Closing coil	: 220 / 230 Vac, 380 / 400 Vac (50/60 Hz) 110 Vdc, 220 Vdc
Stored energy motor	: 220 / 230 Vac, 380 / 400 Vac (50/60 Hz) 110 Vdc, 220 Vdc
External supply for trip unit	: 220 / 230 Vac, 380 / 400 Vac (50/60 Hz) 110 Vdc, 220 Vdc

TESTS

Test requirements

EN 60947-2:2017

EN 60947-2:2017/A1:2020

IEC 60947-2:2016

IEC 60947-2:2016/A1:2019

Test result

The test results are laid down in DEKRA test file 332409300.

Additional information

Nomenclature breakdown:

HDW3-1000 M

a b c

a = Model name: HDW3

b = Frame size: 1000

c = short-circuit capacity: 'M'

This certificate is based on KEMA KEUR certificate 33-122173 issued on 2022-02-28.

Conclusion

The examination proved that all requirements were met.

Factory locations

DELIXI ELECTRIC LTD

Delixi High-Tech Industrial Park, Liushi Town,
325604 Yueqing City Zhejiang, China

DELIXI ELECTRIC (WUHU) LTD

Wuhu Machinery Industrial Park
241100 Wuhu City Anhui, China