

CERTIFICATE

Issued to:
Applicant:
DELIXI ELECTRIC LTD
Delixi High-Tech Industrial Park
Liushi Town, Yueqing City
325604 Zhejiang Province, China

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

Product : Air Circuit-Breaker
Trade name(s) : HIMEL
Type(s)/model(s) : HDW3-4000M and HDW3-4000S

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 EN 60947-2:2017
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2028558

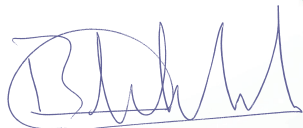
DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

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

This certificate is issued on 21 March 2019 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 33-107828

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)	: HDW3-4000M and HDW3-4000S
Number of poles	: 3P and 4P (protected N pole)
Protected poles	: 3 or 4
Rated operational voltage (Ue)	: 400 / 415 Vac, 660 / 690 Vac
Rated insulation voltage (Ui)	: 1000 V for main circuit 690 V for control circuit
Rated impulse withstand voltage (Uimp)	: 12 kV for main circuit 4 kV for control circuit
Rated frequency	: 50 / 60 Hz
Rated current (In)	: 1600 A, 2000 A, 2500 A, 3200 A, 4000 A
Conventional thermal current (Ith)	: Equal to In
Current rating for four-pole circuit-breakers	: Equal to In
Suitable for isolation	: Suitable
Selectivity category	: B
Safety distance (screen-circuit breaker)	: Front / back: 0 mm Left / right: 0 mm Up / down: 0 mm
Reference temperature	: Independent
Method of mounting	: Withdrawable or fixed
EMC Environment	: A
Tightening torque for terminals	: 50 Nm for M10
Line/load terminal	: Immaterial
Connection	: Minimum cross-sectional area of conductor: (100 mm x 5 mm) x 2 (copper busbars) Maximum cross-sectional area of conductor: (100 mm x 10 mm) x 5 (copper busbars)
Inverse time delay release	: Ir (inverse time delay tripping setting): For trip unit: iTR326H and iTR326: Ir: (0,4 / 0,5 / 0,6 / 0,7 / 0,8 / 0,9 / 0,95 / 0,98 / 1) x In For trip unit: iTR326A: Ir: (0,4 - 1) x In, in steps of 1 A
Time setting of the inverse time delay release	: tr (inverse time delay tripping setting): 1 s / 2 s / 4 s / 8 s / 12 s / 16 s / 20 s / 24 s / 30 s, with tolerance of ± 10% (at 6 Ir) tripping time at 2 Ir: 8,1 s ≤ t ≤ 9,9 s (tr = 1 s) 243 s ≤ t ≤ 297 s (tr = 30 s)
Short time delay release	: Isd (short time delay tripping setting): For trip unit: iTR326H and iTR326: Isd: (1,5 / 2,0 / 3,0 / 4,0 / 5,0 / 6,0 / 8,0 / 10) x Ir, OFF For trip unit: iTR326A: Isd: (1,5 - 10) x Ir, OFF in steps of 1 A for Isd < 10 kA, in steps of 0,01 kA for Isd ≥ 10 kA

Time setting of the short time delay release	: tsd (short time delay tripping setting): I ² t off: 0,1 s / 0,2 s / 0,3 s / 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 Non-tripping duration: 0,1 s: 80 ms 0,2 s: 140 ms 0,3 s: 230 ms 0,4 s: 350 ms
Instantaneous release	: li (instantaneous tripping setting): For trip unit: iTR326H and iTR326: li: (2 / 3 / 4 / 6 / 8 / 10 / 12 / 15) x I _n , OFF For trip unit: iTR326A: li: (2 - 15) x I _n , OFF in steps of 1 A for li < 10 kA, in steps of 0,01 kA for li ≥ 10 kA
Making current release (MCR)	: 36 kA
Ground fault release	: I _g (ground fault release tripping setting): For trip unit: iTR326H and iTR326: I _n < 1250 A: I _g : (0,2 / 0,3 / 0,4 / 0,5 / 0,6 / 0,8 / 0,9 / 1,0) x I _n , OFF I _n ≥ 1250 A: I _g : 500 A / 600 A / 700 A / 800 A / 900 A / 1000 A / 1100 A / 1200 A, OFF For trip unit: iTR326A: I _n < 1250 A: I _g : (0,2 - 1,0) x I _n , in steps of 1 A, OFF I _n ≥ 1250 A: I _g : 500 A - 1200 A, in steps of 1 A, OFF t _g (ground fault release tripping setting): I ² t off: 0,1 s / 0,2 s / 0,3 s / 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	: AC: 220 / 230 V, 380 / 400 V, 50 / 60 Hz DC: 110 V, 220 V
Under-voltage release	: AC: 220 / 230 V, 380 / 400 V, 50 / 60 Hz
Closing coil	: AC: 220 / 230 V, 380 / 400 V, 50 / 60 Hz DC: 110 V, 220 V
Stored energy motor	: AC: 220 / 230 V, 380 / 400 V, 50 / 60 Hz DC: 110 V, 220 V
External supply for trip unit	: AC: 220 / 230 V, 380 / 400 V, 50 / 60 Hz DC: 110 V, 220 V
Product data – type HDW3-4000M	
Rated ultimate short-circuit breaking capacity (I _{cu})	: 100 kA at 400 / 415 Vac 65 kA at 660 / 690 Vac
Rated service short-circuit breaking capacity (I _{cs})	: 85 kA at 400 / 415 Vac 65 kA at 660 / 690 Vac
Rated short-time withstand current (I _{cw})	: 85 kA - 1 s at 400 / 415 Vac 65 kA - 1 s at 660 / 690 Vac

Product data – type HDW3-4000S

Rated ultimate short-circuit breaking capacity (Icu)	: 85 kA at 400 / 415 Vac 65 kA at 660 / 690 Vac
Rated service short-circuit breaking capacity (Ics)	: 85 kA at 400 / 415 Vac 65 kA at 660 / 690 Vac
Rated short-time withstand current (Icw)	: 85 kA - 1 s at 400 / 415 Vac 65 kA - 1 s at 660 / 690 Vac

TESTS**Test requirements**

EN 60947-2:2017

Test result

The test results are laid down in DEKRA test file 331490900.

Additional information

Nomenclature breakdown:

HDW3 - 4000 M / 4

a b c d

a = Model name: HDW3

b = Frame size: 4000

c = short-circuit capacity: 'M' or 'S'

d = pole numbers, '4' means 4P ACBs, 'blank' means 3P ACBs

This certificate is based on certificate no. 33-107578 issued on 2019-03-15.

The referred test reports is no.3314909.50

The product also complies with IEC60947-2:2016.

Conclusion

The examination proved that all test requirements were met.

Conclusion

The examination proved that all requirements were met.

Factory locations

DELIXI ELECTRIC (WUHU) LTD
Wuhu Machinery Industrial Park,
Wuhu City,
241100 Anhui Province, China

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325604 Zhejiang Province, China