

CERTIFICATE

Issued to:

Applicant:

Zhejiang Chint Electrics Co., Ltd.
No. 1, Chint Road, Chint Industrial Zone, North
Baixiang, Yueqing,
325603 Zhejiang, China

Licensee:

Zhejiang Chint Electrics Co., Ltd.
No. 1, Chint Road, Chint Industrial Zone, North
Baixiang, Yueqing,
325603 Zhejiang, China

Product : Circuit-breakers incorporating residual current protection
Trade name(s) : CHINT
Type(s)/model(s) : NM8NL-400C, NM8NL-400H, NM8NL-400Q, NM8NL-400R, NM8NL-400S,
NM8NL-630C, NM8NL-630H, NM8NL-630Q, NM8NL-630R and NM8NL-630S

The product and any acceptable variation thereto as 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 IEC 60947-2:2016, IEC 60947-2:2016/AMD1:2019, EN 60947-2:2017, EN 60947-2:2017/A1:2020, IEC 60947-5-1:2016 and EN 60947-5-1:2017
- an inspection of the factory location according to CENELEC Operational Document CIG 021
- a DEKRA certification agreement with the number 2032236

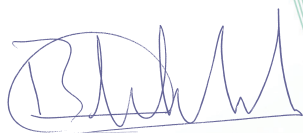
DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

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 26 September 2023 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 33-130514

DEKRA Certification B.V.



B.T.M. Holtus
Managing Director



H.L. Schendstok
Certification Manager

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DUTCH ACCREDITATION
COUNCIL



SPECIFICATION OF THE CERTIFIED PRODUCT

Product data

Product	: Circuit-breakers incorporating residual current protection
Trade name(s)	: CHINT
Type(s)/model(s)	: NM8NL-400C, NM8NL-400H, NM8NL-400Q, NM8NL-400R, NM8NL-400S, NM8NL-630C, NM8NL-630H, NM8NL-630Q, NM8NL-630R and NM8NL-630S
Number of poles	: 3P and 4P
Rated operational voltage (Ue)	: 208 Vac / 380 Vac / 400 Vac / 415 Vac, 440 Vac
Rated insulation voltage (Ui)	: 1000 V for main circuit 500 V for control circuit 500 V for auxiliary circuit
Rated impulse withstand voltage (Uimp)	: 12 kV for main circuit 2,5 kV for shunt release and undervoltage release 6,0 kV for electric operating mechanism 2,5 kV for auxiliary circuit
Rated frequency	: 50 / 60 Hz
Conventional thermal current (Ith)	: Equal to In
Current rating for four-pole circuit-breakers	: 0,5 In, 1,0 In, OFF
Rated short-time withstand current (Icw)	: In ≤ 400 A: 5 kA - 1 s, In > 400 A, 8 kA - 1 s
Individual pole short-circuit (IIT)	: 1,2 Isd at 440 Vac for electronic trip unit EN and EM
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	: Fixed
EMC Environment	: A
Tightening torque for terminals	: 25,0 Nm for M10
Line/load terminal	: Immaterial
Connection	: copper conductor with cable lug
Inverse time delay release	: Ir (inverse time delay tripping setting): For trip unit: EN: (0,4 / 0,5 / 0,6 / 0,7 / 0,8 / 0,9 / 0,95 / 1) x In For trip unit: ENM: (0,4 / 0,5 / 0,6 / 0,7 / 0,8 / 0,9 / 1) x In For trip unit: EM and EMM: (0,4 - 1) x In, in steps of 1 A
Time setting of the inverse time delay release	: tr (inverse time delay tripping setting): For trip unit: EN: 3 / 6 / 12 / 18 s, with tolerance of ± 10% (at 6 Ir) For trip unit: EM: 3 s - 18 s, with tolerance of ± 10% (at 6 Ir) in steps of 1 s, For trip unit: ENM and EMM: 4 / 8 / 16 / 24 s, with tolerance of ± 10% (at 7,2 Ir) 2 Ir tripping time declared by the manufacturer: For trip unit: EN and EM: when tr = 3 s: 24,3 s - 29,7 s when tr = 18 s: 145,8 s - 178,2 s For trip unit: ENM and EMM: when tr = 4 s: 46,66 s - 57,0 s when tr = 24 s: 279,9 s - 342,14 s

- Short time delay release : I_{sd} (short time delay current setting):
For trip unit: EN:
(1,5 / 2,0 / 3,0 / 4,0 / 6,0 / 8,0 / 10) x I_r , OFF
For trip unit: ENM:
(5,0 / 6,0 / 8,0 / 9,0 / 10 / 11 / 12) x I_r , OFF
For trip unit: EM:
(1,5 - 10) x I_r , OFF,
in steps of 1 A,
For trip unit: EMM:
(4,0 - 12) x I_r , OFF,
in steps of 1 A
- Time setting of the short time delay release : t_{sd} (short time delay time setting):
For trip unit: EN:
 I^2t off: 0,1 s / 0,2 s / 0,3 s / 0,4 s
0,1 s, with tolerance of 60 ms - 140 ms
0,2 s, with tolerance of 160 ms - 240 ms
0,3 s, with tolerance of 240 ms - 360 ms
0,4 s, with tolerance of 320 ms - 480 ms
For trip unit: EM:
in steps of 0,1 s,
 I^2t off: 0,1 s / 0,2 s / 0,3 s / 0,4 s
0,1 s, with tolerance of 60 ms - 140 ms
0,2 s, with tolerance of 160 ms - 240 ms
0,3 s, with tolerance of 240 ms - 360 ms
0,4 s, with tolerance of 320 ms - 480 ms
For trip unit: ENM and EMM:
 I^2t off: 0,1 s
0,1 s, with tolerance of 60 ms - 140 ms
non-tripping duration stated by the manufacturer:
For trip unit: EN and EM:
0,1 s: 60 ms
0,2 s: 160 ms
0,3 s: 240 ms
0,4 s: 320 ms
For trip unit: ENM and EMM:
0,1 s: 60 ms
- Instantaneous release : I_i (instantaneous current setting):
For trip unit: EN:
(2,0 / 3,0 / 4,0 / 6,0 / 8,0 / 10 / 12) x I_n , OFF
For trip unit: ENM:
15 x I_n ,
For trip unit: EM:
(1,5 - 12) x I_n , OFF,
in steps of 1 A,
For trip unit: EMM:
15 x I_n
- Ground fault release : I_g (Ground fault release)
Current setting I_g :
For trip unit: EM and EMM:
 I_g : (0,4 / 0,5 / 0,6 / 0,7 / 0,8 / 0,9 / 1,0) x I_n , OFF,
 t_g (time setting):
 I^2t off: 0,1 s / 0,2 s / 0,3 s / 0,4 s
0,1 s, with tolerance of 60 ms - 140 ms
0,2 s, with tolerance of 160 ms - 240 ms
0,3 s, with tolerance of 240 ms - 360 ms
0,4 s, with tolerance of 320 ms - 480 ms

Rated residual operating current ($I_{\Delta n}$)	: For non-time-delay type: Current setting: Adjustable with fixed steps: 30 mA / 50 mA / 100 mA / 200 mA / 300 mA / 500 mA / 1000 mA / 2000 mA For time-delay type: Current setting: Adjustable with fixed steps: 50 mA / 100 mA / 200 mA / 300 mA / 500 mA / 1000 mA / 2000 mA
Time setting of rated residual operating current	: Non-time-delay or adjustable time-delay: 0,06 s / 0,2 s / 0,5 s / 1 s / 2 s
The limiting non-actuating time at $2I_{\Delta n}$ (Δt)	: 0,06 s / 0,2 s / 0,5 s / 1 s / 2 s
Classification according to behaviour in presence of a d.c. component	: Type A or Type AC
Dependent of line voltage	: Yes
Shunt release	: SHT22-M8: AC: 48 V, 110 V, 220 - 240 V, 380 - 415 V, 50 / 60 Hz DC: 24 V, 48 V, 110 - 120 V, 220 V
Under-voltage release	: UVT22-M8: AC: 48 V, 110 V, 220 - 240 V, 380 - 415 V, 50 / 60 Hz DC: 24 V, 48 V, 110 - 120 V, 220 V
Electric operating mechanism	: MOD23-M8: AC: 110 V, 220 - 240 V, 380 - 415 V, 50 / 60 Hz DC: 24 V, 110 V, 220 V
Auxiliary circuits	: AX21-M8 / AL21-M8 1 NO and 1 NC AC-15: 2 A at 415 Vac, 4 A at 240 Vac, 5 A at 110 Vac DC-13: 0,25 A at 220 Vdc / 110 Vdc, Ui: 500 V, Uimp: 2,5 kV Rated conditional short-circuit current: 1 kA Fuse: RL6-25/6, 6 A, 500 Vac, 50 kA, Schneider

Product data – type NM8NL-400C

Rated current (I_n)	: 250 A, 315 A, 350 A, 400 A
Rated ultimate short-circuit breaking capacity (I_{cu})	: 36 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (I_{cs})	: 36 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity ($I_{\Delta m}$)	: 9 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

Product data – type NM8NL-400H

Rated current (I_n)	: 250 A, 315 A, 350 A, 400 A
Rated ultimate short-circuit breaking capacity (I_{cu})	: 100 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (I_{cs})	: 100 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity ($I_{\Delta m}$)	: 25 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

Product data – type NM8NL-400Q

Rated current (I_n)	: 250 A, 315 A, 350 A, 400 A
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Rated ultimate short-circuit breaking capacity (Icu) : 70 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (Ics) : 70 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity (IΔm) : 17,5 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

Product data – type NM8NL-400R

Rated current (In) : 250 A, 315 A, 350 A, 400 A
Rated ultimate short-circuit breaking capacity (Icu) : 150 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac
100 kA at 440 Vac
Rated service short-circuit breaking capacity (Ics) : 150 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac
100 kA at 440 Vac
Residual short-circuit making and breaking capacity (IΔm) : 37,5 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac,
25 kA at 440 Vac

Product data – type NM8NL-400S

Rated current (In) : 250 A, 315 A, 350 A, 400 A
Rated ultimate short-circuit breaking capacity (Icu) : 50 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (Ics) : 50 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity (IΔm) : 12,5 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

Product data – type NM8NL-630C

Rated current (In) : 250 A, 315 A, 350 A, 400 A, 500 A, 630 A
Rated ultimate short-circuit breaking capacity (Icu) : 36 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (Ics) : 36 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity (IΔm) : 9 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

Product data – type NM8NL-630H

Rated current (In) : 250 A, 315 A, 350 A, 400 A, 500 A, 630 A
Rated ultimate short-circuit breaking capacity (Icu) : 100 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (Ics) : 100 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity (IΔm) : 25 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

Product data – type NM8NL-630Q

Rated current (In) : 250 A, 315 A, 350 A, 400 A, 500 A, 630 A
Rated ultimate short-circuit breaking capacity (Icu) : 70 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (Ics) : 70 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity (IΔm) : 17,5 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

Product data – type NM8NL-630R

Rated current (In)	: 250 A, 315 A, 350 A, 400 A, 500 A, 630 A
Rated ultimate short-circuit breaking capacity (Icu)	: 150 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac 100 kA at 440 Vac
Rated service short-circuit breaking capacity (Ics)	: 150 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac 100 kA at 440 Vac
Residual short-circuit making and breaking capacity (IΔm)	: 37,5 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac 25 kA at 440 Vac

Product data – type NM8NL-630S

Rated current (In)	: 250 A, 315 A, 350 A, 400 A, 500 A, 630 A
Rated ultimate short-circuit breaking capacity (Icu)	: 50 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Rated service short-circuit breaking capacity (Ics)	: 50 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac
Residual short-circuit making and breaking capacity (IΔm)	: 12,5 kA at 208 Vac / 380 Vac / 400 Vac / 415 Vac / 440 Vac

TESTS**Test requirements**

IEC 60947-2:2016
IEC 60947-2:2016/AMD1:2019
EN 60947-2:2017
EN 60947-2:2017/A1:2020
IEC 60947-5-1:2016
EN 60947-5-1:2017

Test result

The test results are laid down in DEKRA test file 332767100.

Additional information

Nomenclature breakdown:

NM8N L – 630 C EN 630 4

a b c d e f g

a = model name: 'NM8N'

b = residual current protection device

c = frame size: '630' or '400'

d = short-circuit capacity: 'C', 'S', 'Q', 'H' or 'R'

e = trip unit: 'EN', 'EM', 'ENM', 'EMM'

f = rated current: 250 A, 315 A, 350 A, 400 A, 500 A, 630 A

g = number of poles: '4' means 4P, '3' means 3P

The referred test report is 3327671.50, CQC CB test certificate CN46412-M1 issued on 2019-06-18 with CB test report no. 00901-CB2018CQC-084130-M1 issued on 2019-06-06 and CQC CB test certificate CN46412 issued on 2019-04-09 with CB test no. 00901-CB2018CQC-084130 issued on 2019-03-25.

This certificate replaces certificate No. 33-121875 which we hereby declare invalid.

Conclusion

The examination proved that all requirements were met.

Factory location

NOARK Electrics (Shanghai) Co.,Ltd.
No. 3857, Sixian Road, Songjiang District
201614 Shanghai, China

Accessory type	Model
Auxiliary circuit	AX21-M8 / AL21-M8
Shunt release	SHT22-M8
Undervoltage release	UVT22-M8
Electric operating mechanism	MOD23-M8
Rotation handle	DRH23-M8