

CERTIFICATE

Issued to:
Applicant:
Mitsubishi Electric Corporation Fukuyama Works
1-8 Midori-Machi
Fukuyama-City
Hiroshima-Pref 720 8647, Japan

Licensee:
Mitsubishi Electric Corporation Fukuyama Works
1-8 Midori-Machi
Fukuyama-City
Hiroshima-Pref 720 8647, Japan

Product : Moulded-Case Circuit-Breaker
Trade name(s) : MITSUBISHI ELECTRIC
Type(s)/model(s) : NF160-HGV, NF160-LGV and NF160-SGV

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 60947-2:2006, EN 60947-2:2006/A1:2009 and EN 60947-2:2006/A2:2013
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2116095

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 4 April 2018 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 33-103329

DEKRA Certification B.V.



drs. G.J. Zoetbrood
Managing Director



Henk Schendstok
Certification Manager

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DUTCH ACCREDITATION
COUNCIL



SPECIFICATION OF THE CERTIFIED PRODUCT**Product data**

Product	: Moulded-Case Circuit-Breaker
Trade name(s)	: MITSUBISHI ELECTRIC
Type(s)/model(s)	: NF160-HGV, NF160-LGV and NF160-SGV
Number of poles	: 3P or 4P (N pole without protection)
Protected pole	: 3
Rated operational voltage (Ue)	: 230 Vac, 380 Vac, 400 Vac, 415 Vac, 250 Vdc
Rated insulation voltage (Ui)	: 690 V
Rated impulse withstand voltage (Uimp)	: 8 kV
Reference temperature (°C)	: 40 °C
Rated tightening torque for terminals (Nm)	: 6 Nm for M8
Rated current (In)	: 160 A
Conventional thermal current (Ith)	: Equal to In
Current rating for four-pole circuit-breakers	: Equal to In
Rated frequency	: 50 / 60 Hz
Suitable for isolation	: Suitable
Utilization category	: A
Instantaneous release	: Magnetic type, fixed, li = 10 In for 2 phases in series (AC) li = 15 In for single pole (AC) li = 14 In for 2 phases in series (DC) li = 21 In for single pole (DC)
Inverse time delay release	: Thermal type, adjustable, Ir = 125 A - 160 A
Time setting of the inverse time delay release	: Fixed
Method of mounting	: Fixed
EMC environment	: A and B
Individual pole short-circuit breaking capacity (Iit)	: Yes (only suitable for 3P) 15 In at 415 Vac
Line/load terminal Connection	: Immaterial Prepared copper conductor with cable lug

Product data – type NF160-HGV

Rated ultimate short-circuit breaking capacity (Icu)	: 100 kA at 230 Vac, 75 kA at 380 / 400 Vac, 70 kA at 415 Vac, 40 kA at 250 Vdc
Rated service short-circuit breaking capacity (Ics)	: 100% Icu
Safety distance (screen-circuit breaker)	: Left / Right: 60 mm Up / Down: 80 mm Front / Back: 160 mm

Product data – type NF160-LGV

Rated ultimate short-circuit breaking capacity (Icu)	: 90 kA at 230 Vac, 50 kA at 380 / 400 / 415 Vac, 20 kA at 250 Vdc
Rated service short-circuit breaking capacity (Ics)	: 100% Icu
Safety distance (screen-circuit breaker)	: Left / Right: 60 mm Up / Down: 80 mm Front / Back: 160 mm

Product data – type NF160-SGV

Rated ultimate short-circuit breaking capacity (Icu) : 85 kA at 230 Vac, 36 kA at 380 / 400 / 415 Vac, 20 kA at 250 Vdc
Rated service short-circuit breaking capacity (Ics) : 100% Icu
Safety distance (screen-circuit breaker) : Left / Right: 50 mm
Up / Down: 70 mm
Front / Back: 160 mm

TESTS**Test requirements**

EN 60947-2:2006
EN 60947-2:2006/A1:2009
EN 60947-2:2006/A2:2013

Test result

The test results are laid down in DEKRA test file 331338500.

Additional information

This certificate is based on certificate no. 33-100988 issued on 11 August 2017.

The referred test reports are 3313385.50, 3310628.50, 3302725.50 and also based on CQC CB test certificate CN20815 issued on 2011-07-05 with CQC CB test report C009-CB2010CQC-028669 issued on 2011-05-18.

The product also complies with IEC 60947-2:2006 + A1:2009 + A2:2013.

This certificate replaces certificate No. 33-102740 which we herewith declare invalid.

Conclusion

The examination proved that all requirements were met.

Factory location

Mitsubishi Electric Corporation Fukuyama Works
1-8 Midori-Machi
Fukuyama-City
Hiroshima-Pref 720 8647, Japan