



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **E-11818**

This is to certify that the
Miniature Circuit Breaker

with type designation(s)
NB1-63


Manufactured by
Zhejiang Chint Electrics Co.,Ltd
Wenzhou, China

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

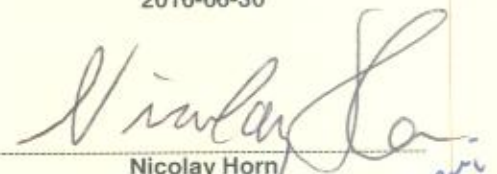
Application
Onboard ships and offshore applications

Høvik, 2012-08-08
for **Det Norske Veritas AS**

This Certificate is valid until
2016-06-30


Marit Laumann
Head of Section


DNV local office:
Ningbo


Nicolay Horn
Surveyor
S. L. Horn

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.
If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Certificate No.: E-11818
File No.: 825.20
Job Id.: 262.1-003167-3

Product description

Miniature Circuit Breakers with the following type designations:

Type NB1-63 and NB1-63H – 1, 2, 3 and 4 poles

Tripping characteristics:	B/C/D
Rated operation voltage (AC)	240/415 V *
Frequency	50 - 60 Hz
Rated current	1, 2, 3, 4, 6, 10 - 63 A
Breaking capacity Icn	10 kA (NB1-63H) 6 kA (NB1-63)
Power factor	0.2 – 0.25

* Suitable in a 415/240 V system.

Application/Limitation

The MCB's are tested with 1.1x Un and is therefore suitable in a 415/240 V system.

Tested in accordance with IEC 60947-2 Annex C (C2 test).

Type Approval documentation

Technical data: "NB1-63 DNV Application", undated.

Test reports: ETL SEMKO ref. nos. 617389-1/2/3/4 and 617393-1/2/3/4 all issued 2006-12-14, ref. no 306901-1/2/3 issued 2003-08-15"78, Shanghai Testing & Inspection Institute for Electrical Equipment test report ref. no 07065, issued 2007-11-19.

Tests carried out

Type tested according to IEC / EN 60898 "Circuit breakers for overcurrent protection for household and similar installations" and IEC 60947-2 "Circuit breakers". Vibration test, dry heat test and damp heat test in accordance with DNV CN 2.4 (Class A).

Marking of product

Product marking: NB1-63 – Zhejiang Chint Electrics - Type designation

Certificate retention survey

The scope of the retention/renewal survey is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems/components/materials.

The main elements of the survey are:

- Inspection of factory samples, selected at random from the production line (where practicable).
- Review of production and inspection routines, including test records from product sample tests and control routines.
- Ensuring that systems/components/materials used comply with type approved documents and/or referenced system/component/material specifications.
- Review of possible changes in design of systems/components/materials, software version and performance, and make sure that such changes do not affect the type approval given.
- Ensuring traceability between manufacturer's product type marking and the type approval certificate.
- Ensuring that type approved documentation is available.

Survey to be performed at least every second year.

END OF CERTIFICATE