

DNV

# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

**CERTIFICATE NO. E-8992**

This Certificate consists of 3 pages


*This is to certify that the*  
**Miniature Circuit Breaker**  
*with type designation(s)*  
**NB1-63**

*Manufactured by*  
**Zhejiang Chint Electrics Co., Ltd**  
Wenzhou 325603, 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*  
Normally not to be used in main switchboards, unless specially approved with regard to power factor and breaking capacity.


*Place and date*  
Høvik, 2008-04-16  
for DET NORSKE VERITAS AS

  
Trond Sjøvåg  
Head of Section



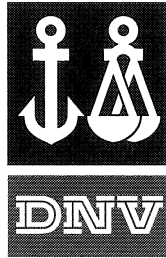
*Local Office*  
DNV Shanghai

*This Certificate is valid until*  
2012-06-30

  
Nicolay Horn  
Surveyor

**Notice: 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.



Cert. No.: E-8992  
File No.: 825.20

## 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 I <sub>cn</sub>	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).

Normally not to be used in main switchboards, unless specially approved with regard to power factor and breaking capacity.

## Type Approval documentation

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

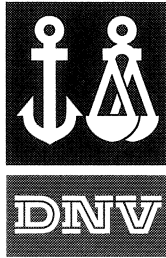
Test reports: ETL SEMKO ref. nos. 617389-1/2/3/4 and 617393-1/2/3/4 all issued 2006-12-14, ref. no 306901-1/2/3 issued 2003-08-15"78, Shanghai Testing & Inspection Institute for Electrical Equipment test report ref. no 07065, issued 2007-11-19.

## 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



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### **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