DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-12026

This is to certify that the
Contactor

with type designation(s)
N22E, N31E, N40E, N44E, N53E, N62E, N71E, N80E

Manufactured by
ABB France
CHASSIEU Cedex, France

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

Application
For installations inside switchboard/enclosures onboard ships and offshore units.

Rated Voltage (V) 690
Rated Current (A) 2 (AC 15)
Frequency (Hz) 50 / 60 and DC

Høvik, 2012-11-26
for Det Norske Veritas AS

Marit Laumann
Head of Section

This Certificate is valid until
2015-12-31

DNV local office: Le Havre
Marta Alonso Pontes
Surveyor

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.

DET NORSKE VERITAS AS, Veritasveien 1, NO-1322 Høvik, Norway, Tel.: +47 67 57 99 00, Fax: +47 67 57 99 11, Org. No. NO 945 748 931 MVA www.dnv.com
Form No.: TA 1411a Issue: October 2009
Name and place of manufacturer

ABB France
Chassieu, France
ABB Ltd
Bangalore 560058, India

ABB Xinhui Low voltage Switchgear Co. Ltd
Guangdong, China

Product description

Contactors relays for use up to 690 volt.

<table>
<thead>
<tr>
<th>Poles</th>
<th>4 or 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Current</td>
<td>see list below</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 or 60 Hz</td>
</tr>
<tr>
<td>Coil voltage</td>
<td>Various</td>
</tr>
<tr>
<td>Insulating medium</td>
<td>Air</td>
</tr>
<tr>
<td>Impulse withstand voltage</td>
<td>8 kV</td>
</tr>
<tr>
<td>Rated Making current</td>
<td>10 x le (AC 15)</td>
</tr>
<tr>
<td>Rated Breaking current</td>
<td>10 x le (AC 15)</td>
</tr>
<tr>
<td>Rated Withstand current</td>
<td>see list below</td>
</tr>
</tbody>
</table>

List of current and power ratings for 690 volt, \( I_{AC-15} \) and 250V, \( I_{DC-15} \).

See manufacturers catalogue for current and power ratings for lower voltages.

<table>
<thead>
<tr>
<th>Type</th>
<th>Nom. Current AC-15, at 690V t ( \leq 55^\circ C )</th>
<th>Nom. Current DC-15, at 250V t ( \leq 55^\circ C )</th>
<th>Withstand current*, 1s t = 40(^\circ)C</th>
</tr>
</thead>
<tbody>
<tr>
<td>N. all types</td>
<td>2 A</td>
<td>0.3 A</td>
<td>100 A</td>
</tr>
</tbody>
</table>

* Withstand current must be derated by 5% as DNV rules state max ambient temp of 45\(^\circ\)C onboard ships, not 40\(^\circ\)C as stated by IEC. Separate case-by-case approval is needed in each case to use the figures as listed.

Application/Limitation

For installations inside switchboard/enclosures onboard ships and offshore units.

Type Approval documentation

Technical info:
Manufacture's catalogue 1SBC 100122C0202.

Test reports:

Witnessed by DNV: ABB Control Test no. 16998

Tests carried out

Other tests: Make and break, Insulation, power supply variation, inclination, vibration, damp heat, dry heat, high voltage.

Marking of product

Manufacturers type, standard reference, ratings

Certificate Retention Survey

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

The main elements of the survey are:
- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer’s product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE