

TYPE APPROVAL CERTIFICATE**This is to certify:****That the Contactor**

with type designation(s)

**GH15BN / CN / DN / ET / FT / GT / HT / JT / KT / LT / MT / NT / PT / RT / ST / TT
GH55 / 55B / 57 / 57B / 62 / 64 / 76 / 78**

Issued to

**Ghisalba S.p.A.
RIVOLI TO, Italy**

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Rated Voltage (V) 440 - 690
Rated Current (A) 7 - 1200
Frequency (Hz) 50 / 60**Issued at **Hamburg** on **2017-04-10**for **DNV GL**This Certificate is valid until **2021-12-31**.DNV GL local station: **Milan**Approval Engineer: **Harald Amberger**.....
**Duy Nam Le
Head of Section**

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.



Product description

Three pole contactors, without enclosures.

| Type | Rated Current (A) Utilization Category AC-3 | | | |
|-------------|--|-------|-------|---------------------|
| | 440 V | 500 V | 690 V | Thermal Current (A) |
| GH15BN | 9 | 9 | 7 | 30 |
| GH15CN | 12 | 12 | 9 | 30 |
| GH15DN | 16 | 16 | 9 | 40 |
| GH15ET | 25 | 18 | 13 | 45 |
| GH15FT | 32 | 24 | 18 | 50 |
| GH15GT | 40 | 30 | 23 | 63 |
| GH15HT | 50 | 38 | 26 | 80 |
| GH15JT | 63 | 45 | 34 | 100 |
| GH15KT | 80 | 70 | 50 | 115 |
| GH15LT | 90 | 80 | 60 | 125 |
| GH15MT | 110 | 90 | 70 | 135 |
| GH15NT | 150 | 150 | 120 | 230 |
| GH15PT | 175 | 175 | 140 | 250 |
| GH15RT | 210 | 210 | 150 | 350 |
| GH15ST | 260 | 260 | 200 | 450 |
| GH15TT | 315 | 315 | 240 | 500 |
| GH55, GH55B | 450 | 450 | 400 | 560 |
| GH57, GH57B | 550 | 550 | 500 | 650 |
| GH62 | 700 | 700 | 630 | 750 |
| GH64 | 860 | 860 | 700 | 900 |
| GH76 | 1000 | 1000 | 860 | 1100 |
| GH78 | 1200 | 1200 | 1000 | 1250 |

Application/Limitation

Marine, offshore and industrial use.

Type Approval documentation

Technical info:

Ghisalba brochure "Contactors and thermal overload relays". Ghisalba "Contactor Ratings" dated 2008-01-09.

Test reports:

TESEO test report doc. no. 00148 dated 2000-07-25, Politecnico de Torino Rapporto de Prova doc. no. TR 07-04 LIE dated 2007-04-13. EMIT-LAS Test report nos. 0040-PG-96 issued 1996-12-12, RP 1582 91 issued 1991-04. TÜV test report nos. V 04/110 dated 2004-09-02, VIBP 07_162, 163 & 164 dated 2007-05-21, Ghisalba Test Report nos. R.T.L. 10/95E dated 1995-11-20, LPE 03-01, LPE 03-02, LPE 03-04, LPE 03-06, LPE 03-07, LPE 06-01, LPE 06-02, LPE 06-03, LPE 07-01, LPE 90-06, LPE 92-05, LPE 94-02, LPE 94-06, LPE 94-07, LPE 94-09, LPE 94-10, LPE 94-13, LPE 94-14, LPE 95-01, LPE 95-04, LPE 95-07, LPE 95-11, LPE 95-12, LPE 95-13, LPE 95-15, LPE 95-16, LPE 95-17, LPE 95-18, LPE 95-22, LPE 96-03, LPE 96-06, LPE 97-01, LPE 97-04, LPE 97-05, LPE 97-02 and LPE 04-01. ICN test reports nos. . RESPRV07.008 dated 2007-03-27, RESPRV04.025.2, dated 2004-11-04, RESPRV01.012, dated 2001-07-26, 29232-01E, 29232-02E and 29376-02E.

Job Id: **262.1-015046-4**
Certificate No: **TAE00001W5**

Tests carried out

Type tests according to: IEC 60947-4-1

Other tests: Make and break, insulation, inclination, vibration, dielectric properties, high voltage.

Marking of product

Manufacturer identification, product type and rating.

Periodical assessment

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

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to 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.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE