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Elinstallationer i fartyg – Del 304: Utrustning – Halvledarströmriktare

*Electrical installations in ships –
Part 304: Equipment –
Semiconductor convertors*

Denna svenska standard innehåller den engelska texten i nedan angiven IEC-publikation, utarbetad inom International Electrotechnical Commission, IEC:

- **IEC 60092-304, Third edition, 1980 - Electrical installations in ships - Part 304: Equipment - Semiconductor convertors**

jämte

Amendment No. 1, 1995

Nationellt förord

Tidigare fastställd svensk standard SS-IEC 92, utgåva 4, 1995, gäller ej fr o m 2017-11-23.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSTALLATIONS IN SHIPS

Part 304: Equipment — Semiconductor convertors

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

PREFACE

This standard has been prepared by IEC Technical Committee No. 18: Electrical Installations in Ships.

It forms a part of IEC Publication 92 which deals with electrical installations in ships.

The first edition of this publication was published in 1957.

A second edition consisted of six parts and was published in 1964 (Publication 92-1) and in 1965 (Publications 92-2, 92-3, 92-4, 92-5 and 92-6).

This third edition supersedes the second edition with the exception of Chapter X of Publication 92-3: Part 3: Cables (construction, testing and installation), which is under consideration. (Please see therefore the latest edition of the Catalogue of Publications.)

The series consists of the following publications:

- Publications Nos. 92-101: Electrical Installations in Ships,
Part 101: Definitions and General Requirements.
- 92-201: Part 201: System Design — General.
92-202: Part 202: System Design — Protection.
92-301: Part 301: Equipment — Generators and Motors.
92-302: Part 302: Equipment — Switchgear and Controlgear Assemblies.
92-303: Part 303: Equipment — Transformers for Power and Lighting.
92-304: Part 304: Equipment — Semiconductor Convertors.
92-305: Part 305: Equipment — Accumulator (storage) Batteries.
92-306: Part 306: Equipment — Luminaires and Accessories.
92-307: Part 307: Equipment — Heating and Cooking Appliances.
92-352: Part 352: Choice and Installation of Cables for Low-voltage Power Systems.
92-373: Part 373: Shipboard Telecommunication Cables and Radio-frequency Cables — Shipboard Flexible Coaxial Cables.
- 92-374: Part 374: Shipboard Telecommunication Cables and Radio-frequency Cables — Telephone Cables for Non-essential Communication Services.
- 92-375: Part 375: Shipboard Telecommunication Cables and Radio-frequency Cables — General Instrumentation, Control and Communication Cables.
- 92-401: Part 401: Installation and Test of Completed Installation.
92-501: Part 501: Special Features — Electric Propulsion Plant.
92-502: Part 502: Special Features — Tankers.

- 92-503: Part 503: Special Features — A.C. Supply Systems with Voltages in the Range Above 1 kV up to and Including 11 kV.
- 92-504: Part 504: Special Features — Control and Instrumentation.
- 92-504A: First Supplement to Publication 92-504 (1974)
Special Features — Control and Instrumentation
Appendices — Specific Control and Instrumentation Installations.
- 92-505: Part 505: Special Features — Mobile Offshore Drilling Units.

Drafts for Part 304 were discussed at the meeting held in Moscow in 1977 and completed at the meeting held in Florence in 1978. As a result of the latter meeting, the draft, Document 18(Central Office)472, was submitted to the National Committees for approval under the Six Months' Rule in June 1979.

The National Committees of the following countries voted explicitly in favour of publication:

Australia	Egypt	South Africa (Republic of)
Belgium	Germany	Sweden
Bulgaria	Italy	Turkey
Canada	Japan	United Kingdom
China	Netherlands	United States of America
Denmark	Poland	

Other IEC publications quoted in this standard:

- Publications Nos. 92-101: Definitions and General Requirements.
 - 92-303: Equipment — Transformers for Power and Lighting.
 - 92-401: Installation and Test of Completed Installation.
 - 119: Recommendations for Polycrystalline Semiconductor Rectifier Stacks and Equipment (First edition, 1960).
 - 146: Semiconductor Convertors (Second edition, 1973).
 - 146A: First supplement: Chapter VII: Markings on Converter Equipment and Assemblies (1974).
 - 146-2: Part 2: Semiconductor Self-commutated Convertors (First edition, 1974).
 - 146-3: Part 3: Semiconductor Direct D.C. Convertors (D.C. Chopper Convertors) (First edition, 1977).
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ELECTRICAL INSTALLATIONS IN SHIPS
Part 304: Equipment — Semiconductor convertors

INTRODUCTION

IEC Publication 92: Electrical Installations in Ships, forms a series of international standards for electrical installations in sea-going ships, incorporating good practice and co-ordinating as far as possible existing rules.

These standards form a code of practical interpretation and amplification of the requirements of the International Convention on Safety of Life at Sea, a guide for future regulations which may be prepared and a statement of practice for use by shipowners, shipbuilders and appropriate organizations.

1. Scope

This standard is applicable to static convertors using semiconductor rectifying elements such as diodes, reverse blocking triode thyristors etc. for use in ships. The conversion may be from a.c. to d.c., from d.c. to a.c., from d.c. to d.c. and from a.c. to a.c.