

SEA TRANSFORMERS

Quality, reliability and environmental sustainability
Your perfect Partner for Data Center Applications

Current scenario

Internet and data to be stored in clouds are driving the main changes during our current life. Within this context, online services continue to increase and data centers are becoming a massive energy consumers of our time. More and more data centers are being developed in this era of cloud computing but there is the necessity of a complete infrastructure and of a secure sharing of facilities at a low cost.

Requirements

Data centers are sensitive areas which consume a huge amount of energy and have changing requirements.

They house servers containing large amounts of data. Ensuring they are flexible, efficient and reliable thus means providing a durable infrastructure which provides high performance under all circumstances. There are four main objectives for providing an optimum response to the specific issues and requirements of data centers.

Converters, USP devices, power electronics elements are part of the components in the grid in connection with data centers.

The data centers will have a key role in the energy world of tomorrow and the direct consequence is an increasing need for transformers.

Transformers that can be both for standard distribution purposes and for static converter loads. In the second case they have to face with harmonics and therefore they have to be designed accordingly (for extra harmonic strength and for partial discharge).

Such equipment have to guarantee a suitable level of reliability to provide services to the users, without forgetting the environmental sustainability to be respected.

SEA Solutions

In this more and more demanding context, the support of a reliable partner is essential.

Since 1959 SEA has been designing and manufacturing standard and special liquid immersed and cast resin transformers positioning itself among the leaders in this sector.

Innovative construction solutions, modern and technologically advanced processes, detailed checks throughout the entire design and construction chain assure the total quality of the product.

SEA has established procedures to assure the TOTAL QUALITY of its products availing itself on its own know-how and adapting it to innovative manufacturing processes and strict control procedures.

This type of technology guarantee a continual commitment to improve the quality, efficiency and reliability of its products

The environmental sustainability is assured by the ecodesign approach to limit the global impact that products have on the environment throughout their entire life cycle with a saving of materials and reduction of waste.

SEA's sustainable development approach covers also areas like social responsibility and governance.

During the manufacturing SEA systematically try to search technical solutions to substitute the use of hazardous products.





Technical features of SEA cast resin transformers

SEA since 1976 manufactures cast resin transformers. Customized design proved in several distribution and converter applications: excellent electrical, mechanical and thermal behaviours highlighted with a satisfactory MTBF of 5208 years. For such MTBF the probability that SEA transformer survives 20 years in service without failure is 99,62%.

Main advantages:

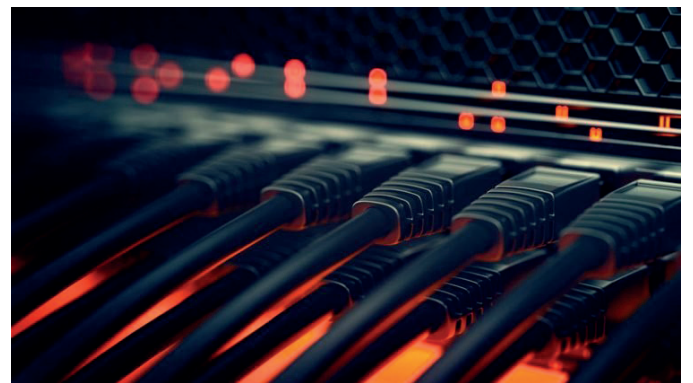
- **Compactness**
Compact design for indoor/outdoor and special room or box dimensions combining terminals position and installation flexibility.
- **Eco+POWER**
Cast resin transformers are flame-resistant and self-extinguishing, no fire risk caused by flammable materials. No risk of environmental contamination caused by liquid leakages. Used materials are recyclable.
- **Maintenance-free**
The transformers are insulated with epoxy resin and quartz powder mixture making the windings maintenance-free and moisture-resistant.
- **Performance and overload**
High capacity to support overloads and perturbations. Excellent performance in case of seismic events and vibrating conditions.
- **Silence**
High efficiency material and special geometry design to reduce noise emission in the buildings applications.
- **Savings**
High efficiency design with reduced losses. The total cost of ownership is extremely favorable.

How can SEA be your perfect Partner for Data Center requirements?

SEA transformer portfolio for data centers is wide. We offer the whole range of dry-type/cast resin and liquid immersed distribution/special transformers.

The design can be tailor-made for every application, including:

- *High K-factor (evaluating the harmonic load currents contents and their effects on heating of the transformer)*
- *Reinforced insulation to handle commutation voltages in safe way*
- *Special protective boxes*
- *Customized connections/busbars*
- *Increased insulation levels*
- *Special monitoring devices*



SEA cast resin transformers are certified in compliance with IEC 60076-11 for:

F1 (Fire resistance class)

Risk of fire: materials free of halogens, limited formation of fumes, self extinguishing transformer fire, limited contribution with calorific energy to the source fire

C2 (Climatic class)

Lowest ambient temperature: operation -25 °C, storage and transport -25 °C

E3 (Environmental class)

Heavy pollution, frequent condensation

SEA performed in external lab tests at very low storage temperatures confirming resistance of cast resin transformers in heavy conditions LOWER THAN -50 °C.

SEA cast resin transformers can be used also in substations for public buildings, hospitals, airports and in places where usage of liquid immersed transformers is restricted for fire risk or environment protection.

S.E.A. Società Elettromeccanica Arzignanese S.p.A.
Via Leonardo Da Vinci, 14
36071 Tezze di Arzignano (VI) - Italy
Phone +39 0444 482100 - Fax +39 0444 482519
info@seatrasformatori.it