



# Service for High Power Rectifiers

Improve the reliability of your operations

# Service for high power rectifiers

## Competence makes all the difference

With more than 100 years' experience, ABB is your partner for reliable equipment and a successful future. Whatever rectifier services and solutions you need, we have the answer. We know how to ensure safety and reliability for your complete high power rectifier system which is essential to your success – from start-up and commissioning through its entire life cycle.

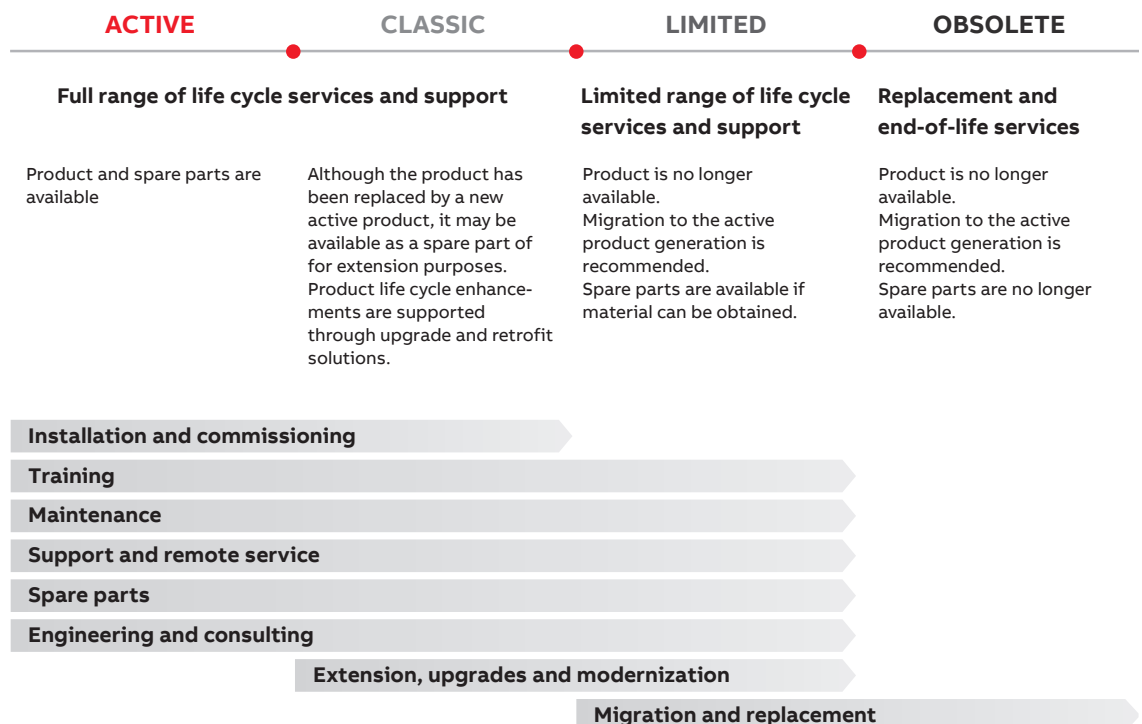
We are committed to the reliability of your operations. Which is why we make every possible effort to maximize your production uptime – and thereby lower your life cycle costs. Our Product Life Cycle Management model puts a transparent method at your disposal for managing your investment.

The four-phase model gives precise information about the serviceability of your assets.

### Life cycle communication concept – keeping you informed

Based on the four-phase model we have developed a life cycle communication concept. Before approaching a life cycle phase transfer with associated service changes we will provide you with a life cycle note. Thus you are fully informed about the serviceability of your equipment.

ABB life cycle phases model



# A service portfolio for all your needs

Our service portfolio is based on customer needs and devised to achieve the maximum performance and increased maintainability of your equipment.

A health audit on site is the entry point to detect optimization potential and develop a customized strategy on how to get the most out of your system. During this first step our experienced engineers will inspect your high power rectifier and make recommendations for smooth operation.

With an upgrade your equipment will evolve to the most recent product generation and therefore extend the lifetime of your system. Additionally, our broad network of certified field service engineers support you with site services from startup throughout the entire life cycle of your equipment. Our service contracts give direct access to fast and guaranteed service support.

ABB's spare parts services aim to provide you with the right spare parts, at the right time – thus maximizing your production uptime and reducing downtime. ABB University provides your operators and maintenance personnel with effective training services to improve expertise.

## Key benefits

- ⊕ Optimized asset performance
- ⊕ Increased maintainability of your equipment
- ⊕ Extend the lifetime of your system
- ⊕ Long time availability of spare parts
- ⊕ Change to state-of-the-art technology
- ⊕ Fast response time and product support

ABB covers the entire high power rectifier service portfolio of all product types. Our experts will support you throughout the whole life cycle of your equipment in order to evaluate the best possible solution.





## Service offerings

### Getting more from your investment



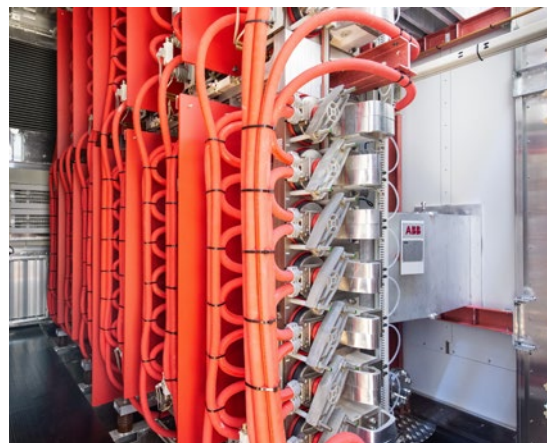
#### Upgrades and replacements

**Extend the lifetime of your system with new technology.**

As an alternative to extensive spare part investments and maintenance programs, ABB's upgrades are time and cost-effective solutions improving the performance and extending the life cycle of operational equipment.

##### Control upgrade

The control platform of a high power rectifier contains very specialized electronic equipment. In an age of rapid technological progress, such equipment can become obsolescent earlier than the rest of the equipment. This obviously restricts the life cycle of the whole rectifier system. Thanks to our years of experience, we can perform a control upgrade with a minimum of shutdown time. You will benefit from a state-of-the-art controller and therefore extend the lifetime of your asset. In addition, our full service product portfolio is guaranteed as defined in our Product Life Cycle Management model.



##### Rectifier group upgrades

In addition to offering upgrades for the rectifier power electronics parts, replacement of sub-systems such as cooling units and measurement systems are also available. This enables us to increase the efficiency of your equipment and also to extend its lifetime.



#### Key benefits

- ⊕ Optimized asset performance
- ⊕ Increased maintainability of your equipment
- ⊕ Long-term availability of spare parts
- ⊕ Minimum shutdown and commissioning time
- ⊕ Long-term availability of engineering and support competences



## Health audit

Specialized support to keep your processes and equipment running in the most energy- and cost-efficient way.

ABB has created a health audit program for high power rectifiers to increase the reliability of your assets. This results in maintaining all elements suffering from aging effects. We assess your system and critical spare parts to evaluate the life cycle status. Those components which are susceptible to aging are replaced at appropriate intervals. Furthermore, this program ensures the correct and safe operation of the system by testing all critical protection devices and system settings in various operating conditions. We identify possible improvements to increase the overall performance of your system such as upgrades or replacement of the equipment. The health audit is offered in all phases of the life cycle. We have the ability to define an optimal operation strategy based on the results of the health audit, always considering the status of the life cycle of your assets.

### Key benefits

- ⊕ Increasing the reliability of your asset
- ⊕ Ensuring the correct and safe operation of your system
- ⊕ Minimizing risk exposure to unexpected downtime
- ⊕ Identifying possible system improvements

## Consulting

ABB offers consulting services to identify key potential for improvement in the areas of industrial asset management and operations infrastructure.

### Simulations and studies

ABB offers a range of system studies and simulations, using the latest advanced simulation tools. We can conduct basic system assessments, or complete and comprehensive system studies. After an analysis of the results, we provide the necessary system solutions, whether you require a performance increase, harmonic filtering, switched capacitor banks or static VAR compensators.

### DC current measurement

ABB provides you a precise metering sensor's solutions for DC current measurements.

### Key benefits

- ⊕ Get special expertise, and benefit from expert evaluation and discussion
- ⊕ Bring new ideas for additional revenue

Health audit schedule



# Service offerings

## Keep production running



### Site services

The key to providing world-class services is not only to respond quickly, but also to guarantee high competence and professionalism.

Our certified field service engineers play an essential role in ensuring a professional and timely start-up as well as optimized adjustments to your equipment.

#### Commissioning and installation

Commissioning and installation services are available to meet customer needs anywhere in the world, regardless of the size or complexity of all products offered.

#### Preventive maintenance

Preventive maintenance programs maximize the performance of your equipment. ABB service personnel are trained in the latest diagnostic, repair and maintenance methods to ensure high value for your maintenance investment.

#### Repairs and troubleshooting

Investigated and fixed as quickly as possible, customer problems are treated with top priority. Our field support provides a full range of services in case of technical problems to fulfill your facility's needs. Besides advanced troubleshooting, our field service engineers carry out detailed failure investigations, data collection and replacement of components and spare parts.

### Key benefits

- ⊕ Providing immediate response and field support
- ⊕ Availability of a global network of certified and experienced engineers
- ⊕ Advanced diagnostic and repair practices

### Service contract

A service contract is a flexible and cost-effective way to realize the benefits of ABB's product, system, application and process expertise.

#### Support line

ABB offers professional product support for all types of systems. With the support line there is one general entry point for all technical issues. Managed by experienced former field service engineers, the support line helps you to reduce the downtime of systems through fast and precise technical support.

#### Emergency support

In the event of emergency issues outside our office hours, there is a hotline service operated 24/7, 365 days a year. During office hours this hotline is served by our support line. Outside office hours our specialists will answer phone calls for first support and collect information to ensure a fast response.

#### Remote services

Remote services allow real-time access to system data. The Remote access service is a connection between ABB office in Switzerland and the AC 800PEC installed at customer plant via remote controlled PC. This temporary connection is used for online monitoring, troubleshooting and software changes.

### Key benefits

- ⊕ Fast response time
- ⊕ Reduced investment risk
- ⊕ Individual technical support through highly experienced and skilled engineers to reduce downtime
- ⊕ Pro-active life cycle management will support your system availability and lower your total life cycle cost

## Service offerings

### Optimized product support



#### Spare parts

ABB original spare parts and components with guaranteed functionality – the key element in reducing the mean time to repair.

A safe and reliable spare parts and components management is essential for your success. ABB's spare parts services aim to provide the right spare parts, in the right place, at the right time. We provide genuine spare parts and spare part kits, accompanied with the relevant software, settings and documentation.

#### Key benefits

- ⊕ Ensuring reliable and safe operation
- ⊕ Guarantee of keeping the right spare parts and components in stock
- ⊕ Increase your return on investment and reduce downtime

#### Training

ABB University transfers our expertise to your operating and maintenance staff to enable you to increase your return on investment and to reduce downtime.

Our extensive training programs for engineers, programmers and operating and maintenance personnel are designed with the aim of continuously improving the skills of your workforce. Your staff will learn to effectively operate and maintain your equipment, troubleshoot problems faster and to extend the lifetime of your installations.

ABB University provides high quality training by being flexible and offering a full range of training options, such as standard or tailor-made courses in one of our certified training centers or on-site at your premises.

#### Key benefits

- ⊕ Learning new skills will become an asset to your organization
- ⊕ Customized content to meet your specific training needs





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