

# Life cycle services for protection and control relays

Full support from start to finish



Ready

Start

Trip

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**The main purpose of the protection and control relay is to protect both human lives and equipment as well as ensure uninterrupted power supply. ABB's knowledge and experience are not limited to relays only, but also cover switchgears as well as utility and industrial power distribution systems.**

Overcurrent

Earth-fault

Phase unbalance

Thermal overload

Autoreclose shot in progr.

Disturb. rec. triggered

Trip circuit failure

Breaker failure

ESC



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# Life cycle services

## – to secure your investments

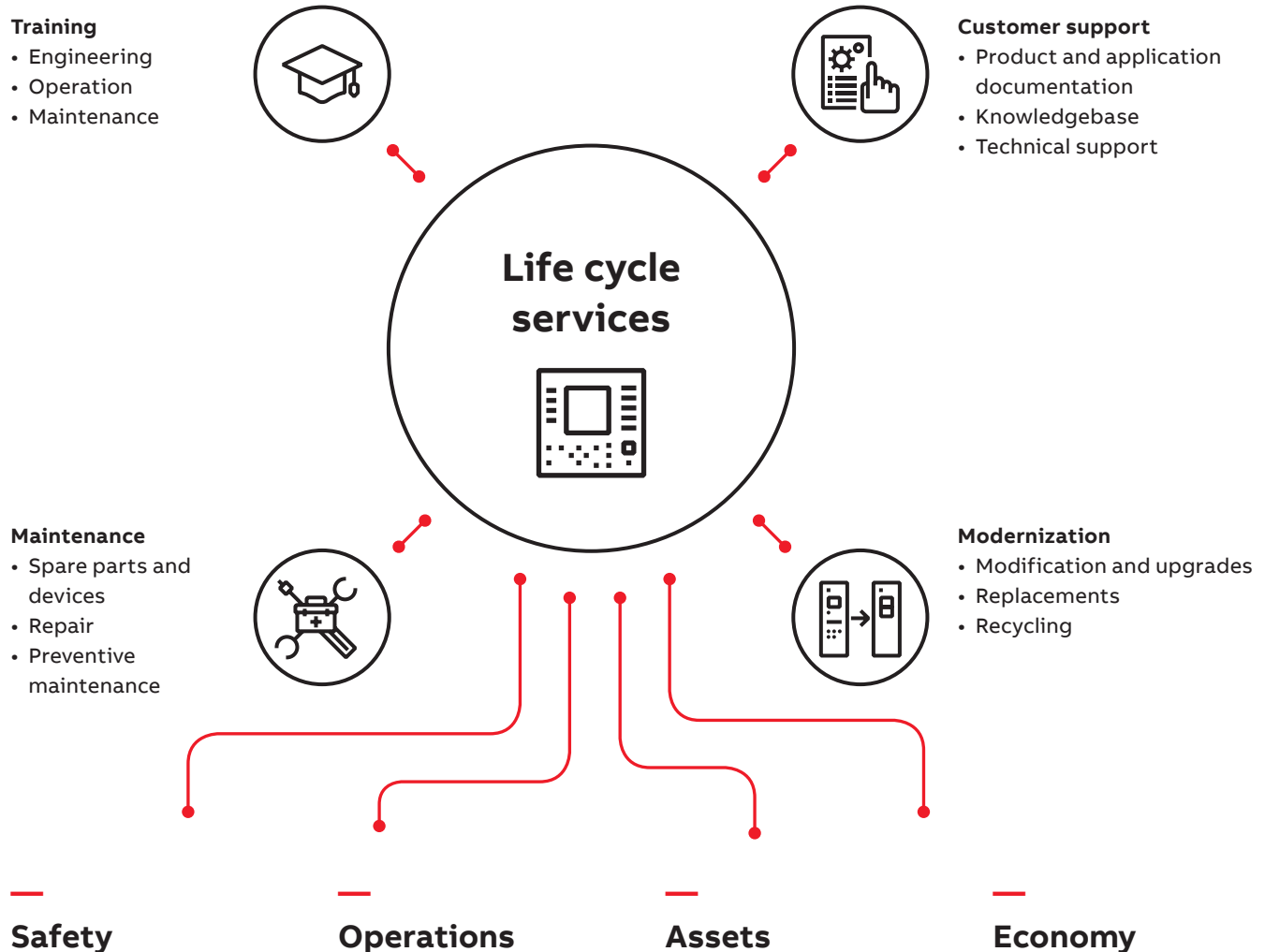


ABB offers full support for all protection and control relays throughout their entire life cycle. Our extensive life cycle services include training, customer support, maintenance and modernization, in order to ensure safe, reliable and costeffective protection solutions with predictable maintenance costs.

The vast experience and in-depth knowledge ABB has acquired over the decades guarantee an optimal protection solution for every purpose.

“ABB offers up to **40** years of product support.”



# Focus on safety

## Increased safety with competence

The main purpose of the protection relay is to protect both human lives and equipment. Developing the skills of the operating and maintenance personnel is crucial to ensure correct and safe operation in the power distribution system.

ABB can offer an extensive training program, with the focus on hands-on training. Through the training courses, operating and maintenance personnel will learn how to install, commission, engineer, operate and perform maintenance on protection relays. As a result, the personnel will know how to use the protection relays safely and to their full potential.

## Support for safety

ABB has longtime experience and in-depth knowledge within the field of protection and control technology. ABB can therefore provide valuable assistance in choosing the right protection solution for every purpose, and in ensuring the relay is correctly configured and the parameters correctly set. Correct protection settings and configurations are essential to reduce damage to equipment in fault situations.

By storing the protection settings and configuration files online through our cloud service, they can be easily restored in the event of malfunction, repair or replacement of the relay.



**Safe maintenance**

As a relay may be used for decades, maintenance is of the utmost importance. A well maintained protection relay will serve its purpose throughout its entire life cycle. Our preventive maintenance service provides a reliable and safe way to ensure that the protection relay can be safely operated despite its age.

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“The main purpose of the relay is to provide

protection.”

**Safety upgrade through modernization**

The safety level of both the switchgear and the entire power distribution network can be upgraded to today's standards by modernizing the protection relays, which will also significantly extend the switchgear lifetime. Apart from providing improved protection of both equipment and network, modernization will also contribute to further improving personnel safety, for instance by providing the entire switchgear with arc-fault protection.





# More efficient operations

## Efficiency with competence

Avoiding process disturbances is crucial in the attempt to maximize process efficiency and reliability. However, in the event of a disturbance, knowing how to analyze the disturbance recordings and other data provided by the protection relay is of the utmost importance. Through correct analyses, the cause of the fault can be established, the necessary corrective measures taken and the power supply restored. As a result, the duration and frequency of the production downtime in the industry and the power outages in the distribution network can be minimized.

In the training courses, ABB shares its expert knowledge and experience within protection and control, providing information on the products and life cycle services, how to configure and operate the relays, and life cycle management, to further improve product knowledge, fault prediction and fault analyses. The training are held either at a location close to you or at the ABB factory.

## Long-term support close to you

ABB strives to be a reliable mainstay. Whenever you encounter a problem, you can contact ABB. Customer support covers a wide range of experts, from local sales representatives to application engineers at the factory. Technical and application support is provided not only for the latest but also for older products and product versions.

Our knowledgebase and expertise are also reliably documented and easily accessible online, around the clock.

“Do you have access to product support for protection relays that have been in use

40 years or more?”



**Maximized process uptime**

The preventive maintenance service allows careful planning and scheduling of maintenance work to minimize the impact on your processes. However, in the event of process failure, our life cycle services can assist in rapidly restoring the process through providing either spare parts, repair service, on-site support or refurbished spare devices.

**New process requirements met through modernization**

New process requirements may require modernizing existing protection solutions. Modernization is also a convenient way to ensure the protection relays meet the latest standards and represent the latest technology. ABB's modernization service offers various alternatives despite the age of the relays, ranging from software updates and product upgrades, to adding new functionality and replacing existing relays (retrofitting), including recycling the original ones.

Modernization not only significantly extends the lifetime of the relay but of the entire switchgear too. As a result, modernization is both a more environmentally friendly and more economical alternative to replacing the entire switchgear.

Also changes in the operating environment, such as the trend to replace overhead lines with cables, set new requirements for both protection relays and switchgears. These requirements can easily be met through modernization.

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“Do you know if you are using  
your relay to its  
**full** potential?”



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# Easier asset management

## Knowing your protection relays

ABB has several decades of experience and knowledge of protection relays and applications, which our highly qualified and experienced experts will share in training courses arranged close to you in your own language. They will also provide valuable insight into life cycle management to support easy and optimal asset management.

Continuous training provides both insight into recent developments within protection and control and easy access to the latest available information, thus ensuring optimal asset management throughout the entire life cycle of the protection relay.

## Your partner for asset management

ABB's customer support can assist in tailoring protection solutions to meet your specific process requirements. Together we consider the options and decide on the optimal solution.

Product support is available throughout the entire life cycle. Our wide range of experts can assist in, for instance, analyzing disturbance recordings, which can be conveniently stored online through our secure cloud service and therefore also easily accessible. Careful analysis of disturbance recordings helps determine the cause of the disturbance and thereby also the necessary measures to be taken to further improve power quality.

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"We provide our services close to you in  
**your** language."





**Reliable maintenance**

ABB offers various maintenance solutions and recommendations to make asset management as smooth and easy as possible. Our maintenance services range from preventive maintenance, developed to ensure reliable operation for aging protection equipment, to spare parts, refurbished spare devices and repair service.

Our spare parts service ensures only genuine spare parts are supplied, and not only for the latest but also for protection relays as old as 40 years. An alternative to sending the relay for repair is ordering a refurbished spare device, which is also an ecological choice.

**Asset upgrade through modernization**

Modernization offers a cost-effective and smooth upgrade of your entire protection and control system, without having to replace the entire switchgear. By updating or replacing the protection relays, the switchgear lifetime can be significantly extended. Modernization also ensures your protection and control system meets the latest standards and represents the latest technology.

ABB's modernization services include software updates, product upgrades, replacements (retrofits) and also recycling, making it an economical and environmentally friendly choice.

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“Through modernization, the lifetime of the entire switchgear can be extended with even more than **10** years.”



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# Responsible business management

## Minimized risks

Successful risk management requires skilled personnel. Our training program covers installation and commissioning, engineering and operation as well as maintenance of the protection relays, to ensure safe and correct operation and thus minimize the risks. Our skilled and global network of instructors receive continuous further training and use the latest training methods and simulators in their teaching, close to your location and in your own language.

Excellent and up-to-date training methods together with experienced and skilled personnel will significantly reduce life cycle operating costs. As a result, the return on investment in training will be fast and obvious.

## Supported efficiency

ABB's vast experience and extensive expertise within protection and control will be accessible throughout the product life cycle through our customer support.

At the purchase stage, we can assist in determining the optimal solution to meet your specific requirements and thus ensure maximum efficiency and return on investment. In connection with the delivery, we can provide installation and commissioning support. Throughout the entire product life cycle, we can offer advice and assistance in analyzing disturbance recordings, considering various maintenance services and modernization alternatives, and finally, recycling the protection relay at the end of its life cycle.

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“Do you know how expensive downtime is for  
**your** business?”



**Minimize downtime**

ABB's maintenance services provide a cost-effective way to secure your protection relay and switchgear investments in the long term. The preventive maintenance service together with the support of our experts not only ensure low and predictable overall maintenance costs but also significantly extend the product lifetime, not to mention minimize the risk of costly production downtime.

**Responsible modernization**

When the protection relay approaches the end of its life cycle but the protection functionality is still sufficient, replacing it with a new one of the same type may prove to be the best choice. Another alternative is to seize the opportunity to take advantage of new technology by replacing it with a new type of relay.

At some point, the time will come to invest in new technology and replace existing protection relays with new developments in order to achieve the business objectives. Modernization will increase the productivity and efficiency through further improved reliability of power supply.

At the end of the product life cycle, ABB will also be responsible for recycling the old relays, in compliance with local legislation, regulations and public requirements.

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“97%  
of the material is recyclable”







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For more information, please contact  
your local ABB representative or visit  
our website at

**[abb.com/service](http://abb.com/service)**  
**[abb.com/mediumvoltage](http://abb.com/mediumvoltage)**

