



Preventive maintenance for SPACOM and 500 series protection and control equipment

Relays protect power systems worldwide

Since the introduction in 1984, SPACOM protection and control equipment has been used for power system protection and reliable power system operation worldwide. RE500 series terminals have been introduced to market 1998 and been used in various protection applications ever since. These products have laid the base for over one million ABB Distribution Automation relays delivered globally.

Although known for their reliability, electronic protective devices are subject to wear and tear. Harsh environmental and physical conditions such as varying temperature, humidity, pollution, interference etc. affect the aging of electronic components, which increases the likelihood of relay malfunction.

Committed to providing support, ABB has developed a preventive maintenance concept for SPACOM and 500 series relays. The aim of this concept is to ensure that your power systems and assets are properly protected.



Preventive maintenance

During the warranty period service and repair, if needed, are covered by the relay's product warranty. When the warranty period has expired, we recommend that the relays be inspected and serviced at regular time intervals to ensure proper function of the relays and constant availability of protection.

Depending on the state of your protection relays, different measures are recommended. Time scheduled preventive maintenance should always be performed in order to improve the life expectancy of the relays and to avoid unplanned maintenance. In addition to the scheduled preventive maintenance, regular testing of the relays is recommended.

Preventive maintenance service is available for SPACOM protection and control devices and for all REF/REM/RET 541/3/5 models with revision 2.0 and above.

With SPACOM protection and control devices replacement of existing relays (retrofit) should be considered in cases where

Service recommendation based on relay history

	Age 10 to 20 years	Age 20 to 30 years	Age over 30 years	No additional functionality needed	Additional protection functions needed	New features needed	Primary switchgear renewal	Recommendation
Preventive maintenance	●	●	●	●				
Retrofit			●		●*	●*	●	

* Optional with RE500 maintenance

new features or protection functions are needed, or if the relays have been in use for more than 30 years. Retrofit is also recommended, when the primary switchgear is renewed.

Due to the different architecture the RE500 series products can be modified even years after purchase. In case of a need for new protection features or revision upgrades it's possible to modify or upgrade the products. The modification service can be combined with preventive maintenance to obtain the optimal value from the maintenance investment.

Irrespective of the age and status of your protection relays, we can offer a solution that keeps your power system protected. Whether you choose preventive maintenance or retrofit, there is always an ABB solution for you.

Workflow in practice

The preventive maintenance concept is primarily composed of a number of steps, which serve as a guideline for successful service activities.

The collection of information about the installed relay base is always the starting point of preventive maintenance. The so called *site audit* can either be based on the relays' commissioning documentation including relay type information, serial numbers and available maintenance records, or on an on-site inspection of the relays. Your local ABB representative can also offer you a larger-scale *on-site survey*, when required.

Based on the information received from the site auditor, ABB prepares the action to be taken and provides a *preventive maintenance offer* including the hardware kits required. After receiving the service order, ABB starts planning and scheduling the preventive maintenance in more detail. During the actual *maintenance work* certain relay hardware modules are replaced. Finally the relays are tested, to ensure the correct function of the relays after maintenance.

The last step of preventive maintenance is to *document* the work done and to give recommendations for future maintenance measures.

To obtain the maximum benefit of the preventive maintenance, the users are recommended to follow the relays' *service interval recommendations* throughout the life cycle of the SPACOM and 500 series relays.

Replaceable hardware

Ever since the launch of the SPACOM relays, ABB has been gathering information about relay service and maintenance from the repair shops and the field.

Based on statistical information we have created hardware kits for the preventive maintenance of relays. SPACOM preventive maintenance kits include power supply modules and output relay modules. RE500 series preventive maintenance kits include power supply modules in addition to thorough testing of the existing binary I/O modules. The factory warranty period for replacement modules is two years.

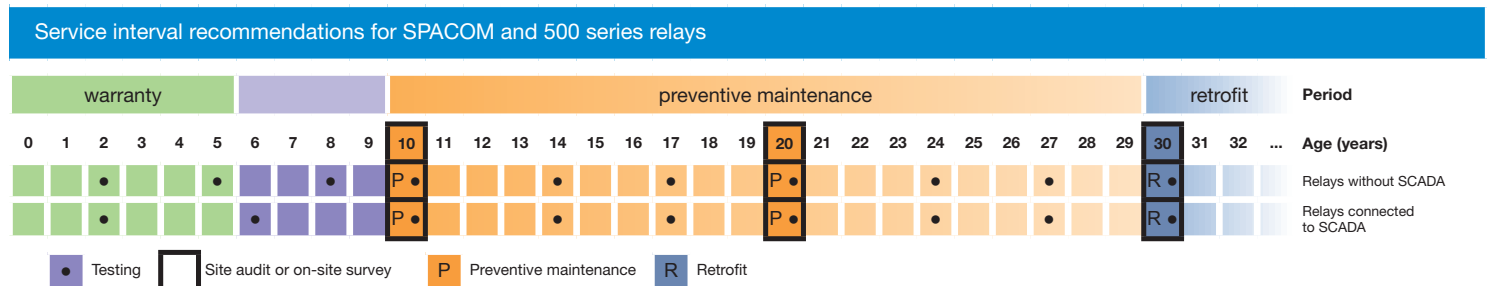
Protecting your investment

The preventive maintenance concept for SPACOM and 500 series products provides a cost-effective solution for extending the life cycle and maintaining the protection capability of your relays.

The concept will bring more flexibility to your investment plans, as the replacement of existing relays can be spread over a longer time span.

SPACOM and 500 series relays offer reliable protection for thousands of power systems around the world, so why not use ABB's preventive maintenance concept for extended life cycle continued protection of your investment.

Please contact your local ABB representative or visit our website www.abb.com/substationautomation for more information.



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