



ABB OY DISTRIBUTION SOLUTIONS

Protection and Control REX640

Product Presentation

1MRS758996 A



Product introduction

Protection and Control REX640

Relion® REX640

All-in-one protection for any power distribution application

Protection and control relay – REX640

- A powerful all-in-one protection and control relay for advanced power distribution and generation applications
- Offering unmatched flexibility available during the complete life cycle of the device
- Modular design of both hardware and software elements
- Easy modification and upgrading
- Pushing the limits of what can be achieved with a single device
- Newest member of the **Relion® protection and control family**



Relion® REX640

All-in-one protection for any power distribution application

Innovative, flexible and easy to use

- Complete application coverage
- Ready-made application packages
- Customization freedom
- Fully modular hardware and software
- Easy adaption to changing requirements
- Continuous access to support
- Ready-made application-based LHMI pages
- Increased situational awareness
- Support for digitalization of substations



Modularity

Protection and Control REX640

Relion® REX640

New application package concept for maximum convenience and flexibility

REX640 introduces the new application package concept – offering ready-made application packages which can be combined to create protection solutions that meet your unique protection requirements.

Feeder protection

- Line differential protection
- Line distance protection
- Interconnection protection
- Fault locator

Power transformer protection

- Two and three-winding differential protection
- On-load tap-changer control

Machine protection

- Asynchronous machines
- Synchronous machines

Shunt capacitor protection

- Protection of single Y, double Y and H-bridge connected capacitor banks
- Protection of harmonic filter circuits

Automatic synchronization

- Generator circuit breaker
- Non-generator circuit breaker

Arc protection

- Four lens or loop sensors supported in any combination
- Both sensor types are supervised

Busbar protection

- High impedance based busbar protection
- Double busbar protection

Petersen coil control

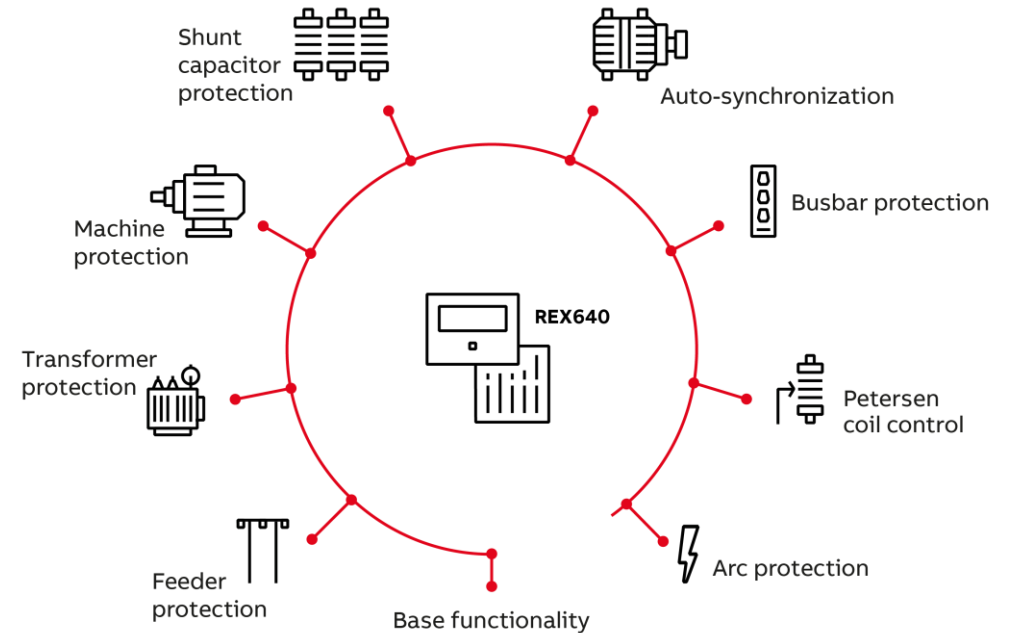
- Automatic control of Petersen coil
- Control of additional fixed parallel coil
- Control of parallel resistor

Relion® REX640

All-in-one protection for any power distribution application

Fully modular hardware and software for maximum flexibility for the entire relay lifetime

- The modularity and scalability of both software and hardware allow you to create your own, unique relay for your specific protection requirements.
- The ready-made application packages makes ordering your relay smooth and easy.
- When the requirements change, so will REX640.
- Adapting to changing protection requirements is flexible and easy – the software and hardware can be modified anytime.
- In addition, new software and hardware developments will be continuously and easily accessible – throughout the relay's entire life cycle.



Relion® REX640

All-in-one protection for any power distribution application

Intuitive human-machine interface for enhanced user experience

- A novel, application-driven approach to the local human-machine interface (LHMI) allows support for entirely new applications.
- The unique, 7-inch color touch screen visualizes power distribution process information in an entirely new way. This results in increased situational awareness and maximum usability.
- Ready-made application-based pages minimize the need for graphical engineering, which saves both time and efforts. The LHMI pages can also be customized, if necessary, for optimum freedom.



Relion® REX640

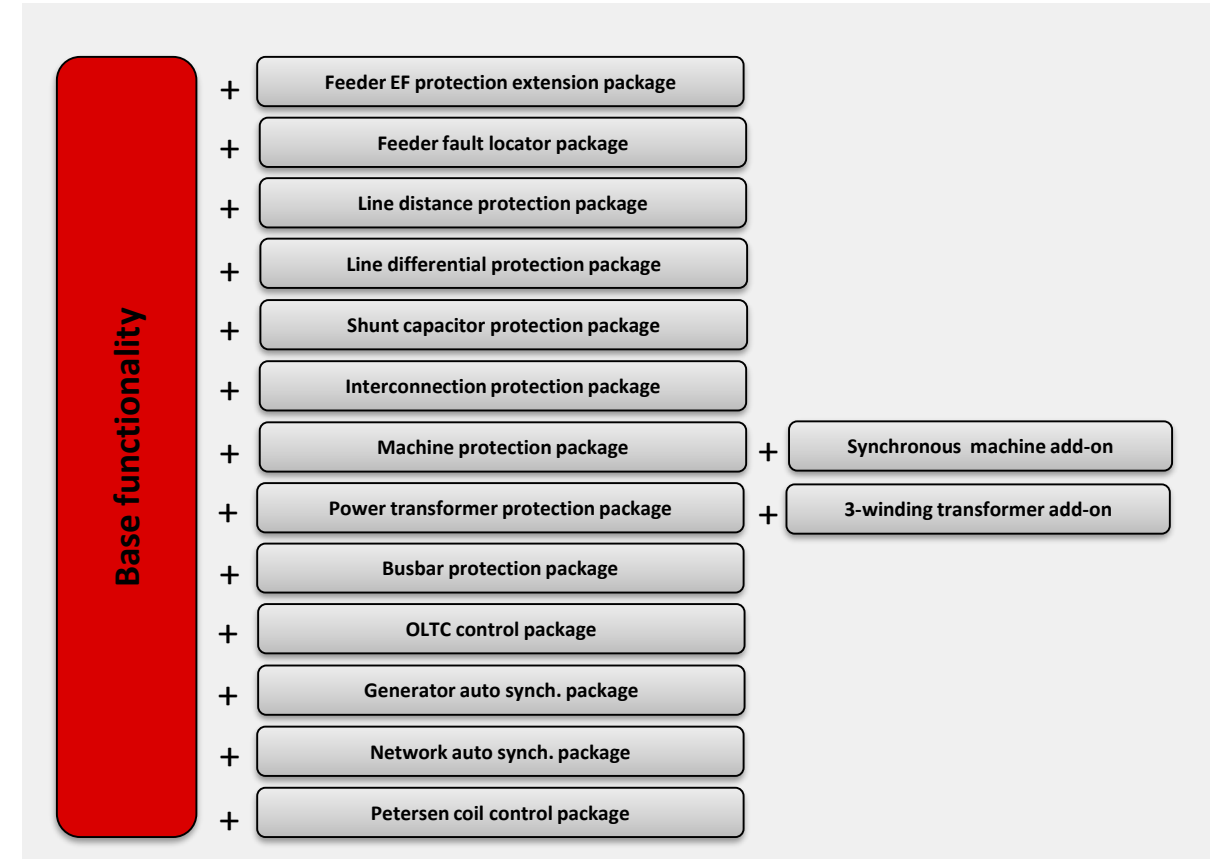
Application packages

Overview

Functionality is divided into:

- Comprehensive base functionality – included as standard (always included)
- 13 application packages (optional) – can be freely selected as required by the intended application – none, some or all
- 2 additional protection add-ons (for selected application packages) – the add-on packages offer even more functionality on top of the selected application package

Note! The software options can also be added later on, even at site



Suggested application examples

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Relion® REX640

Suggested example applications

Retrofit applications

- **Modular design of hardware and software makes retrofitting of installed based easy**
 - Flexibility in matching needed hardware
 - Flexibility in configuring modular software to match installed base functionality
 - Possibility to add upgrades and non-relay functionality to existing system

Double busbar applications

- Hardware flexibility and scope makes more complex and demanding applications possible
- Support for busbar voltage selection
- Upgraded arc-protection module to support both loop and lens type sensors

Digital switchgear

- Designed with digitalization of switchgear and substations in mind
- Supports
 - sensor technology
 - IEC 61850-9-2 and IEC 61850-8-1
 - PTP, IEEE 1588 and IRIG-B
 - PRP and HSR

Non-relay applications

- **Auto synchronization**
 - Generator circuit breaker
 - Non-generator circuit breaker
- **Petersen Coil controller**
- **Arc protection**
 - Supervised loop and lens



Summary

Protection and Control REX640

Relion® REX640

All-in-one protection for any power distribution application

Complete application coverage with one device for optimal cost-effectiveness

- REX640 makes protecting all your assets in advanced power generation and distribution applications easy.
- The fully modular design allows unequaled customization and modification flexibility, and easy adaptation to changing protection requirements throughout the relay life cycle.
- This is asset management at its best.



The new face of protection and control

Relion® REX640

All-in-one protection for any power distribution application

Complete application coverage with one device for optimal cost-effectiveness

- REX640 is the outcome of a long-standing evolution, building on ABB's strong heritage of freely configurable multifunctional relays.
- The ability to cover the full range of utility and industrial applications and manage multiple applications simultaneously –with the same device – guarantees flexible, versatile and cost-efficient protection solutions.



The new face of protection and control

Relion® REX640

All-in-one protection for any power distribution application

Complete application coverage with one device for optimal cost-effectiveness

- REX640 has been designed to support the increasing digitalization of substations. REX640 thereby supports a variety of digital switchgear solutions and is suitable for both single and double busbar applications.
- As the newest member of ABB's Relion® protection and control family of relays, REX640 further reinforces Relion's position as the family of relays to rely on.



The new face of protection and control

ABB