Retrofit kit
Replacement solution for SCU/REF542 protection and control device
Replacement solution for SCU/REF542
SCU/REF542 - in general

- 1993 ABB launched the protection and control device SCU (later REF542) on the market which combined the functions of a protection relay and of a control device.

- Since the introduction of the device it has been used in a lot of switchgear for power distribution worldwide.
Replacement solution for SCU/REF542
SCU/REF542 - life cycle

- ABB products are designed for continuous evolution. Goal is to protect our customers' investment beyond the life-cycles of the underlying platform products.
- Findings and advanced requirements, resulted in a revised and improved type of protection and control device, the REF542plus.
- Despite a significant increase in functionality and a more modern design, it is functional compatible to its predecessor in nearly all aspects.
- Therefore ABB has defined REF542plus as a recommended replacement solution for SCU/REF542.
Replacement solution for SCU/REF542
REF542plus

- Compact protection, control, measurement and supervision terminal for the power distribution system.
- Terminal can be used for feeder, transformer and motor protection and control, or solely for switchgear control.
- The terminal features an impressive range of protection and management functions readily available for adapting the unit to the intended application.
- The versatility of the REF 542plus terminal makes it a given solution for any air or gas insulated distribution substation switchgear.
Replacement solution for SCU/REF542

Retrofit kit – why REF542plus

- REF542plus is having most comprehensive functional hardware and software coverage for replacement of SCU/REF542 on the market.

- REF542plus is in Active life-cycle phase and under active development. New functionality is developed for customer projects and design activities for securing life-cycle care are continuously done.

- As SCU/REF542 units have been delivered in ABB switchgear, best capabilities to design and deliver the replacement solution is therefore in ABB Service units closely related to ABB.
Replacement solution for SCU/REF542
Retrofit kit – smooth exchange process

- Even though the mechanical design of the REF542plus is different, a retrofit kit for the SCU/REF542 is available.
- Kit enables mounting of REF542plus at the same place as REF542/SCU without any changes.
- The operational concept of the REF542plus is based on the REF542/SCU and represent a consistent further development.
- This will facilitate the operating and maintenance personnel the change to the new generation of protection and control devices.
Replacement solution for SCU/REF542
Retrofit kit – advantages

- Easy mounting of mechanical parts with no need for special tools.
- Minor changes of the project documentation.
- Minor wiring adjustments are needed\(^{(1)}\).
- All existing parameters can be set into the new device.
- Configuration files are not compatible and therefore new files must be drawn up\(^{(2)}\).
- Estimated average retrofit time is two working days: one for the office work to re-build the configuration file and one at site to replace the units and make all the necessary adjustments and tests (estimated average outage <3h).

1. Current and voltage transformers and sensors terminals only. All remaining REF542 plugs fit REF542plus sockets.
2. Originally produced REF542 configuration files cannot be converted into REF542plus ones automatically.
Replacement solution for SCU/REF542
Medium Voltage Service Contacts

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