FAQS

RMU and Compact Switchgear type
SafeRing XT/SafePlus XT

Customer benefit list:

- Safe
- Compact
- Smart
- Reliable

Ring Main Units and Compact Switchgear type
SafeRing XT/SafePlus XT

1. GENERAL

Can we convert manual type of RMU into motorized version during service or after delivery to site? & how?

YES, ABB IN can supply motor kits & accessories which are possible to fix over existing mechanisms.

Is it necessary to top up SF6 gas in few years after the installation to maintain functional pressure?

No, ABB RMU offers robotically sealed tank which has leakage rate of less than 0.1% per year which is more than sufficient to achieve life expectancy of 30 years without gas top up.

2. INSTALLATION AND COMMISSIONING

How the after-products of arc flash are routed, considering operator safety?

ABB IN offers IAC AFLR tested outdoor switchgear which diverts the plasma & after-products from bottom of the SF6 gas tank & RMU cable chamber downwards to RMU inside the cable trench.

Is it possible to install the RMU at an altitude higher than 1000 m?

YES, ABB IN has an optional design of RMU which is possible to install at an altitude upto 3000 m. Such requirement must be communicated to ABB sales representative during ordering stage.

3. OPERATION

In case of SF6 gas leakage, is it safe to keep the RMU under live condition?

YES, ABB IN has a tested design which allows RMU to be kept in service even in gas leakage (Zero overpressure) that means basic insulation can be secured, however switch-disconnector should not be operated till RMU gas pressure is restored by ABB service staff.

4. MAINTENANCE

Is it possible to repair the cable bushings in case of damages?

YES, ABB RMU design allows to replace the cable bushings at site. It is possible due to bolted design of bushings.

What kind of maintenance is required during service life of the RMU?

ABB offers maintenance-free gas tank. Moving parts like switch-disconnector & VCB are guaranteed for 2,000 & 10,000 close open operations without any maintenance, if installation & operating conditions are maintained according to operation & installation manual 2REA063296.
Please refer chapter 20 - Operation & Installation Manual.

5. Safe Digital

What is the function of online cable temperature monitoring? Does sensor require external power?

The RMU can be equipped with online temperature monitoring of cable termination and bushing. The high accuracy temperature sensor is assembled on the bushing with VPIS (voltage presence indicating system) cable which collects the temperature data from three phase cable termination and bushing on time. Sensor gets energized through start up current of 10A.

What are the operating parameters of temperature sensor?

- Wireless communication band: 2.045 GHz ~ 2.483 GHz
- Operating Temp. & RH: -20~55°C, ≤95%RH
- Temperature range: -40°C~125°C
- Temperature measurement accuracy: ±0.5°C (10~85°C), ±2°C for others
- Communication cycle: 12~15s
- The communication module is fixed by buckle on cable, temperature sensor is fixed at the bushing capacitor of cable

Is it possible to install the cable temperature sensor on 12kV unscreened heat shrink type cable termination?

No, cable temperature sensor must be installed over screened separable connectors to achieve guaranteed parameters.

How gas pressure manometer communicates with MDC4-M?

The gas manometer is connected with MDC4-M via Modbus port.

How is the M&D configuration uploaded?

This action is not needed during installation and commissioning. Configuration is already uploaded and tested during production in the factory via M-configurator tool.

Is it possible to do customer's "tailor-made" solution of Safe Digital?

YES, ABB IN prefers to supply standard Safe Digital packages, but it is possible to do customization upon request, up to a certain level. Please note, customization has time and price impact on delivery.

What kind of information does the factory need in case of expansion of the Safe Digital packages?

The order number of the previous order is sufficient.

What is the GSM signal level necessary for proper operation of the kit with standard antenna/extended antenna?

Signal level necessary for proper operation has to be evaluated according to the signal values of the communication chain, as follows:

- RTU 540 with modem 560MDD10
- Minimal signal level at the input of the GPRS chip is -80dB
- Cable RG58 with loses 0,546dB/m
- Antenna with gain of 2.2dBi

What is the typical power consumption of the Safe Digital package?

Typical average consumption of the Safe Digital package inside standard CCV RMU is approx. 10W.

Could the batteries be replaced with another with smaller capacity?

Original ABB solution uses two batteries of reputed make & relevant ratings connected in series. Customer can basically use any suitable batteries. The batteries should be able to give following values for operation at any temperature:

- Voltage not lower than 20 VDC
- Continuous current 6A for at least 10 seconds
- Cover inrush current at least 15A

ABB cannot guarantee proper operation under all circumstances, in case customer uses different batteries from those originally used in Safe Digital solution.

How to upload configuration to the communicator/controller in case of eventual replacement?

Upload of configuration varies from the type of used HW

- RTU520/530/540/560 – this controller has dedicated memory card containing configuration set up. In case of RTU fault, this card shall be plugged into the replaced module. In case RTU's memory card is damaged as well, configuration has to be uploaded either by ABB service engineer or by certified third party service person with appropriate SW.

What is accuracy for current and voltage sensor?

0.5/5P630 for current sensor and 0.5/3P for voltage sensor.

ABB Ability™? How will it benefit the end-users?

ABB Ability™ solutions combine ABB's deep domain expertise with connectivity and software innovation to empower real-time, data-driven decisions for safer, smarter operations that maximize resource efficiency and contribute to a low-carbon future. Our large portfolio of digital solutions helps organizations automate, optimize and future-proof their business to achieve new heights of performance and drive sustainable progress.

Is it possible to test functionality of the Safe Digital package during FAT?

YES, functional testing of Safe Digital package during FAT is possible via virtual FAT. Fault simulations can also be seen.

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