Medium voltage products

UniGear ZS1 with VD4G circuit-breaker for generator application

The worldwide increasing energy demand is covered more and more by decentralized power plants and renewable resources of small unit size. As the generated energy is fed into the grid by step-up transformers and MV distribution boards, VD4G offers a reliable and economical solution to protect the power plants assets.

VD4G is the upgraded version of VD4 vacuum circuit-breaker for generator (GCB) applications. VD4G is suitable for the small power plants as well as for industrial, oil and gas applications in which generators are connected to the MV distribution of the plant.

Range of UniGear ZS1 with VD4G
- ...12-17.5 kV, ...4000 A, ...50 kA
- Standard IEC, GOST
- Standard and highly customized versions

Benefits of VD4G
- Only one circuit-breaker shall be operated during the starting-up or shutting-down of generator
- Maintenance-free solution
- Compact solution

Protection
- Suitability analysis using grid calculation tool
- Optional system study for additional circuit-breakers in grid
- Fast interruption of system- and generator-fed short-circuit currents up to 50 kA
- Tested according to the latest edition of generator circuit-breaker standards including the IEC / IEEE 62271-37-013

Availability
- High TRV withstand capability
- Suitable for an increased DC component and longer arcing times
- More reliable synchronization
- More reliable supply for unit auxiliaries

Possible applications
Industrial, oil & gas applications:
- Every application in which generator is connected directly to the distribution system of the plant (without step-up transformer) also if the generator rated power exceeds 20 MW
- For GCB applications (with step-up transformer) in which generator rated power does not exceed 20 MW

Safety
- Fitted with safety interlocks
- Internal arc classification IAC AFLR
- Classified LSC-2B, PM
- CB racking with closed door

Special requirements for suitability analysis with grid calculation tool
ABB can provide you with adequate support for the suitability analysis and proper selection of Generator circuit-breaker by providing the following information:
- Single Line Diagram of the plant
- Technical data sheet of generator, transformer and other grid equipment

Possible applications
- Every application in which generator is connected directly to the distribution system of the plant (without step-up transformer) also if the generator rated power exceeds 20 MW
- For GCB applications (with step-up transformer) in which generator rated power does not exceed 20 MW
The challenge to protect the grid as well as the generator against failures makes generator circuit-breakers essential. Each generator has specific technical characteristics. A suitability analysis of the generator circuit-breaker application is indispensable. The system-fed fault (A) and the generator-fed fault (B) of a grid need to be reliably interrupted by the generator circuit-breaker.

For more information please contact:

Your sales contact: www.abb.com/contacts

More product information: www.abb.com/productguide

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