

ZS1

Air-insulated medium voltage switchgear
Generator panel

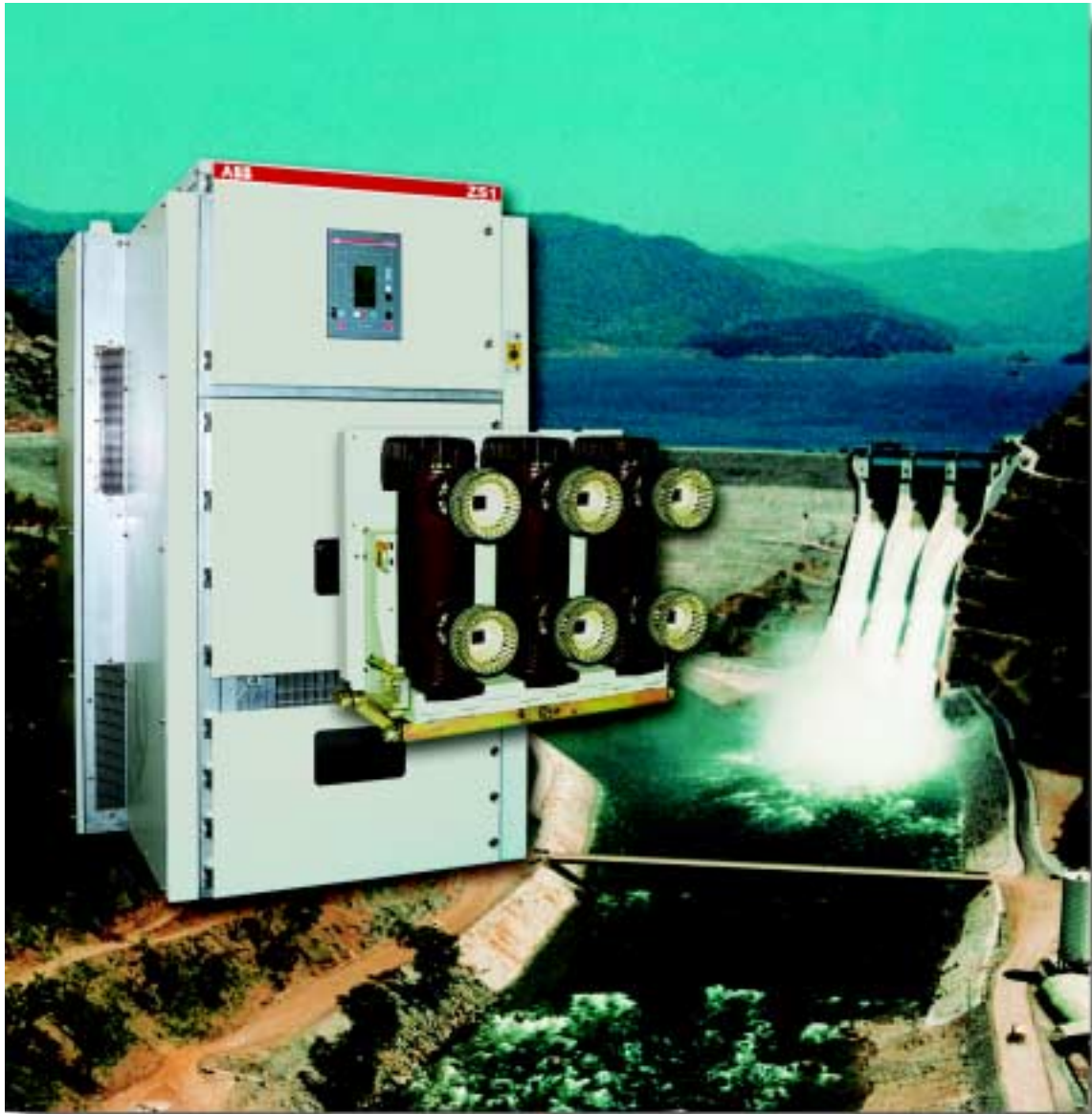


ABB Power Distribution



ZS1

Air-insulated medium voltage switchgear Generator panel

Safe.

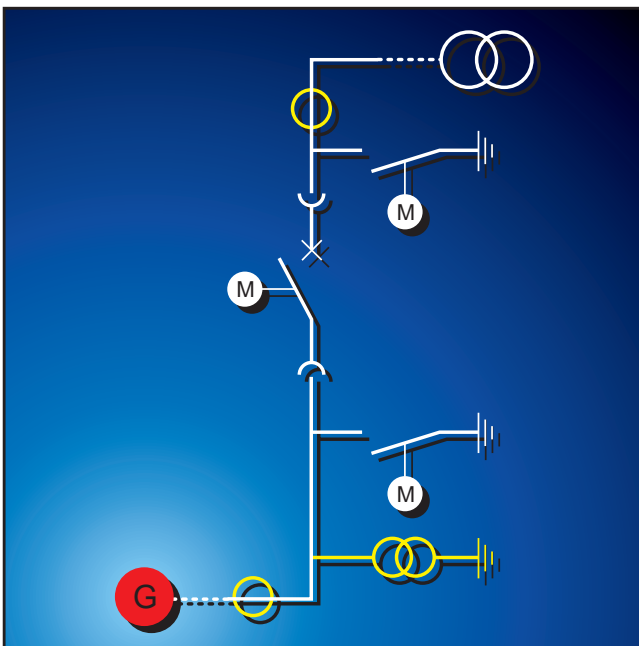
- High resistance to internal arc faults
- Clear arrangement of controls
- Earthing switch with high making capacity

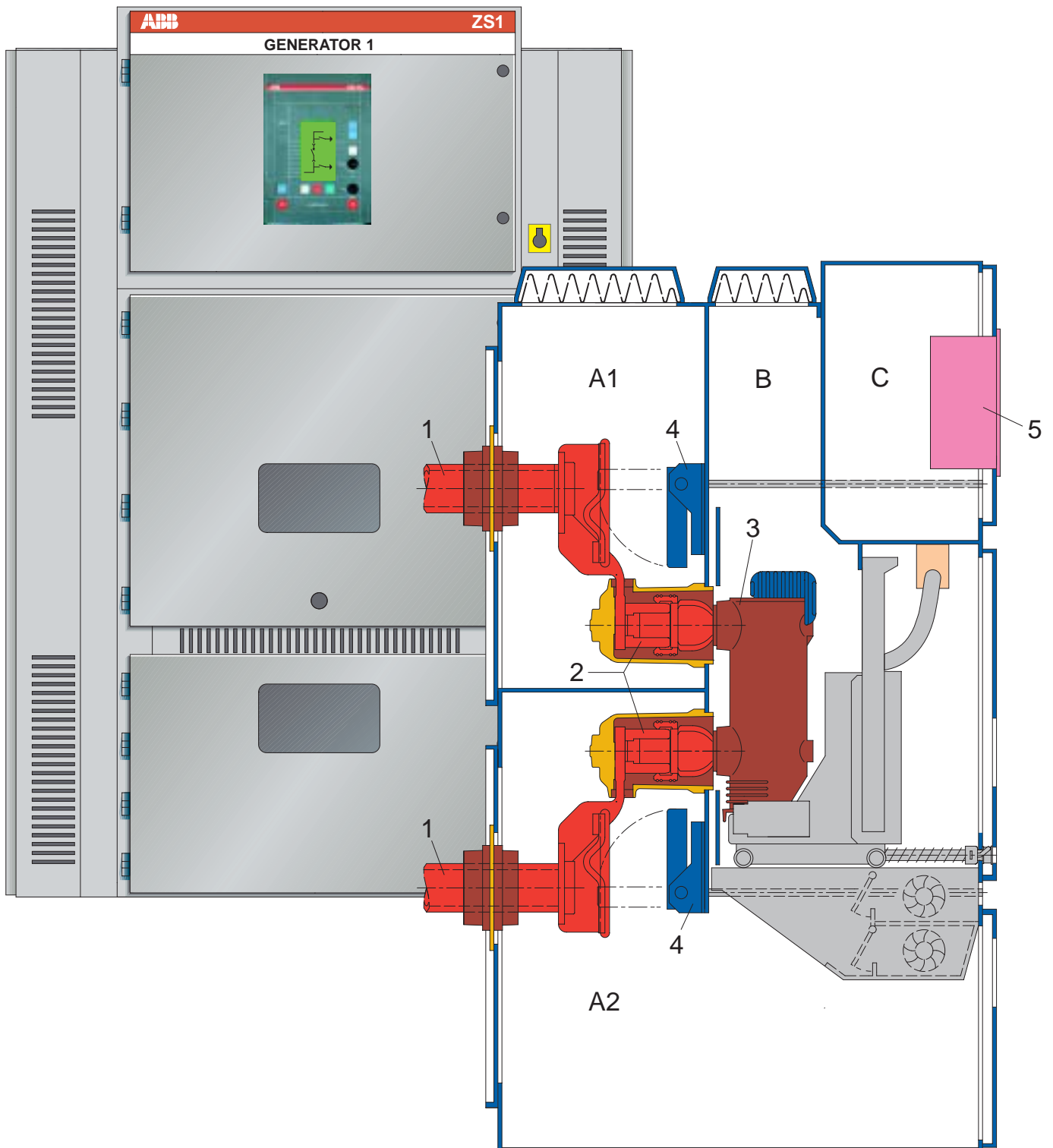
Flexible.

- Motor operated earthing switches on both the generator and the transformer side
- Integration of current and voltage transformers possible
- Operation may be supported by modern automation systems
- Compact design

Economical.

- Optimum solution for small generators up to a generator capacity of approx. 110 MVA
- Maintenance free vacuum circuit-breaker
- Withdrawable module technology makes separate disconnector unnecessary
- Use of components from medium voltage switchgear systems tried and tested in service thousands of times





- A1 Upper conductor compartment (e.g. transformer)
- A2 Lower conductor compartment (e.g. generator)
- B Circuit-breaker compartment
- C Low voltage compartment

- 1 Lead connection
- 2 Isolating contact
- 3 Circuit-breaker
- 4 Earthing switch
- 5 Bay control and protection unit REF542

Technical Data

Vacuum generator breaker VD4.1534..40G

Rated voltage	kV	15.8 ¹⁾
Rated power frequency withstand voltage	kV	50
Rated lightning impulse withstand voltage	kV	95 (110)
Rated frequency	Hz	50/60
Rated current (at max. 40°C)		
natur cooling	A	3,400
fan cooling	A	5,000
Rated impulse current	kAsw	110
Rated short time current	kA	40
Rated short circuit duration	s	1
Rated short circuit making current	kAsw	110
Rated short circuit breaking current (mains fed):		
AC component (symmetrical)	kA	40
DC component	%	61
Rate of rise of transient recovery voltage	kV/μs	3.5
Peak transient recovery voltage	kV	29.1
Breaking current with generator fed short circuit:		
AC component (symmetrical)	kA	25/18.5
DC component	%	110/130
Rate of rise of transient recovery voltage	kV/μs	1.6
Peak transient recovery voltage	kV	29.1
Breaking current in out of phase conditions:		
Out of phase angle	°el	180
AC component (symmetrical)	kA	30
DC component	%	80
Rate of rise of transient recovery voltage	kV/μs	3.3/4.7
Peak transient recovery voltage	kV	53.3/(58.1) ²⁾
Rated operating sequence	CO-3min-CO	
Closing time	ms	70
Opening time (contact separation)	ms	80
Switching frequency		
Switching operations at short circuit current		50
Switching operations at rated current		20,000
Switching operations under no load (mechanical)		20,000
Dimensions		
Height	mm	2,595
Depth	mm	1,260
With	mm	1,550
Weight	kg	1,200

¹⁾ 15.8 kV rated voltage to ANSI C37.013-1993 for 60 Hz, 12.1 kV (11 kV + 10 %) for 50 Hz generator, 14.5 kV (13.2 kV + 10 %) for 60 Hz generator

²⁾ 53.3 kV in relation to 14.5 kV/60 Hz, 58.1 kV in relation to 15.8 kV/60 Hz



ABB Calor Emag Mittelspannung GmbH

Oberhausener Strasse 33
D-40472 Ratingen

Petzower Strasse 8
D-14542 Glindow

Phone: +49(0)21 02/12-12 30, Fax: +49(0)21 02/12-19 16

E-Mail: calor.info@de.abb.com

Internet: <http://www.abb.de/calor>

ABB Sace T.M.S. S.p.A

Via Friuli, 4
I-24044 Dalmine

Phone: +39 035 395111, Fax: +39 035 395874

E-mail: sacetms.tipm@it.abb.com

Internet: <http://www.abb.com>