Medium voltage products

UniGear ZS1 - CSA
Single busbar system
Air insulated switchgear for power applications

Welcome to the world of ABB UniGear. The UniGear ZS1 is engineered to provide the highest levels of switchgear performance.

Geared towards maximizing the safety of personnel, the UniGear ZS1 is fully arc-resistant for one complete second and is readily available with a variety of active arc protection methods including Arc Pressure Sensors, Arc Flash Detection Relays.

All of this is offered in an optimized switchgear design which offers one of the most compact footprints ever seen in the industry.

See what UniGear ZS1 can do for you.

Range
• ...4.76 kV, ...4000 A, ...50 kA, ...60 kV BIL
• ...15.0 kV, ...4000 A, ...50 kA, ...95 kV BIL
• ...27.6 kV, ...2500 A, ...25 kA, ...125 kV BIL
• CSA C22.2 No. 31 certified
• Highly customizable

Flexibility
• Wide range of applications
• Withdrawable vacuum and SF6 circuit-breaker
• Front and rear access configurations
• Compact design
• Service entrance and metering

Design includes
• Protection and control
• Fully withdrawable VT’s with shutters
• Grounding switch with viewing window
• IR windows
• Grounding studs
• Arc Flash Pressure Sensors
• REA (arc flash relay)

Safety
• Metal-Clad construction
• Arc resistant with internal arc classification
• IAC AFLR for 1 sec
• Gas exhaust evacuation
• Equipped with safety interlocks
• Closed door circuit breaker racking
• Dedicated low voltage compartment

Quality
• High quality ABB design and manufacturing
• Very large worldwide installed base
• ISO certified
Typical feeder unit

A Circuit-breaker compartment
B Main busbars compartment
C Cable compartment
D Low voltage compartment
E Standard exhaust gas duct
F NAL isolating switch compartment

Single-line diagram of typical units

Panel version | UniGear ZS1 - 5 kV | UniGear ZS1 - 15 kV | UniGear ZS1 - 27.6 kV | UniGear ZS1 - 27.6 kV
---|---|---|---|---
Type of construction - Internal Arc Classification acc. to IEC | IAC AFLR | IAC AFLR | IAC AFLR | IAC AFLR
Rated maximum voltage [kV] | 4.76 | 15.0 | 27.6 | 27.6
Rated insulation voltage [kV] | 4.76 | 15.0 | 27.6 | 27.6
Rated power frequency withstand voltage [kV x 1 min] | 19 | 36 | 60 | 60
Rated lightning impulse withstand voltage (BIL) [kV] | 60 | 95 | 125 | 125
Rated frequency [Hz] | 60 | 60 | 60 | 60
Rated main busbar current (40 °C) [A] | ... 4000 | ... 4000 | ... 2500 | ... 1200
Rated feeder current (40 °C) [A] | ... 4000 | ... 4000 | ... 2400 | ... 1200
Rated short-time current [kA x 3 s] | ... 50 | ... 50 | ... 25 | ... 25
Arc resistant withstand current (IEC 62271-200) [kA x 1 s] | ... 50 | ... 50 | ... 25 | ... 25

Typical Service switchgear unit

Single-line diagram of typical Service switchgear units

IF Incoming/outgoing feeder
BT Bus-tie
M Measurements

Tested according to CSA

Overall dimensions of the basic cubicle

| H [mm] | 2200 ... 2900 **) | 2325 ... 2875 **) | 2325 ... 2875 **)
| W [mm] | 650 / 800 / 1000 *** | 800 / 1000 *** | 800 / 1000 / 1500 ***)
| D [mm] | 1340 / 1390 ***) | 1560 / 1700 / 1800 ***) | 2163 ***)

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*) Complying with Hydro-Quebec F22-01 Electricity Metering for Medium and High-Voltage Installations and E 21-12 Red Book Medium-Voltage Electrical Service
**) With installed exhaust gas duct
***) Depending on rating of nominal current, short-circuit current or design
*****) Rating with forced cooling. Natural cooling up to 2100 A
******) Rating with forced cooling. Natural cooling up to 3000 A