

Solid-State Circuit-Breaker (SSCB)

Solid-State Circuit-Breaker for DC applications with unidirectional or bi-directional power flow such as batteries, electrolyzer and other DC loads.



Security at its Best

SSCB is designed to open high short circuit currents in a few microseconds through its high electrical features. SSCB is presented as a solution where fuses do not guarantee a proper protection selectivity or where the availability is critical.

The SSCB complies with the most demanding safety codes in the world adapting to the necessities of the market. SSCB is a solution designed and patented by eks Energy and it uses an innovative solution to minimize the overvoltage in the fault opening. With an easy integration and low power consumption, these devices allow remote monitoring and control, as well as a high-performance protecting facility from short circuit events.



Main Characteristics:

- DC storage solution as batteries: prevents battery racks fuses from blowing up. It keeps the
- complete system working after a fault.
- 1000x FASTER than conventional mechanical ACB, 100x FASTER than conventional fuses
- Increase the availability of renewable Energy Project + Battery Integration Solution
- Low conduction losses
- To protect up to 1500V DC systems
- Patented solution



SSCB REFERENCES

Main Data	Switch type	Solid State DC load break Switch
	Rated operation voltage (Ue) [V]	1500
	Rated insulation voltage (Ui) [V]	1500
	Rated impulse-withstand voltage (Uimp) [V]	4500
	Rated uninterrupted current (@95°F/35°C) [A]	1600
	Non repetitive Breaking Current [A]	8400
	I/t tripping curve	Configurable within design limits
	Losses at full current [W]	< 4000 (Efficiency 99.8% @1250Vdc)
DC Input	Closing time (max) [us]	5
	Opening time (max) [us]	8
	Short-Circuit Protection Current (configurable) (Isc) [A]	3000 (standard value)
	SPD	Optional
	Number of DC Inputs	1
	Integrated DC Voltage and Current monitoring	Yes
Environment	Operation ambient temperature (1)	From -4°F to 140°F (-20°C to 60°C), derating >122°F (50°C)
	Maximum relative humidity	1
	Max. altitude above sea level	4000 masl, derating >1000 masl
	Storage and transport temperature (2)	-13 °F / 149°F (-25 °C / 65°C)
	Maximum relative storage humidity without condensation	0,85
	Fresh air consumption	1200 m3/h
Cabinet	Dimensions [WxDxH]	800 x 600 x 1800 [mm]
	Weight	<500kg
	Protection degree (2)	TYPE 3R, IP54
Interface	Communication channel	1 Ethernet port: 10 or 100 Mbps (no switched) for external communications (SCADA or Energy Management System)
	Communication port connector	RJ45 Female or Fiber (optional)
	Luminous indicator, start/stop control and emergency stop	Yes
	Remote access	Yes

(1) An extended temperature range is possible under request

(2) IP65 under request