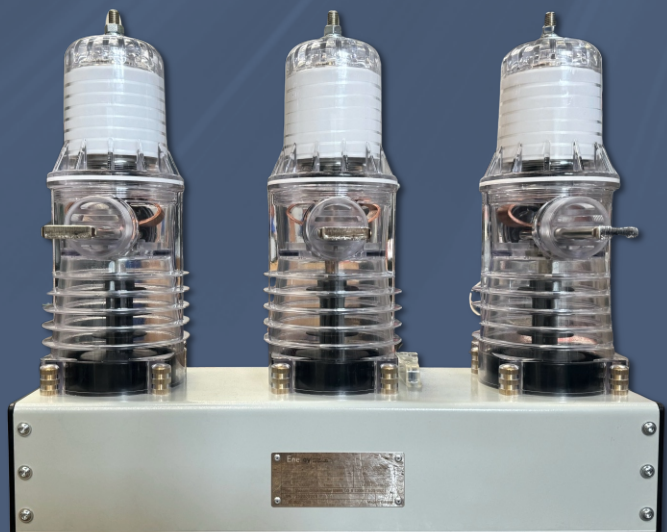


TE ENERGY

VACUUM CIRCUIT BREAKERS UP TO 24 kV

ISM15: LD, Shell, HD
ISM25: LD, Shell

17.5 kV, 3150 A, 31.5 kA
24 kV, 2000 A, 25 kA



**ON TIME WITH
CONFIDENCE**

Features



Maintenance-free

The circuit breaker's robust design guarantees up to 30,000 rated current operations and 50 full-rated short-circuit CO operations, all maintenance-free.



Ultra-Fast Switching

Opens in under 20 ms, interrupting the current within a single cycle to reduce arc flash risk and ensure safe operation.



Precision Control & Supervision

Each circuit breaker features an intelligent electronic control module that operates the breaker and provides full supervision, with malfunctions indicated locally on LEDs and remotely via relay contacts.



Compact, Lightweight & Flexible

Starting at just 33 kg, these circuit breakers are the lightest in their class, enabling effortless installation and handling. With flexible mounting in any orientation—horizontal or vertical—they adapt easily to new or retrofit switchgear, providing optimized primary and secondary connections for maximum space efficiency.



Exceptional Durability

Circuit breakers feature magnetic actuators with a premium Zinc-Nickel alloy coating, designed to meet C5-M/I corrosivity class standard, providing reliable protection in harsh industrial and marine environments with high humidity. Its outstanding corrosion resistance has been validated through extensive salt fog testing, ensuring long-lasting durability and dependable performance even under extreme conditions.



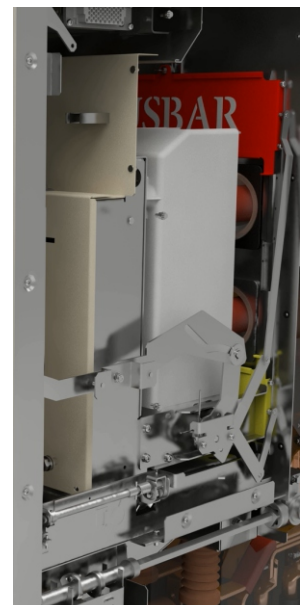
Unified Design

All breakers share a unified design with the same electronic control module, trip unit, and interlock mechanism. This standardization simplifies integration into new or existing switchgear, reduces maintenance, and allows a single solution to be used across the entire range.



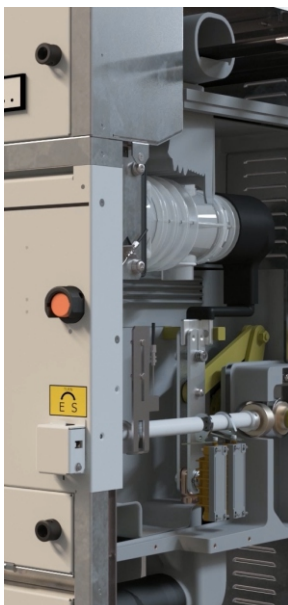
Single-phase Option

Circuit breakers are available as single-phase units or three-phase units with the option for individual single-phase operation. They are ideal for transformers and generators with neutral earthing, capacitor banks with precise point-on-wave switching, critical feeders in data centers, and other applications, offering fast, reliable interruption independently for each phase.



Design

- ① At its core, the breaker features compact vacuum interrupters that extinguish the electric arc in a sealed vacuum environment, providing high interrupting performance and an exceptionally long mechanical and electrical lifespan. The contacts use a longitudinal magnetic field to rapidly and effectively interrupt the arc.
- ② Each phase is fitted with its own magnetic actuator at the bottom of the VCB, featuring a monostable single-coil mechanism. The actuator is mechanically connected to the vacuum interrupter contacts via a pulling insulator, ensuring precise motion while maintaining full electrical insulation. This design allows rapid and accurate independent operation of the contacts for each phase, opening in under 20 ms and interrupting the current within a single cycle to minimize arc flash risk and ensure safe operation.
- ③ The facility for connecting a mechanical position indicator with an optional built-in operations counter via a flexible cable link, offering clear breaker status, eliminating the need for a separate counter, simplifying installation, and reducing overall cost.
- ④ The trip and interlock unit can be flexibly positioned using the adjustable cable system, while maintaining a fully unified design across the product line. This standardization simplifies integration into new or existing switchgear, enabling a single solution to be used throughout the entire range.
- ⑤ The VCB comes standard with a standardized electrical interface across the product range, featuring 6 NO, 6 NC, and Trip/Open contacts for reliable status indication and seamless integration with switchgear panels.
- ⑤ The CM is a standalone device that can be installed anywhere within the switchgear panel using flexible wiring. It provides continuous self-supervision of the VCB, functional wiring, and auxiliary power supply. Any detected malfunction is indicated via built-in LEDs, clearly visible to the on-site operator, and via output relay contacts for remote notification to SCADA systems.
- ⑥ The CM features a USB interface for programming additional protection functions, such as loss of supply, without the need for additional protection devices providing flexibility to configure the device according to specific operational requirements.



Product range up to 17.5 kV

ISM15 series: LD, Shell, HD



Type of ISM	ISM15_LD (1-pole)	ISM15_LD	ISM15_Shell	ISM15_HD
Rated data				
Rated voltage	≤ 17.5 kV	≤ 17.5 kV	≤ 17.5 kV	≤ 17.5 kV
Rated current	≤ 1000 A	≤ 1000 A	≤ 2000 A	≤ 3150 A
Rated power frequency withstand voltage	42 kV	42 kV	42 kV	42 kV
Rated lightning impulse withstand voltage	95 kV	95 kV	95 kV	95 kV
Rated short-circuit breaking current	≤ 25 kA	≤ 25 kA	≤ 31.5 kA	≤ 31.5 kA
Rated peak withstand current	≤ 65 kA	≤ 65 kA	≤ 82 kA	≤ 82 kA
Rated short-time withstand current	≤ 25 kA	≤ 25 kA	≤ 31.5 kA	≤ 31.5 kA
Rated duration of short circuit	4 s			
Rated frequency	50/60 Hz			
Switching performance				
Mechanical life (CO)	30,000			
Operating cycles at rated breaking current (CO)	50			
Closing time	≤ 37 ms			
Opening time	≤ 20 ms			
Rated breaking current operating sequence	O-0.3s-CO-15s-CO			
General information				
Pole distance, mm	-	150/200/210/250	150/200/210/250/275	210/275
Resistance of main circuit	≤ 40 μOhm	≤ 40 μOhm	≤ 18 μOhm	≤ 15 μOhm
Weight	13 kg	32-36 kg	51-55 kg	70-72 kg
Temperature range	-25°C ... +55°C			
Altitude above sea level	≤ 3000 m ¹			
Relative humidity, non condensing	≤ 98 %			
Degree of protection according to IEC 60529	IP 40			
Type of driving mechanism	Linear motor ²			
Number of available auxiliary contacts	2 NO + 2 NC	6 NO + 6 NC		
Applicable standard	IEC 62271-100			

¹ For installations above 1000 m, the external insulation is calculated as multiplication of rated insulation with Ka in accordance with IEC 62271-1.

² Designed to meet the requirements for vacuum circuit breakers with a spring charging motor.

Product range up to 24 kV

ISM25 series: LD, Shell



Type of ISM	ISM25_LD (1-pole)	ISM25_LD	ISM25_Shell
Rated data			
Rated voltage	≤ 24 kV	≤ 24 kV	≤ 24 kV
Rated current	≤ 800 A	≤ 800 A	≤ 2000 A
Rated power frequency withstand voltage	50 kV	50 kV	50 kV
Rated lightning impulse withstand voltage	125 kV	125 kV	125 kV
Rated short-circuit breaking current	≤ 20 kA	≤ 20 kA	≤ 25 kA
Rated peak withstand current	≤ 52 kA	≤ 52 kA	≤ 64 kA
Rated short-time withstand current	≤ 20 kA	≤ 20 kA	≤ 25 kA
Rated duration of short circuit	4 s		
Rated frequency	50/60 Hz		
Switching performance			
Mechanical life (CO)	30,000		
Operating cycles at rated breaking current (CO)	100		50
Closing time	≤ 47 ms		≤ 42 ms
Opening time	≤ 27 ms		≤ 20 ms
Rated breaking current operating sequence	O-0.3s-CO-15s-CO		
General information			
Pole distance, mm	-	210/275	210/275
Resistance of main circuit	≤ 40 μOhm	≤ 40 μOhm	≤ 17 μOhm
Weight	14 kg	35-38 kg	50-51 kg
Temperature range	-25°C ... +55°C		
Altitude above sea level	≤ 3000 m ¹		
Relative humidity, non condensing	≤ 98 %		
Degree of protection according to IEC 60529	IP 40		
Type of driving mechanism	Linear motor ²		
Number of available auxiliary contacts	2 NO + 2 NC	6 NO + 6 NC	
Applicable standard	IEC 62271-100		

¹ For installations above 1000 m, the external insulation is calculated as multiplication of rated insulation with Ka in accordance with IEC 62271-1.

² Designed to meet the requirements for vacuum circuit breakers with a spring charging motor.

Control module

CM 16 series



General

Weight	≤ 1.5 kg
Overall dimensions	190x185x56 mm
Maximum number of operations per hour	100
Relative humidity, non condensing	≤ 98 %
Temperature range	-40°C ... +55°C

Supply voltage

Rated supply voltage	24V to 60VDC; 110V to 220V AC/DC
Rated supply voltage operating range	80-120 %

Power consumption

Maximum power consumption (charging the close/trip capacitors)	≤ 30 W
Standby power consumption	≤ 5 W

Signaling relays

Number of relays	3
Rated voltage	250 V
Rated current AC	16 A
Rated current DC	15 A

Dielectric strenght

Insulation resistance	> 5 MΩ
Power frequency withstand voltage, 1 min	2 kV
Impulse withstand voltage	5 kV

EMC

Electrical fast transient/burst	IEC 61000-4-4; Class IV
Surge immunity	IEC 61000-4-5; Class IV
Pulsed magnetic field immunity	IEC 61000-4-8; Class V
Oscillatory immunity	IEC 61000-4-12; Class III
EU LV directive; EU EMC directive	2014/35/EU; 2014/30/EU

Supply options

Supply to OEMs

Fixed-type vacuum circuit breakers, available as loose units or supplied with accessory kits, ready for integration by original equipment manufacturers (OEMs).



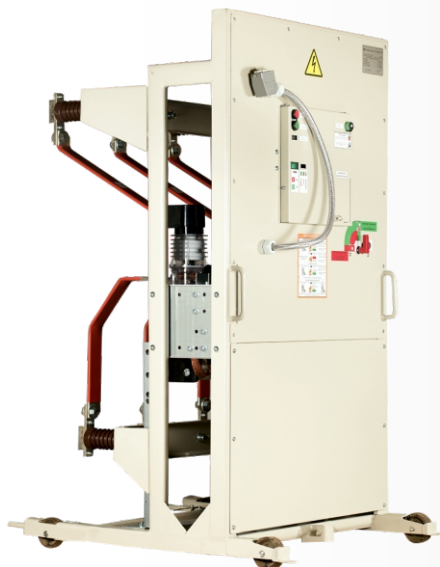
Design of Withdrawable Circuit breakers

Tailored solutions for switchgear builders, with ready-to-use, fully assembled and tested withdrawable circuit breakers designed for easy integration into panels.



Design of Retrofit solutions

Replacing older circuit breakers with advanced vacuum technology to extend the life of legacy switchgear, enhance operational safety, and improve overall system reliability, all with minimal investment and downtime.



ON TIME WITH CONFIDENCE

In line with the growing focus on sustainability, we are fully committed to Life Cycle Assessment (LCA) and Environmental Product Declaration (EPD). LCA is a method used to evaluate the environmental impact of a product throughout its entire life cycle, from raw material extraction to disposal. Building on this, an EPD is a detailed report that communicates the environmental performance of a product based on recognized standards. Together, these practices help us minimize our carbon footprint and reinforce our commitment to reducing environmental impact as part of our ongoing sustainability efforts.



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