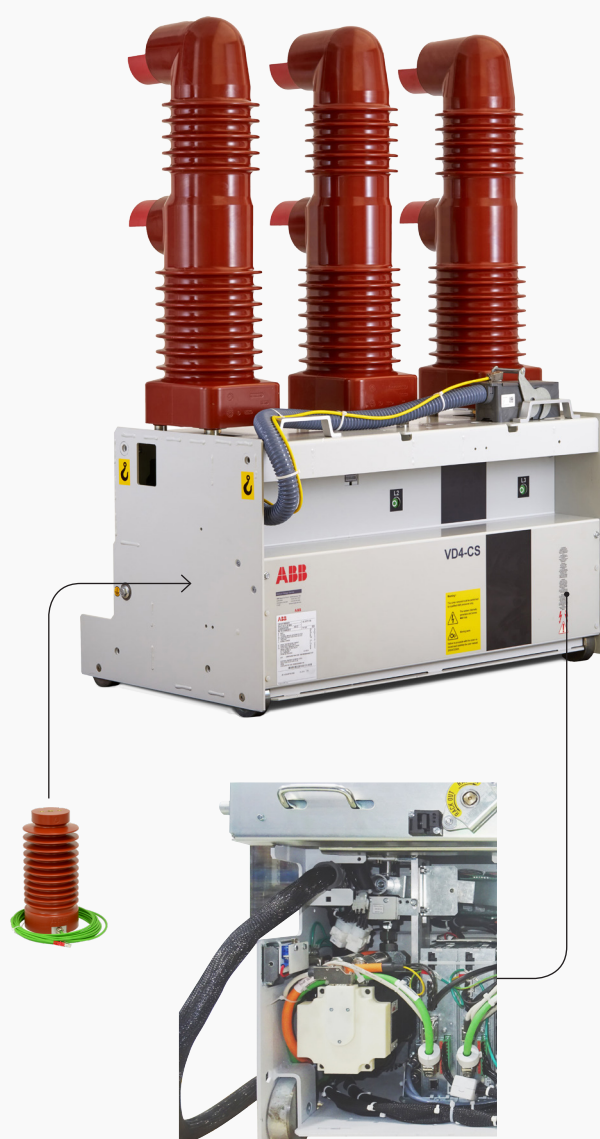


VD4-CS Family

Noise-free power quality by safe and reliable switching and protection of capacitor banks



To support your business needs in reactive power compensation, ABB offers dedicated vacuum circuit breaker with servomotor actuation and controlled switching up to 38kV, 1250A, 31.5kA and up to 20,000 operations with extremely low probability of re-strike and transients minimization in capacitor bank switching. Additionally with VD4-CS1 real time power factor compensation and reactor switching are allowed.

Maximize your plant efficiency and reliability

- Up to 20,000 capacitive maintenance-, inrush-, and restrike-free operations and up to 10,000 operations in back-to-back capacitor banks configuration with same performances, up to 5 times the market standard performances.
- Inrush minimization thanks to high accuracy and closed loop controlled switching technology, no need of external relays for synchronization.
- Elimination of undesired protections' tripping thanks to the transients minimization.
- Enables increased lifespan of capacitors by more than 10% in e.g. 3 years.
- Best grid power quality fulfilling all network regulations.
- Fastest replacement with roll on floor drawout solution.

Optimize your investment

- Enables elimination of inrush limiting reactors and resistances, leading to significant cost and space savings
- Cost saving by as much as 20% using same ratings, same interfaces of existing MV substation thanks to optimized footprint equivalent to standard distribution breakers

- Reduced total cost of capacitor bank operation due to elimination of downtime for breaker overhaul and a lifespan 5 times the market standard, with predictive health indication
- Assets optimization having both CB and capacitive switching devices in one single solution
- Enabled for Service monitoring offer

Safeguard your personnel and assets

- Embedded advanced diagnostics
- Predictive health indicators
- Built-in interlocks
- Prevention of incorrect operations and hazards

The VD4-CS1 provides additional features respect than the VD4-CS

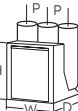
- High resolution and continuous timing adaptation for transient free capacitor bank connection without waiting any discharging time.
- Capable to perform reclosing operations in sequence with a waiting time of 15s every 4 consecutive operations.
- Specific logics for fast reclosing function that can be customized.
- Fast discharge devices for capacitor banks shall be avoided.
- CAPEX friendly solution that can be integrated with inverters, Statcom and SVCs for continuous power factor correction and grid regulation.






Technical Characteristics

Type tested according to IEC 62271-100

VD4-CS & VD4-CS1				
Rated and Insulation voltage		kV	36	38
Withstand voltage (1min)		kV	95	95
Impulse withstand voltage		kVp	185	185
Rated frequency		Hz	50-60	50-60
Rated normal current		A	1250	1250
Rated breaking capacity and rated short-time withstand current (3s)		kA	31.5	31.5
Making capacity		kAp	94	94
Mechanical endurance	Close-Open operations		20.000	20.000
Operating sequence			CO-15s-CO	CO-15s-CO
Opening time		ms	39 (*)	39
Closing time		ms	58 (*)	58
Overall dimensions		H mm (inches)	1575 (60)	1575 (60)
		W mm (inches)	1100 (43)	1100 (43)
		D mm (inches)	555 (22)	555 (22)
		P mm (inches)	360 (14)	360 (14)
Weight		Kg (lbs) (approx.)	235 (518)	235 (518)

H = Height of the circuit breaker
W = Width of the circuit breaker
D = Depth of the circuit breaker
P = Pole horizontal centre distance
(*) in synchronization mode, opening time may be extended by 1.5 T

VD4-CS/P & VD4-CS1/P				
Rated and Insulation voltage		kV	36	38
Withstand voltage (1min)		kV	95	95
Impulse withstand voltage		kVp	185	185
Rated frequency		Hz	50-60	50-60
Rated normal current		A	1250	1250
Rated breaking capacity and rated short-time withstand current (3s)		kA	31.5	31.5
Making capacity		kAp	94	94
Mechanical endurance	Close-Open operations		20.000	20.000
Operating sequence			CO-15s-CO	CO-15s-CO
Opening time		ms	39 (*)	39
Closing time		ms	58 (*)	58
Overall dimensions		H mm (inches)	1575 (60)	1575 (60)
		W mm (inches)	940 (37)	940 (37)
		D mm (inches)	700 (28)	700 (28)
		P mm (inches)	280 (11)	280 (11)
Weight		Kg (lbs) (approx.)	345 (761)	345 (761)

H = Height of the circuit breaker
W = Width of the circuit breaker
D = Depth of the circuit breaker
P = Pole horizontal centre distance
(*) in synchronization mode, opening time may be extended by 1.5 T