

[www.usa.siemens.com/fusesaver](http://www.usa.siemens.com/fusesaver)

# Fusesaver™ medium-voltage circuit breaker

The world's fastest medium-voltage outdoor vacuum circuit breaker – the most cost-effective solution for optimizing reliability while minimizing operating costs of rural overhead medium-voltage networks

Fusesaver is a new class of intelligent, compact and low cost single-phase circuit breakers that minimizes lost customer minutes by protecting lateral line fuses from blowing on transient faults. About 80 percent of a rural network's faults are transient, with the result that 80 percent of its fuses are blown unnecessarily, causing downstream customers to lose power and requiring a line crew to inspect the line and replace the fuse link.

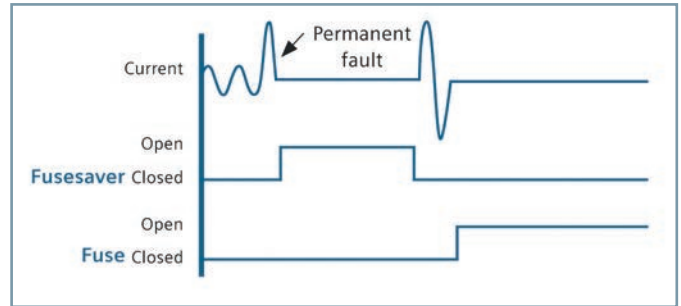
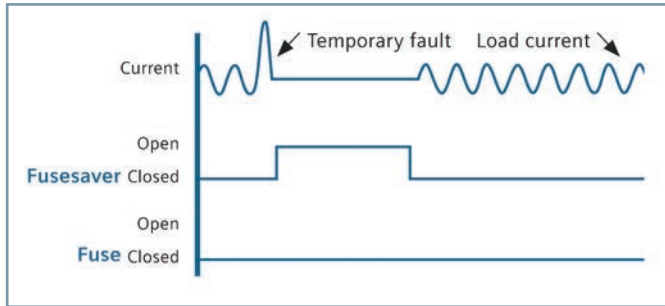
Fusesaver is extremely light at only 12 lbs (5.5 kg) and hangs directly from the medium-voltage line. It is connected in series with the fuse that it is protecting, and self powers from line current.

With on-board microprocessor control and wireless connectivity, Fusesaver has configurable protection, multi-phase operation functions, on-board event history and can be integrated into a SCADA system for remote control.

Fusesaver can detect, open and clear a fault in one cycle or less, normally clearing at the first current zero after contact part, which is less time than it takes the fuse to melt for moderate faults. After a predefined dead time, the Fusesaver automatically closes, reconnecting the supply. If the fault is transient, the fuse is unaffected. If the fault is permanent, Fusesaver then allows the fuse to operate, isolating the faulted line.

Product overview				
Rated voltage	15.5 kV		27.6 kV	
Rated current	100 A	200 A	100 A	200 A
Partner fuse ratings	≤50 A	≤100 A	≤50 A	≤100 A
Rated short-circuit breaking current, sym	4 kA sym		4 kA sym	
Rated short-time current duration	0.2 s	1.0 s	0.2 s	1.0 s
Rated short-circuit making current, peak	10.4 kA peak		10.4 kA peak	
Rated lightning-impulse withstand voltage	110 kV		125 kV	
Minimum line current for operation	0.5 A	1.0 A	0.5 A	1.0 A
Fault break operations at 100%	30			
Minimum tripping current (configurable)	x2 fuse rating			
Mechanical operations	2,000			
Rated frequency	50/60 Hz			
Weight	12.1 lbs (5.5 kg)			

Answers for infrastructure and cities.



### Performance with temporary faults

If a fault is temporary, the fault is cleared by the Fusesaver operation and the power supply is restored. The fuse does not operate, and the Fusesaver is ready for the next fault.

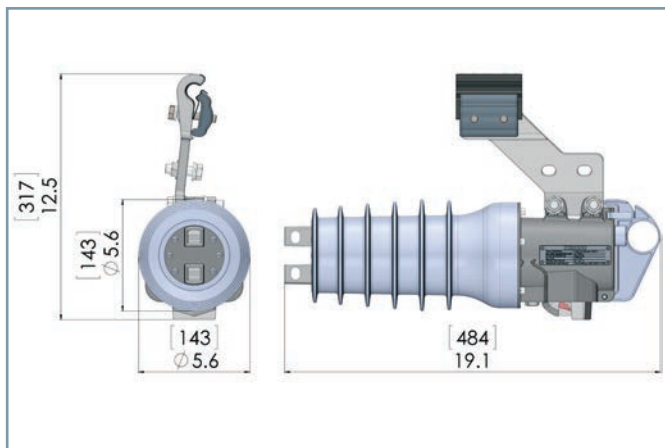
Only the customers on the affected lateral line experience an interruption in power during the Fusesaver's dead time, while all other customers on the feeder, including nearby lateral lines, do not even notice its operation.

### Performance with permanent faults

If a fault is permanent, the Fusesaver closes, the fault is still present, resulting in an immediate fault current. The Fusesaver will not operate again and will allow the fault current to blow the fuse.

Loss of power is unavoidable for customers on this lateral, while all other customers receive an uninterrupted power supply. The Siemens Fusesaver restricts blown fuses on lateral lines to unavoidable cases of permanent faults.

**The fuse protects the lateral line,  
Fusesaver protects the fuse from  
transient faults.**



The information provided in this document contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

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