

# What is a recloser?



*Powering Business Worldwide*

## What is a recloser?

A recloser is an automatic, high-voltage electric switch. Like a circuit breaker on household electric lines, it shuts off electric power when trouble occurs, such as a short circuit. Where a household circuit breaker remains shut off until it is manually reset, a recloser automatically tests the electrical line to determine whether the trouble has been removed. And, if the problem was only temporary, the recloser automatically resets itself and restores the electric power.

On high-voltage electric lines, 80 to 90 percent of trouble occurrences are temporary – such as lightning, windblown tree branches or wires, birds, or rodents – and will, by their very nature, remove themselves from the electric line if the power is shut off before permanent damage occurs to the lines.

The recloser senses when trouble occurs and automatically shuts off the power. An instant later (the length of time may be noticeable only as a lightbulb flicker), the recloser turns the power back on, but if the trouble is still present, it shuts it off again. If the trouble is still present after three such tries, the recloser is programmed to consider the problem permanent and it remains off. A power company crew must then repair the problem on the line and reset the recloser to restore power.

Examples of permanent problems include: power lines or other equipment damaged by lightning strikes, fallen tree limbs, or vehicle crashes.

Reclosers save the electric companies considerable time and expense, since they permit power to be restored automatically, after only a flicker or two. And, for outages that require a repair crew, reclosers minimize the outage area and help the crews to quickly locate the problem and restore power. Consumers of electric power— residential, business, industrial, and institutional— are saved from the expense and inconvenience frequent power outages would cause.

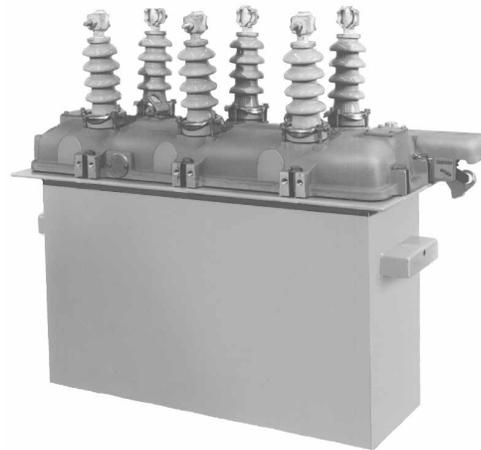
The advent of the first commercially successful recloser – the Kyle® Type H recloser – revolutionized the protection of high-voltage (2,400 to 38,000 volt) electric lines, and made it possible for electric utilities to provide dependable electric power service to their customers.

Without this high level of power reliability, many critical process power-use devices that are commonplace today, such as computers, pumps, and assembly lines, would not have been practical.

Reclosers are used throughout the power distribution system, from the substation to residential utility poles. They range from small reclosers (Figure 1) for use on singlephase power lines, to larger three-phase reclosers (Figure 2) used in substations and on high-voltage power lines up to 38,000 volts.



**Figure 1. Typical Eaton Cooper Power series single-phase automatic circuit recloser**



**Figure 2. Typical Eaton Cooper Power series three-phase automatic circuit recloser**

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Publication No. TD280027EN  
July 2017

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