

CIRCUIT RECLOSER

SINGLE PHASE AUTOMATIC CIRCUIT RECLOSER

Standards

IEC 62271-111, IEEE C37.60



CIRCUIT RECLOSER

Description

Equipped with switching under load technology due to the vacuum arc extinguishing element, the equipment is able to eliminate intermittent faults in pre-programmable activation cycles, providing greater robustness against locking failures.

A modern control platform, completely redesigned to meet a variety of customer profiles, regardless of specific utility characteristics or load types. This includes extensive networks for industrial loads, as well as those requiring massive and coordinated operation (self-healing).

The equipment can be parameterized through its various communication buses.

It eliminates the need for a control panel and minimum load current, relying on technology powered by internal capacitive voltage transformers (TPC).

Features

- The pre-insertion spring mechanism adopts a single-phase connection, mounted in an aluminum housing.
- The magnetic mechanism features a locking function to maintain the mechanism's operation in good condition and keep the OPEN/CLOSED condition through an electromagnetic lock.
- Discharge is carried out through a capacitor present in the control unit.
- This energy storage device can operate even during transient events and with low battery load.
- It has a manual opening/closing function to operate the recloser between the OPEN/CLOSED positions, through the lever indicating ON/OFF.
- Easy observation by the operator of the recloser condition from the ground.



CIRCUIT RECLOSER

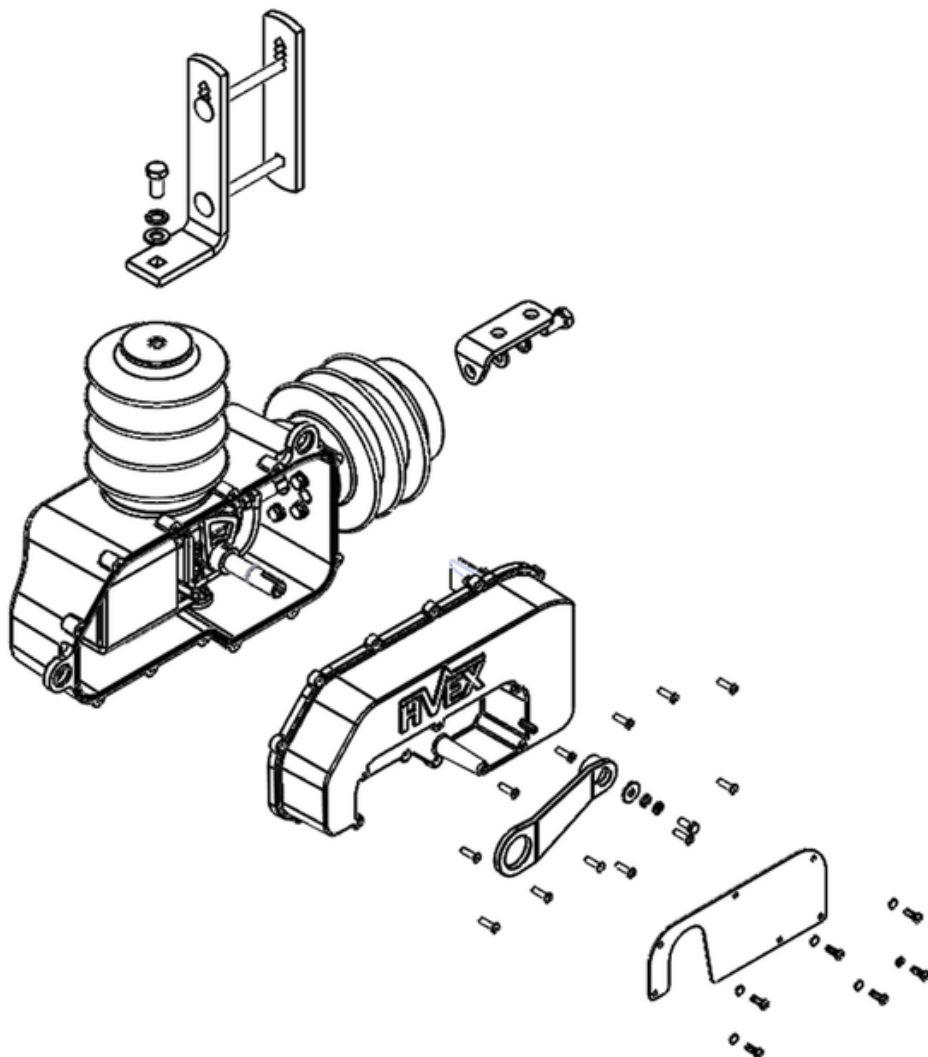
Features

- For the consumer: Reduction of FEC and DEC, as the recloser will have the ability to restore power for transient faults.
- For the utility: Improvement of its power quality indicators and reduction in acquisition, operation, and maintenance costs.

Operation

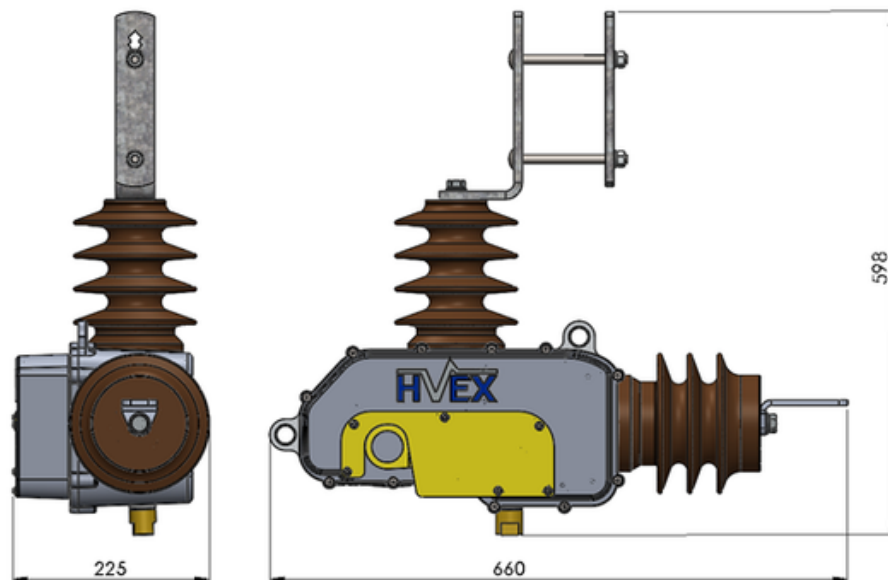
The single-pole recloser is a load-switching device capable of operating under load and fault conditions, with customizable parameters. It is controlled to protect and restore individual phases of the electrical system in the event of a fault, as most issues in the power grid are transient, and a brief interruption followed by re-energization is sufficient to address this type of problem.

The recloser has a range of settings for its opening conditions; if any of these conditions are met, the recloser opens and initiates a re-closing attempt cycle. If the re-closing is successful, the phase is restored. If the system encounters issues during the re-closing process, the device locks open, preventing fault propagation and safeguarding the rest of the electrical network.

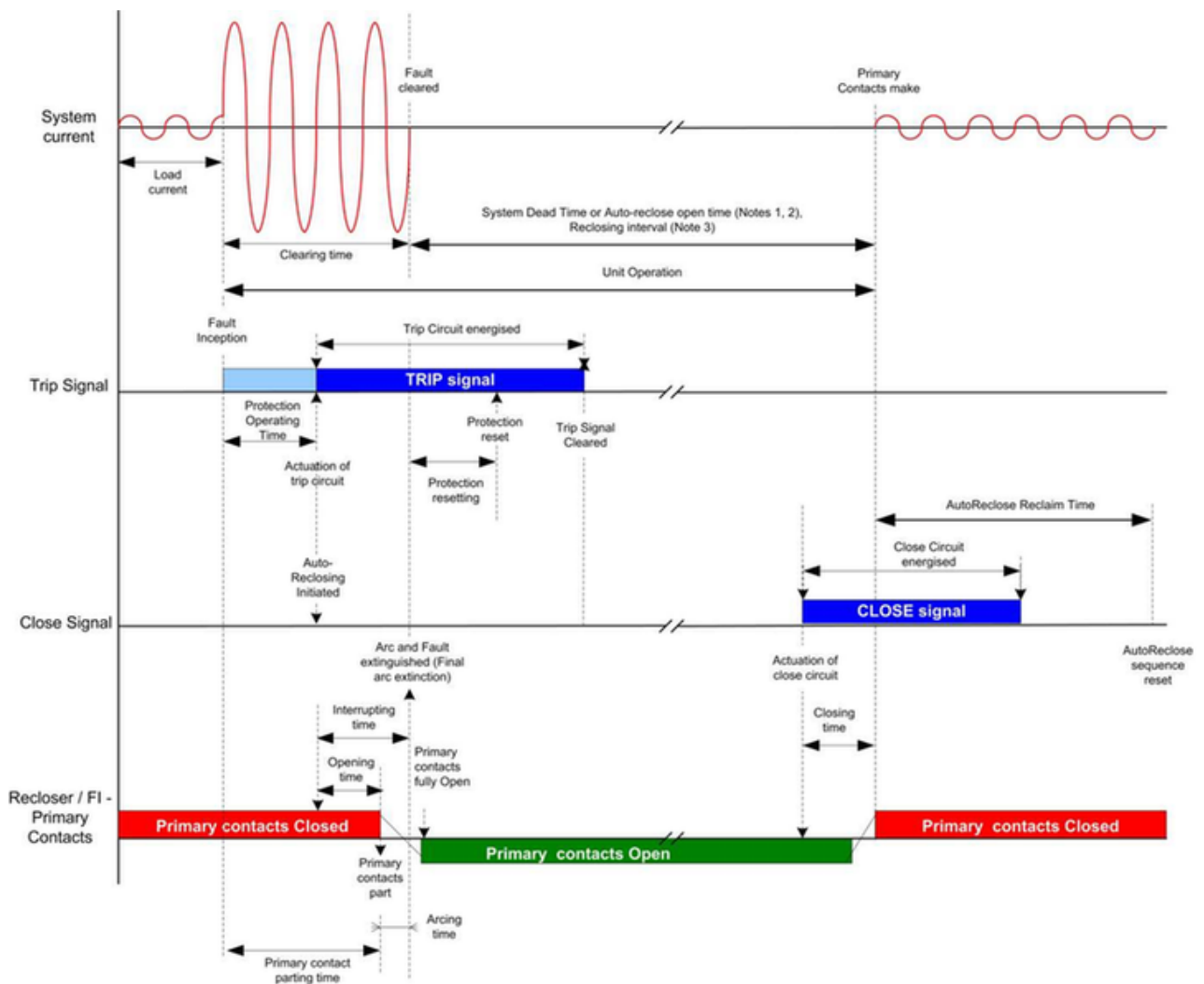


CIRCUIT RECLOSER

Dimensions



Functional Diagram



Technical Specifications

Maximum rated voltage	15 kV
Withstand voltage for 1 min at industrial frequency	50 kV
Rated frequency	50 Hz / 60 Hz
Rated current	400 A
Short-time withstand current	12,5 kA
Peak withstand current	25 kA
Short-circuit duration	4 s
Cable Charging Interrupt Current	5 A
Actuation mechanism	Magnetic Actuator
Electric Arc Interruption Method	Vacuum
Basic Insulation Level (BIL)	110 kV
Insulation Level (Dry / Wet heat)	50 kV
Number of operations	10000
Protection degree	IP-54
Weight	35 kg (77,1618 Lbs)

Technical Specifications

Self power supply	127 VAC with internal rectification for 24 VDC (20 to 29 VDC)
Maximum power consumption	10 W
CT Input Ratio	333 mV / kA
Fault clearing time	< 50 ms
Tank dimensions	660 x 598 x 225 mm
Temperature	• Operation: -25°C to 70°C (-13 to 158 °F) • Storage: -40°C to 85°C (-40 to 185 °F)
Records	• Faults • Disturbances • SOE (Sequence of events)
Protection	• Alarm • Trip
Control	• Opening • Closing • Battery test
LED's	• 2 programmable • Fault indicators • Self-check, Pick-up, Trip
Communication protocol	MQTT (native)
Parameterization	Via Web Browser (IP)

Protection Functions (ANSI)

50 P	Phase instantaneous overcurrent
51 P	Phase time overcurrent
67 P	Phase directional overcurrent
59	Overvoltage
27	Undervoltage
79	Reclosing
25	Synchronism-Check
81 O U R	Frequency protection (Overfrequency, Underfrequency, Frequency rate of change)
IR	Inrush Restraint function
CLP	Cold Load Pick-up
HLT	Hot Line Tag
LGC	Protection settings group

Measurement and Monitoring

I	Phase current
U	Phase voltage (Source side / Load side)
VDC	Battery voltage
P/Q/S	Power (Active, Reactive, Apparent) (Single-phase)
EP/EQ/ES	Energy (Active, Reactive, Apparent) (Single-phase)
PF	Power Factor (Single-phase)
f	Frequency
PQM1I	Phase Current Harmonic Distortion (THD) (2nd to 11th)
PQM1U	Phase Voltage Harmonic Distortion (THD) (2nd to 11th)
Sincronismo	Amplitude, Frequency
True RMS	Voltages / Currents
Demand	Currents, Voltages, Power, Energy, PF, Frequency, Harmonics
Additional	Power Quality, Load profile, Disturbance records, Graphs

We provide solutions for improvement of electrical energy generation, transmission and distribution efficiency, quality and reliability. With a highly specialized and experienced team in research, development and innovation, HVEX develops tailor-made solutions for Brazilian and foreign markets. Wide range of products with solutions focused on signal transduction, measurement, monitoring and protection.



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