

# Distance Protection Principle Implemented by RL Algorithm in Relay Protection

A distance relay (or impedance relay) is a protection device used on power transmission lines that estimates the distance to a fault by measuring the apparent impedance between the relay ...

Distance protection relays measure impedance to detect faults by comparing the measured impedance to a set value. They are used to protect transmission lines and provide faster, more selective ...

be easily applied in both a standalone relay and a network of coordinating relays. The trained RL relays can accurately detect faults under situations including high fault impedance, presence of distributed ...

The protection logic implemented in the Distance protection relay block includes an Closing Opening Difference Operator (CODO) algorithm and a Fault Detection for measurement, which provides ...

The paper presents a new algorithm for distance protection based on the change of the phase angle of the voltage. The algorithm uses instantaneous values of currents and voltages ...

For distance protection, differential equations can be established for different centralised parameter models, and the fault distance can be solved. The following is a kind of distance protection ...

Traditional distance relays often mis-operate for high transient resistance in phase-ground faults by measuring apparent impedance. To solve this problem, a novel distance protection ...

This has led to the development of Distance Protection in which the action of relay depends upon the distance (or impedance) between the point where the relay is installed and the point of fault. This ...

Distance protection schemes play a vital role in ensuring reliable and speedy fault clearance on transmission lines. The fundamental idea behind distance protection is to measure the ...

The principle of distance protection is based on the determination of the fault impedance from the measured short-circuit voltage and current at the relay location as illustrated in figure 1.

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