GDR Telecom Site Energy Systems

Optimization of 110kV Power Grid Relay Protection Settings

Overview

This paper proposes two solutions: first, analyzing from the perspective of relay protection strategies, adjusting the settings and operation modes of protection devices; second, optimizing the protection devices themselves by configuring more reliable equipment. The application. In the first stage, the IFE dimensional reduction model is deployed for massive heterogeneous input data, where the statistical independence of input signals is calculated, the linear transformation matrix to decouple mixed signals is found, the linear combination of such signals is formed, and the. Then, considering the requirements of relay protection for quickness and sensitivity, the Whale optimization algorithm with fast convergence speed is introduced, and the LM algorithm is introduced to improve it.

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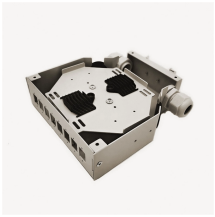
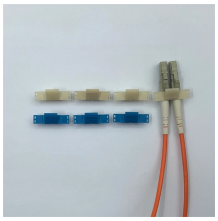


Abstract This paper takes a 110kV system as the protected object and equip relay protection for it and set protection parameters.These protections include the 10kV line''s overcurrent protection with ...

To sum up, the presented approach integrates Independent Factor Evaluation (IFE) and quantum genetic optimization (QGO), providing a comprehensive solution for optimizing relay ...

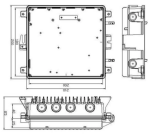
To improve the reliability and sensitivity of multi-level relay protection in distribution networks with distributed power sources, this study designs an adaptive setting strategy optimization method.



Firstly, the impact of the access of a large number of distributed generations on relay protection in the distribution network is analyzed. Then, considering the requirements of relay protection for quickness ...

In the calculation of relay protection settings, the current speed protection is usually calculated using the short-circuit current in the maximum operating mode, so it ...

Fingrid''s application guideline for relay protection presents the operating principles of the relay protection in Fingrid''s 110, 220 and 400 kV power networks and the requirements for operation of the protection ...



In this paper, the main electric wiring mode of 110kV substation is selected, the structure of substation is determined, and then the main wiring diagram is drawn.

The conventional distribution network relay protection setting planning is generally fixed-point or distribution network target optimization, which is relativel

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