

Emergency control system for distribution network with 6-10 kV overhead power lines includes AC-to-DC converters, circuit synchronization element, signal delay element, output unit, reverse-sequence current filter, open-circuit output contact of relay protection against phase-to-phase short circuits, three comparators, reverse-sequence current setpoint generator, zero-sequence voltage setpoint generator, and time setpoint generator, a switch, which is connected to secondary windings of two current transformers, primary windings of which are installed at the beginning of line and are connected to line phases. Outputs of current transformers are connected to input of reverse-sequence filter, output of which, via opening output contact of interphase short-circuit protection relay and through the first AC-to-DC converter, is connected to the first input of the first comparator, and input of the second AC-to-DC converter is connected to secondary winding of voltage transformer, which is connected in a star configuration; output of this converter is connected to input of operating voltage supply, whose output is connected to reverse-sequence current setpoint generator, time setpoint generator, and zero-sequence voltage setpoint generator; and secondary winding of voltage transformer, connected in an open-delta configuration, is connected to the third AC-to-DC converter, output of which is connected to the first input of the second comparator. Output of zero-sequence voltage setpoint generator is connected to the second input of the second comparator, and output of reverse-sequence current setpoint generator is connected to the first comparator, wherein output of the first comparator is connected to the first input of signal delay element, to the second input of which, output of time setpoint generator is connected. Output of signal delay element is connected to the first output of the third comparator, to the second input of which, output of operating voltage supply is connected; output of the third comparator is connected to the first input of circuit matching element, the second input of which is connected to output of the second comparator, and output of circuit matching element is connected to output of switch, output of which is connected to input of output block, output of which is connected to input of air distribution network circuit breaker drive. Additionally, device includes capacitive filter, rectified current supply, pre-charged capacitor, the first and the second limiting resistors, and, respectively, unit for responding to a gradual decrease in insulation resistance, unit for responding to a sudden change in insulation resistance, ohmmeter, resistor with button for activating resistor, and alarm unit. Capacitive filter is connected between the neutral point of primary winding of voltage-measuring transformer and the ground, in which input of resistor with button for activating resistor is connected to the input of the first limiting resistor and unit for responding to a sudden change in insulation resistance, and its input is connected to output of pre-charged capacitor and output of DC power supply, input of which is connected to e output of ohmmeter, input of which is connected to output of unit for responding to a sudden change in insulation resistance and to output of the second limiting resistor, input of which is connected to output of the first limiting resistor and to input of pre-charged capacitor, unit for responding to a sudden change in insulation resistance, and circuit for responding to a gradual decrease in insulation resistance; outputs of circuit for responding to a sudden change in insulation resistance and circuit for responding to a gradual decrease in insulation resistance are connected to input of alarm block.