

# Calculation formula for high-voltage switchgear relay protection



## Calculation formula for high-voltage switchgear relay protection



The calculations are performed to determine appropriate relay settings that ensure protection and coordination within the power system network.



The proposal itself and define the different protection zones should be based on impedance lines to be determined by the calculation referred to in the previous section of this article.



This technical report refers to the electrical protection of all 132kV switchgear. These settings may be reevaluated during the commissioning, according to actual and measured values.



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If the GSU interwinding capacitance is known (and it is here,  $0.01182 \mu\text{F}$ ), calculate the voltage that will develop across the NGR for a ground fault on the high side of the GSU:



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Effective relay protection in HV/MV substations requires a thorough approach encompassing calculations, precise settings, meticulous coordination, informed relay selection, and ...



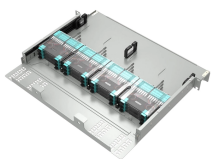
Plug Setting Multiplier (PSM) indicates how many times the determined relay secondary current (typically the CT secondary) exceeds the relay pickup (plug) current. It is the key quantity ...



Free Protection Coordination Calculator with Time-Current Curves, Manufacturers Database, Adjustable Device Settings, and Interactive Single-line Diagram.



The simplified equations have the advantage of only having to enter the relay voltage from the fault study into the calculations instead of entering both relay voltage and current for the remote bus fault.



When the protection is implemented using a voltage relay, the selected setting must be equal to or exceed the calculated stabilizing voltage. The value of the stabilizing resistor is determined according ...

## Contact Us

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