

How to calculate relay protection setting sheet



Overview

Use this Protection Relay Setting Calculator to calculate pickup current, time multiplier settings (TMS), operating time, coordination time interval (CTI), and plug setting multiplier (PSM) using fault current, CT ratio, and IEC 60255 curve parameters. For thermal overload protection (ANSI Device 49), the pickup is typically set at 115% to 125% of motor full-load amps depending on service factor. These calculations are critical in industrial. ve reliable and properly coordinated relay settings. These settings may be reevaluated during the commissioning, according to actual and/or measured values. This Excel template provides a structured relay schedule with columns: Relay Tag, Make & Model, Location, Protected Equipment, Rated Current, CT Ratio, Pickup (Is), TMS, Curve Type (SI/VI/EI/DT), Highset. Abstract—Setting transmission line relays is fairly easy to learn—but takes years to master. With the proper education, tools, and references such as company standards available, a relatively inexperienced engineer can do good work with proper supervision and review.

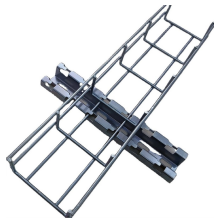
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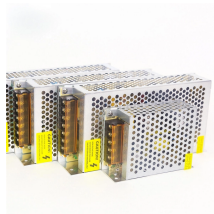
Calculate thermal overload, overcurrent, ground fault, and differential relay settings with step-by-step examples. Covers CT ratios and common mistakes.



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



To avoid relay mal-operation, set Slope 2 as high as possible. Normally, a high Slope 2 setting causes slow tripping for evolving faults (external-to-internal faults).



- A time delay setting of 1 cycle is optimal from a protection standpoint, but ensure it is secure for external faults, which is primarily dependent upon CT saturation performance matching i.e., CT ...



Relay Settings Calculations – Electrical Engineering
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This calculator makes the procedure easier, providing an effective method to determine the relay settings required for best protection. This post explains you through the calculator's usage, ...



In general, relay engineers have two “knobs” to adjust when creating settings for a protective element in a relay: sensitivity and delay. Raising the sensitivity of an element improves dependability but ...



Use this Protection Relay Setting Calculator to calculate pickup current, time multiplier settings (TMS), operating time, coordination time interval (CTI), and plug setting multiplier (PSM) ...



Our protection coordination software free tool is designed to provide immediate visual and mathematical feedback for your relay settings. Follow these steps to achieve perfect selectivity:



Dropdown lists for curve type and conditional formatting for overdue test dates are built in. Use this to document all relay settings in a protection coordination study or as a live maintenance register.



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



For two-terminal or three-terminal lines where the remote station has a single-circuit breaker with breaker failure protection, set the relay to reach 125% of the Zone 2 relay reach.

Contact Us

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