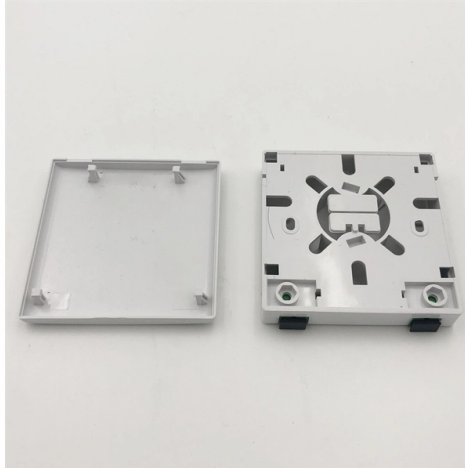


Impact of Relay Protection on Metering



Summary of Content

No, metering is not a type of relay protection; it is a measurement function, while relay protection is designed to detect faults and trigger circuit breakers.

Understanding Metering

Metering refers to the accurate measurement of electrical quantities such as current, voltage, and energy for monitoring, billing, or system analysis. Metering CTs are designed to maintain high accuracy under normal operating conditions, typically up to 1.2 times the rated current, and are connected to instruments like ammeters or energy meters. Their primary goal is precision in measurement, not fault detection, and they may saturate during high fault currents, making them unsuitable for protection purposes.

Understanding Relay Protection

Relay protection involves detecting abnormal conditions such as overcurrent, short circuits, or faults, and automatically initiating actions to isolate the faulty section by tripping circuit breakers. Protection CTs are designed to handle both normal and fault currents without saturating, ensuring that relays receive accurate signals even during high-current events. Protective relays operate based on thresholds and timing to maintain system safety and reliability.

Key Differences

- Purpose: Metering measures current or voltage; protection detects faults.
- Accuracy Requirements: Metering CTs prioritize precise readings under normal load; protection CTs prioritize reliable operation under fault conditions.

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For more information, pricing, or custom solutions, please contact us:

Website: <https://benniedesignstudio.co.za>

Email: sales@benniedesignstudio.co.za

Phone: +27 82 391 4765

Address: The Towers, 1 St Georges Mall, Cape Town, 8001, South Africa

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