# Relay protection Pt ratio



## Overview

Rule of thumb, select a ratio slightly larger than the rating of the circuit to be protected. Numerical relays have more forgiveness than induction disk. Protection relays employ a wide range of configurable parameters to identify defects & trip the breaker in a controlled & selected manner. PSM – Plug Setting Multiplier (Current Setting Multiplier) What is PSM?

2). TSM – Time. The Protective Relay Reference is a comprehensive cheat sheet for power system protection engineers covering ANSI device numbers, relay settings, CT/PT selection, and protection coordination. It includes 26 entries organized into Protection Relays, CT-PT, and Protection Coordination categories. Protective Relays - Technical Seminar Nov 2016 - Copyright: IEEE 2 Abstract: Protective relays and devices have been developed over 100 years ago to provide “lastline”of defense for the electrical systems. The number after the letter designates approximately how much voltage can be. Potential Transformer ratio is the ratio of the primary rated voltage of the PT divided by the secondary rated voltage of the PT. A 480:120V rated PT will have a PT ratio of 4.

© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved

## Article Content

Distance Protection Relay Settings Guide

Setting calculations require information about line and transformer parameters, CT and PT ratios, and arc resistance to determine impedance-based protection

Relay Protection Settings (PSM, TSM, EL, OL, MF)

Plug Setting Multiplier (PSM) indicates how many times the determined relay secondary current (typically the CT secondary) exceeds the

Protective Relay Reference — ANSI Codes, CT/PT Selection

The Protective Relay Reference is a comprehensive cheat sheet for power system protection engineers covering ANSI device numbers, relay settings, CT/PT selection, and protection coordination.

Power System Protective Relays: Principles & Practices

As the protected components of the electrical systems have changed in size, configuration and their critical roles in the power system supply, some protection aspects need to be revisited (i.e. the use of

Protective Relay Basics

The objective of this presentation is to convey a basic understanding of protective relays to an audience of engineers already familiar with low voltage protective device coordination.

PT Ratio Calculation – Voltage Disturbance

Potential Transformer ratio calculation can be performed using the calculator below for a range of three phase connections as well as single phase connections.

RELAY SETTING CALCULATION

To determine stability voltage for through fault Vs'' Voltage across the relay at IFS (VS) CT Resistance (RCT)

How to Choose the Right Turns Ratio of CT/PT?

This article explains how to select the correct turns ratio for current transformers (CT) and potential transformers (PT) based on system voltage and current

Sizing Current Transformers for Line Protection Applications

io CTs, the voltage rating only applies to the full winding. The voltage rating of a CT tap is directly proportional to the ratio between the CT ratio corresponding to the tap and the full CT ratio

*© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved*

Mastering Distance Protection and Calculations: Never

When setting up distance protection, the CT and VT ratios must be correctly configured in the relay settings. This ensures that the impedance

The Relay Testing Handbook: Principles and Practice

This online protective relay testing seminar follows Chris Werstiuk (author of The Relay Testing Handbook) as he tests a relay from start to finish. You''ll learn the basic skills needed to test any

Understanding CT and PT Ratios in Distance Protection

You''ll learn how the relay interprets current and voltage values—and why these ratios are critical for accurate distance protection.

Microsoft Word

The PT ratio is the most important piece of information and must be recorded from the nameplate or the design criteria. The ratio determines the PT operating characteristics. If the PT has multiple taps

Relay Protection Settings (PSM, TSM, EL, OL, MF)

Protection relays employ a wide range of configurable parameters to identify defects & trip the breaker in a controlled & selected manner.

Protective Relay Basics Part 2

Part 1: Protective relay compared to low voltage circuit breaker. Review fundamental concepts, components, and terminology using the electromechanical overcurrent relay as a foundation.

Protective Relay Basics

Traditionally, protective relays were electromechanical devices utilizing induction disk, coils, contacts, and solenoid elements to determine protective characteristics.

□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□.□□ □□□□ □□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□□□□□

Voltage Ratio: 6600/√3 : 110/√3 Primary phase voltage: 6600/√3 = 3810V Second. phase voltage: 110/√3 = 63.5V So the PT ratio becomes: 3810 / 63.5 = 60 : 1 (or 6.6 kV : 110 V line voltage ...

What to Know About Protective Relays | EC&M

Protective relays are arguably the least understood component of medium voltage (MV) circuit protection. In fact, somebelieve that MV circuit breakers operate by themselves, without direct

© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

## Contact Us

Continue your research online:

Website: https://kenhardtprimary.co.za
Technical inquiry: https://kenhardtprimary.co.za/project-desk.html
African project coordination: Century City, Cape Town, Western Cape, South Africa

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 KENHARDT OPTICAL NETWORKS - All rights reserved