

Relay Protection Types and Codes

Article Overview

Relay protection codes are standardized ANSI/IEEE device numbers used to identify protective relays and their specific functions in electrical power systems.

Overview of ANSI/IEEE Device Numbers

ANSI/IEEE device numbers are defined in ANSI/IEEE Standard C37.2 and are widely used in North America to identify protective relays, circuit breakers, and other control devices in power systems. Each number corresponds to a specific protective function. Historically, each device performed a single function, but modern microprocessor-based relays can perform multiple functions, often indicated by combined device numbers.

Common Device Numbers

Some of the most frequently used relay protection codes include :

- 50 – Instantaneous Overcurrent Relay
- 51 – Time Overcurrent Relay
- 27 – Undervoltage Relay
- 59 – Overvoltage Relay
- 87T – Transformer Differential Relay
- 87G – Generator Differential Relay
- 86T – Lockout Relay for Transformer
- 50N / 51N – Neutral Overcurrent Relays...

Article Content

Oct 20, 2025

ANSI codes and IEC Relay Symbols – Electrical Engineering

To assist the Protection Engineer in converting from one system to the other, a select list of ANSI device numbers and their IEC

May 05, 2026

Protective Relays: Types, Working Principle & Uses

Learn how protective relays detect faults, trip breakers, coordinate protection zones, and protect feeders,

Jul 07, 2026

ANSI device numbers

Historically, a single protective function was performed by one or more distinct electromechanical devices, so each device would

Dec 16, 2025

Protection Relay

In the design of electrical power systems, the ANSI Standard Device Numbers denote what features a protective

Aug 29, 2025

Protection Relay : Circuit, Working, Types, Codes & Its Uses

Thus, this is an overview of the protective relay or protection relay, working, circuit, types, functions, codes,

Feb 17, 2026

ANSI Codes for Protection Relays | PDF | Relay | Switch

The ANSI has standardized codes for protective relay functions, with each function assigned a specific number. Some common

Aug 22, 2025

ANSI Relay Protection Codes Overview

The document lists codes and acronyms used for electrical relay protection devices. Codes 1-99 are assigned to various relay

Oct 15, 2025

ANSI device numbers

In electric power systems and industrial automation, ANSI Device Numbers can be used to identify equipment and devices in a

Nov 02, 2025

ANSI codes and IEC Relay Symbols - Electrical Engineering

There are two methods for indicating protection relay functions in common use. One is given in ANSI Standard and uses a

Jan 25, 2026

ANSI Protection Relay Codes List

ANSI Codes for Protection Functions - Free download as PDF File (.pdf), Text File (.txt) or read online for free. This document lists

Apr 01, 2026

Protection relay selection table

Protection relay selection table Please note before using selection table! number = Number of stages, shots, X =

Nov 01, 2025

Basic protection relay knowledge

On the other hand, unselective protection operation in the extra high voltage network - i.e. at the national grid level- may endanger

Jul 12, 2026

ANSI/IEEE C37.2 Protection Codes | PDF

Some common protection functions listed include line distance protection, overcurrent protection, undervoltage protection, differential

Jun 08, 2026

ANSI Codes for Protective Relays | PDF | Relay | Switch

The document lists 99 international codes and their corresponding descriptions of protective devices used in drawings of circuits for

Nov 21, 2025

Protective Relay _ Circuit, Working, Types, Codes & Its ...

A protective relay is a switchgear device designed to detect faults in electrical circuits and initiate the operation of circuit breakers to

Jul 04, 2026

ANSI Standard Device Numbers & Common Acronyms

ANSI Standard Device Numbers & Common Acronyms ANSI Standard Device Numbers & Common Acronyms

Aug 22, 2025

ANSI/IEEE Relay Protection Codes Guide

This document lists standard device numbers for protective relays used in North America according to ANSI/IEEE Standard C37.2

Apr 17, 2026

ANSI Relay Protection Code List | PDF | Relay | Detector (Radio)

This document lists 57 ANSI codes and their corresponding descriptions of protection devices and functions.

Jun 25, 2026

Relaying Schemes and ANSI Device Numbers

Relaying and protection can be confusing-REALLY CONFUSING. Elaborate new ways to protect power systems are

Aug 26, 2025

ANSI Relay Protection Code List

This document lists 57 ANSI codes and their corresponding descriptions of protection devices and functions. The codes cover a wide

Nov 05, 2025

Protection Relay Code Overview | PDF | Relay | Transformer

This document discusses numerical codes and symbols used to define protection relays according to IEEE and IEC standards. It

Feb 21, 2026

Relay symbols and device numbers; selection from IEC 617-, IEEE

Definition and function Master element is the initiating device, such as a control switch, voltage relay, float switch etc., that serves

Sep 09, 2025

Relays Part 4: The Protective Relay Basic Theory

The types of protective relays that exist are overcurrent, electromechanical, directional, distance, pilot, and differential

Mar 17, 2026

Types of Protective Relays

This article covers various types of protective relays, such as overcurrent, directional, and differential relays, highlighting their

Mar 31, 2026

Protective Relay Basics

There are many types of protective relay functions, but this presentation will focus on the most common type, basic overcurrent

Dec 20, 2025

A quick guide for ANSI relay protection codes

Sometimes you can name them all in a heartbeat. Sometimes, you scratch your head to remember what is what. In this

Apr 08, 2026

Fundamentals of Modern Protective Relaying

There are (2) different types of resets within Time Overcurrent Protection: EM or Timed Delay Reset – this mimics the disc travel of

Contact Us

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

Website: <https://www.iiss.co.za>

Email: sales@iiss.co.za

Phone: +27 63 174 2895

Address: Unit 8, Innovation Park, 15 Rivonia Road, Sandton, Johannesburg,
2196, South Africa

This document is for informational purposes only. Specifications subject to
change without notice.

