

Relay Protection of Portuguese Power Supply Company



Article Overview

Portuguese power supply companies employ a range of digital, self-powered, and compact relays for medium and high voltage protection, ensuring reliable fault detection, system stability, and integration with modern smart grids.

Types of Relays and Applications

Medium Voltage (MV) Protection: Portuguese utilities commonly use compact digital relays for MV networks, such as the Easergy P1 series from Schneider Electric. These relays provide overcurrent, voltage, frequency, and earth fault protection, with optional directional protection. They are designed for easy installation in switchgear and support communication via Ethernet and IEC 61850, enabling integration with SCADA systems and remote monitoring .

High Voltage (HV) and Transmission Protection: For HV applications, utilities often deploy advanced digital relays from SEL and Schneider Electric MiCOM series. These relays offer fast fault detection, precise fault location, and protection for lines, transformers, generators, and busbars. SEL relays are microprocessor-based, providing high-speed response, extensive control functions, and a long mean time between failures (MTBF), which enhances system reliability .

Self-Powered and Renewable Integration: Companies like Fanox provide self-powered relays (e.g., SIL-A and SIL-C) suitable for feeder and line protection in renewable energy installations such as wind farms and photovoltaic plants. These relays operate without external power, reducing installation complexity, and include overcurrent and earth fault protection, configurable I/O, and remote communication options like Modbus or DNP3.0

Article Content

Nov 29, 2025

Protection relays

Numerical relays are based on the use of microprocessors. Numeric relays are programmable. Most

Jan 24, 2026

The Top 10 Relay Manufacturers List of 2026

Find the right partner with our relay manufacturers list. We compare the top 10 global players on quality, support, and

Jul 31, 2025

Top Protective Relay Companies 2034 | Market Leaders & Insights

Explore top companies in protective relay market, market share, leading players, and strategic insights shaping grid protection and

Sep 07, 2025

Protection Relay Testing

Protection Relay Testing Protection relays play a key role in modern energy systems. Therefore, they must

Dec 17, 2025

ERLPhase Power Technologies Ltd.

ERLPhase Power Technologies is a ISO 9001:2015 manufacturer of digital protection relays and power system recorders with a

Aug 23, 2025

Power System Protective Relays: Principles & Practices

Abstract: Protective relays and devices have been developed over 100 years ago to provide “last line” of defense for the electrical

Apr 22, 2026

Protective relay

In electrical engineering, a protective relay is a relay device designed to trip a circuit breaker when a fault is detected. : 4 The first

Sep 20, 2025

Protective Relays

Protect critical components in your power system with a wide range of SEL protective relays covering applications and use cases

Oct 27, 2025

Basic Theories of Power System Relay Protection

This chapter first introduces the basic theories of power system relay protection, summarizes the functions and basic requirements of

Feb 05, 2026

Understanding Protective Relays in Power Systems

Protective relays are vital for safeguarding power systems, ensuring protection against faults and abnormalities. This

Sep 03, 2025

A Q& A guide to electricity regulation in Portugal. Electricity ...

The Q& A gives a high-level overview of the domestic electricity market, including domestic electricity companies, electricity

Feb 03, 2026

Comprehensive power system protection

About us SEL offers complete power system awareness, protection, and automation solutions, with EtherNet/IP and IEC 61850

Dec 12, 2025

SCHEMATIC REPRESENTATION OF POWER SYSTEM RELAYING

Working Group Assignment Report on common practices in the representation of protection and control relaying. The

Jul 07, 2026

Relés de Proteção

Hoje, a SEL é líder em relés de proteção com detecção de faltas segura, confiável e de alta velocidade, localização precisa de

Dec 13, 2025

Understanding Electricity Charges and Providers in

Navigating Portugal's electricity landscape requires foresight and understanding. By

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Relés de proteção | Schneider Electric Portugal

Sepam série 80 Relés de proteção para aplicações customizadas Digital protection relays for current and voltage protection, for any

Oct 10, 2025

Protection Relays

Self or Dual Powered Three Phase and Ground Fault Overcurrent Protective Relays
MiCOM P11x relays

Nov 17, 2025

Societal and technology trend report

The crisis of traditional relay protection: A disruption of the technological paradigm
Using the high short-circuit currents and system

Dec 22, 2025

Portugal Protection Relay Market (2025-2031) | Trends, Outlook

Market Forecast By Type (Digital Relay, Electromechanical Relay, Microprocessor Relay, Hybrid Relay), By Application (Overcurrent

Dec 05, 2025

New frontiers

A new legal framework, starting with Decree-Law no. 29/2006, of February 15, 2006 ("Electricity System Law") transposed Directive

Oct 10, 2025

Portugal Power System Protection Market | Trends 2026

Growing demand for renewable energy sources is shaping the Portugal power system protection market and enhancing grid

Mar 25, 2026

What is Protection Relay?

What is Protection Relay? Protection relays have a crucial role in maintaining the safety, reliability, and integrity of

May 31, 2026

POWER SYSTEM PROTECTION RELAYS AND HARDWARE

The continuity of the electrical power supply is very important to consumers especially in the industrial sector. Protection relays are

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