

Protective Relays and Circuit Breakers: Global Markets

Market Research Report | 2024-11-18 | 192 pages | BCC Research

AVAILABLE LICENSES:

- Single User License \$4650.00
- 2-5 Users License \$5580.00
- Site License \$6696.00
- Enterprise License \$8035.00

Report description:

Description

Report Scope:

This report provides an overview of the global protective relays and circuit breakers market and analyzes market trends. It provides the global revenue (in \$ millions) for segments and regions, considering 2023 as the base year, with estimated market data for 2024 through 2029. The market is arranged based on category, types of protective relays, circuit breakers, voltages, industries, applications, and regions. Geographical segments covered are North America (the U.S., Canada, Mexico), Europe (U.K., Germany, France, Italy, Rest of Europe), Asia-Pacific (China, Japan, South Korea, India, Rest of Asia-Pacific), and the Rest of the World (South America, Middle East and Africa). The report also focuses on emerging technologies and vendor landscape. It concludes with profiles of the major players in the market.

Report Includes:

- 80 data tables and 58 additional tables
- An overview of the global market for protective relays and circuit breakers within the industry
- Analysis of the global market trends, with data from 2023, estimates for 2024, forecasts for 2025 and 2026, and projections of compound annual growth rates (CAGRs) through 2029
- Estimates of the size and revenue prospects of the global market, along with a market share analysis by category, protective relay type, circuit breaker type, voltage type, application, industry, and region
- Assessment of market restraints, current trends, demographic shifts, technological advances, and regulatory aspects that shape and influence the market
- A look at the devices controlling Industry 4.0, including the industrial network infrastructure, end users, and application of these systems across industry verticals

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

- A discussion on ESG challenges and ESG practices in the industry
- Assessment of the vendor landscape, including the market shares, product portfolios and financial overviews of leading companies
- Information on recent mergers and acquisitions, plant expansions, collaborations, investments, product launches, and other strategic developments in the market
- Profiles of the leading market vendors, including ABB, Mitsubishi Electric Corp., Eaton, Schneider Electric and Siemens

Executive Summary

Summary:

Protective relays and circuit breakers are crucial for ensuring the safety and reliability of electrical systems. Protective relays monitor electrical circuits to detect and respond to faults, while circuit breakers automatically interrupt circuits to prevent damage from overloads or short circuits. Driven by expanding electrical infrastructure and stringent safety regulations, the market is growing due to increased demand for advanced protection technologies. Innovations in digital and smart relays and circuit breakers enhance system performance and monitoring capabilities.

Protective relays and circuit breakers are used across various voltage levels and applications to ensure the safety and efficiency of electrical systems.

- Low-voltage (LV) applications are common in residential and commercial settings. In these environments, miniature circuit breakers (MCBs) protect against overloads, short circuits and electrical faults, while low-voltage relays manage and control electrical loads.
- Medium-voltage (MV) applications are crucial for industrial facilities and utility substations. MV circuit breakers and protective relays in these systems safeguard transformers, feeders and motors from faults and ensure reliable power distribution.
- High-voltage (HV) applications are found in power generation plants and transmission networks. HV circuit breakers and protective relays in these settings protect large-scale electrical equipment, manage power flow and prevent damage from electrical disturbances.

Table of Contents:

Table of Contents

Chapter 1 Executive Summary

Market Outlook

Scope of Report

Market Summary

Technological Advances and Applications

Market Dynamics and Growth Factors

Segmental Analysis

Regional Insights and Emerging Markets

Conclusion

Chapter 2 Market Overview

Current Market Scenario and Future Expectations

Macro-Economic Factors Analysis

Impact of Trade and Political Disputes

Currency Conversion Risks and Exchange Rate Fluctuations

Rising Inflation and Commodity Prices

Porter's Five Forces Analysis

Value Chain Analysis

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Regulatory Landscape

Chapter 3 Market Dynamics

Overview

Market Drivers

Growing Demand from Evolving Power Grids Industry

Railway Safety Concerns Boosting Demand for Protective Relay and Circuit Breakers

Increasing Demand from Global Power Substation Construction

Modernization of Transmission and Distribution (T&D) Networks

Growing Worldwide Focus on Renewable Energy Integration

Market Restraints

Stringent Environmental Regulations Related to SF6 Gas Are Restraining Market Growth

High-Cost of Advanced Electrical Protection Systems Hinders Their Adoption

Cyber Threats Specifically Targeting Protective Relays and Circuit Breakers

Market Opportunities

Smart Grids and Maintenance Trends Enhance Electrical Protection Market

Growth of IoT-based Circuit Breakers

Integrating Blockchain Technology for Grid Security

Electrical Safety Standard Update

Chapter 4 Emerging Trends and Technologies

Overview

Emerging Trends

Shift to Sustainability in Protective Relays and Circuit Breakers

Increasing Implementation of AFCI and GFCI Technology in Electrical Systems

Emerging Technologies

Intelligent and Digital Circuit Breakers

Advanced Communication Protocols

Digital Twin Integration

Patent Analysis

Geographical Patterns

Key Findings

Chapter 5 Market Segmentation Analysis

Segmentation Breakdown

Market Breakdown for Protective Relays and Circuit Breakers by Category

Protective Relays

Circuit Breakers

Market Breakdown by Protective Relay Type

Overcurrent Protection

Arc Flash Protection

Distance Protection

Line Differential Protection

Pilot Protection

Transformer Differential Protection

Voltage and Frequency Protection

Ground Fault/Earth Fault Protection

Buchholz Protection

Others

Market Breakdown by Circuit Breaker Type

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Air Circuit Breakers (ACBs)
Miniature Circuit Breakers (MCBs)
Molded Case Circuit Breakers (MCCBs)
Vacuum Circuit Breakers
SF6 Circuit Breakers
Others
Market Breakdown for Protective Relays and Circuit Breakers by Application
Distribution Line Protection
Transmission Line Protection
Motor Protection
Generator Protection
Transformer Protection
Switchgear Protection
Others
Market Breakdown for Protective Relays and Circuit Breakers by Industry
Utilities
Industrial/Commercial
Residential
Market Breakdown for Protective Relays and Circuit Breakers by Voltage Type
High Voltage
Medium Voltage
Low Voltage
Geographic Breakdown
Market Breakdown for Protective Relays and Circuit Breakers by Region
North America
Europe
Asia-Pacific
Rest of the World
Chapter 6 Competitive Intelligence
Key Players Market Ranking
Strategic Analysis
Chapter 7 Sustainability in the Protective Relays and Circuit Breakers Industry: An ESG Perspective
Key ESG Issues in the Protective Relays and Circuit Breakers Market
Key Environmental Issues in Protective Relays and Circuit Breakers
Social Responsibility in Protective Relays and Circuit Breakers
Governance and Oversight in Protective Relays and Circuit Breakers
ESG Performance Analysis
Environmental Performance
Social Performance
Governance Performance
Current Status of ESG in the Protective Relays and Circuit Breakers Market
Concluding Remarks from BCC Research
Chapter 8 Appendix
Methodology
Abbreviations
References
Company Profiles

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

ABB
ANALOG DEVICES INC.
CG POWER & INDUSTRIAL SOLUTIONS LTD.
EATON
FANOX
FUJI ELECTRIC CO. LTD.
LITTELFUSE INC.
MITSUBISHI ELECTRIC CORP.
NOJA POWER SWITCHGEAR PTY LTD.
POWELL INDUSTRIES
ROCKWELL AUTOMATION
SALZER ELECTRONICS LTD.
SCHNEIDER ELECTRIC
SCHWEITZER ENGINEERING LABORATORIES INC.
SIEMENS
TE CONNECTIVITY
TOSHIBA CORP.
ZIV

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com

Protective Relays and Circuit Breakers: Global Markets

Market Research Report | 2024-11-18 | 192 pages | BCC Research

To place an Order with Scotts International:

- ☐ - Print this form
- ☐ - Complete the relevant blank fields and sign
- ☐ - Send as a scanned email to support@scotts-international.com

ORDER FORM:

Select license	License	Price
	Single User License	\$4650.00
	2-5 Users License	\$5580.00
	Site License	\$6696.00
	Enterprise License	\$8035.00
		VAT
		Total

*Please circle the relevant license option. For any questions please contact support@scotts-international.com or 0048 603 394 346.

** VAT will be added at 23% for Polish based companies, individuals and EU based companies who are unable to provide a valid EU Vat Numbers.

Email*	<input type="text"/>	Phone*	<input type="text"/>
First Name*	<input type="text"/>	Last Name*	<input type="text"/>
Job title*	<input type="text"/>		
Company Name*	<input type="text"/>	EU Vat / Tax ID / NIP number*	<input type="text"/>
Address*	<input type="text"/>	City*	<input type="text"/>
Zip Code*	<input type="text"/>	Country*	<input type="text"/>
		Date	<input type="text" value="2025-06-26"/>
		Signature	

Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com

www.scotts-international.com



Scotts International. EU Vat number: PL 6772247784

tel. 0048 603 394 346 e-mail: support@scotts-international.com
www.scotts-international.com