Electrical Current Sensors: Technologies and Markets

Market Research Report | 2023-06-26 | 126 pages | BCC Research

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Report description:

Description

Report Scope:

The scope of the report includes an overview of the global electrical current sensors market as well as the analysis of global market trends, with data from 2021 and 2022, the latter considered the base year, as well as estimates for 2023 through 2028, with projections of CAGR in the forecast period. Revenue forecasts for this period are segmented based on technology, loop type, end user, and geography.

Finally, the report presents an analysis of the competitive dynamics of the current sensors market, including critical success factors such as research and development capability, installed base, branding, and ecosystem influence and partnerships. The report provides profiles of the manufacturers of current sensors. This report also analyzes the impact caused by the COVID-19 pandemic.

Report Includes:

- 42 data tables and 19 additional tables
- An up-to-date overview and analysis of the global markets for electrical current sensors
- Analyses of the global market trends, with historical market revenue data (sales figures) for 2022, estimates for 2023, forecasts for 2024 and 2026, and projections of compound annual growth rates (CAGRs) through 2028
- Estimation of the actual market size and revenue growth forecast for electrical current sensors market in the USD million values, and corresponding market share analysis based on technology, loop type, end-user industry, and region
- In-depth information (facts and figures) concerning the major factors influencing the progress of this market (benefits, and industry-specific challenges) with respect to specific growth trends, upcoming technologies, future prospects, and contributions to

the overall market
- Description of emerging technologies and innovations behind the development and applications of current sensors, with a special emphasis on new products being developed and the markets for these products
- Holistic review of the impact of COVID-19 and the Russia-Ukraine war on the global and regional markets for electrical current sensors
- A relevant patent analysis with significant allotments of recently published patents and patent applications on electrical current sensors
- Identification of the key players operating in the market, and analysis of their competitive landscape based on recent developments, segmental revenues, and operational integration
- Descriptive company profiles of the leading global players, including Asahi Kasei Corp., Allegro Microsystems LLC, Honeywell International Inc., Infineon Technologies AG, TDK Corp., and Texas Instruments Inc.

Executive Summary

Summary:

A current sensor is an essential device designed to detect electrical current flowing through a wire and produce a signal that accurately represents the magnitude of the current. This signal can be analog, current-voltage, or digital, depending on the specific sensor type. Current sensors find wide applications in various fields, including automotive, healthcare, industrial automation, power distribution systems, energy management, renewable energy systems, consumer electronics, etc.

Electrical current sensors are pivotal in enabling current measurement, display in ammeters, and data acquisition for analysis and control purposes. The versatility and significance of current sensors make them indispensable components in diverse technological advancements and systems across multiple industries.

One of the primary demand drivers for current sensors is their ease of integration into various systems. These sensors are compact in size and can be seamlessly incorporated into existing setups without the need for additional devices for current measurement. Their deployment eliminates the necessity of installing extra equipment, as the current sensors alone efficiently calculate and regulate the current. Moreover, their small form factor eliminates the need for additional space and allows for easy mounting on equipment, even in remote industrial areas, without the need for infrastructure modifications. This convenience enables end-users to leverage their existing infrastructure and processes while selecting from a wide range of current sensors available in the market that best align with their specific requirements.

The adoption of new design principles and the utilization of advanced bipolar complementary metal-oxide-semiconductor (BiCMOS) technologies have enabled significant improvements in integrated circuit (IC) performance within the current sensor market. This progress has also facilitated the exploration of novel product approaches by enabling the integration of additional functionalities within a single current sensor IC. By focusing on enhancing IC performance, the key players in the current sensor market have the potential to usher in the next generation of fully integrated, cost-effective current sensor devices. This advancement holds the promise of delivering comprehensive solutions with improved performance and reduced manufacturing costs.

Further, the growing use of battery-powered systems and the increasing focus on renewable energy are other significant trends that are shaping various industries and driving the demand for current sensing solutions.

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