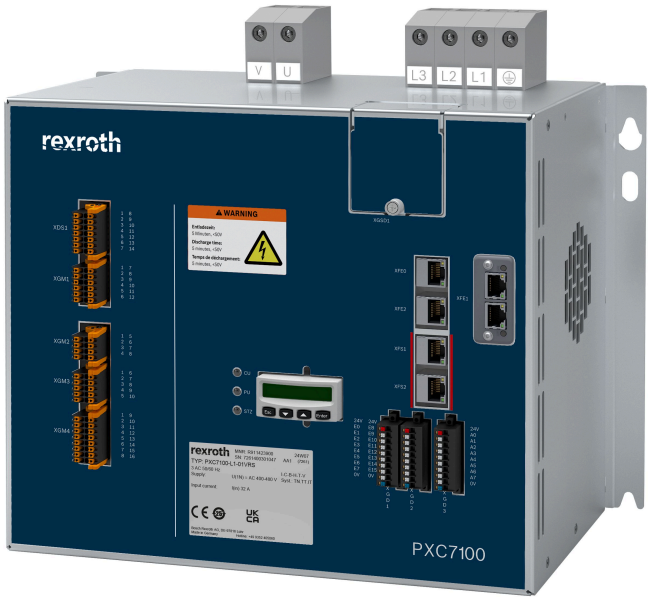
PRESS INFORMATION

Greater cost-effectiveness and productivity in precision welding

Manuela Kessler | 22.10.2024 | Lohr am Main / Germany | PI 032/24

New PXC7100 precision welding control from Bosch Rexroth offers numerous features for cost-effective welding with low currents



Optimum price-performance ratio: the PXC7100 precision welding control from Bosch Rexroth for greater precision when welding small parts for the metal and electrical industry (Image source: Bosch Rexroth AG)

With the new PXC7100, Bosch Rexroth is expanding its portfolio of welding controls with a particularly cost-effective solution for precision welding of small parts for the metal and electrical industries. The adaptive precision welding control offers tools for intuitive, assistant-guided commissioning, is equipped with modern process controllers and opens up possibilities for AI-supported process optimization. This provides several levers for increasing the productivity of the welding process.

Bosch Rexroth, market leader in the field of welding control systems for automotive body construction, is expanding its control system portfolio with a particularly cost-effective precision welding control system for applications with very low currents. This is the first time the company has offered a solution specifically for the precision welding of mainly small and electrical parts for the metal and electrical industries. Here, the new development can be used, for example, for contacting sensors, compacting micro-strands or welding batteries.

One focus of the system development was ease of use. The web-based user interface PRI-web enables simple, intuitive operation of the PXC7100 – also via mobile devices such as tablets. Another advantage is the setup wizard, which enables the system to be commissioned quickly. Welding generates a great amount of process data that can be used for process optimization, predictive maintenance or quality assurance. The IoT Connector from Bosch Rexroth enables users to transfer data so that it can be further processed according to specific requirements. For example, AI-supported analyses can evaluate processes that can be used for quality assurance. The IoT Connector supports the MQTT and OPC UA protocols.

The MGD module (Measuring-Gun-Data-Module) available in the function bundle mainly functions as an analogue/digital converter and digitalizes all analogue sensors and process data directly on the welding head (e.g. force signal, position signal, current signal, transformer data). The pre-processed data is transferred via the WIC bus (Weld-Interface-Controller) in real time (1 kHz cycle rate) directly to the welding control for further processing. Scaling data, counters and mechanical data are also stored in the MGDM. Another advantage is the reduction in wiring work, as only one bus cable needs to be installed between the module and the welding control. Together with the IoT Connector, this opens up numerous possibilities for users to optimize processes and thus increase productivity.
Bosch Rexroth at the EuroBLECH: hall 11, booth D08

Basic Information Bosch Rexroth

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile and Industrial Applications as well as Factory Automation. With its intelligent components, customized system solutions, engineering and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, around 33,800 associates generated sales revenue of 7.6 billion euros in 2023.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 429,000 associates worldwide (as of December 31, 2023). The company generated sales of 91.6 billion euros in 2023. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. With its business activities, the company aims to use technology to help shape universal trends such as automation, electrification, digitalization, connectivity, and an orientation to sustainability. In this context, Bosch's broad diversification across regions and industries strengthens its innovativeness and robustness. Bosch uses its proven expertise in sensor technology, software, and services to offer customers cross-domain solutions from a single source. It also applies its expertise in connectivity and artificial intelligence in order to develop and manufacture user-friendly, sustainable products. With technology that is "Invented for life," Bosch wants to help improve quality of life and conserve natural resources. The Bosch Group comprises Robert Bosch GmbH and its roughly 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. Bosch's innovative strength is key to the company's further development. At 136 locations across the globe, Bosch employs some 90,000 associates in research and development, of which nearly 48,000 are software engineers.

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