

PRESS INFORMATION

Powerful portfolio for precision welding tasks

Manuela Kessler | 20.03.2026 | Lohr am Main / Germany | PI 002/26

PXC7100 control system from Bosch Rexroth for demanding precision welding of small parts



With the KWZ splice, Rexroth authorized partner KombiTec offers a complete solution consisting of a splice compaction tool, Rexroth welding control, pneumatic components & cooling system for splice compacting of strands in the micro range. Image source: Bosch Rexroth AG, created with the help of AI

With the PXC7100, Bosch Rexroth has developed a particularly cost-effective control solution for resistance welding that is suitable for precision welding of small parts for the metal and electrical industries. In addition to welding tasks in sensor and battery technology, it is primarily used for splice compacting. In contrast to ultrasonic welding, resistance welding can also be used to connect or compact coated strands. With the KWZ splice from Rexroth's authorized partner KombiTec, users now also have access to another new splice compacting tool with the Rexroth control system.

Bosch Rexroth has developed the cost-effective precision welding control PXC7100 for resistance welding for applications with particularly low currents, such as for splice compacting micro strands, the contacting of sensors or the welding of batteries. In contrast to ultrasonic welding, coated strands can also be extended or compressed during resistance welding. This option is important, for example, in many electronic applications in which tin-coated lines are used to protect against corrosion.

As part of the PRI-web user interface, a setup wizard enables quick commissioning of the PXC7100. When using the optional MGD module (Measuring Gun Data Module), only one bus cable is required for all signal cables for the welding control unit, which significantly reduces the amount of cabling required. The MGD module digitalizes all analog sensors and process data directly at the welding head (e.g. force signal, position signal, current signal, transformer data). The pre-processed data is transferred directly to the welding control in real time (1 kHz cycle rate) via the WIC bus (Weld Interface Controller) and processed further there. Scaling data, counters and mechanical data are also stored in the MGD module. When using the integrated servo function, no additional PLC or machine-side motion logic is required to control the electrode. Thanks to the web-based PRI-web user interface, users can operate the PXC7100 simply and intuitively, on the computer or via mobile devices.

Process data can be transferred via the IoT Connector so that it can then be further processed as required and used as part of quality assurance or predictive maintenance tasks. The IoT connector supports the MQTT and OPC UA protocols.

Complete solution for splice compaction

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Together with partner companies, Bosch Rexroth also develops solutions for special welding tasks. With the KWZ splice, for example, Authorized Partner KombiTec offers a complete package consisting of a splice compacting tool, Rexroth PXC7100 control system, pneumatic components and cooling system for splice compacting of strands. For higher outputs, the splice compacting tool can also be combined with other Bosch Rexroth inverter systems. The KWZ splice has an integrated path measurement system that monitors the compaction height. The welding current control can be used to define shutdown conditions and monitoring methods, and thus implement the compacting dimensions in a process-safe and reproducible manner. Bosch Rexroth has developed a specific compacting mode for this purpose, which determines, visualizes and logs the specific compacting level. The degree of compaction provides information on whether the required quality standards have been achieved.

Bosch Rexroth will be presenting the PXC7100 precision welding control at the Battery Show, hall 1, booth C16.

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 32,600 associates generated sales revenue of 6.5 billion euros in 2024.

Basic Information Bosch

The Bosch Group is a leading global supplier of technology and services. It employs roughly 412,000 associates worldwide (as of December 31, 2025). According to preliminary figures, the company generated sales of 91 billion euros in 2025. 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 490 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 82,000 associates in research and development.

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