

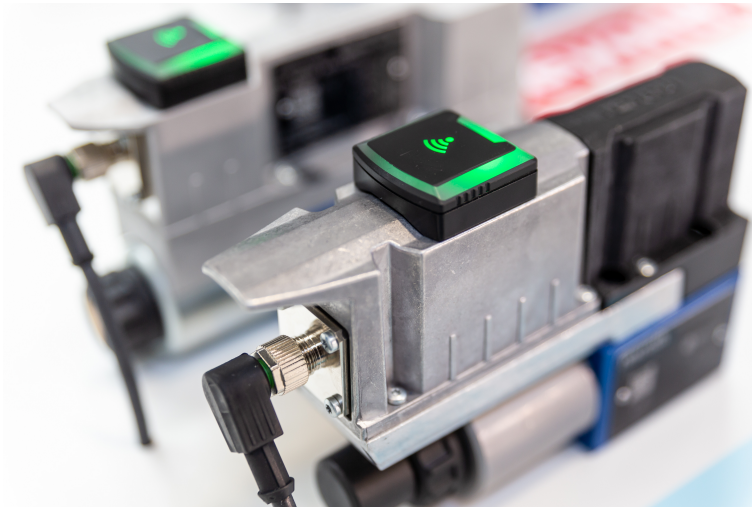
PRESS INFORMATION

Smart proportional valves increase productivity

Manuela Kessler | 31.03.2025 | Lohr am Main / Germany | PI 017/24

Consistent digitalization with proven onboard electronics

- Fast commissioning and diagnostics using the easy2connect smartphone app
- IO-Link integrates proportional valves into automation intelligently, easily and cost-effectively
- Bluetooth enables smart access for commissioning and diagnostics



With the two established technologies Bluetooth and IO-Link and the OBED's update capability, digitalized proportional valves offer a high degree of future-proofness. (Image source: Bosch Rexroth AG)

Bosch Rexroth is digitalizing all proportional valve series with the proven Onboard Electronics Digital (OBED). This allows the diverse hydraulic pressure and travel functions to be mapped more flexibly, productively and economically. As a supplement to the analog interfaces, IO-Link enables simple connectivity, control and monitoring. In the field, Bluetooth and an app simplify commissioning, configuration and diagnostics. Overall, digitalization helps to reduce costs over the entire life cycle of machines and systems, from engineering to maintenance.

The current market requirements for hydraulic machines and plants are complex. While manufacturers focus on low costs, fast implementation and simple operation, users expect greater productivity, availability and flexibility. Bosch Rexroth meets the demands of both sides through consistent digitalization, among other things. Following the ongoing standardization of proportional pressure valves, proportional directional valves will also be consistently available with the proven Onboard Electronics Digital (OBED) in the future.

Simple Engineering with constructive freedom

The new standard architecture of Rexroth proportional valves with integrated sensors and OBED simplifies the selection and design of hydraulic systems and at the same time optimizes part variance in favour of system and storage costs. Integrated control algorithms make it easy to implement hydraulic control requirements.

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Fast digital commissioning

The existing analog connections for current and voltage are supplemented by digital interfaces such as IO-Link for communication and data exchange. Bluetooth is also available as an interface for diagnostics and commissioning. This shortens commissioning and subsequent process changes, among other things. Using the free easy2connect app, prepared parameter sets can be transferred to the proportional valves quickly and easily and wirelessly. With an IO-Link connection, the selected parameter set is transmitted automatically after connection to the control system, which also enables the parallel device of multiple valves.

Higher productivity and availability

Integrated sensors increase the control accuracy and performance of the proportional valves. Maintenance and downtime costs are reduced thanks to fast diagnostics with plain text error messages and automatable condition monitoring. This reduces life-cycle costs and increases system efficiency.

Future-Proof Solution with Potential

The digitalized proportional valves are future-proof thanks to the two established technologies Bluetooth and IO-Link, as well as the update capability of the OBED. This means that Bosch Rexroth can also roll out new functions with each new firmware version. In the long term, digitalization also enables the use of neural networks and artificial intelligence, which can further increase productivity.

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 417,900 associates worldwide (as of December 31, 2024). According to preliminary figures, the company generated sales of 90.5 billion euros in 2024. 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

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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 86,900 associates in research and development, of which nearly 48,000 are software engineers.

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