Press Release

Intelligent hydraulics from Bosch Rexroth fit for Industry 4.0
Motion Controls for hydraulics meet requirements of Industry 4.0

Everyone is talking about Industry 4.0 as a vision of the future. From a pure automation point of view, it is not about an imminent revolution, but about an evolutionary development, which is ready for networking today. In current Motion Controls and Motion Logic Systems for hydraulics, Rexroth integrated numerous functions in software, which used to be controlled purely hydromechanically in the past. The specialties of fluid power technology are automatically compensated for. The decentralized controls perform their duties on their own and communicate with higher-level controls and master systems via open communication interfaces.

Motion Controls for hydraulics from Rexroth are provided with decentralized intelligence and communicate with higher-level systems via open interfaces. They automatically adapt themselves to changing requirements such as velocity, changes in force, autonomously control movements in real time and fit seamlessly into machine concepts in a modular way. With this, Rexroth offers a wide spectrum of Motion Control and Motion Logic systems that are matched specifically to hydraulics: From the cabinet-free single-axis controller, IAC Multi-Ethernet valves and the pump control system SYDFED, the cabinet-mounted HMC (Hydraulic Motion Control) with programming according to IEC61131 through to IndraMotion MLC for up to 32 hydraulic axes. We can offer a solution for any requirement. Finely scalable in terms of function and performance, these solutions cover all demands. The Multi-Ethernet interface supports all common Ethernet protocols like Sercos, EtherCAT, Ethernet IP, PROFINET RT, Powerlink and Varan.

A further commonality is the best-in-class hydraulic controllers that are matched to the special characteristics of fluid power technology. They automatically take account of specialties such as valve characteristics and simplify parameterizing through their transparent structure in the operating software IndraWorks. The user is supported by a parameterization wizard, which prompts the user to enter all the required system data and makes parameterization suggestions for the control. The control is relieved, since the hydraulic control loop is closed centrally in the IAC Multi-Ethernet valve or in a decentralized form in the HMC.

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In this way, it is possible to operate multi-axis systems in real time independently of the PLC cycle time, among others.

IAC Multi-Ethernet valves, the pump control system SYDFED, HMC and also IndraMotion MLC use the same engineering platform, IndraWorks. Consequently, hydraulic, electric and hybrid axes can be commissioned using the identical software tool. From engineering and commissioning through to diagnostics, IndraWorks shortens the time from the idea to the finished solution. This consistent engineering environment for all IndraMotion systems simplifies handling of the PLC and Motion in all drive technologies.

About Bosch Rexroth:
Economical, precise, safe, and energy efficient: drive and control technology from Bosch Rexroth moves machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, Factory Automation, and Renewable Energies to develop innovative components as well as tailored system solutions and services. Bosch Rexroth offers its customers hydraulics, electric drives and controls, gear technology, and linear motion and assembly technology all from one source. With locations in over 80 countries, roughly 36,700 associates generated sales revenue of approximately 5.7 billion euros ($7.6 billion) in 2013. To learn more, please visit www.boschrexroth-us.com

About Bosch:
The Bosch Group is a leading global supplier of technology and services. In 2013, its roughly 281,000 associates generated sales of 46.1 billion euros ($61.2 billion.) (NB: Due to a change in accounting policies, the 2013 figures can only be compared to a limited extent with the 2012 figures). Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. The Bosch Group comprises Robert Bosch GmbH and its roughly 360 subsidiaries and regional companies in some 50 countries. If its sales and service partners are included, then Bosch is represented in roughly 150 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. In 2013, the Bosch Group invested some 4.5 billion euros in research and development and applied for some 5,000 patents. This is an average of 20 patents per day. The Bosch Group’s products and services are designed to fascinate, and to improve the quality of life by providing solutions which are both innovative and beneficial. In this way, the company offers technology worldwide that is “Invented for
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