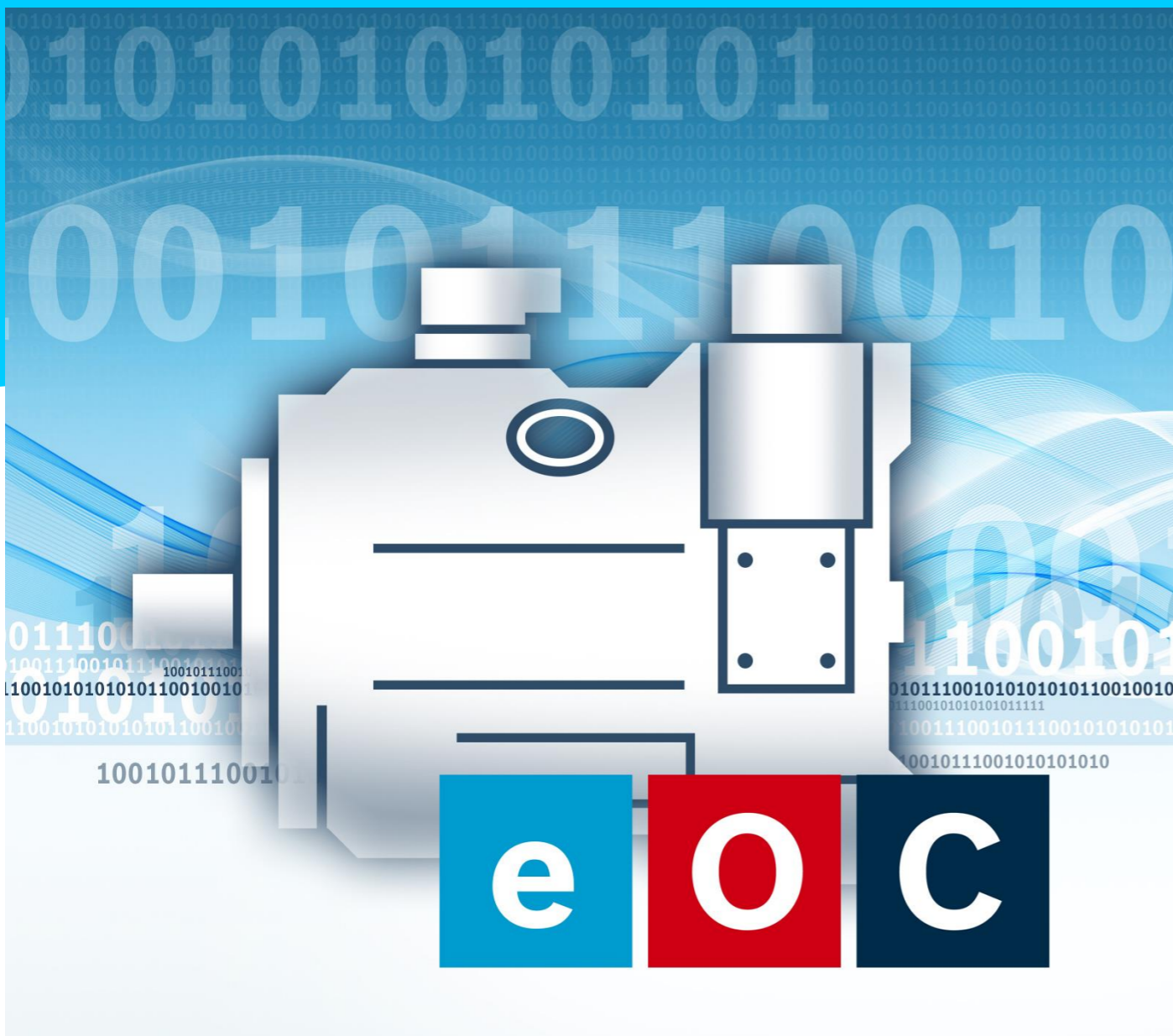


eOC BODAS Pump Control

Software for Electronic Open Circuit Pumps

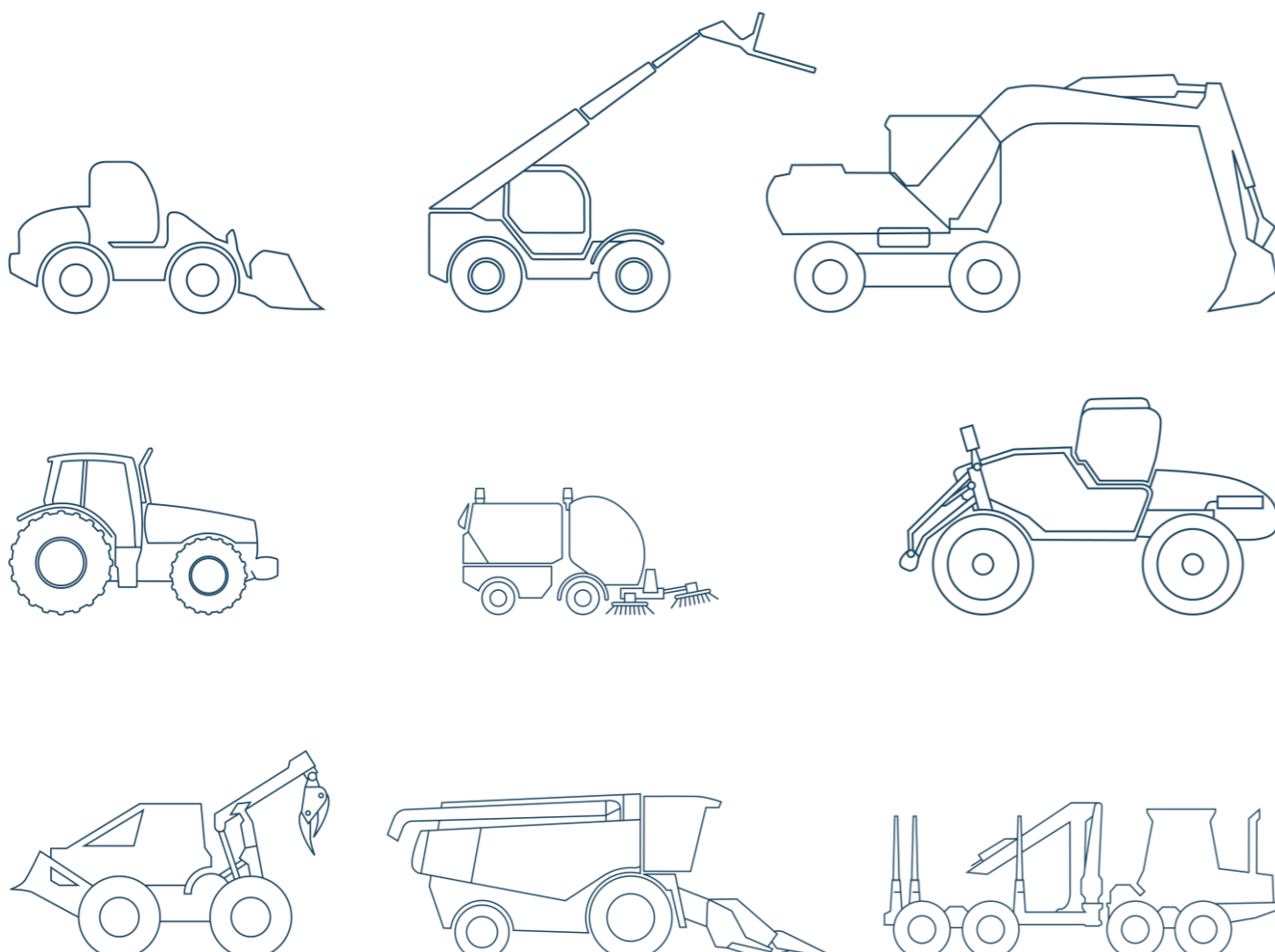


The portfolio of open circuit axial piston units from Bosch Rexroth provides a high variance of hydro-mechanical control functions with mechanical interfaces for machine optimization. With the electronification of axial piston units all these hydro-mechanical control functions and interfaces are now transferred into software thus enabling customizable control modes and adjustable pump dynamics during operation. eOC BODAS pump control from Bosch Rexroth is suitable for a wide range of mobile working machines with open hydraulic circuit – from construction, agricultural and forestry machines to municipal vehicles.

CUSTOMER BENEFITS

- Electrohydraulic pump control
- Adjustable and variable pump dynamics
- Improved machine performance and productivity
- Less fuel consumption and optimized battery usage
- Reduced pump variance and service effort

APPLICATIONS



FUNCTION AND BENEFITS

Electrohydraulic pump control

The eOC BODAS pump control software comprises three control modes in an electronic closed loop control logic:

- Pressure or delta pressure control
- Flow and angle control
- Torque control

All control modes come with a predefined set of parameters to achieve an optimized performance of the installed Rexroth eOC pump in the hydraulic system (e.g. Load Sensing). The control software runs on a dedicated Bosch Rexroth control unit “SRC eOC”, which provides the resulting control current to the electrohydraulic pump interface.

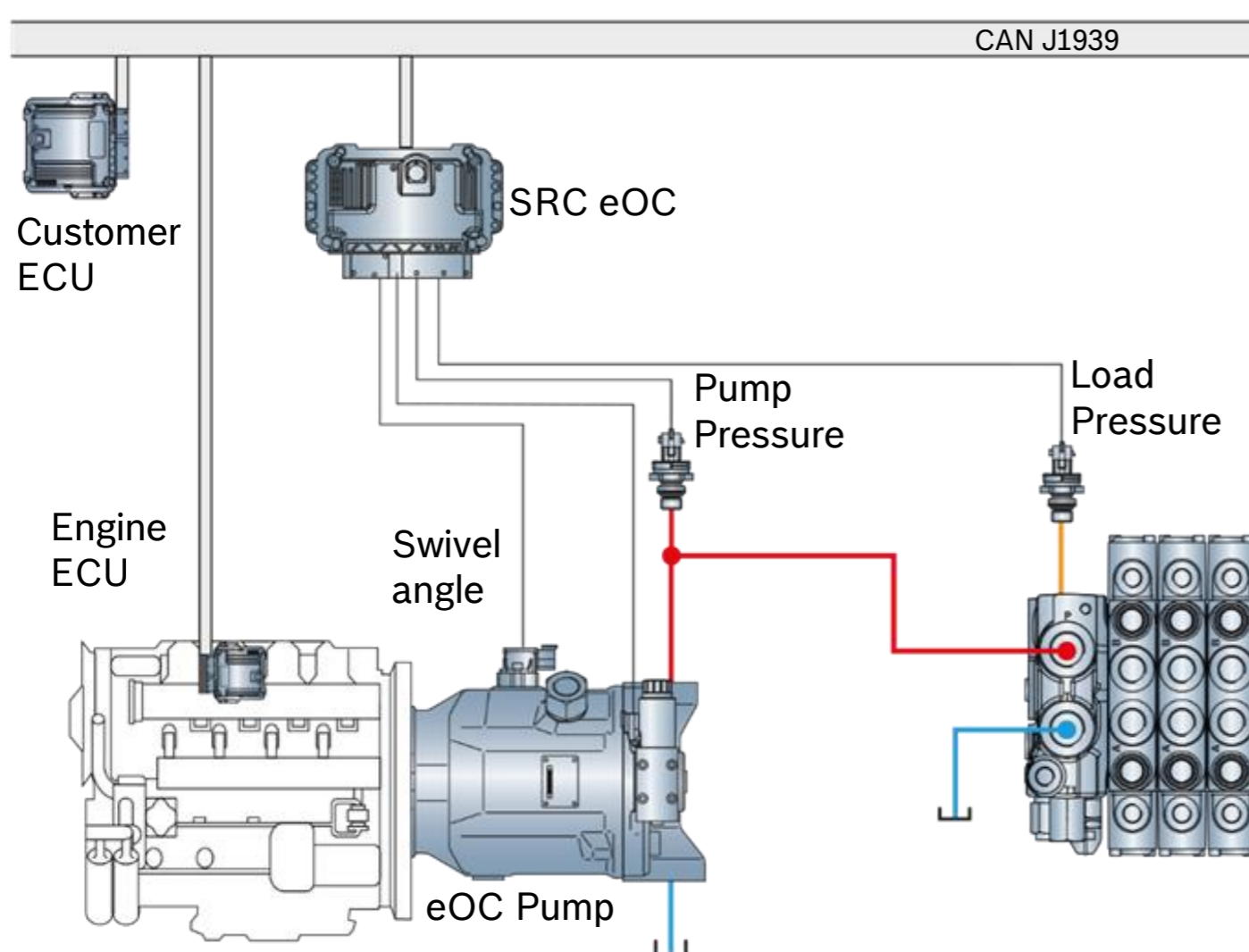
Adjustable and variable pump dynamics

With the ENTRY version of the eOC BODAS pump control software, the set values and parameters for each control mode can be pre-configured with fixed values via BODAS Service. The PREMIUM variant allows to dynamically adjust the set points via CAN-Bus interface, which opens up a huge range of additional functionalities and leads to a customizable machine performance.

TECHNICAL DATA

eOC BODAS Pump Control

Engine Type:	Mechanic / CAN SAE J1939 Diesel or Electrical Machine
Rexroth Pumps:	A10VO, A11VO, A15VO prepared for eOC pump control
Powerless Condition:	Pump at minimum displacement; inverse logic on demand
Rexroth Sensors:	Angle Sensor Pressure Sensor Pump (PR4 SENT) Opt.: Pressure Sensor LS (PR4 SENT)
Operator interface:	Discret or CAN SAE J1939
Rexroth Control Unit:	SRC eOC
Safety standards:	Ready for EN ISO 13849
Variants:	ENTRY and PREMIUM
Diagnostic interface:	BODAS-service and CAN SAE J1939
Data sheet:	95345



Electronic Open Circuit eOC

Improved machine performance and productivity

Mobile working machines are highly productive and optimized for their intended load cycles. At the same time, the installed engine power is limited. With the new eOC BODAS pump control software from Bosch Rexroth it is now possible to establish a direct communication between engine and axial piston pump to continuously and dynamically adapt the hydraulic power to the available engine torque. Further, the pump software is able to compensate disturbances (e.g. temperature, speed) in machine load cycles, which allows highly dynamic operating functions with a very high level of precision to increase the overall productivity of the mobile working machine.

Less fuel consumption and optimized battery usage

The control principle of an axial piston pump and how it interacts with the hydraulic system are two of the major aspects that affect the energy efficiency of a mobile working machine. eOC BODAS pump control targets to optimize both. On the one hand, the consolidation of multiple controller axes for pressure, flow and torque into one results in a reduced fluid consumption of the pump controller itself. On the other hand, the possibility to dynamically adjust control parameters, for instance in standby condition or during eco mode, allows to minimize the energy consumption of the overall hydraulic system.

Reduced pump variance and service effort

As all the different controller types and mechanical settings of Bosch Rexroth axial piston units can be transferred into software, the number of pump configurations required for an OEM can be significantly reduced. This directly affects the effort of managing spare parts and aftermarket components and at the same time simplifies engineering work. In the event of a malfunction or feature update the eOC BODAS pump control software can be maintained via the BODAS service interface. Further, BODAS service provides a detailed guideline for efficient commissioning of the mobile working machine.

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