BODAS Connect – Device Connectivity

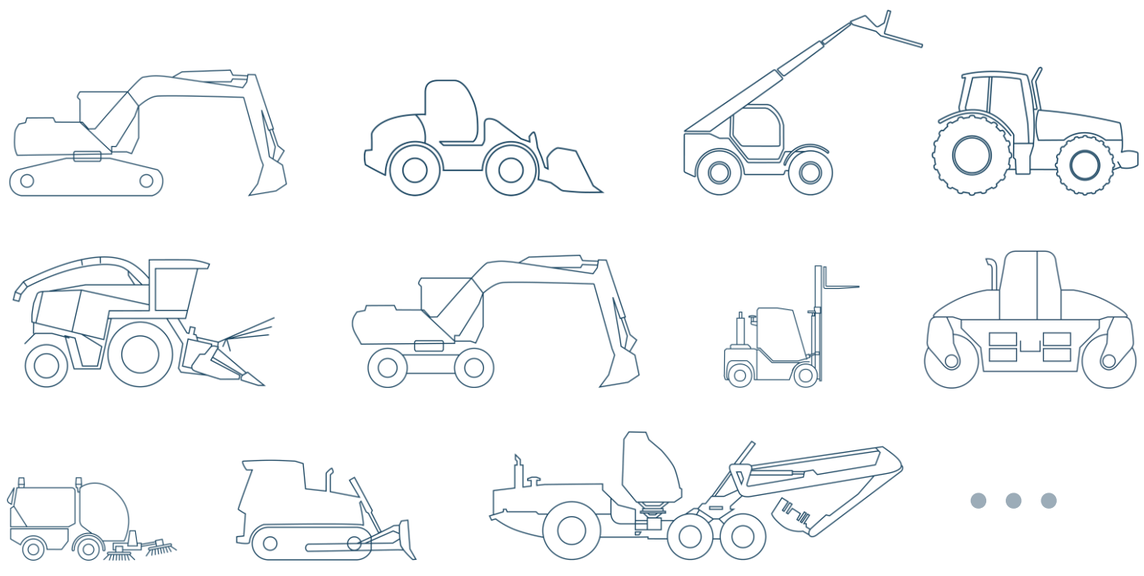
Connect and manage off-highway vehicles at will

The digital transformation of the off-highway market is already well underway and has given rise to new challenges for mobile machines. In our continuous effort to support clients as a strong partner and solutions provider, Bosch Rexroth combines in-depth applications expertise and the BODAS software and hardware portfolio to create an integrated Internet of Things (IoT) solution – BODAS Connect. As an integral part of BODAS Connect, Device Connectivity uses the Rexroth Connectivity Unit (RCU) to enable numerous options to wirelessly access the control networks of off-highway vehicles. Interactions include flashing, diagnosis and parametrization of Rexroth Controllers (RC).

CUSTOMER BENEFITS

- Connect and monitor off-highway machines without reinventing the wheel
- Implement custom functions or preconfigured Rexroth services
- Linux-based RCU for future-proof applications and easy migration
- Container-based software architecture for flexibly adding software functions
- Remotely manage and diagnose controller networks
- Over-the-Air services for the RCU and connected RCs
- Flexibly add data management:
  BODAS Connect – All-in-One Connectivity

APPLICATIONS



FUNCTION AND BENEFITS

Connect and monitor off-highway machines
With Rexroth BODAS Connect Device Connectivity, connecting and monitoring off-highway machine applications no longer requires reinventing the wheel. The sustainable stack makes it easy to remotely manage and diagnose controller networks. The Rexroth Connectivity Unit (RCU) comes with connectivity and software, allowing customers to fully focus on what differentiates them from the competition. Concerning data management, customers can choose to either implement their own or use preconfigured functions from Bosch Rexroth All-in-One Connectivity.

Linux-based RCU for future-proof applications and easy migration
The RCU features a state-of-the art microprocessor-based architecture that enables remote development, deployment and operation of IoT applications. Thanks to the device software's container-based architecture, customers can flexibly add and manage software functions that can be written in most of the common languages. This architecture also supports seamless migration to other Linux-based TCUs and thereby prepares customers for future technologies like 5G. Being IP67 compliant, it is perfectly suited for use in off-highway applications.

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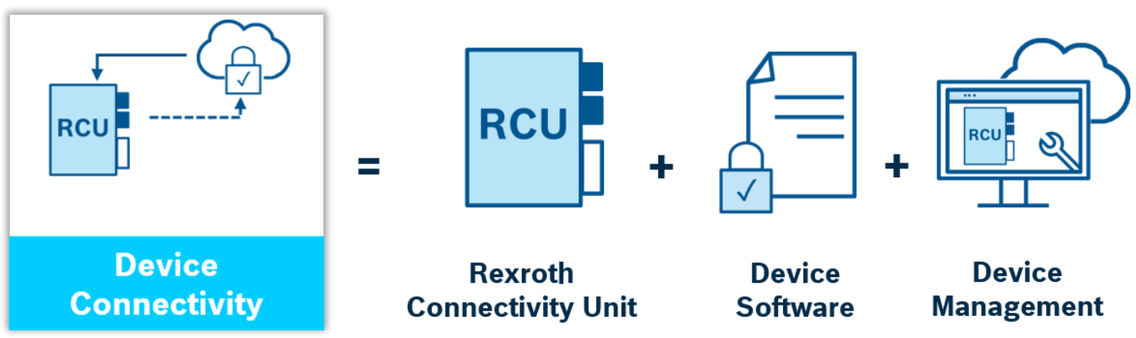
TECHNICAL DATA

Device Connectivity	
Cooperation model	Monthly subscription
Rexroth Connectivity Unit	
RCUx-x/xx	Variants according to RE95430
Operating system	Linux OS
Device Software	
Software layers	Linux OS and hardware drivers Network services Hardware layer System layer Application layer
Application format	SNAP application containers. These offer the possibility to implement individual software in hardware-independent containers
Programming languages	C, C++, Java, Python, JavaScript, Go
Device Management	
Backend	Container-based Device Management
Functionalities	Device configuration and management Security management Communication management Application management Opt.: mobile network connection
Over-the-Air- (OTA-) Services	Device Software OTA ECU Firmware OTA Parameter OTA BODAS Service remote diagnostics
Data sheet	RE95406



BODAS Connect – Device Connectivity

Remotely manage and diagnose controller networks
With Rexroth BODAS Connect Device Connectivity, connecting off-highway machines couldn't be easier:

- Monitor RCU status and implement new functions
- Develop and deploy features as needed
- Benefit from BOSCH security and data privacy features

Over-the-Air services for the RCU and connected Rexroth controllers
BODAS Connect Device Connectivity offers a large variety of over-the-air services, enabling convenient wireless access to vehicle control networks even from within the home office. Whether to update RCU device software and deploy features (SOTA); roll-out firmware updates to single Rexroth Controllers or entire fleets (FOTA); read and write parameters for single controllers (POTA) or troubleshoot with the DOTA Diagnosis-toolkit – it can all be done remotely.

Device Connectivity – getting started
The preconfigured BODAS Connect starter kit 2Start from Bosch Rexroth helps customers to get started with creating their own Device Connectivity solution and reduces investment costs. RCUs in various performance classes form the hardware basis. All Rexroth Device Connectivity functions can be accessed for a limited period during the starter kit phase. For more information, contact your Bosch Rexroth sales representative.

Flexibly add data management
Interested in learning more about the possibilities of connecting off-highway machines? Have a look at the Rexroth All-in-One Connectivity solution. Its preconfigured functions offer a wide choice of services that precisely fit individual requirements.

EXPLORE MORE

Device Connectivity

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