

Bosch Engineering





- up to 12.000 Nm (peak) and 3.000 rpm can be realized up to an power output of 500 kW and enables us to test a wide range of drive systems
- 20 1.200 V

Are covered by our battery simulation to test current as well as Future drive technologies

PRODUCT BENEFITS

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With our e-axle test bench, we offer you comprehensive options to develop, test and approve electric drive systems.

Our expertise and our state-of-the-art testing and measuring equipment enables us to support you in commissioning of first prototypes till series release of your product.

Our ability to emulate diverse and reproducible environmental conditions gives you the advantage of close to reality measurements.

We ensure a significant reduction of development time and costs while complying with your quality goals.

SCOPE OF SERVICE

- Individual implementation of special setups with virtual "live access" to the test bench control system
- Autonomous development of test cases and test strategies based on applicable standards and legal requirements
- Independent preparation, implementation, and documentation of measuring campaigns
- Independent analysis and resolution of problems in close cooperation with the responsible software developers, application engineers and hardware developers
- Analysis of partial and overall efficiency as well as continuous performance of your drive system in fully automated driving cycles
- Validation of safety functions under testing conditions that can be controlled very precisely depending on the application and in the corresponding simulation environment
- Execution of short-term adjustments at our test bench setup or your drive system through the connected proto-type workshop and HV-laboratory
- Provision of an inspiring working environment in the shape of an open workspace for your engineers, technicians and operators

BRAKE DYNAMOMETER

Rotational speed	3.000 rpm (wheel speed)	
Power output	500 kW (total axle power)	
Torque (cont.)	8.000 Nm (total axle torque)	
Torque (peak)	12.000 Nm (total axle torque)	
Dynamic range	up to 13.500 rpm/s	

BATTERY SIMULATION

Voltage	50 to 1.200 V (max. 500 kW)	
Current	1.800 A (max. 500 kW)	
Power output	500 kW	
Dynamic range	Unom in 1 ms (1 kV per ms)	

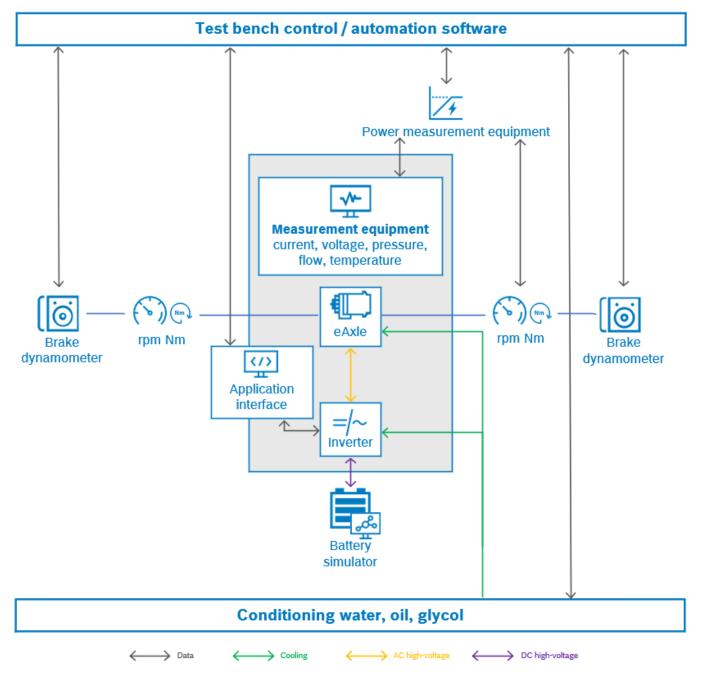
CONDITONING

Coolant conditioning	 two temperature- and flow-con- trolled independent cooling circuits automated control possible -35 - 80°C 0.5 - 20 l/min
Inverter conditioning	 atmospheric conditioning of the Inverter automated controll possible -30 - 105°C (atmospheric)
Oil conditioning	 one temperature- and flow- controlled oil circuit automated control possible 0 - 150°C 0.5 - 20 l/min

MEASURUNG EQUIPMENT

Measurement channels		Setups	 integration of AC-short-circuit and main contactors vehicle -like setups: >0,8 m AC cable length atmospheric Inverter conditioning quick-change technology
		Interfaces	 ASAM, CAN, CAN-FD, FlexRay, LIN, XCP, Ethernet, Ether-CAT, Profibus
Analyzers	2 x Yokogawa WT1800 1 x Yokogawa DL950 (max. 100 MS/s) für transiente Messungen	Transducer	■ 2 x HBM T12 5 kNm
		NVH Equipment	optional

SYSTEM OVERVIEW



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