



HV Electronics Laboratory

1.500 V DC | 30 kW | -70°C – 180°C

Hochvolt



Bosch Engineering



BOSCH



Up to 1.500 V DC-voltage
is available for development projects



Complete electrical and thermal testing
of components up to entire systems



Bidirectional power
offers testing in 2-quadrant operation

PRODUCT BENEFITS

With our high voltage laboratory, we offer you fully featured facilities that will assist you in the development of power electronics.

Our expertise in electrified drive systems in combination with our state-of-the art testing and measuring equipment enables us to support you in development and validation of new, forward-looking drive technologies.

In close cooperation with other Bosch departments, we can offer you individual engineering services based on your specific needs and requirements.

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

SCOPE OF SERVICE

- Hardware and software tests at different ambient and coolant temperatures according to LV123/ LV124
- Individual solutions for non-standardized systems
- Design of circuit diagrams and printed circuit boards
- Independent fault analysis and realization of customized set-ups
- Complete electrical and thermal testing of components up to entire systems
- Three self-sufficient cooling water circuits with a total of 2.5kW cooling capacity
- Provision of an inspiring working environment with up to 6 workstations in the form of an open workspace for your engineers, technicians and operators

MOTOR OPERATION

DC power	max. 30kW / 1.500V / 32A
Inductive AC load	177μH, 27mΩ

GENERATOR OPERATION

AC power	max. 12kW / 3-phasig
DC load (HV circle)	max. 30kW / 1500V / 30A
DC load (NV circle)	max. 6,4kW / 60V / 600A

MEASURING EQUIPMENT

AC current measurement	max. 12kA
DC voltage measurement	max. 1.500V
Oscilloscope	Up to 1GHz / 6,25GS/s / 20M points
Thermal imaging camera	-20°C – 1.500°C
SW testing with signal stimulation	LabDrive with RTPC and FPGA

CONDITIONING

Temperature conditioning	-70°C – 180°C
Coolant conditioning	-45°C – 200°C -30°C – 100°C

MEASURING INSTRUMENTS

Oscilloscope „Tektronix“	1 x MSO4054 1 x MSO4054B 1 x MSO4104B 2 x MSO58
HV-Constant „Regatron“	1 x TC.P.16.500.400.PV 1 x TC.P.20.600.400.PV 2 x TC.P.32.1200.400.
Bidirectional power supply “Elektro Automatik”	2 x PSB9080-3606U 2 x PSB91500-303U
AC source „Chroma“	1 x CR0151 Chroma 61611
HV power supply “Elektro Automatik”	3 x EA-PS 9750-04 1 x EA-PS 8160-60

Thermal imaging camera Flir	1 x T450sc
Cooling aggregate	2 x LAUDA PRO RP 245 EC 1 x Huber Unichiller 060T-H
Temperature cabinet	1 x BINDER MKT 115 1 x CTS T65/50 1 x TempEvent T340/70/3
Vector products	2 x VN1610 2 x VN7640 1 x CANCASE XL

SYSTEM OVERVIEW

