



Measurement Services

Measurement based analysis of electrical drives and actuators.

www.lcm.at

We have several engine test benches from the JKU Institute for Electric Drives and Power Electronics at our disposal for prototype measurement, commissioning or product evaluation when changing suppliers. From test planning to individual measurement data evaluation – everything from a single source.

We offer:

Customized and cost-effective actuator / motor measurement

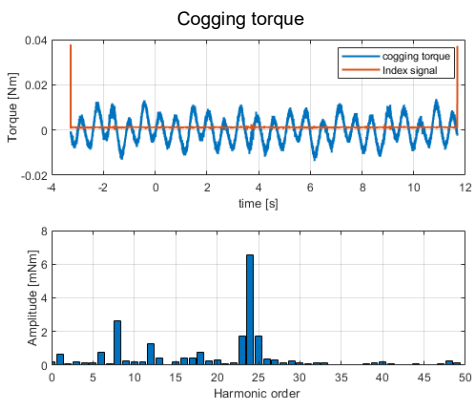
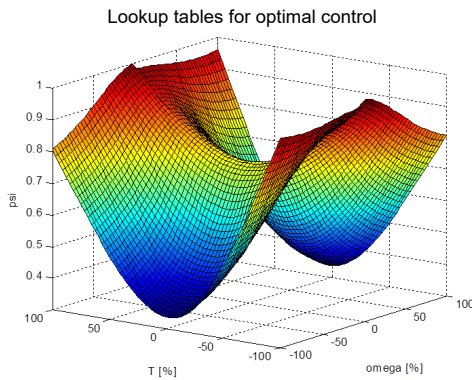
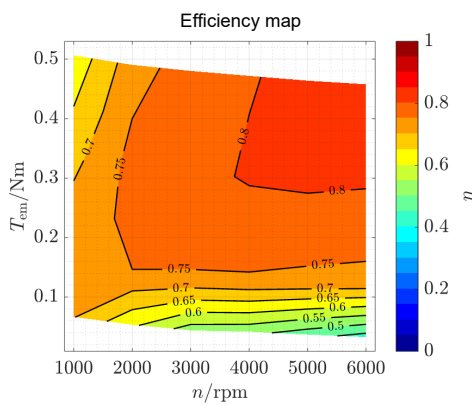
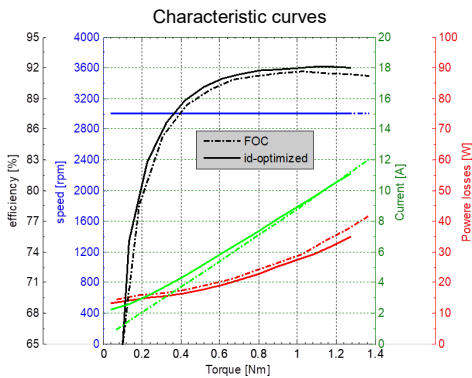
- in the power range up to 54 kW
- measurement of liquid-cooled actuators / drives
- determination of efficiency
- characteristic curve/diagram measurement

Measurement of additional parameters

- temperature
- vibration
- sound

Special offers

- measurement / test of multiphase motors as well as linear actuators and magnetic bearings
- control with customer or LCM electronics
- quick adaptation of the control/actuation at controller level (e.g. FOC, MTPA, id/id tables, ...) by LCM
- sensorless control methods
- measurement of time-critical load points, large characteristic diagrams and thermal transients
- motor and generator load points



Test benches

- Test bench 1
 - Speed range: 0-8000rpm (up to 18.000rpm on request)
 - Torque range: 0-13Nm
 - Max. motor/engine power: 4kW
 - Chopper nominal power: 2kW (peak 2.5kW)
 - Manual x-y-z positioning table
- Test bench 2
 - Speed range: 0-6000rpm (up to 15.000rpm on request)
 - Torque range: 0-75Nm
 - Max. motor/engine power: 20kW (4-quadrant)
 - Electrically controlled x-y-z positioning table
- Test bench 3
 - Speed range: 0-5000rpm
 - Torque range: 0-290Nm
 - Max. motor/engine power: 54kW (4-quadrant)
 - Machine bed without x-y-z positioning table

Available measuring equipment

- Torque sensors from Staiger, Mohilo, Kistler and Lorenz
0.01 / 0.05 / 0.2 / 1 / 2 / 5 / 20 / 50 / 100 / 300 Nm
- Powermeter: **WT1800E** from Yokogawa
6 modules per device (0-1000Vrms / 0-50Arms) and measurement range extension up to 2000Arms
- Various oscilloscopes: Lecroy WaveSurfer / WaveRunner
- Thermal camera (Flir SC620)
- Various force and pressure sensors
- Laser vibrometer, 2D laser scanning vibrometer, 1- and 3-axis acceleration sensors
- Sound intensity probe, microphones, microphone array
- Various other measurement devices for automated data acquisition
- Surge tester: Schleich MTC2 6kV

Energy sources

- Regatron TC.GSS 36kW (2x): 0-65Vdc / 0-600Adc bidirectional
- Regatron G5.RSS 36kW: 0-1000Vdc / 0-108Adc bidirectional
- M-G set (55kW induction machine coupled with a 120kW DC machine):
0-600Vdc / 0-400Adc
- Various DC power supply units in the ranges
 - 0-60V / 0-600A to 0-600V / 0-20A
- Three phase transformer with slip rings: 3x 40-440Vac (10-110%) / 16A

Other available devices

- Coolant conditioning: Wittmann Temprom basic C 140
- Climate chamber