



Measurement Services

Measurement based analysis of electrical drives and actuators.

www.lcm.at

Our adaptable test benches are used in the areas of prototype measurement, random sample testing in series production and for product evaluation when changing suppliers. From the conception of the measurement strategy to a customized measurement data documentation - all from one source.

We offer:

Customized and cost-effective actuator / motor measurement

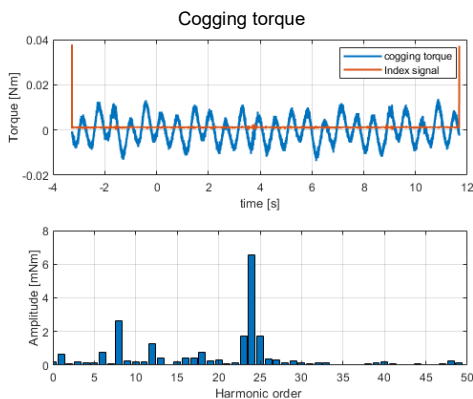
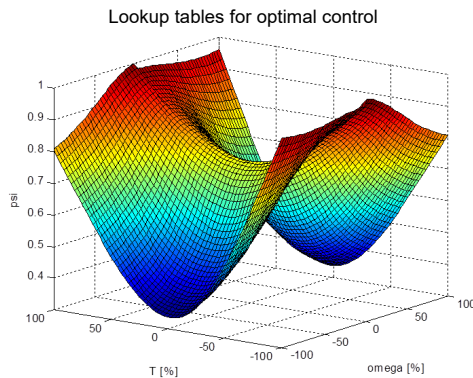
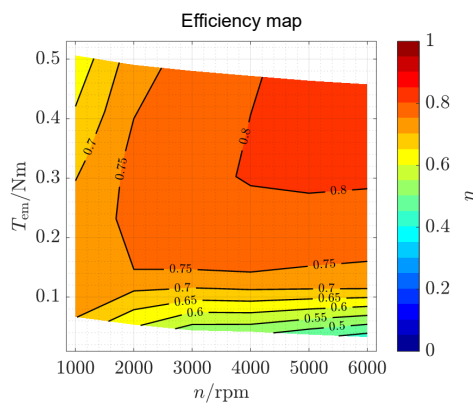
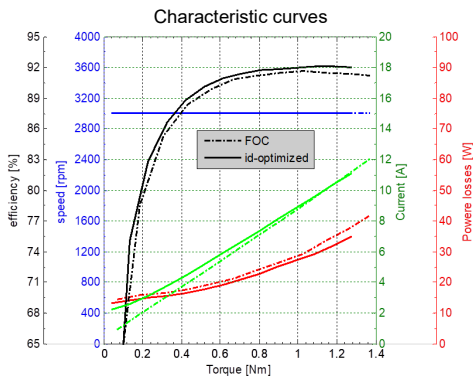
- in the power range up to 54 kW
- measurement of liquid-cooled actuators / drives
- determination of efficiency
- characteristic curve/diagram measurement

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



Test benches

- Test bench 1
 - Speed range: 0-8000rpm (higher speeds 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
 - 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 / 300 Nm
- Powermeter:
WT1800 and **WT1600** from Yokogawa
6 modules per device (0-1000Vrms / 0-50Arms) and
measurement range extension up to 2000Arms
- Various oscilloscopes: Lecroy WaveSurfer bzw. 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

Energy sources

- TopCon Quadro (2x): 0-65Vdc / 0-600Adc in 4-quadrant mode
- 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
 - 0-600V / 0-20A
- Three phase transformer with slip rings: 3x 40-440Vac (10-110%) / 16A

Other available devices

- Coolant conditioning: Wittmann Tempromat C 140