CARMEN

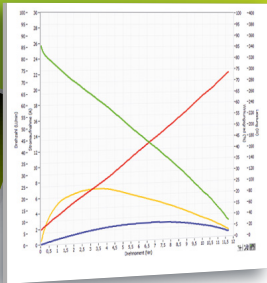## Test of mechatronic components for test environment & production

- · check of quality-determining features for electric motors under realistic working conditions

- · measurement of electrical and mechanical parameters

- · use in development, testing and series production

- · configurable to customer specifics

- · user administration for configuration of use rights to various programme functions

- · offline data analysis for the creation/processing of test procedures using simulated measurement data

GÖPEL electronic
Enjoy Testing

Software – modules

Test sequence

This function offers the opportunity to automatically carry out the various individual tests in a freely configurable quantity and order in a sequence

Back lash

· measurement of the torsion angle via torque ramp

Characteristic line test

· measurement of the classic motor characteristics line

· loading of the test unit from idling to the block
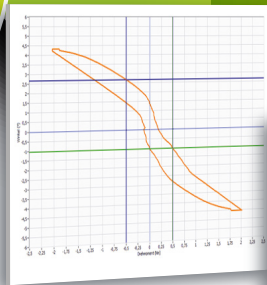
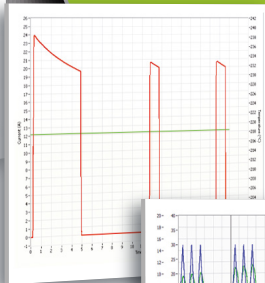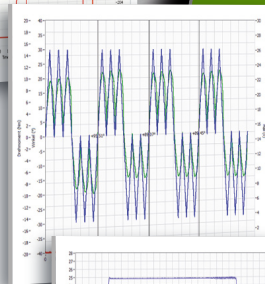## Thermal switch test

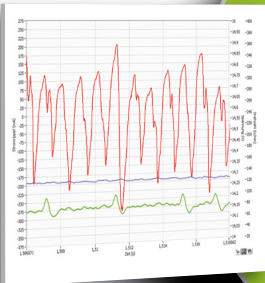· test of the thermal switch under overload

Self-locking

· measurement of the drive locking over the time with reciprocal loading
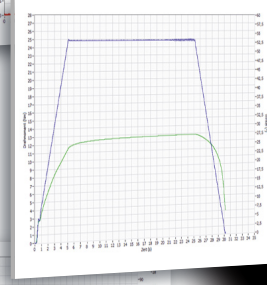
Ripple current measurement

· information on the qualitiy of the test unit by analysis of the wave shape

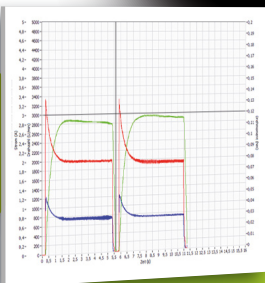· speed determination with reference to the ripple current is possible

Overload

· measurement of the torsion angle during defined overload of the drive

Chronological sequence

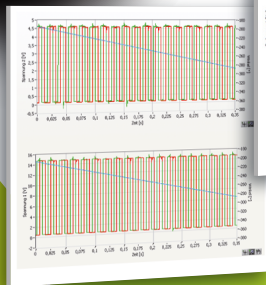· starting of predefined torques with a defined ramp

Start behaviour under load

· measurement of the test unit characteristics at starting torque

Hall sensor test

· the functionality of the Hall sensor can be tested with various voltages

: Made in Germany
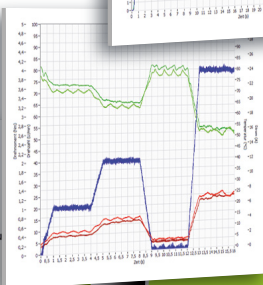
Function

The test conditions can be cloned with highly dynamic loading units and be corrected with specific measuring systems. A torque/speed characteristic curve is determined, from idling to right up to the maximum performance of the test unit. In addition, mechanical and electrical specific values can be assessed via the various menu functions.

The drive controller unites the actual motor regulation, various safety functions and limit value checks. The drive controller is controlled by a superordinated SPS. The test sequences are stored and the requirements of the user software are processed here.

It is possible to manually control the drive and the test unit. The user administration and offline data analysis simplifies the data management.

Torque regulation · static to 30 Nm
· dynamic to 2.4 Nm at 10000 rpm

Speed regulation up to 10000 rpm
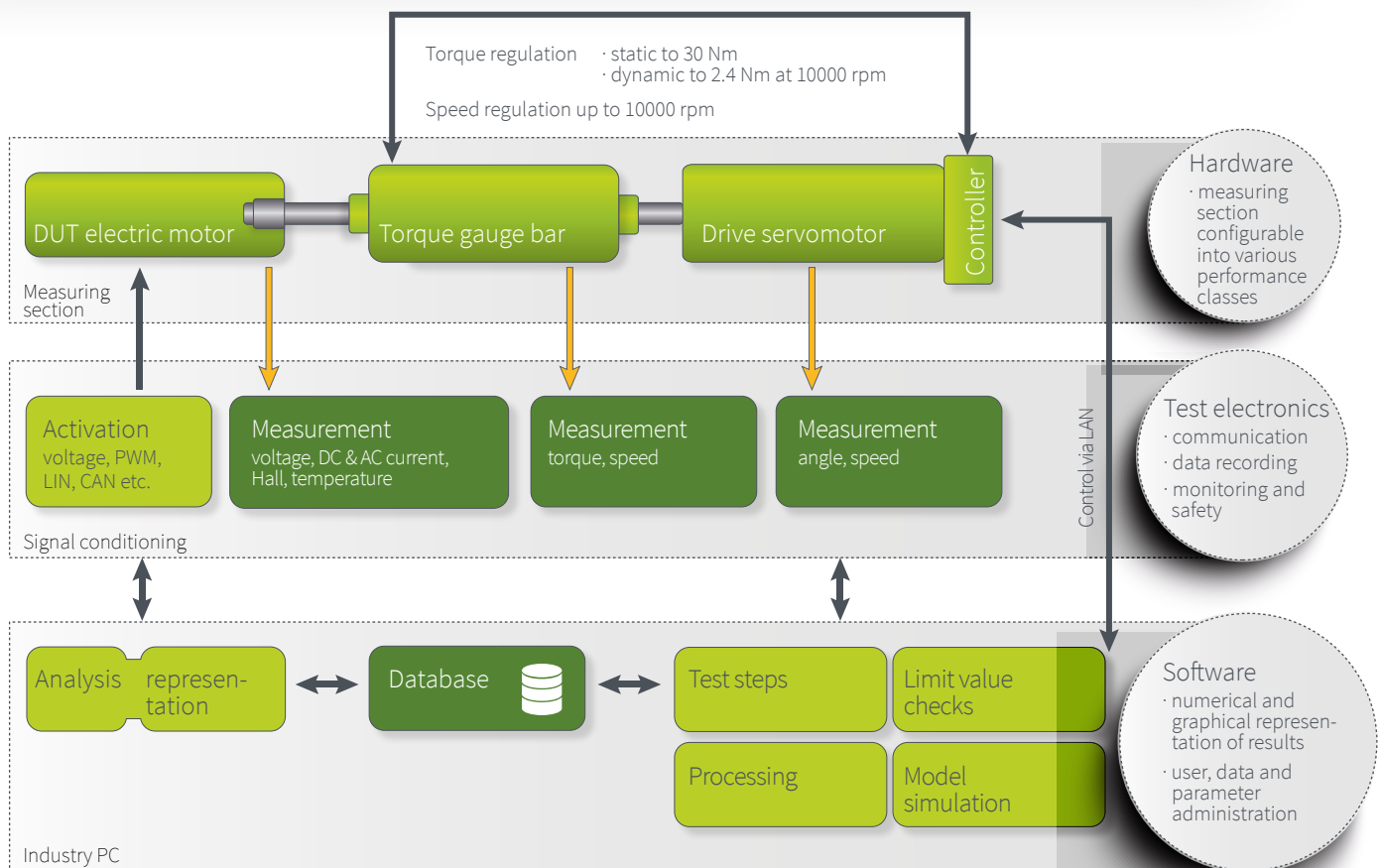
Manually controlling the drive and test unit

· controlling the drive: speed or torque regulation with set value and ramp
· status notifications from drive
· controlling the feeder circuit unit for the supply of Hall sensors, for example
· controlling the power supply unit and the H-bridge for manual operation of the test unit
· manual scanning of all measurement channels
· user-friendly navigation by assistants (adjustment and calibration)

User administration and offline data analysis

The system administrator configures the access rights to various programme functions and setting options via the user administration. For this, individual users are given access rights.

The testing parameters and testing data are stored in a central database. This allows the test parameters to be developed on the office PC and applied to the validation or endurance tester. The results data can be viewed, analysed and presented on both the motor tester and the office PC.

· loading machine

· replaceable adapter

· gauge bar for precise moment determination

· replaceable adapter

· universal test unit interface

· replaceable adapter

Measuring section with various test unit adapters for various applications

Parameters	Data	
Battery voltage	0 … 50 V ± 0.10 %	
Current load	0 … 300 A ± 0.10 %	
Load up to	6000 W in various voltage/load combinations	
Resistance simulation	0 … 0.5 Ohm	
Speed*1	version 1: 0 … 10 000 rpm	version 2: 0 … 300 rpm
Torque	0 … 10 Nm ± 0.20 %	0 … 90 Nm ± 0.20 %
Test unit activation	Operating voltage, LIN, CAN, PWM	

*1 speed dependent on torque

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