

## measuring log

**bearing code:** KA22

**bearing designation:** 19-01

**test setup:**

- test motor module (Hanning-Motor SD4CDu8S-009/425W/Y230V); operation by frequency converter KEB Combivert 07F5E 1D-2B0A
- measuring shaft module
- radial force module
- flywheel module
- load motor module (Siemens-Motor 1FT7062-1AF70-1DG1)

**measuring devices:**

- current measurement: current measurement box (self-construction): current transformer LEM Typ CKSR 15-NP, Bessel-Filter (4th order, cut-off frequency: 25 kHz)
- force measurement: load cell K11 (10 kN, Lorenz Messtechnik GmbH )
- speed measurement: measuring shaft TM305 (Magtrol Inc.)
- torque measurement: measuring shaft TM305 (Magtrol Inc.)
- vibration measurement: vibration transducer 336C04 (97/F/3, 100 mV/g, PCB Piezotronics Inc.), charge amplifier type 5015 (filter 30 kHz , 2. Order, Kistler)
- temperature measurement: temperature transducer MINI MCR-SL-TC\_UI-NC (Phoenix Contact)
- hardware: processor-Board DS 1006 Single Core (with DS2004) (dSpace GmbH)

**Simulink-model:** Messung\_Strom64kHz\_Mech4kHz\_Temp1Hz\_05\_14

- motor current sampling frequency: 64 kHz
- vibration sampling frequency: 64 kHz
- sampling frequency of mechanic parameters (load force, load torque, speed): 4 kHz
- temperature sampling frequency: 1 Hz

**load variants:**

- K0: N15\_M07\_F10\_...
- K1: N09\_M07\_F10\_...
- K2: N15\_M01\_F10\_...
- K3: N15\_M07\_F04\_...

**preheating:**

- (F=2000 N; n=2000 1/min):
- duration of preheating: 34 min
- temperature reached: 48.4°C

**remarks:**

**name:** Bastian Blömeke

**date:** 01.08.2014