ELSOMA A05

Angle-based flux density meter
for radial angle-based measurements on multipole magnets according to DIN SPEC 91411

Angle-based flux density meter ELSOMA A05

Functional description

The ELSOMA A05 flux density meter for angle-based measurements is a precise instrument for measuring two- and multi-pole ring and cylinder magnets. The naming of the measurement results and the units are adapted to DIN SPEC 91441.

During a measurement, the radial, axial or tangential magnetic flux density components can be recorded on up to six tracks (optional) and assigned to the rotation angle position.

The visualisation and evaluation of the measurement data is done via a PC. ELSOMA offers customised hardware and software solutions for this purpose.

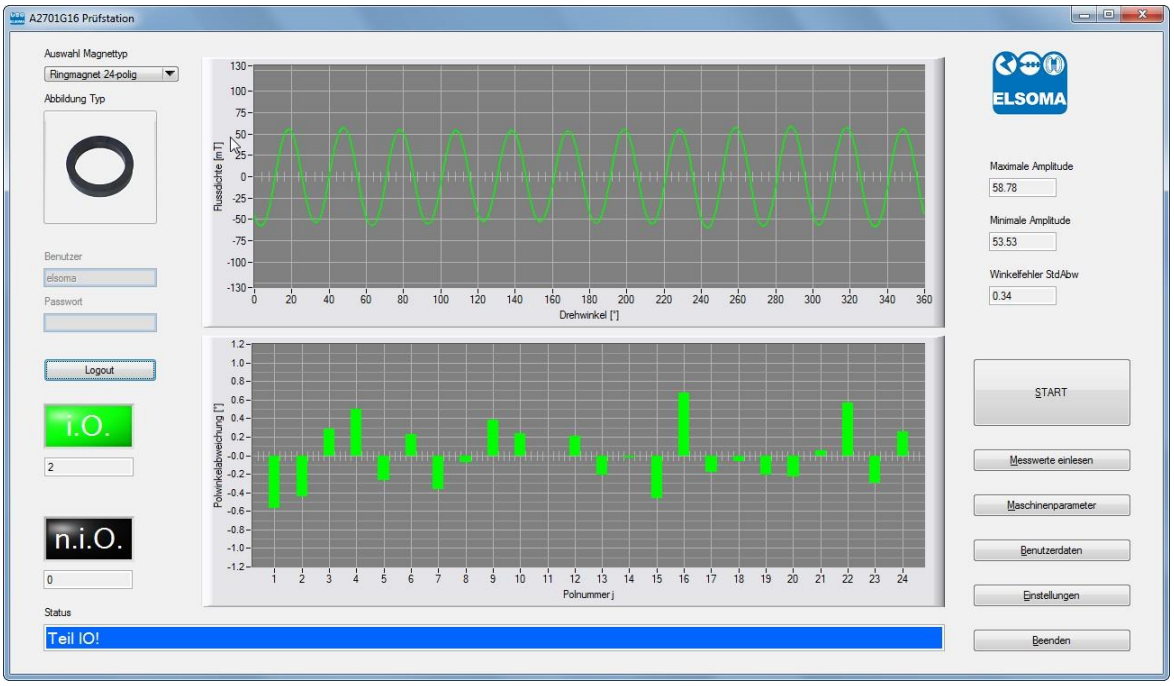

Figure 1: User interface of the flux density meter

Features of the system:

The flux density meter is operated manually and is PC-supported. The measurement results can be saved automatically.

Mechanics

- Detection of the position of the rotary drive via an optical encoder with reference index
- Preloaded, backlash-free bearing of the drive shaft
- Interchangeable holders made of non-magnetic material (brass) for holding different part variants as standard
- Design and manufacture of customised test specimen receptacles possible
- Drive via toothed belt, therefore low interference field influence of the motor at the measuring position

Angle-based flux density meter ELSOMA A05

Electronics

- Internal 16 bit A/D converter with 2 MHz sampling rate
- Two independent analogue differential inputs as standard (can be extended to up to six differential inputs on customer request)

Precision

- Use of factory calibrated Hall sensors
- Control of the sensor position via length measuring probe optionally possible
- Angular accuracy: Maximum system error 25" ≈ 0.008°

Software

- Creation of individual software solutions for the evaluation of measurement results.
- Different user authorisation levels to secure the system settings.
- Customisation and extensions possible at any time
- Firmware updateable via remote maintenance
- Support Guarantee over 10

years Other features

- Compact design
- Scratch-resistant easy-care surface
- Simple operation
- Connection option for monitoring a bad part chute as standard, for use in incoming goods and production.

Characteristics / Technical data

- Data output via USB interface
- Angular resolution: 0.025° (also higher via interpolation)
- Amplitude resolution of the flux density measurement: 10µT
- Relative measurement uncertainty of the amplitude of the flux density measurement ± 1.25%.
- Operating voltage 230V/50Hz
- Proof of measuring equipment capability by ELSOMA GmbH (CPK value > 1.66)
- CE marking