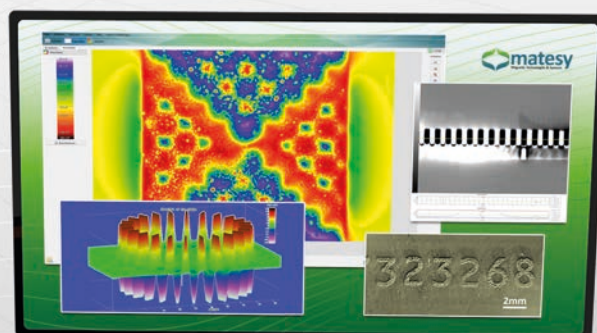


cmos-magview

The Magnetic Field Camera

Visualization of Magnetic Fields and Structures



*With cmos-magview
Magnetic Field Camera
devices, magnetic stray
fields and structures can be
precisely visualized and
measured in seconds.*

cmos-magview

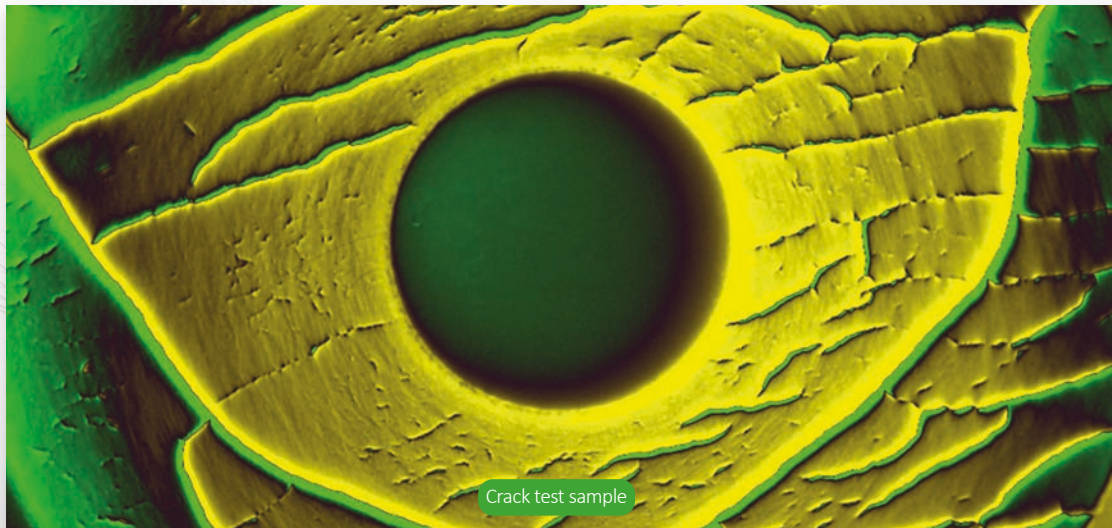
The Magnetic Field Camera

With cmos-magview Magnetic Field Camera devices, magnetic stray fields and structures can be precisely visualized and measured in seconds.

Product Description

The devices of the cmos-magview Magnetic Field Camera family are high-resolution and precise measuring and visualization systems for magnetic materials, assemblies and surfaces. Pole distances or other geometric information can be measured down to the μm range. The devices use the Faraday effect in the magneto-optical sensor.

Depending on the configuration and calibration of the devices, it is also possible to measure the magnetic field strength perpendicular to the sensor surface. Depending on the application, we offer the devices with different magneto-optical sensors and sensor sizes. The systems are available in the versions cmos-magview S, cmos-magview M, cmos-magview L and cmos-magview XL.



Product Highlights

- Visualization of magnetic structures directly on the surface
- High geometric resolution for detailed analysis of the stray field
- The instruments can be equipped and calibrated with different sensitive sensor types depending on the application
- Recording of the magneto-optical image via high-resolution digital camera
- Use of image analysis algorithms to evaluate the magnetic field information

The cmos-magview Magnetic Field Camera provides analyses for:

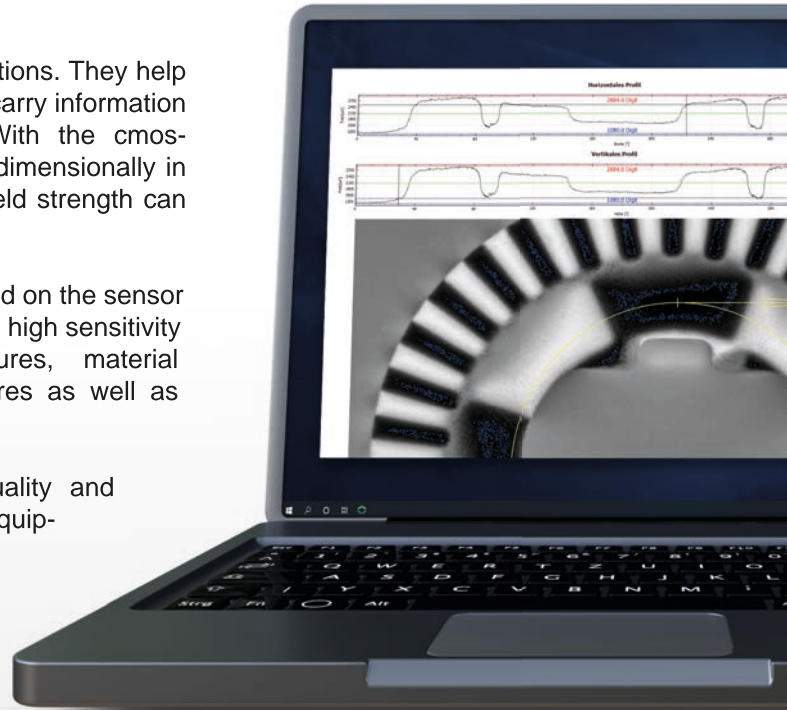
- Magnetized and partially magnetized permanent magnets
- Magnetic encoders
- Electrical sheets,
- Structural changes in steel and stainless steel due to heat treatment or deformation
- The testing of magnetic safety features
- The inspection of serial numbers in chassis or on weapons

Design & Function

Magnetic fields are used in a wide variety of applications. They help to transmit forces and torques, control sensors and carry information about the state of magnetizable components. With the cmos-magview, the magnetic field can be visualized two-dimensionally in the highest possible resolution and the magnetic field strength can be measured.

All you have to do is place the sample to be examined on the sensor and you will obtain a magnetic field image. Due to its high sensitivity and resolution, the method visualizes pole structures, material inhomogeneities, magnetic domains, grain structures as well as cracks.

The cmos-magview is used, for example, in quality and incoming goods inspection. It is part of the basic equipment of laboratories and supports the development, analysis and function optimization of magnetic systems. Comprehensive and adaptable software provides the user with a solid basis to perform a wide range of analyses and measurements.

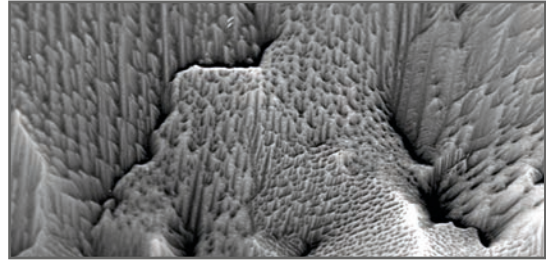


Advantages

- Detection of stray fields in seconds with one shot
- Significant time savings compared to scanning methods
- Extremely high lateral resolution for pole measurement



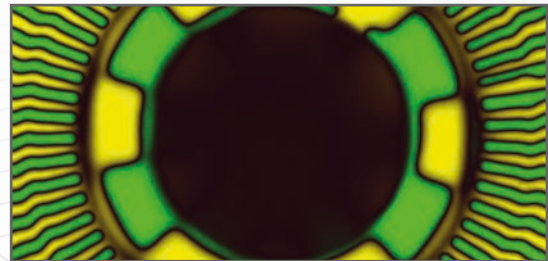
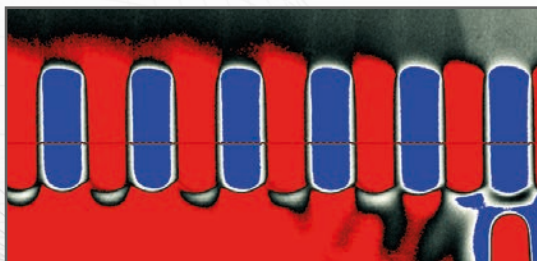
Application Areas:



Sensor type A

Quality inspection & geometric assessment of:

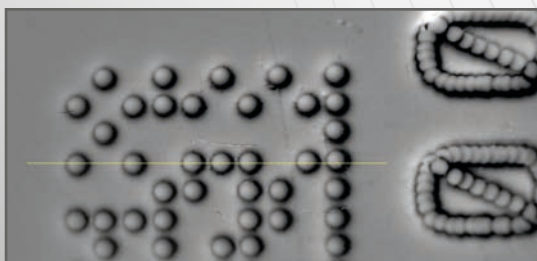
- Magnetic inks (banknotes, documents)
- Domains in electrical sheets
- Security features for forensics
- Residual magnetism on production parts
- Audio tapes



Sensor type B/C

Surface inspection & quantitative analysis:

- Of permanent magnets
- Of magnetic encoders
- Of polymer bonded magnets
- Of magnetic particles in composites
- For superconductors



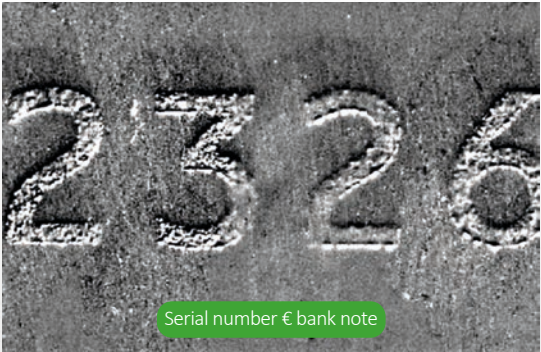
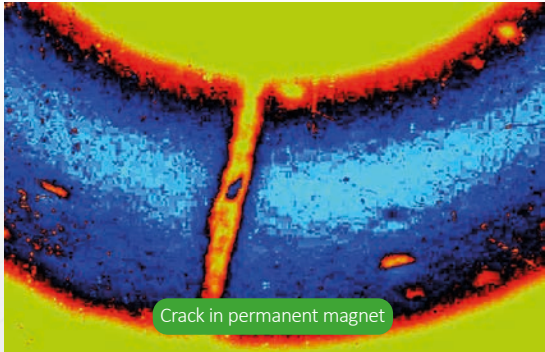
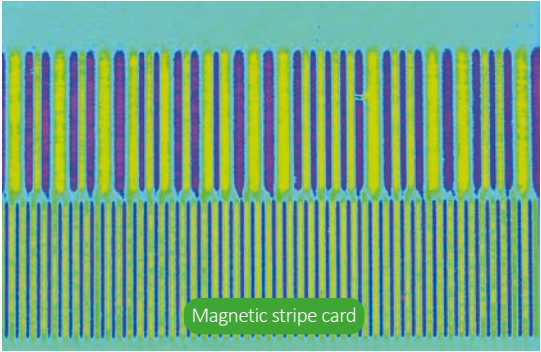
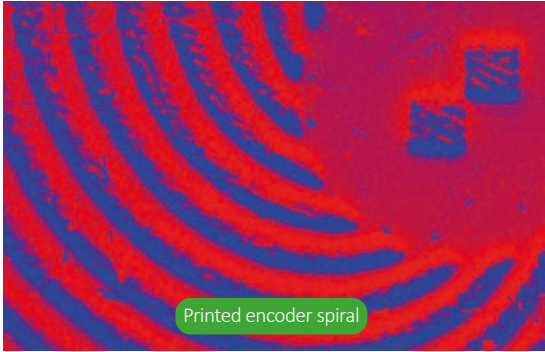
Sensor type D

Examination and visualization of:

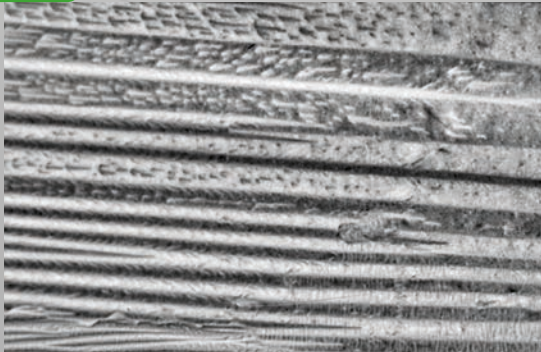
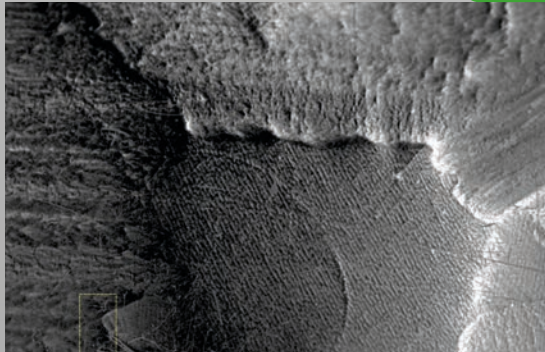
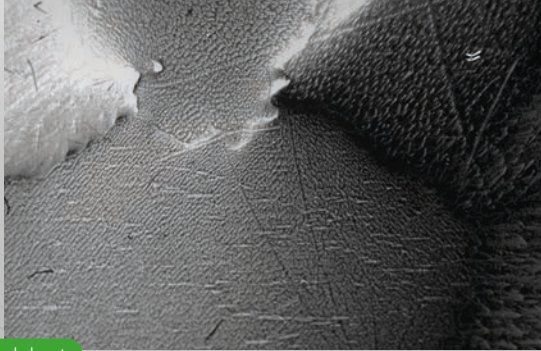
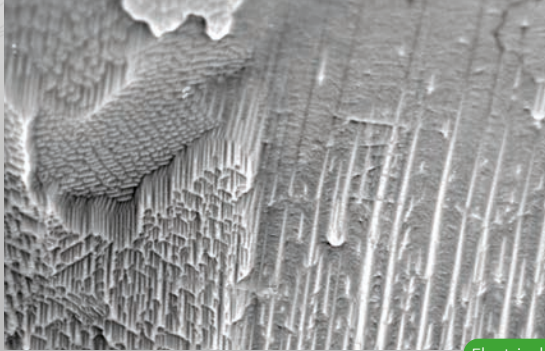
- Soft magnetics
- Magnetic inks in banknotes
- Magnetic inks in documents



Visualization Examples:



With cmos-magview devices, magnetic stray fields and structures can be visualized and measured precisely in a matter of seconds.



cmos-magview Variants:

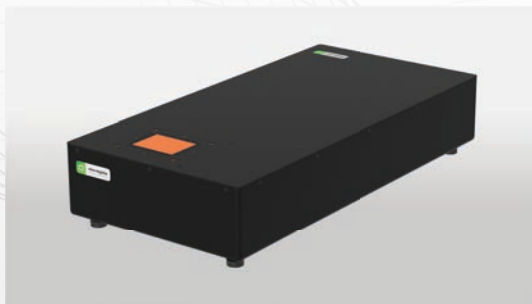


cmos-magview S

- Sensor size: 20 x 15 mm²
- Resolution: 25 μm
- Sensor types: A, B, C, D

cmos-magview M

- Sensor size: 20 x 15 mm²
- Resolution: 15 μm
- Sensor types: B, C



cmos-magview L

- Sensor size: 60 x 45 mm²
- Resolution: 60 μm
- Sensor types: A, B, C

cmos-magview XL

- Sensor size: 60 x 45 mm²
- Resolution: 30 μm
- Sensor types: A, B, C

General Specifications

- Sensor size: up to 60 x 45 mm²
- Measuring time: 1 second
- Geometric resolution: down to 15 μm (depending on sensor and camera)
- Visualize magnetic fields in real time and measure magnetic field strength
- USB interface

Technical Specifications:

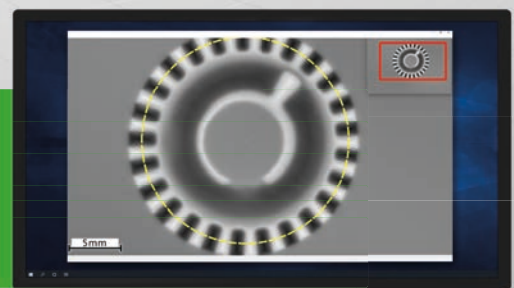
Device type	Sensor types	Sensor size (mm ²)	Active imaging area (mm ²):	Resolution, geometric (μm) at 80% central	Precision, geometric (μm) at 80% central	Dimensions L x B x H (cm)
S	A, B, C, D*	20,5 x 15,5	18 x 13	25	50	36 x 15 x 8
M	B, C	20,5 x 15,5	18 x 13	15	30	36 x 15 x 8
L	A, B, C	60 x 45	57 x 41	60	120	52 x 25,5 x 10,5
XL	A, B, C	60 x 45	57 x 41	30	60	52 x 25,5 x 10,5

*Field image quantitative not for type D

Sensor type	Visualization	Field image (quantitative)	Saturation (mT)	Field resolution (mT) at 20x image averaging of 100 μm x 100 μm area	Field precision (80% central)	Typical test items
A	✓	✓	1 mT	0,05 mT	< 5%	Low field strength
B	✓	✓	65 mT	0,5 mT	< 5%	Hard magnets
C	✓	✓	125 mT	0,5 mT	< 5%	Hard magnets
D	✓	✗	2 mT	✗	✗	Soft magnetics

Operating environment | Handlings

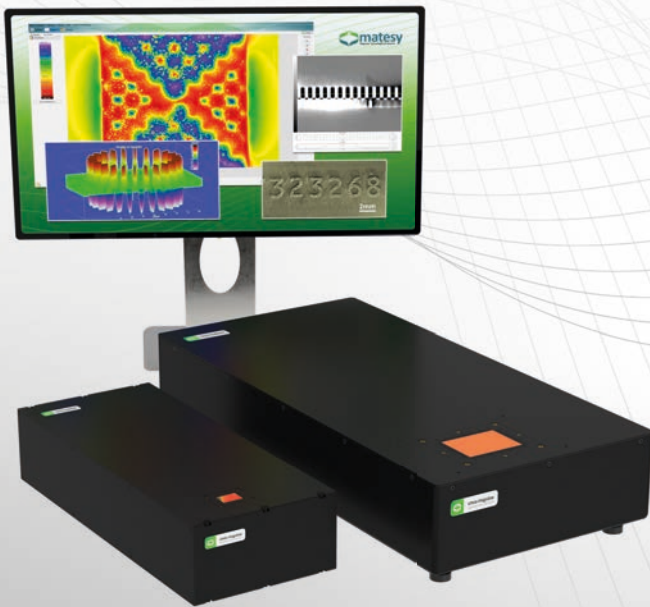
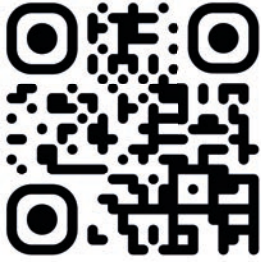
- Laboratory, low-dust, humidity < 60 %
- Operating temperature of 25 ° C ± 10 K
- Storage temperature of 25 ° C ± 25 K
- Tabletop device for use on the PC
- Manual placement of the test item on the sensor



Distance between sensor and test item

- Without protective film 5 μm
- With protective film 55 μm (depending on the specimen surface)





Contact & information

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