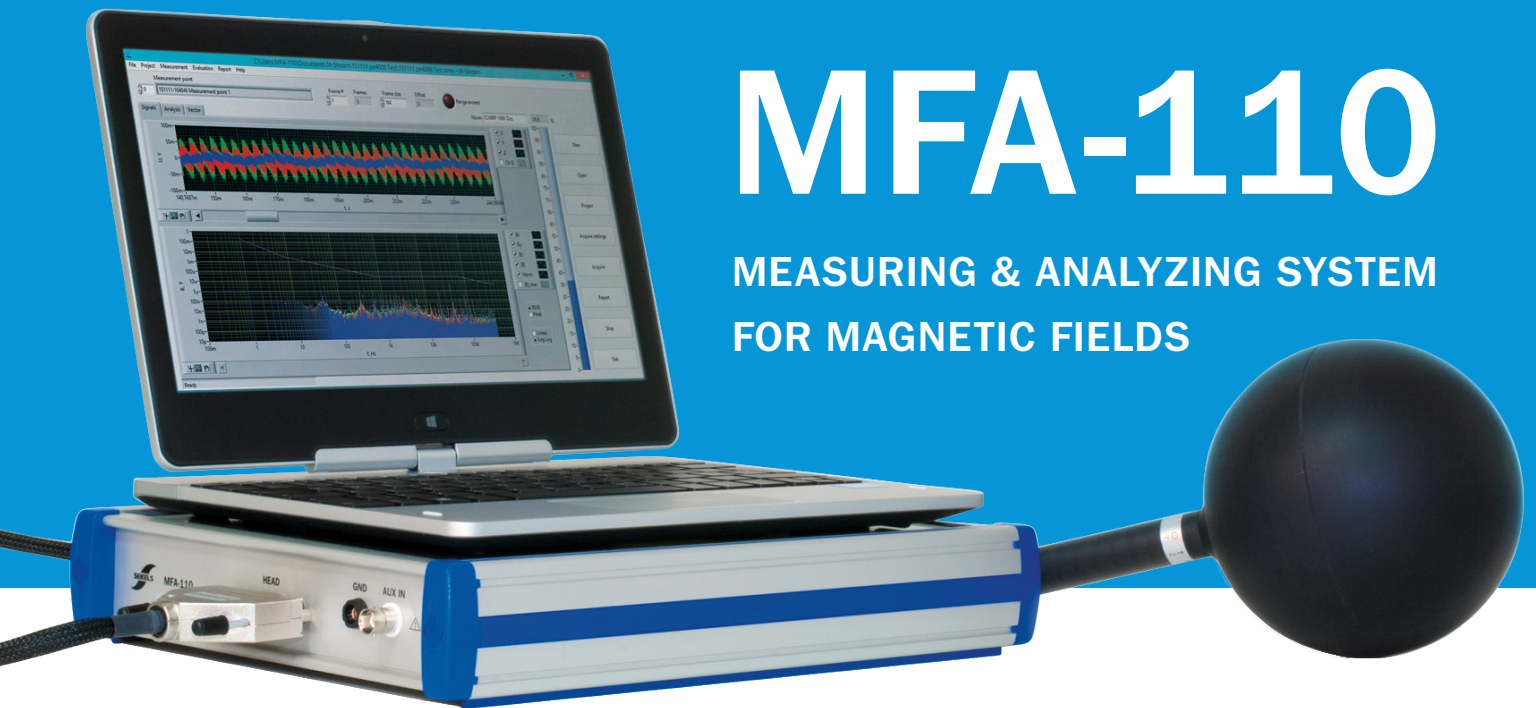


MFA-110

MEASURING & ANALYZING SYSTEM FOR MAGNETIC FIELDS



- Complete system including 3D isotropic standard probe, Main Unit, M-Stream software and PC notebook (optional)
- Gapless recording of magnetic flux density in the frequency range from 1 Hz to 400 kHz according to all major standards (e. g. ICNIRP or Directive 2013/35/EU)
- High resolution data capturing and storage of raw data
- M-Stream software for transparent data analysis including comparison with many international and national standards and guidelines in one system
- Open system, own guidelines can be implemented by the user
- The same measurement data can be evaluated according to different standards. Archived measurement data can be compared with new standards without repeating the measurement procedure.
- Evaluation according to the GB/T 37130 and MBN 10284-2: 2019-10 Standards are preliminary implemented

THE SYSTEM CONSISTS OF

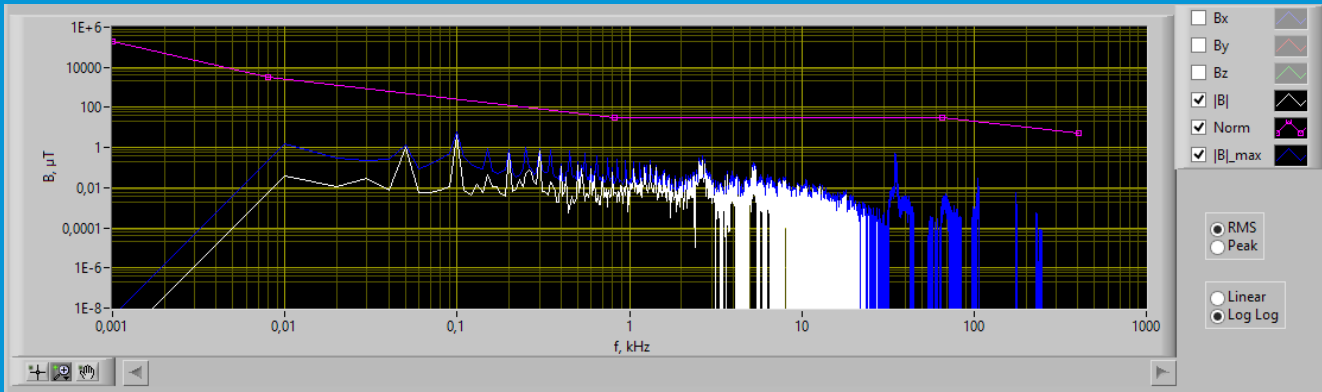
- ✓ MFA-110 Main Unit
- ✓ 3D isotropic 100 cm² standard probe and/or customized probe(s), e. g. high sensitive 100 cm² probe or Ø 30 mm probe for high spatial resolution. Further customization of sensitivity, frequency range, cross-section area or cable length is available on request.
- ✓ M-Stream software for measurement and analysis. Additional licenses for analysis of the measurement data without main unit hardware are available.
- ✓ Suitable PC/notebook/tablet case is available as option



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STANDARD LIMIT AND MEASURED FLUX DENSITY VS. FREQUENCY GRAPH (EXAMPLE)

The MFA-110 is capable of measuring magnetic fields in a wide frequency and intensity range. It works vectorial by gap-less capturing the field induced electric signals in a standard isotropic 100 cm² probe (or in a special probe) in all three orthogonal directions. The signals are filtered, amplified, digitized and stored as raw data on the PC hard disk. The resolution and frequency range depend on the selected sampling rate and streaming time. Higher sampling rates and longer streaming times allow more detailed and accurate measurements, however require significant data storage space and processing capacity of the PC notebook as the data is directly transferred and stored on the hard disk. This process is controlled by buffer monitoring.

The M-Stream software processes the raw data including frequency dependent amplitude analysis via discrete Fourier transformation. Comparisons with various national and international standards or guidelines are implemented with the Weighted Peak Method e. g. Customized standard limits can be created with the built-in editor. Various user settings for measurement and data processing allow fulfilling specific measurement tasks.

The raw data is stored in the TDMS format and may be exported in ASCII or MS Excel formats e. g. for individual processing or be used for posterior evaluations with new coming standards.

f, Hz	B, T_rms
100m	4
1	4
8	62,5m
800	625u
149,999999k	625u
150k	613,333333333333u
10M	9,2u
0	0
0	0
0	0

STANDARD EDITOR USER INTERFACE



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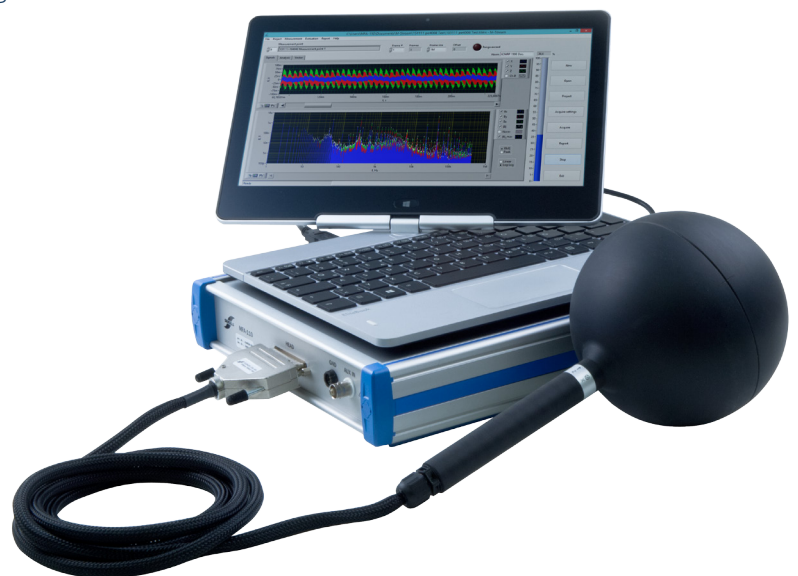
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MFA-110 MAIN UNIT SPECIFICATIONS

Part number	MFA-110-MUA-01
Max. frequency range	1 Hz – 400 kHz
Sampling rates	10 kHz, 100 kHz, 1 MHz, 1.67 MHz
Vertical resolution	12 bit
ADC channels	<ul style="list-style-type: none">• three channels for isotropic 3D probe• one auxiliary channel (BNC)
PC connection	two USB ports
Power supply	from USB, 4.6 – 5.25 V, max. 1400 mA
Dimensions	280 mm x 220 mm x 50 mm
Weight	2.62 kg (without PC notebook and probe)
Operation temperature range	0 °C – 40 °C (20 °C – 30 °C for optimal accuracy)
Operation humidity range	5 % – 80 % relative humidity, non-condensing
Storage temperature range	-20 °C – 60 °C
Storage humidity range	5 % – 90 % relative humidity, non-condensing
Attachment for notebook	Velcro fastening



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MAIN FEATURES

- Gapless data acquisition with high resolution and storage of raw data
- Documented data analysis
- Discrete Fourier transformation for the presentation of the frequency dependent amplitude values
- Evaluation according to the main standards (ICNIRP 98, ICNIRP 2010, 26. BImSchV, Directive 2013/35/EU, BGV B11 etc.; GB/T 37130 and MBN 10284-2: 2019-10 are preliminary implemented)
- Export of raw data to TDMS, ASCII or Microsoft Excel (data export to Microsoft Excel requires Microsoft Excel)
- Sniffing mode
- Field rating values according to specific standards as function of time
- Editing function of standards
- Template measurements, evaluation and reporting (template reporting requires Microsoft Excel)
- Handheld mode

MINIMAL REQUIREMENTS

- MFA-110 Measuring System (one MFA-110 Main Unit and one compatible probe)
- Operation system: Windows 8, Windows 8.1 or Windows 10
- 2 GHz Dual-Core-Processor
- 4 GB RAM
- 60 GB hard disk
- 1366 x 768 display resolution
- one USB 2.0 port and one USB 3.0 port

RECOMMENDED REQUIREMENTS

- MFA-110 Measuring System (one MFA-110 Main Unit and one compatible probe)
- Operation system: Windows 10 (64 bit)
- Intel i5 2.4 GHz Processor (11" – 13" notebook, tablet or 2 in 1 PC)
- 8 GB RAM
- 120 GB SSD
- 1366 x 768 display resolution
- two USB 3.0 ports
- Microsoft Excel 2016/2013/2010/2007/2003/XP (32-bit) for template reporting and data export



3D ISOTROPIC STANDARD PROBE COMPATIBLE WITH MFA-110

This specification describes the properties and limits of the standard probe when operated with the MFA-110 Measuring & Analyzing System for Magnetic Fields

3D ISOTROPIC STANDARD PROBE SPECIFICATIONS

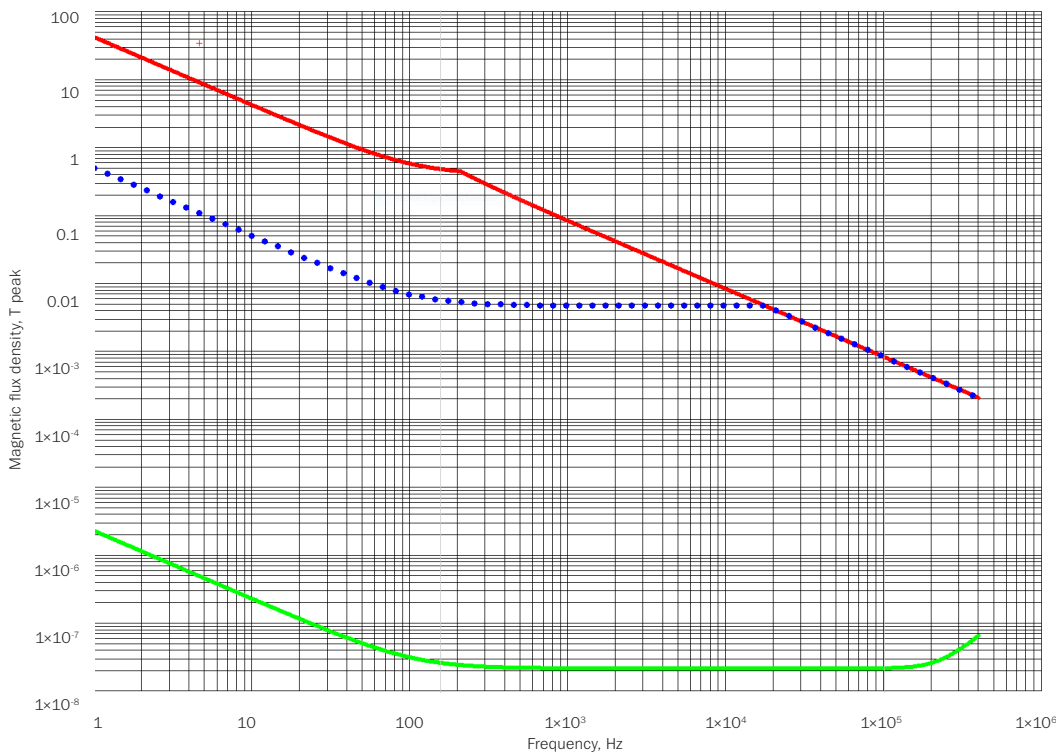
Part number	P3C100Q-01HFM40-K61-2B0-00
Average cross-section area	100 cm ²
Frequency range	1 Hz – 400 kHz
Push-button integrated	yes
Probe outer diameter	132 mm
Probe handle length	165 mm
Cable length	ca. 2.0 m
Probe weight	ca. 0.56 kg
Operation temperature range	0 °C – 40 °C (20 °C – 30 °C for optimal accuracy)
Operation humidity range	5 % – 80 % relative humidity, non-condensing
Storage temperature range	-20 °C – 60 °C
Storage humidity range	5 % – 90 % relative humidity, non-condensing



NEW

MECHANICAL SPACER FOR DIFFERENT STANDARDS

- ✓ 100, 150, 200 mm and custom distances
- ✓ space saving plug-in design



TYPICAL PROBE DAMAGE LIMIT (RED), OVERLOAD LIMIT (BLUE) AND SENSITIVITY (GREEN)



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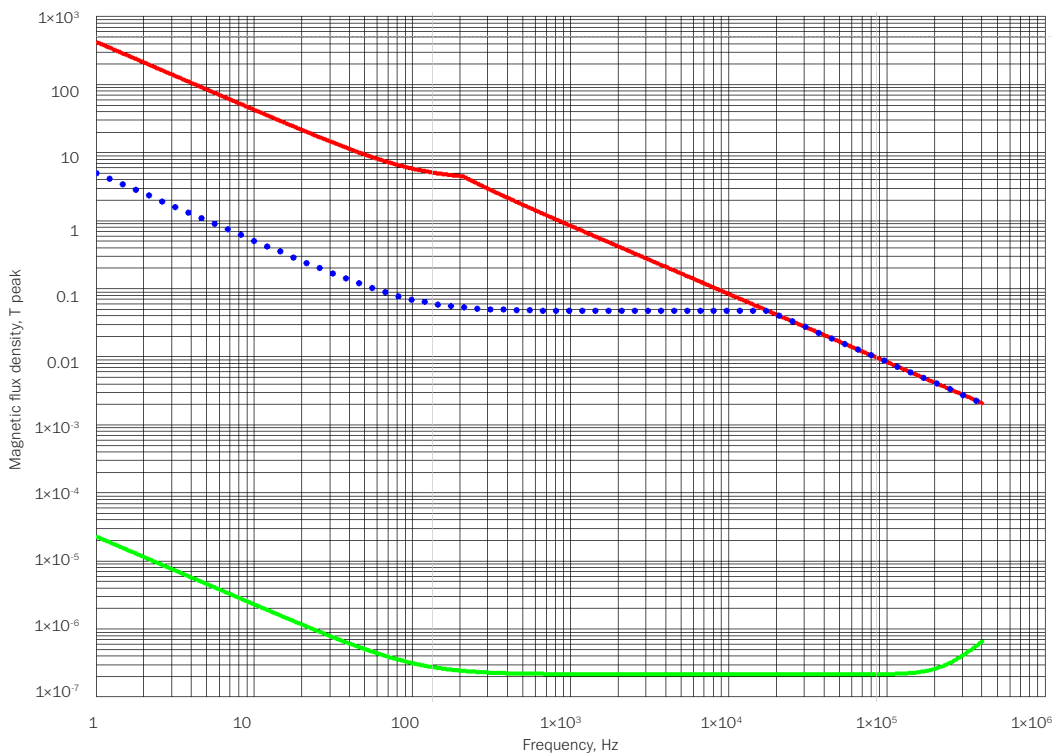
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3D ISOTROPIC SPECIAL PROBE COMPATIBLE WITH MFA-110

This specification describes the properties and limits of the special probe when operated with the MFA-110 Measuring & Analyzing System for Magnetic Fields

3D ISOTROPIC SPECIAL PROBE SPECIFICATIONS

Part number	P3C03Q5-01HFM40-62V-2B0-00
Average cross-section area	3.5 cm ²
Frequency range	1 Hz – 400 kHz
Push-button integrated	yes
Probe outer diameter	30 mm
Probe handle length	165 mm
Cable length	ca. 2.0 m
Probe weight	ca. 0.24 kg
Operation temperature range	0 °C – 40 °C (20 °C – 30 °C for optimal accuracy)
Operation humidity range	5 % – 80 % relative humidity, non-condensing
Storage temperature range	-20 °C – 60 °C
Storage humidity range	5 % – 90 % relative humidity, non-condensing



TYPICAL PROBE DAMAGE LIMIT (RED), OVERLOAD LIMIT (BLUE) AND SENSITIVITY (GREEN)



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