

The C.A 42 is an LF electric and magnetic fieldmeter designed to check the emissivity of any electrical device in accordance with EMC requirements. It also checks the field levels present at a site in the context of international standards governing the protection of individuals in a private capacity or at their places of work.

Clientele

- Suppliers and users of electric power:
 - Electricity manufacturers and users of electrical equipment and household appliances,
 - Railways, Automobile, etc.
- Inspection organizations

Fields of application

- EMC: fields emitted by electrical equipment
- Protection of the individual: check of the values measured by international standards (EN, IEC, etc.)

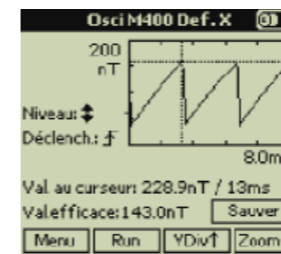
The C.A 42 fieldmeter is specially designed to measure electric and magnetic fields in the low-frequency range (from DC to 400kHz) and compare the measured values to the requirements of European directives and world standards (IEC, EN, DIN, UTE, VDE, BGV, ICNIRP, etc.).

The measurements made by the device are displayed either as absolute values (V/m or T and their multiples and sub-multiples), or as relative values (%) compared to the reference values prescribed by the standards.

The C.A 42 is used in a wide range of domains as well as to the industrial testing of electrical apparatus.

The measurement of the long-term evolution of the fields is performed by the C.A 42. The interval of time between measurements can be

adjusted from 1 to 999 s.



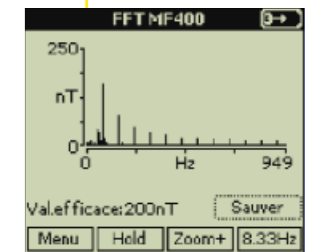
The C.A 42 also represents the variations of the electric or magnetic fields vs. time (oscilloscope function), or the harmonic and non-harmonic frequency distribution by calculation of the FFT.

Oscilloscope function option

- Representation of variations of the mean, RMS, or peak values in one of the 3 axes (x, y, or z) vs. time
- Adjustable time base
- Synchronization: level and polarity of triggering adjustable
- "Hold" function with the use of an adjustable cursor
- Zoom: increase of resolution by a factor between 20 and 40

Frequency analysis (FFT) option

- Representation of the harmonic and non-harmonic components of the observed field, in mean, RMS, or peak value in one of the 3 axes (x, y, or z)
- FFT calculated on 2048 points
- Bandwidth to 3 dB down: 91 kHz (according to the probe)
- Hold function with the use of an adjustable cursor
- Zoom: increase of resolution by a factor of 8



Very simple to use, this fieldmeter has an internal isotropic magnetic measurement probe. Four other isotropic probes are available as accessories: the EF 400 electric field probe (1 V/m to 30 kV/m) and three magnetic field probes, MF 05, MF 400, and MF 400H (10 nT to 1T), one of which measures the earth's magnetic field (MF 05).



Name	C.A 42	MF 400	MF 400 H	MF 05	EF 400
Isotropic probes	Internal	P01.1673.02	P01.1673.03	P01.1673.04	P01.1673.05
Measurement	Magnetic field	Magnetic field	Magnetic field	Magnetic field	Magnetic field
Equivalent area (⊙)		100 cm ²	100 cm ²		
Frequency band to 3 dB down (without filter)	10 Hz to 30 kHz	10 Hz to 400 kHz ⁽²⁾	10 Hz to 400 kHz ⁽²⁾	0 to 500 Hz	5 Hz to 400 kHz ⁽⁵⁾
Measurement dynamic range	200 nT to 40 mT	10 nT to 20 mT	100 nT to 200 mT	1 μT to 1 T	1 V/m to 30 kV/m
Measurement scales		200 nT / 2 / 20 / 200 μT / 2 / 20 mT	2 μT / 20 / 200 μT / 2 mT / 20 / 200 mT	200 μT, 10 mT and 1 T	300 V/m, 3 and 30 kV/m
Precision	±5% ⁽¹⁾ ±4 digits	±3% ⁽³⁾ ±4 digits	±3% ⁽³⁾ ±4 digits	±3% ⁽⁴⁾	⊙
Band-pass filters	From 16,67 to 2000 Hz depending of the probe				
Wide-band filters	According to the standard				
Power supply	Ni-MH batteries	none	none	none	Ni-MH or Ni-CD Batteries
Batterie live	6 h (without back-lighting)	-	-	-	6 to 8 h
Dimensions	266 x 144 x 60 mm	425 x 35 x 118 mm	425 x 35 x 118 mm	316 x 35 mm	Sphere - Diameter 8mm
Length of cable	-	1 m	1 m	1 m	Optical fibre
Mass	950 g	400 g	400 g	260 g	300 g

(1) frequency response ±1%; linearity ±1% et ±3,5% for internal probe ; isotropy ±1% and ±3% for MF 05 and EF 400

(2) with wide-band filter : 2 kHz to 400 kHz with high-pass filter

(3) Band 1 - 10 Hz to 3,2 kHz
Band 2 - RMS 2 kHz HP 5 Hz to 3,2 kHz
Band 3 - RMS wide-band 2 kHz to 400 kHz
5 Hz to 400 kHz

(4) in permanent use

(5) in permanent recording mode with a measurement interval of 1mm

(6) In conformity with the requirements of standards DIN VDE 0848