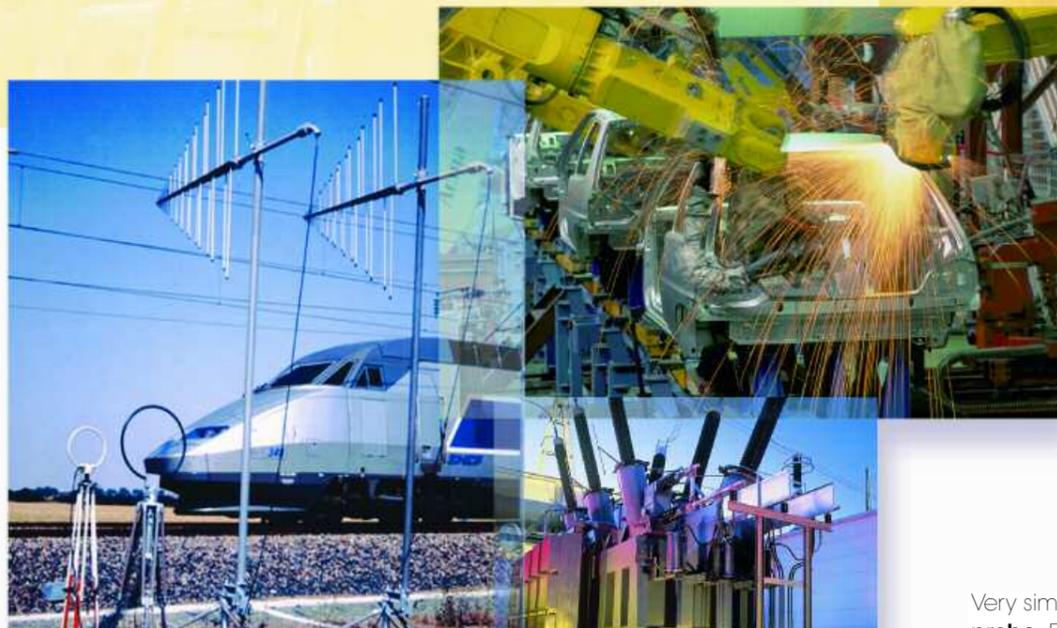




The C.A 42 is an LF electric and magnetic fieldmeter designed to check the emissivity of any electrical device in accordance with EMC requirements. It also checks the field levels present at a site in the context of international standards governing the protection of individuals in a private capacity 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 radiated by electrical equipment
- Protection of the individual: check of the values specified by international standards (ICNIRP, 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.

They apply to the public and private domains as well as to the industrial testing of the electromagnetic conformity of electrical apparatus.

The function of surveillance of the long-term evolution of the fields is performed by recording in automatic mode; the interval of time between measurements can be configured from 1 to 999 s.



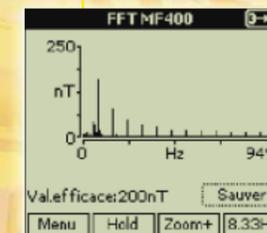
The C.A 42 also represents the variations of the electric or magnetic fields vs. time (oscilloscope function), or the harmonic and non-harmonic frequency distribution by calculation of the FFT.

### 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
<b>Isotropic probes</b>	Internal	P01.1673.02	P01.1673.03	P01.1673.04	P01.1673.05
<b>Measurement</b>	Magnetic field	Magnetic field	Magnetic field	Magnetic field	Magnetic field
<b>Equivalent area (e)</b>		100 cm <sup>2</sup>	100 cm <sup>2</sup>		
<b>Frequency band to 3 dB down (without filter)</b>	10 Hz to 30 kHz	10 Hz to 400 kHz <sup>(2)</sup>	10 Hz to 400 kHz <sup>(2)</sup>	0 to 500 Hz	5 Hz to 400 kHz <sup>(5)</sup>
<b>Measurement dynamic range</b>	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
<b>Measurement scales</b>		200 nT / 2 / 20 / 200 μT / 2 / 20 mT	2 μT / 20 / 200 μT / 2 mT / 20 / 200 mT	200 μT, 10 mT and 1T	300 V/m, 3 and 30 kV/m
<b>Precision</b>	±5% <sup>(1)</sup> ±4 digits	±3% <sup>(3)</sup> ±4 digits	±3% <sup>(3)</sup> ±4 digits	±3% <sup>(4)</sup>	<sup>(6)</sup>
<b>Band-pass filters</b>	From 16,67 to 2000 Hz depending of the probe				
<b>Wide-band filters</b>	According to the standard				
<b>Power supply</b>	Ni-MH batteries	none	none	none	Ni-MH or Ni-CD Batteries
<b>Batterie live</b>	6 h (without back-lighting)	-	-	-	6 to 8 h
<b>Dimensions</b>	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
<b>Length of cable</b>	-	1 m	1 m	1 m	Optical fibre
<b>Mass</b>	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      5 Hz to 3,2 kHz  
 Band 2 - RMS 2 kHz HP      2 kHz to 400 kHz  
 Band 3 - RMS wide-band      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