

## Technical characteristics

- With an isotropic internal probe for measurement of the magnetic field.
- The frequency bands, dynamic ranges, scales, and measurement precisions vary with the isotropic magnetic or electric field probe used.
- Back-lit liquid crystal display (LCD) 160 x 140 pixels.
- Stored evaluation standards: 6 standard, including ICNIRP (Example: BGV B11 Exp.1, 2h/d, Exp.2, DIN/VDE 0848, others optional)

- Surveillance by automatic recording with time interval between 1 and 999 s
- Memory: 1 MB
- Communication: RS232 serial port - Rate from 4,800 to 57,600 Bauds
- Analog outputs (3 channels) standardized: 1 V full scale - 0 to 30 kHz direct: output voltages of the probe
- Operating temperature: 0 to +50°C
- Power supply: by rechargeable internal battery

## To order a C.A 42

in the configuration and with the accessories of your choice, fill in all the boxes of the codification line

Delivered with protective sheath, 230 V line power charger, RS232 cord, Trigger cord, rechargeable battery pack, carrying bag, and LOG42 PC application software.

Without = 0  
With = 1

Quantity	0/1	0/1	0/1	0/P/S/G	0/1	0/1	0/1	0/1	0/1	0/1
C.A 42 - P01.1670.03										
Oscilloscope option										
Frequency analysis option										
Measurement recording option										
Carrying accessories										
0 = none P = small case S = bag G = large case										
Probes										
magnetic MF400										
magnetic MF400 H										
magnetic MF05										
electric EF400										
Spare battery										
Line power charger										
Aluminum tripod										
Trigger cord										
RS232 cord										

## Accessories

### Protection and transport

Small case	P01.1673.07
Large case	P01.1673.08
Bag	P01.1673.09

### Magnetic probes

MF 400	P01.1673.02
MF 400 H	P01.1673.03
MF 05	P01.1673.04

### Electric probe

EF 400	P01.1673.05
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Spare battery	P01.1673.06
Line power charger	P01.1673.13
Aluminum tripod	P01.1673.10

Option : oscilloscope  
frequency analysis  
measurement recording

Trigger cord	P01.1673.11
RS232 cord	P01.1673.12



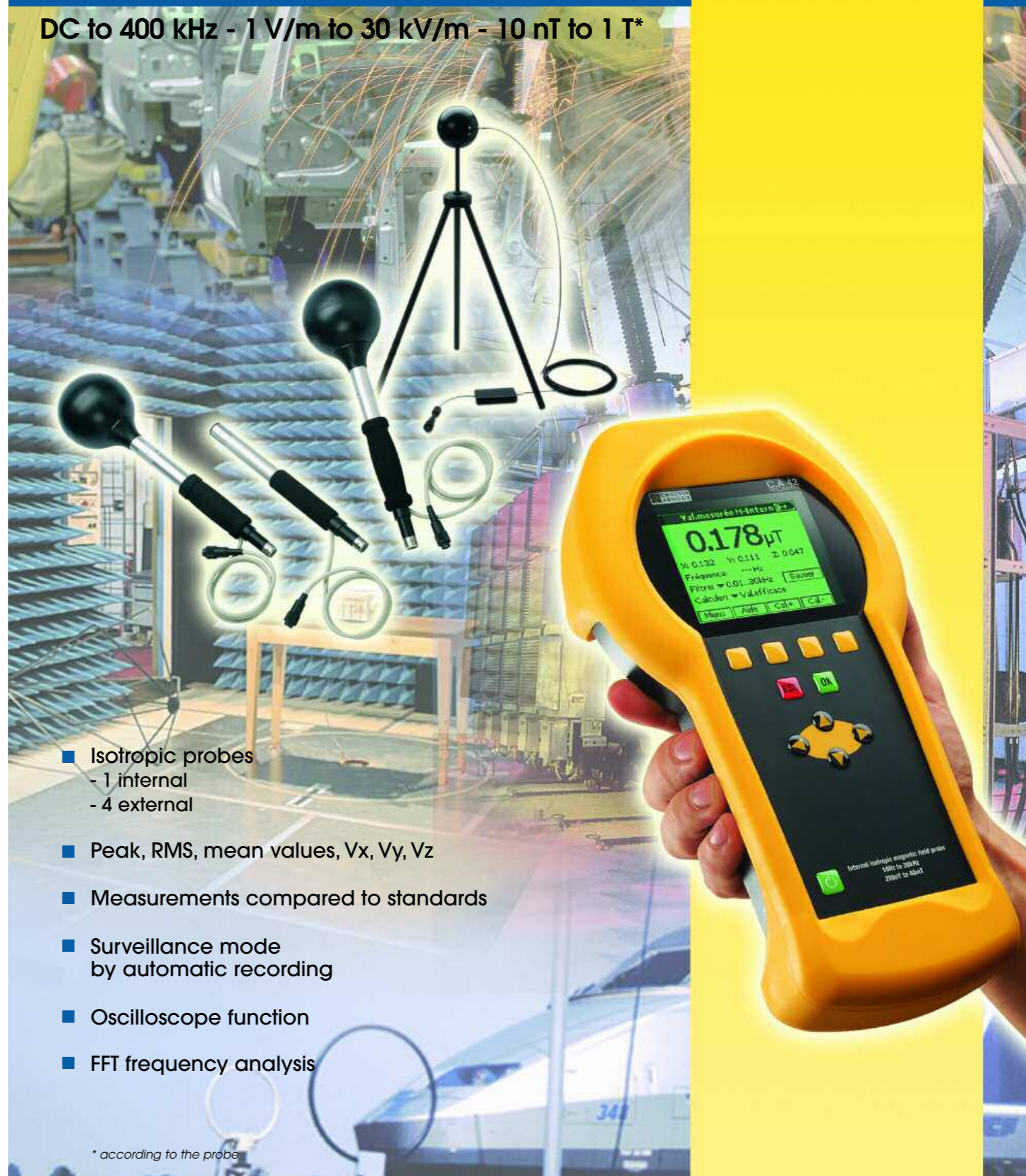
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ARNOUX**  
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# C.A 42

LF fieldmeter

## Control electromagnetic exposure in your environment

DC to 400 kHz - 1 V/m to 30 kV/m - 10 nT to 1 T\*



- Isotropic probes  
- 1 internal  
- 4 external
- Peak, RMS, mean values, Vx, Vy, Vz
- Measurements compared to standards
- Surveillance mode  
by automatic recording
- Oscilloscope function
- FFT frequency analysis

\* according to the probe

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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

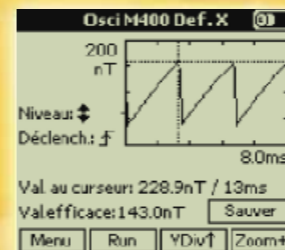
- EMC: fields radiated by electrical equipment
- Protection of the individual: check of the values specified by international standards (ICNIRP, etc.),



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.



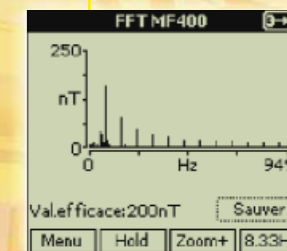
The C.A 42 also represents the variations of the electric or magnetic fields vs. time (oscilloscope function), or the harmonic and non-harmonic frequency distribution by calculation of the FFT.

### 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