C.A 8220 / C.A 8230
Measurement of all power values

› Measurement of very low and very high currents
› Analysis of phase shift and harmonics
› Measurement of motor Inrush current
› Simultaneous access to all measurement modes
› Excellent value for money
The C.A 8230 is designed for self-employed electricians and installers working in the construction industry and maintenance departments. The broad range of measurements which it provides also makes it ideal for technical and technological education. 

Extremely easy to handle, it can be used to test electrical installations, particularly when they include systems based on power electronics. It is suitable for use in the field or on a benchtop thanks to its retractable stand. Ergonomic and equipped with a wide graphic screen, it automatically recognizes the type of sensor connected.

### MAIN MEASUREMENTS

- **Voltage and current with instant display:**
  As well as measuring the TRMS AC+DC value at the half-period, peak values and THD, this instrument also offers instant display of the waveform. Short-term flicker measurement is also available.

- **Comprehensive power and energy analysis:**
  All the measurements necessary for comprehensive power and energy analysis on both single-phase and three-phase systems.

- **Harmonics up to the 50th order:**
  The C.A 8230 can be used to measure up to the 50th order of the different values. In addition, the expert mode allows you to determine the direction of the harmonics.

- **Up to several days’ recording:**
  Up to several days’ recording for all the values measured!

- **Customization of alarm settings:**
  More than 4,000 fully user-parameterizable alarms are available to capture each event.

- **All these measurements are carried out in parallel!**

### INRUSH CURRENT

- Also called the starting current, the Inrush corresponds to the maximum input current drawn by an electrical device when it is powered up. For example, when they are first switched on, AC electric motors may draw several times their normal current at full load.
C.A 8220

Geared firmly towards the world of electrical engineering and the testing of rotating machines, the C.A 8220 wattmeter is designed for companies’ testing and maintenance teams.

With its liquid crystal segment display, the ergonomics of this compact, shockproof instrument’s user interface make it intuitive, simple and comfortable to use.

Like the C.A 8230, the C.A 8220 wattmeter can be used to obtain a snapshot of the main characteristics of a single-phase or balanced three-phase network. In addition, it measures all the quantities required to test rotating machines (rotation speed/temperature). Offering significant accuracy, this instrument covers measurements from a few milli-amperes to several kilo-amperes thanks to a wide choice of sensors.

Rotation speed: for predictive maintenance, it is crucial to check the rotation speed of rotating machines regularly. As an all-in-one instrument, the C.A 8220 meets this requirement simply and effectively.

Temperature: today’s motors and rotating machines are equipped with temperature probes which are easily accessible on a terminal block. The internal temperature of the motor can be measured directly by connecting the C.A 8220 to this terminal block.

SENSORS & CLAMPS FOR CURRENT MEASUREMENT

<table>
<thead>
<tr>
<th>Model</th>
<th>MM93</th>
<th>MH 93A</th>
<th>MA193-250</th>
<th>MA193-350</th>
<th>PAC93</th>
<th>AY93-450</th>
<th>AY93-800</th>
<th>C93</th>
<th>E3N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement range</td>
<td>500 mA to 2000 A</td>
<td>0.005 A to 100 A</td>
<td>10 A</td>
<td>10 A</td>
<td>1 A to 1000 A</td>
<td>6.500 A</td>
<td>1400 A</td>
<td>1 A</td>
<td>50 mA to 100 A</td>
</tr>
<tr>
<td>Clamping Ø / Length</td>
<td>20 mm / 25 mm</td>
<td>20 mm / 25 mm</td>
<td>Ø 240 mm / 250 mm / 350 mm</td>
<td>Ø 245 mm / 450 mm</td>
<td>Ø 250 mm / 700 mm</td>
<td>52 mm</td>
<td>11.8 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEC 61010</td>
<td>600 V CAT III / 300 V CAT IV</td>
<td>9100 V CAT III / 600 V CAT IV</td>
<td>600 V CAT III / 300 V CAT IV</td>
<td>1000 V CAT III / 600 V CAT IV</td>
<td>600 V CAT IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

POWER ANALYZER TRANSFER SOFTWARE

- real-time measurement display
- data retrieval
- processing and analysis of the data saved on a PC
- back-up and export to Excel
- operates with Windows® 7, Vista, XP
- Vista, XP
- available for download free of charge from our internet site (www.chauvin-arnoux.com/support)
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th><strong>C.A 8230</strong></th>
<th><strong>C.A 8220</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voltage range</strong></td>
<td>6 Vrms to 600 Vrms AC+DC ±(0.5 % +2 counts)</td>
</tr>
<tr>
<td><strong>AC current range</strong></td>
<td>100 mA to 6,500 A ±(0.5 % +1 count)</td>
</tr>
<tr>
<td><strong>DC current range</strong></td>
<td>100 mA to 1,700 A ±(0.5 % +1 count)</td>
</tr>
<tr>
<td><strong>Min, Max, Avg, and Peak values (+ and -), CF</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Fundamental frequency</strong></td>
<td>40 Hz to 70 Hz</td>
</tr>
<tr>
<td><strong>Screen</strong></td>
<td>¼ VGA colour LCD</td>
</tr>
<tr>
<td><strong>Single-phase and balanced three-phase</strong></td>
<td>173-segment backlit LCD</td>
</tr>
<tr>
<td><strong>W, VA and var power values, DF, THD, Cos φ</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>varh and VAh energy values, Wh</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Harmonics</strong></td>
<td>Up to 50th order</td>
</tr>
<tr>
<td><strong>Recordings</strong></td>
<td>Up to several days</td>
</tr>
<tr>
<td><strong>Alarms</strong></td>
<td>4.096</td>
</tr>
<tr>
<td><strong>PST flicker</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Inrush</strong></td>
<td>18 s</td>
</tr>
<tr>
<td><strong>Motor rotation speed</strong></td>
<td>— 6 RPM to 120 kRPM ±(0.5 %)</td>
</tr>
<tr>
<td><strong>Temperature (Pt100)</strong></td>
<td>— -200 °C to +850 °C ±(1 % +10 counts)</td>
</tr>
<tr>
<td><strong>Resistance (winding)</strong></td>
<td>— 0.0 Ω to 2,000 Ω ±(0.5 % +2 Ω)</td>
</tr>
<tr>
<td><strong>Phase rotation</strong></td>
<td>Yes, with display of phase order in three-phase systems</td>
</tr>
<tr>
<td><strong>Storage of measurements</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Ambient temperature</strong></td>
<td>23 °C ±3 K</td>
</tr>
<tr>
<td><strong>Relative humidity</strong></td>
<td>45 % ; 75 %</td>
</tr>
<tr>
<td><strong>Protection rating</strong></td>
<td>IP54</td>
</tr>
<tr>
<td><strong>RS232/USB port</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>IEC 61010-1</strong></td>
<td>600 V, Cat. III</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>Batteries, charge life up to 40 hours</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>880 g (with rechargeable batteries)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>211 x 108 x 60 mm</td>
</tr>
</tbody>
</table>

## COMPOSITION

P01160630 : one C.A 8230 instrument supplied with 6 fitted 1.2 V rechargeable batteries, 1 red banana lead (straight-straight), 1 black banana lead (straight-straight), 2 x 4 mm test probes (1 red, 1 black), 2 crocodile clips (1 red, 1 black), 1 mains adapter, 1 optical USB cable and Power Analyzer Transfer software.

P01160620 : one C.A 8220 instrument supplied with 6 fitted 4A batteries, 1 red banana lead (straight-straight), 1 black banana lead (straight-straight), 2 x 4 mm test probes (1 red, 1 black), 2 crocodile clips (1 red, 1 black), 1 optical USB cable and Power Analyzer Transfer software.

## ACCESSOIRES

- 4 mm red and black test probes .................................................. P01295454Z
- Red and black crocodile clips .................................................... P01295457Z
- 4 mm red and black banana/banana leads ................................. P01295451Z
- MN93A BK clamp ....................................................................... P01120434
- MN93 BK clamp ......................................................................... P01120425
- AmpFlex A193 450 mm BK ....................................................... P01120526
- AmpFlex A193 800 mm BK ....................................................... P01120531
- PAC93 BK clamp ....................................................................... P01120079
- C193 BK clamp ......................................................................... P01120323
- Mains adapter .......................................................................... P01160640
- E3N clamp ................................................................................ P01120043A
- C.A 8220 / E3N adapter .............................................................. P01102081
- RPM sensor .............................................................................. P01102082

## ACCESSOIRES

- Optical/USB cable ..................................................................... HX0056-Z
- DataView processing software .............................................. P01102095
- Carrying bag No 5 ................................................................. P011298049

## TO ORDER

- C.A 8230 analyser alone .......................................................... P01160630
- C.A 8230 analyser with MN93A current sensor (120 A) .......... P01160631
- C.A 8230 analyser with AmpFlex 450 flexible current sensor (6,500 A) .................. P01160632
- C.A 8220 analyser alone .......................................................... P01160620
- C.A 8220 analyser with MN93A current sensor (120 A) .......... P01160622
- C.A 8220 analyser with AmpFlex 450 flexible current sensor (6,500 A) .................. P01160630

## YOUR DISTRIBUTOR

### FRANCE
Chauvin Arnoux
190, rue Championnet
75876 PARIS, Cédex 18
Tel : +33 1 46 27 73 89
Fax : +33 1 46 27 73 89
info@chauvin-arnoux.fr
www.chauvin-arnoux.fr

### UNITED KINGDOM
Chauvin Arnoux Ltd
Unit Nelson C, Flagship Sq, Shaw Cross Business Pk
Dewsbury, West Yorkshire - WF12 7TH
Tel : +44 1924 460 494
Fax : +44 1924 455 328
info@chauvin-arnoux.co.uk
www.chauvin-arnoux.com

### MIDDLE EAST
Chauvin Arnoux Middle East
P.O. BOX 60-154
12/A 2020 JAL EL DIB - LEBANON
Tel : +961 1 890 425
Fax : +961 1 890 424
camie@chauvin-arnoux.com
www.chauvin-arnoux.com