MEASUREMENTS		F09 CLAMP	MX 2040 CLAMP	C.A 8220	C.A 8230	C.A 8332B	C.A 8334B	C.A 8352	C.A 8340/42
VOLTAGE	AC	■	■	■	■	■	■	■	■
	DC	■	■	■	■	■	■	■	■
CURRENT	AC	■	■	■	■	■	■	■	■
	DC	■	■	■	■	■	■	■	■
FREQUENCY		■	■	■	■	■	■	■	■
POWER	W	■	■	■	■	■	■	■	■
	VA	■	■	■	■	■	■	■	■
	var	■	■	■	■	■	■	■	■
	PF	■		■	■	■	■	■	■
	DPF/cos φ		■	■	■	■	■	■	■
	tan φ				■	■	■		
ENERGY	Wh		■	■	■	■	■	■	■
	varh			■	■	■	■	■	■
	VAh			■	■	■	■	■	■
HARMONICS				■	■	■	■	■	■
	THD			■	■	■	■	■	■
FLICKER					■	■	■	■	■
	Pst				■	■	■	■	■
	Plt				Soft	Soft	Soft	■	■
	Sliding Plt								■
UNBALANCE						■	■	■	■
INRUSH		Single		Single	Single				Three/ Single
RECORDING			■	Software	■	■	■	■	■
ALARMS					■	■	■	■	■
TRANSIENTS							■	■	■
TEMPERATURE				■					
RESISTANCE		■	■	■					
CONTINUITY		■		■					
PHASE ROTATION	Manuel /Auto	M		M	M	A	A	A	A
MIN/MAX		■	■	■	■	■	■	■	■
PEAK		■	■	■	■	■	■	■	■
General specifications									
Display		4 000 cts	3 000 cts	LCD 173 segments backlit	Colour LCD 1/4 VGA	Colour LCD 1/4 VGA	Colour LCD 1/4 VGA	Colour LCD 10 inch Touch screen	Colour LCD Touch screen
Electrical savety		CAT III 600 V	CAT IV 600 V	CAT III 600 V	CAT III 600 V	CAT IV 600 V	CAT IV 600 V	CAT III 500 V	CAT III 600 V
Associated software			SX DCOM	P.A.T. Dataview®	Dataview®	Dataview® QualistarView	Dataview® QualistarView	P.Q.M.	Dranview®
Communication			Series port	Series port USB	Series port USB	Series port USB	Series port USB	modem, Series port Ethernet	Ethernet, USB Series port via adapter
Dimensions (mm)		193 x 70 x 37	270 x 90 x 50	211 x 108 x 60	211 x 108 x 60	240 x 180 x 55	240 x 180 x 55	360 x 300 x 150	300 x 64 x 203
Weight		260 g	550 g	840 g	880 g	2.1 kg	2.1 kg	4 kg	1.9 kg

F09 fully automatic AC+DC TRMS pocket multimeter clamp

Single-phase and balanced three-phase power.
Voltage, current 400 A-AC/DC.
Multi-purpose format.

State of delivery:
Carrying case, set of 2 leads with test probes, one 9V battery, 1 crocodile clip.

MX 2040 2,000 A power clamp

Measurements on three-phase systems,
Energy metering.
IEC 61010 Cat. IV, 600 V

State of delivery:
3 measurement leads, 3 test probes, 3 crocodile clips, batteries, operating manual.

C.A 8220 "motor maintenance" power analyser

Half-period voltage calculation (EN 50160).
Power analyser Transfer software (P.A.T.) to process the measurements on PC.
Motor temperature measurement.

State of delivery:
6 fitted AA batteries, 1 black banana lead (straight-straight), 2 x 4 mm test probes, 2 crocodile clips (1 red, 1 black), 1 RS232/USB optical lead.

C.A 8230 economical power analyser

Single-phase and balanced three-phase power,
Direct access to the different functions,
Automatic recognition of the type of sensor connected, Recording and capture of events,
Inrush.

State of delivery:
1 carrying bag, 6 accumulators, 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 RS232/USB optical lead and DataViewer® processing software.

C.A 8332B CAT IV/600V

Instant display of network analysis.

State of delivery:
QualistarView software, DB9F optical series lead, 4 banana/banana voltage leads – length 3 m, 4 crocodile clips, 1 mains power lead.

C.A 8334 B CAT IV/600V

Analyser for 3-phase electrical grids and transients (4 MB memory),

State of delivery:
QualistarView software, DB9F optical series lead, 4 banana/banana voltage leads – length 3 m, 4 crocodile clips, 1 mains power lead.

C.A 8340 Electrical grid analyser

Colour touch screen
61000-4-30 Class A

State of delivery:
1 charger mains adapter,
4 insulated male banana/banana voltage leads,
4 insulated crocodile clips, 1 shoulder bag,
128 MB memory card, 1 operating manual.

C.A 8342 electrical grid analyser with high-frequency option

Advanced power analysis.
1 MHz sampling rate.
61000-4-30 Class A.

State of delivery:
1 charger mains adapter, 4 insulated male banana/banana voltage leads, 4 insulated crocodile clips, 1 shoulder bag, 128 MB memory card, 1 operating manual.

C.A 8352 electrical grid quality analyser

Intuitive use.
Working memory expanded to 10 GB on internal hard disk.

State of delivery:
1 carrying bag, 4 current leads, 8 voltage leads, 8 crocodile clips, PC processing software.

DISTRIBUTOR
MCS Test Equipment Ltd
Unit 5-6 Station Yard,
Llanrwst,Conwy,
North Wales,
LL26 0EH

Tel: 08453 62 63 65
Fax: 08453 62 36 16
Email: sales@mcs-testequipment.co.uk

A wide range of clamps are available as accessories (delivered as standard with the instruments or optional). The models must be specified when ordering (Ampflex, MN, PAC and C clamps).

90621145 - Ed. 1 - 11/06 - Non-contractual document. Confirm specifications when ordering.

CHAUVIN ARNOUX GROUP

CHAUVIN® ARNOUX
CHAUVIN ARNOUX GROUP

Test the quality of your electrical installation from A to Z

THE STANDARDS

EN 50160

Defines the measurements required to qualify the voltage delivered by the electrical grid: rms voltage, outages, voltage dips, swells, flicker, frequency, harmonics (up to the 40th order) and three-phase system unbalance.

IEC 61000-4-30

Defines the methods and accuracies for the power quality measurements listed in the EN 50160 standard (rms voltage, outage, voltage dips and swells, harmonics).

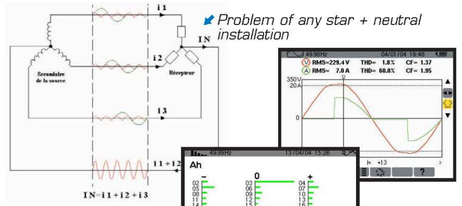
IEC 61000-4-7

Defines the method for measuring harmonics and interharmonics

IEC 61000-4-15

Defines the flicker measurement method including:

- ***Pst short-term flicker indicator:*** Quantitative evaluation of the flicker over a 10-minute period.
- ***Plt long-term flicker indicator:*** Quantitative evaluation of the flicker over a 2-hour period, using 12 successive short-term flicker (Pst) values.



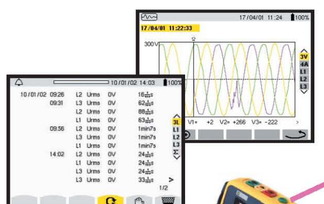
H3 harmonics

Causes: Loads such as a switching power supply, compact fluorescent lamps, etc., connected to a star + neutral installation generate harmonics of order 3 and multiples of 3.

Risks: Fire, untimely tripping of safety systems, etc.

Measurements: THD, THD per harmonic order.

Recommended instruments: C.A 8220, C.A 8230, C.A 8232B/34B, C.A 8340/42, C.A 8352

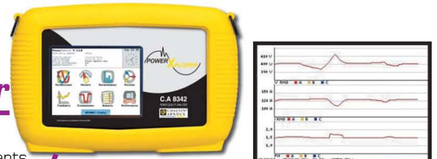


Alarms/Events

Purpose: Detecting and providing notification of a specific event and testing the quality of the electricity supplied.

Risks: Equipment containing digital electronic components is sensitive to micro-cuts, overvoltage, harmonics, disturbance, etc.

Recommended instruments: C.A 8230, C.A 8332B/34B, C.A 8340/42, C.A 8352

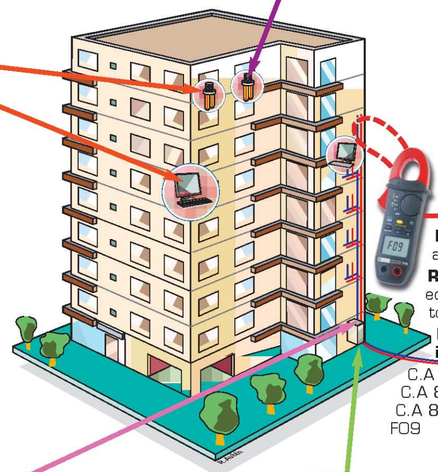


Flicker

Cause: Loads drawing high currents, leading to flickering, frequency variations, etc.

Risks: Medical (malaise, fatigue, headache, etc.)

Recommended instruments: C.A 8230, C.A 8332B/34B, C.A 8340/42, C.A 8352



Power and cos φ (THD)

Purpose: Qualifying an electric current.

Risks: Damage to the equipment connected to the electrical grid.

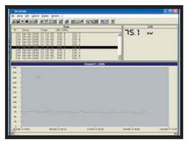
Recommended instruments: C.A 8220, C.A 8230, C.A 8332B/34B, C.A 8340/42, C.A 8352, F09

Reactive power (VAR)

Applications: Non-linear current loads (variable speed drive, switching power supply, etc.).

Risks: Fire, untimely tripping of electrical protection devices, fire, over-billing, etc.

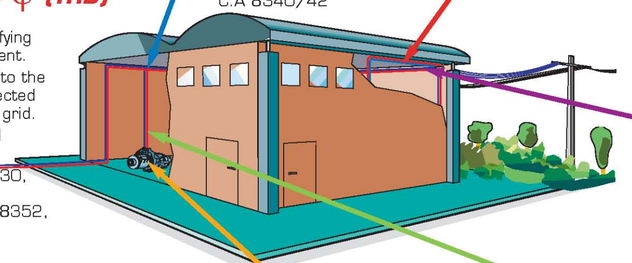
Recommended instruments: C.A 8220, C.A 8230, C.A 8232B/34B, C.A 8340/42, C.A 8352



Power consumption

Purpose: Assessment of power consumption (single-phase and three-phase).

Recommended instruments: MX 2040 clamp, C.A 8230, C.A 8352, C.A 8332B/34B, C.A 8340/42



Rotation speed/RPM

Applications: Motor maintenance.

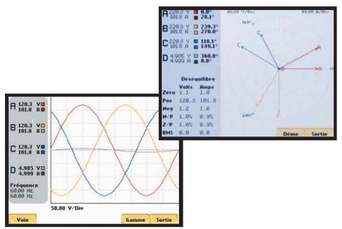
Purpose: Verification of operation (slip: difference between the machine rotation speed and the synchronism speed).

Recommended instrument: C.A 8220

Recording/ Monitoring

Scope: The whole electrical installation.

Recommended instruments: C.A 8230, C.A 8232B/34B, C.A 8340/42, C.A 8352



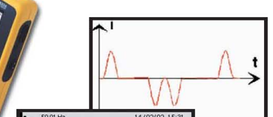
Three-phase grid unbalance

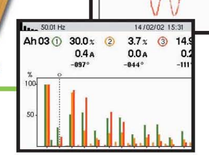
Scope: Electrical distribution.

Causes: Modification of the electrical installation (changes to lighting, heating, etc.).

Risks: Voltage difference between the phases leading to malfunction or ageing of the loads connected.

Recommended instruments: C.A 8340/42, C.A 8352, C.A 8332B/34B





Harmonics

Causes: Non-linear current loads, arc furnaces.

Risks: Untimely tripping of electrical protection devices, fire, etc.

Measurements: THD, % per order.

Recommended instruments: C.A 8220, C.A 8230, C.A 8232B/34B, C.A 8340/42, C.A 8352