CHAUVIN® ARNOUX
CHAUVIN ARNOUX GROUP

C.A 8352

Power Quality Monitor

Keeping up with the standards

Complete electrical network analysis at the tips of your fingers!

- All measurements for complete analysis: powers, harmonics, flicker, symmetry, remote control signals, etc.
- Self-explanatory use
- Touch screen user interface
- Data processing and report publishing software
- Monitoring as per EN 50160 standard
- Network connection

Presentation

- ✔ **Internal memory data storage: 6 months recording capacity**
- ✔ **Navigable, easy-to-use file structure**
- ✔ **Monitoring and network connection capacity**
- ✔ **Protocol write-ups and test report publishing**
- ✔ **Simultaneous function display**
- ✔ **Instrument use simplified with touch screen and Windows™ operating system**

Parameters

Analysis parameters according to EN 50160 standard in effect

- Network frequency
- Supply voltage
- Fast and slow voltage variations
- Short and long interruptions in supply
- Voltage dips and asymmetries
- Harmonic and interharmonic voltages
- Temporary voltage swells at 50 Hz

Flicker analysis

- Flicker analysis as per EN 61000-3 and EN 61000-4-15: short-term (Pst) and long-term (Plt) flicker

Voltage and current analysis

- TRMS and average values
- Peak value and crest factor

Power analysis

- Generated and consumed active power
- Inductive and capacitive reactive power
- Apparent power, power factor, cos φ
- Calculation of energies on each phase

Harmonics break-down up to 50th order

- Harmonics: current, voltage, active and reactive power in relation to the fundamental and in absolute
- Phase shift for each harmonic
- THD: overall and order by order
- Direction recognition for each harmonic order
- Interharmonics spectral analysis

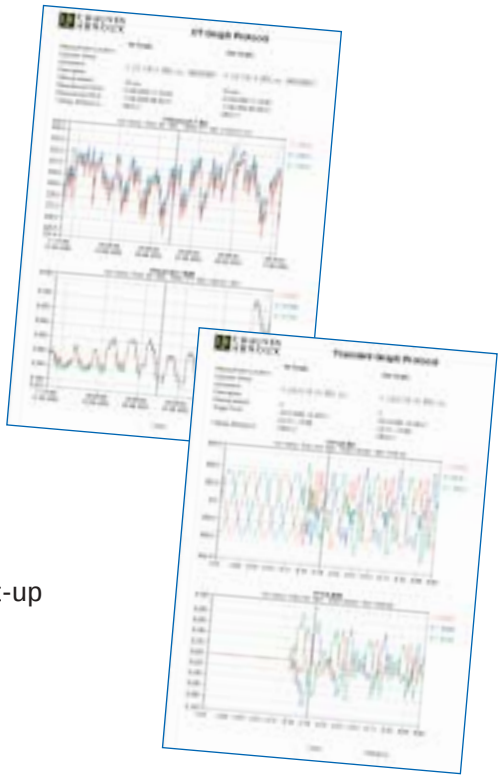
Unbalance and system symmetry analysis

- System symmetry measurement: positive, negative and zero sequence components
- Phase shifting
- Absolute value of voltage and current for the complete spectrum
- Fresnel diagram representation in 3U and 3I
- Overall unbalance of three-phase network

HV network analysis (high voltage)

- Records “short-circuit” events (faultograph function)
- Remote control signal analysis: definition and verification of the frame

Specifications



INPUT SPECIFICATIONS

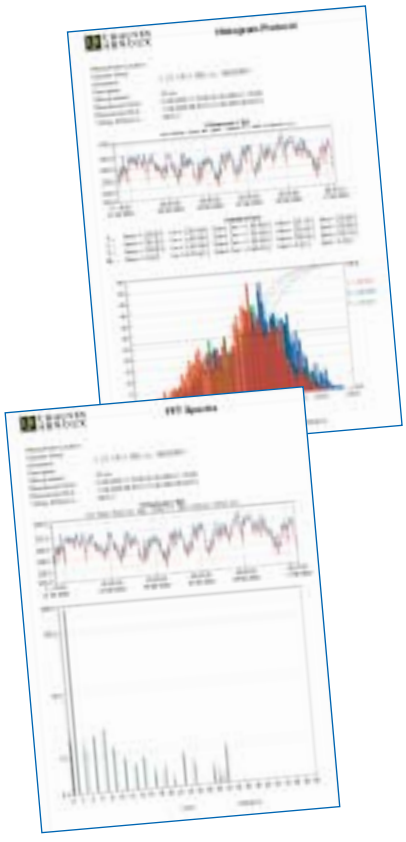
Voltage inputs:	4 channels up to 2 kVpp
Current inputs:	4 channels, range depends on sensors used: MN 95: 0.2 to 6 A C145 clamp: 2 to 1200 A AmpFLEX A195: 25 to 3000 A Accuracy: < 1%
Analogue inputs:	Up to 16 channels, max.1 Hz (optional) For recording environmental conditions, depending on the application
Binary input:	1 external 24 VDC channel for recording start-up
With transient option:	1 binary output, dry contact, 100 V max (for “transient triggering” status) 1 external 24 VDC binary input (for “transient triggering” mode start-up)

Making reports

A4 report print out of analyzed data for selected time windows

MAIN SYSTEM

Main processor:	256 Mbyte RAM for recording start-up
Working memory:	10 Gbytes
Display:	10" LCD color screen
User interface:	touch screen
Equipment interface:	1 USB port for keyboard, 2 x RS232 ports: data logger (optional), printer, binary I/O
Sampling rate:	9.6 kHz/channel maximum (38.4 kHz in transient mode, be it 25 µs)



GENERAL SPECIFICATIONS

Analysis standards met:	EN 50160 EN 61000-2, -3, -4 EN 61000-4-15 EN 61000-4-30
Electrical safety:	IEC 61010-1, 500 V, category III pollution degree 2

ENVIRONMENTAL CONDITIONS

Operating temperature:	-10°C to +50°C
Storage temperature:	-20°C to +70°C
Relative humidity:	10% to 90% (with no condensation)
Dimensions:	360 x 300 x 150 mm
Weight:	4 kg
Supply voltage:	85 to 135 VAC and 180 to 265 VAC

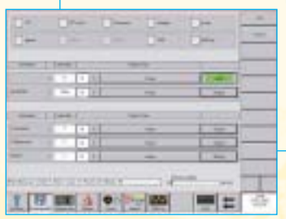
COMMUNICATION

Via modem as per publication: CCITT V90 56 kbds
Via Ethernet

Functions

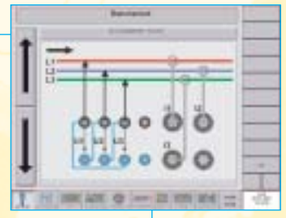
General set-up

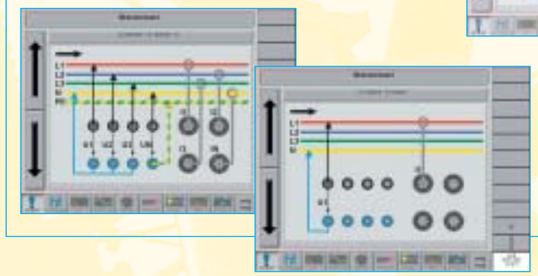
- User I.D. information
- Saving the set-up used for each set of measurements
- Configuring the "data recording" mode



Input configuration and connection

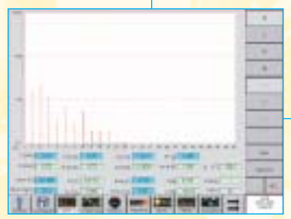
- Single and three-phase network (3 or 4-wire)
- Current sensor configuration (AmpFLEXTM, C and MN clamps)
- Direct input possible up to 5 A



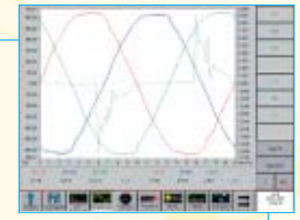


Harmonics analysis

- Graphic representation of harmonics and interharmonics: current, voltage and power
- Harmonic current direction recognition (IN or OUT)



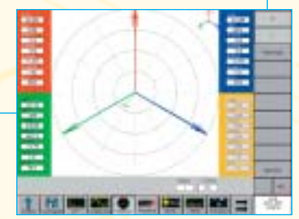
Oscilloscope mode



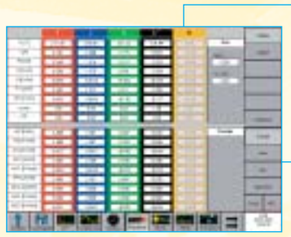
- 4 voltages and 4 currents
- Graphic waveform representation

Vector scope

- Voltages, currents and harmonics
- Phase connection and rotation verification
- Rundown of different measurements on each phase



Monitoring power and energy



- Tabulated voltage, current, power, and energy
- Min, max, and average value monitoring
- Power profile display

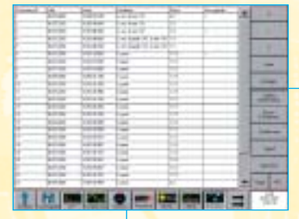
Flicker meter

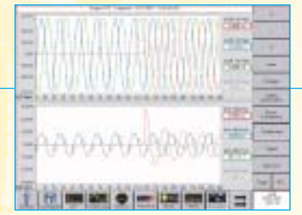
- Graphic representation over time
- Short-term flicker
- Long-term flicker

Monitoring voltage

- Voltage fluctuation representation with value/standard report
- Monitoring as per EN 50160 standard
- Changing threshold values
- DISDIP representations

Recording transients





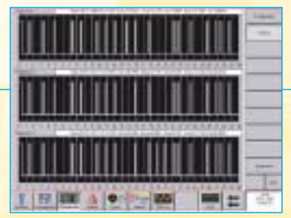
- Monitoring
- Waveform recording for 10 seconds
- Event summary table
- Event time-stamping and duration
- 1 binary input for triggering the recording externally

Data logger

- Data logger module
- 8 configurable analogue inputs: 4-20 mA current or 0-10 V voltage
- 8 configurable thermocouple inputs: J, K, T…
- Frequency: 1 Hz

Checking remote control signals

- Remote control signal tracking and recording
- Measurement on the 3 phases
- Graphic display of the frame: starting date
- Max and Average U and I of received signal



Symmetry analysis

- Measurement on three-phase network
- Zero, positive, and negative sequence and RMS current and voltage
- Unbalance factor in U and I

RMS hp mode

- Recording of Min, Max values in U and I calculated on a 1/2 period (10 ms) during an integration period
- ITIC, CBEMA table

Remote communication

For data display and recovery:
- Using an external modem
- Communication via Ethernet network

PC software

- Data processing
- Report publishing
- Printing out graphs and tables
- Exporting data to spreadsheets (Excel™, …)

TO ORDER

To order the instrument configured to your needs, fill out the boxes in the order form below

Power Quality Monitor code C A 8 3 5 2 ☐☐☐☐☐☐☐ ☐☐ ☐☐ ☐

Standard instrument includes harmonic analysis, oscilloscope mode, vector scope:
standard model supplied with carrying bag, 4 current leads (5 A max.),
8 voltage leads, 8 crocodile clips, data processing software CD ROM,
USB cable, plus all options marked in the order form.

Optional functions

Put a 1 to order a function (0 to leave it out)

- Power analyzer, RMS hp ..... 0 or 1
- Flicker meter, Quality analyzer ..... 0 or 1
- Transient recorder ..... 0 or 1
- Data logger ..... 0 or 1
- Remote control signals ..... 0 or 1
- Power 2: symmetry, impedance ..... 0 or 1
- Remote drive via modem ..... 0 or 1

Current sensors

- None ..... X X
- Set of 4 x C145 clamps (1000 A - Ø 52 mm) ..... C X
- Set of 4 x AmpFLEX A195 (3000 A - Ø 140 mm / length 450 mm) ..... A 1
- Set of 4 x AmpFLEX A195 (3000 A - Ø 250 mm / length 800 mm) ..... A 2
- Set of 4 x MN95 clamps (5 A - Ø 20 mm) ..... M N

User manual languages

- French (by default) ..... F R
- English ..... G B
- German ..... A L
- Italian ..... I T
- Spanish ..... E S

2P+E mains supply lead

- French, German or Spanish (by default) ..... F
- English ..... G
- Italian I
- Swiss C

ACCESSORIES

- 4 current leads (maxi 5 A) P01.2951.84A
- 4 x C145 clamps (1200 A) P01.1203.19A
- 8 voltage leads (4 blue, 4 black) P01.2951.83
- 4 x AmpFLEX A195 800 mm (3000 A) P01.1205.20
- 4 x AmpFLEX A195 450 mm (3000 A) P01.1205.19
- 4 x MN95 clamps (5 A) P01.1204.29
- 1 USB connecting cable P01.2951.85
- Carrying bag P01.2980.34

COMPLEMENTARY ORDERS

Optional functions to add to those already on your instrument can be ordered.
Be sure to include the instrument's serial number in the order form.

O P T ☐☐☐☐☐☐☐ Serial number ☐☐

Power analyzer, RMS hp ..... 0 or 1
Flicker meter, EN 50160 analyzer ..... 0 or 1
Transient recorder ..... 0 or 1
Data logger ..... 0 or 1
Remote control signals ..... 0 or 1
Power 2: symmetry, impedance ..... 0 or 1
Remote drive via modem ..... 0 or 1

YOUR DISTRIBUTOR

906 211 068 • Ed 1 • 01/04. Caracteristics subject to modifications according to technological developments.
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Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

UK Office
Keison Products,
P.O. Box 2124, Chelmsford, Essex, CM1 3UP, England.
Tel: +44 (0)330 088 0560
Fax: +44 (0)1245 808399
Email: sales@keison.co.uk