

Power  
quality  
monitor

Keeping up with the standards

# Complete analysis of electrical networks at the tips of your fingers!

**C.A 8350**

- All the measurements needed for complete analysis of power, harmonics, flicker...
- Self-explanatory use
- Touch screen user interface
- Data handling and report publishing software

VDcom switchboard (Verger-Delporte Group) Novergie

CE

 **CHAUVIN  
ARNOUX**

# Presentation

- *Data storage in internal memory: up to 6 months recording capacity*
- *Navigable easy-to-use file structure*
- *Aptitude to monitoring and network connection*
- *Writing up of protocols and publishing of test reports*
- *Simultaneous display of functions, for effective visualisation of network parameters*
- *Real-time synchronisation via external clock input*

*Using the instrument is made simple with the Windows™ operating system and touch screen.*



## Parameters

*Analysis parameters according to EN 50160*

Network frequency  
Supply voltage  
Fast and slow voltage variations  
Short and long interruptions to supply  
Voltage dips and asymmetries  
Harmonic and inter-harmonic voltages  
50 Hz transient overvoltages

*Voltage and current analysis*

TRMS and average values  
Peak value and peak factor

*Power analysis*

Total active power and active power of fundamental frequency  
Total reactive power and reactive power of fundamental frequency  
Apparent power and power factor  
Harmonics: current, voltage, active and reactive power

*Break-down of harmonics up to 50th order*

Voltage: measurement of absolute  $H_n$  and of  $H_n$  / fundamental  
Current: measurement of absolute  $H_n$  and of  $H_n$  / fundamental  
Phase shift of each harmonic  
THD: overall and order by order  
Recognition of the direction of each harmonic order

*Spectral analysis of inter-harmonics*

Active, reactive and apparent power  
Systems with direct, inverse and homopolar components  
Phase shift  
Absolute value of voltage and current for the complete spectrum  
Voltage and current vector diagrams

*Flicker analysis*

Flicker analysis according to EN 60868, EN 61000-3 and IEC 868:  
Short (Pst) and long-term flicker (Plt) measurement  
Average flicker on each phase  
Max. instantaneous flicker

*HV network analysis*

Registering of "short-circuit" events (fault recorder)  
Network voltage symmetry  
Power and frequency oscillation

# Functions

## General set-up

- User I.D. information
- Saving of the set-up used for each set of measurements

## Input configuration and connections

- Single-phase network
- 3 or 4-wire three-phase network
- Scale modification depending on the current sensors (Clamps, AmpFLEX™) and voltages measured
- Direct input possible up to 5 A

## Harmonic analysis

- FFT representation of voltage and current
- Harmonic and inter-harmonic representation
- Recognition of harmonic current direction (IN or OUT)
- Statistical analysis

## Oscilloscope mode

- 4 voltages and 4 currents
- Auto-trigger
- Auto-scaling

## Vector scope

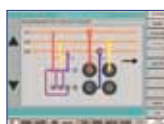
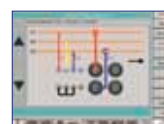
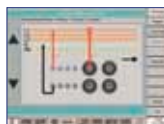
- Voltage, current & harmonics
- Auto-scaling
- Verification of phase connection and rotation
- Rundown of different measurements on each phase

## Power & energy monitoring

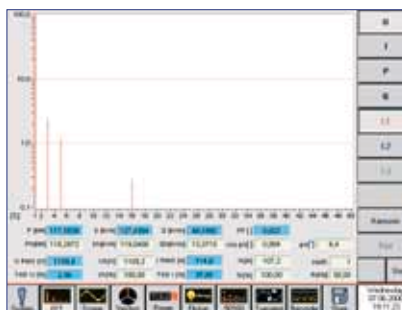
- Tabulated voltage, current, power and energy values
- Monitoring of min, max and average values
- Display of power profile



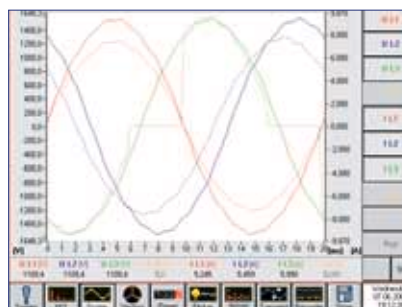
Quick and simple set-up



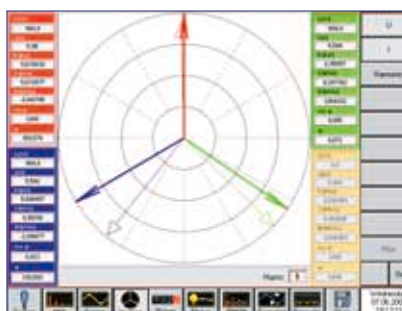
Connection diagrams



Complete harmonic analysis



8-channel oscilloscope



Vector scope

Param	Unit	Value	Min	Max	Avg	Energy
V1 (V)	V	230.0	228.0	232.0	230.0	0.000
V2 (V)	V	230.0	228.0	232.0	230.0	0.000
V3 (V)	V	230.0	228.0	232.0	230.0	0.000
I1 (A)	A	10.0	9.5	10.5	10.0	0.000
I2 (A)	A	10.0	9.5	10.5	10.0	0.000
I3 (A)	A	10.0	9.5	10.5	10.0	0.000
P (W)	W	2300	2200	2400	2300	0.000
PF		0.95	0.90	1.00	0.95	0.000
Q (var)	var	100	0	200	100	0.000
W (Wh)	Wh	0.000	0.000	0.000	0.000	0.000

Power & energy analysis



# Specifications

## Input specifications:

Voltage inputs: 4 channels up to 2 kVpp  
(1.5 kVrms isolation)

Current inputs: 4 channels, range depending on sensors:  
Clamp C145: 0.1 ... 1 200 A  
AmpFLEX A195: 0.5 ... 3 000 A  
Accuracy: <1%

Analogue and digital inputs: Up to 20 channels, optional  
(max. 1 Hz)  
Depending on application, for recording  
of environmental conditions

## Main system:

Processor: 500 MHz Intel® Pentium®

Memory: 6 GB shock-mounted HDD,  
128 MB RAM

Display: 7.5" (19 cm) colour LCD screen

User interface: Touch screen

Equipment interface: 2 USB ports for keyboard, printer  
or modem connection...

Sampling rate: 6.4 kS/s per channel  
(25 kS/s in transient mode, i.e. 40 µs)

## General specifications:

Meets following analysis standards: EN 50160  
IEC 1000-2, 1000-3 and 1000-4  
EN 60868, EN 61000-3  
IEC 868

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% (without condensation)

Dimensions: 360 x 300 x 150 mm

Weight: 4 kg

Supply voltage: 85 ...135 Vac and 180 ... 265 Vac

## Report creation

Printing of A4 reports of data analysed  
over selected time frames.

