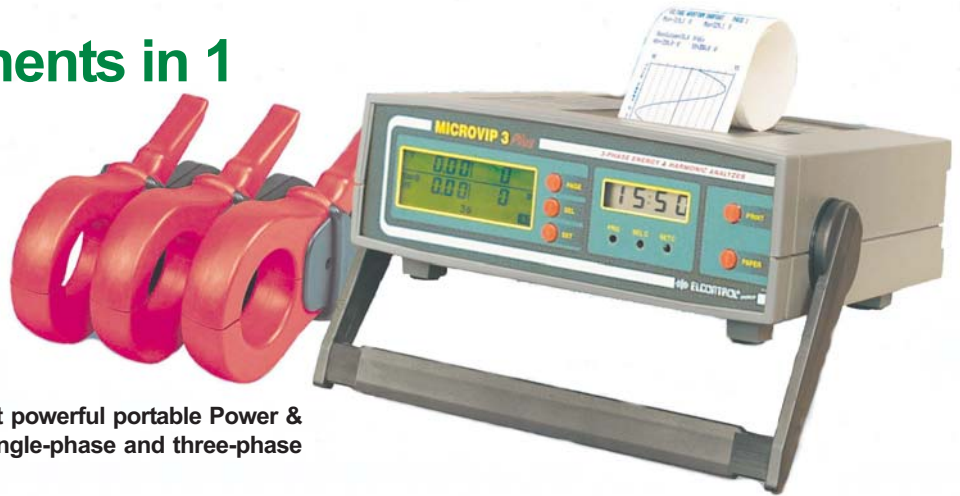


# MICROVIP3 PLUS Power & Harmonics Analyser

189 instruments in 1



**Microvip3 Plus is a compact but powerful portable Power & Harmonics Analyser for both single-phase and three-phase systems.**

The crisp high-contrast backlit LCD displays True-RMS values for up to 33 parameters, while the large 1MB on-board memory allows data storage over extended survey periods including waveform capture for current and voltage.

The on-board, programmable 42 columns graphic printer adds visualization of additional 156 parameters of data including V&I harmonics to 24th order with both DC component and displacement factor, and waveform/harmonic bar chart printout with manual or time-based printout.

The integrated high-speed RS232 serial port and the included PC software Microwin add further power to Microvip3 Plus, allowing full graphical display and analysis of all measurement data, both with real-time connection or by downloading the internal memory. Clear, graphical reports have never been easier to produce!

## Main Features:

- AC and DC Measurements
- Built-in printer for measurements and graphs
- Integrated Harmonic Analysis up to the 24th order
- Integrated 1Mb Flash Memory
- Rs232 port for PC connection
- Windows software included
- Cogeneration (4-Quadrant) energy counters
- High accuracy (class 1,0)
- Mains or Battery operation

## Main Technical Data:

- Power supply  
Mains:  $230 \pm 10\%$  at 50 Hz or 60 Hz (115V version available)  
Internal: Rechargeable 940mAh Ni-Cd battery.  
Expected lifetime: 500 cycles  
Recharge time: 24h  
Autonomy: 7h
- Inputs  
Voltage: L1 - L2 - L3 - N: 600 Volt AC between phase and neutral @ 0+ 600 Hz; or 600 Volt DC  
Input Impedance: 4M $\Omega$
- Current: L1 - L2 - L3: 1 Volt AC at 0 + 600 Hz  
Input Impedance: 10k $\Omega$
- Display  
LCD with backlight.
- Accuracy Class 1.0 (EN 62053-21)
- Overload of voltage inputs: Max 625 Vrms - Peak voltage 825 Volt (cut-out tripped at 720 Vrms)
- Overload of current inputs: 5 times full scale value (cut-out tripped at limit values)
- Number of scales: 3 voltage scales, 3 current scales
- Automatic scale change
- Scale change response time: 1,2 sec.
- Display refresh rate: 1 sec.
- Internal Memory: 1Mb non-volatile Flash
- Instrument dimensions: 251 x 239 x 104 mm.
- Weight 2.900 Kg.
- Operative temperature range: -10°C +50°C
- Storage temperature range: -20°C +60°C
- Relative Humidity Range (RH%): 20% - 80%
- Condensation: not allowed

## Purpose and Use:

The MICROVIP3 PLUS is intended for use by electrical power users who need to obtain an in-depth knowledge of their plants and systems. It is also extremely useful for plant engineers, installers, maintenance engineers and electricians in fault diagnosis and in the adjustment and repair of active electrical plant.

The MICROVIP3 PLUS allows to:

- Control loads and consumption;
- Reduce overloads and power loss;
- Check on the correct sizing of new plant entering service;
- Prevent overheating and insulation problems;
- Solve power factor correction problems;
- Identify and eliminate load peaks and associated power problems;
- Check 400 Hz naval plants and 600 Hz aeronautical plant;
- Check uninterruptable power supplies with AC inputs and DC outputs;
- Measure asymmetrical signals from PWM controllers.

## Standards and Regulations

Microvip3 Plus conforms to Directive 73/23/CEE (LVD) and 2004/108/CE (EMC). It has been designed with reference to EN 61010-1, EN 61326 including append. A1/A2/A3, EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-3/A1, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-5/A1, EN 61000-4-6, EN 61000-4-6/A1, EN 61000-4-8, EN 61000-4-8/A1, EN 61000-4-11, EN 61000-4-11/A1.

PARAMETERS	TOT	L1	L2	L3	N
Phase-neutral Voltage [V]	•	•	•	•	
Phase-phase Voltage [V]		L1-2	L2-3	L3-1	
Current [A]	•	•	•	•	
Power Factor	•	•	•	•	
Frequency [Hz]		•			
Active Power [kW]	•	•	•	•	
Reactive Power [kvar]	•				
Apparent Power [kVA]	•				
Maximum Demand Active Power [kW]	•				
Maximum Demand Reactive Power [kvar]	•				
Maximum Demand Apparent Power [kVA]	•				
Positive (Imported) Active Energy [kWh]	•				
COG-negative (Expo) Active Energy [kWh]	•				
Positive Reactive Energy [kvarh]	•				
COG-negative Reactive Energy[kvarh]	•				
Apparent Energy [kvah]	•				
Current Thd%	•	•	•	•	
Voltage Thd%	•	•	•	•	

## MICROVIP3 PLUS KIT



### MICROVIP3 PLUS-KIT

KIT complete with:

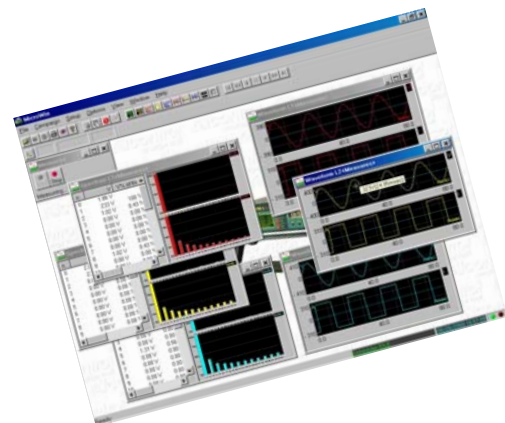
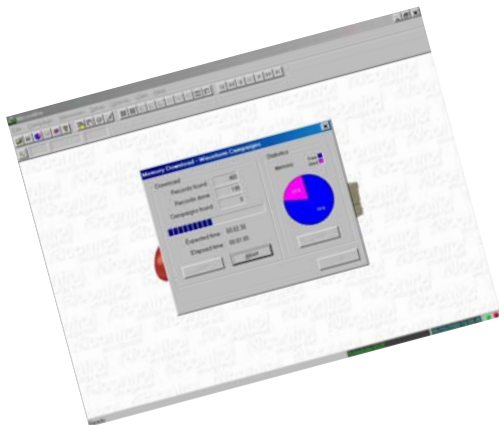
- n.1 MICROVIP3 PLUS
- n.1 Microvip3 Plus carrying case
- n.1 Set of voltage meas. leads with crocodile clips
- n.1 Microwin software Windows
- n.1 power supply cable
- n.1 RS232 PC cable
- n.1 Roll of printer paper (spare)
- n.1 Ink ribbon (spare)
- n.2 Fuses 5x20 80mA (spare)
- n.1 Warranty certificate
- n.1 Calibration certificate
- n.1 User manual

# MICROWIN - Software for MICROVIP3 PLUS

Data management software for Windows 9x/NT/2000/XP developed for MICROVIP 3 Plus harmonics and power portable analyzers.  
Included with MICROVIP3 PLUS KIT



MicroWin allows real-time reading and display of all instrument measures or performing measuring campaigns in two modes: Manual or Automatic. Graphical display includes measuring trends over time, the waveforms and the harmonic spectrum of voltages and currents, etc.

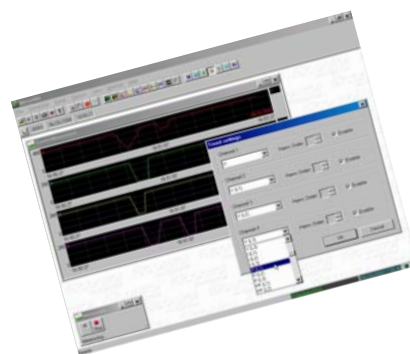


MicroWin allows downloading, classifying and archiving of any measuring campaign stored in the instrument's internal memory. These campaigns are processed in the same way as the numeric or waveform campaigns run on a PC by MicroWin in Remote mode.

Moreover, you can create waveform campaigns displaying the three-phase voltages and currents in Graphic mode. In the Harmonics spectrum display, all Voltage, Current and CosPhi measures for all the harmonics available on the instrument (0-24) appear both in numeric and in percentage values calculated on the basis of the first harmonic.



During a campaign it is possible to display the real-time measuring trend for up to four measures.



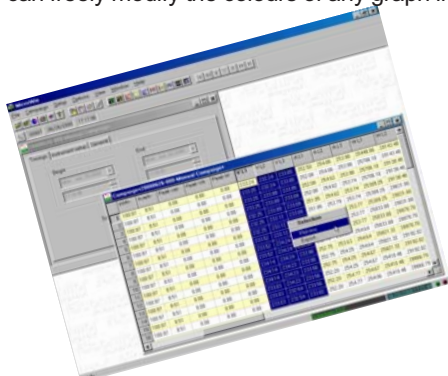
MicroWin allows real-time selection of the number of tracks to be displayed and the type of measure of each channel.



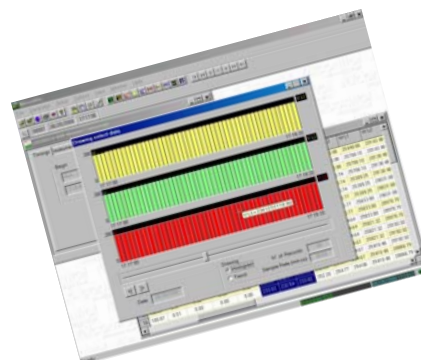
The user can freely modify the colours of any graph in the program.



The Print preview shows a preview of the print output for each window.



For a detailed analysis of the measuring campaign in off-line mode all campaign records are available in an EXCEL-style spreadsheet.



From the spreadsheet, historical data can be graphed up to a maximum of four measures. Besides, the user can freely select the measures and records to be displayed.



Configuring campaigns is a very intuitive procedure. MicroWin simply provides one Configuration window, where all the basic parameters (such as date and time of campaign start and end, the frequency time, the instrument setup and a descriptive label for each measuring campaign) are set.



It is possible to have access to the scheduler at any time, so as to add, modify or delete measuring campaigns.

# ACCESSORIES

## CURRENT CLAMPS FOR PORTABLE ANALYSERS

Types	Ref.	Description	Star3 Din	Dmm3	Ed39 Din	Sirio	Vip Energy	Vip Mem	Star 3	Vip 396	Vip 96	Vip 96 Plus	JUPITER	Vip System3	Microvip3 Plus	Microvip3	Nanovip-Plus	Nanovip-Plus Mem
PINZA-10A/1VAC	4AABM	CLAMP CT 10A/1V-AC											●	●	●	●	●	●
PINZA-200A/1VAC	4AAR1	Clamp CT 200A/1V-AC											●	●	●	●	●	●
PINZA-1000A/1VAC	4AAWS	Clamp CT 1000A/1V-AC											●	●	●	●	●	●
PINZA-3000/1-D6	4AAC3	Clamp CT 3000A/1A-AC (to be used with INTA/1)											●	●	●	●	●	●
PINZA-400A/0.4V-40A/0.4V-AC-DC	4AABU	Clamp CT 400A/1V-AC/DC (to be used with ADAPTA)												●	●	●	●	●
PINZA-1000A/1V-100A/1V-AC-DC	4AABW	Clamp CT 1000A/1V-AC/DC (to be used with ADAPTA)												●	●	●	●	●
AMPFLEX-1000A/1VAC-45CM	4AAQB	Flexible Current Transformer 1000A - length 45 cm											●	●	●	●	●	●
AMPFLEX-1000A/1VAC-80CM	4AAQC	Flexible Current Transformer 1000A - length 80 cm											●	●	●	●	●	●
AMPFLEX-3000A/1VAC-80CM	4AAQD	Flexible Current Transformer 3000A - length 80 cm											●	●	●	●	●	●
AMPFLEX-3000A/1VAC-120CM	4AAQE	Flexible Current Transformer 3000A - length 120 cm											●	●	●	●	●	●
3 AMPFLEX-1000A/1V	4AABN	Set of three Flexible Current Transformer 1000A L=61cm. one amplifier											●	●	●	●	●	●
PINZA_LMA-DIAM55	4AADM	Clamp CT for leakage current measurement												●				
PINZA-10/1V-AC-DC	4AASA	Clamp CT PR20 (to be used with ADAPTA)												●	●		●	●

## INTERFACES AND ADAPTERS FOR MEASURES INPUTS

ADAPTA-1V/1V	4AACQ	Clamp CT connectors adapter 1V/1V											●	●	●	●	●	●
INTA/1	4AABB	Converter 1A to 1V for CT with 1A output											●	●	●	●	●	●
INTA/5	4AABD	Converter 5A to 1 V for CT with 5A output											●	●	●	●	●	●
SEPA/5X1	4AAER	Galvanically isolated converter 5A/1V											●	●	●	●	●	●
DSC-400VAC	4AANY	Delta Star CONVERTER input max 400V											●	●	●	●		
DSC-MT	4AAC4	Delta Star CONVERTER for input max 100V for PT output											●	●	●	●		
DSCD 2	4AAHG	Delta Star CONVERTER input max 700V din rail											●	●	●	●		

## ACCESSORIES AND CONVERTERS FOR SERIAL COMMUNICATION

INTERFACE-OF-RS232	4AAFH	Kit with 5m of OF fibre+Adapter 25/9 pin + converter OF/232															●	
CONVERT.OF/RS232-9P	4AAFQ	MONODIRECTIONAL RS232-OF SIGNAL CONV.															●	
RS485-SIGNAL REPEATER	4AAJY	bi-directional amplifier for RS485 serial line	●	●	●	●	●	●	●	●	●	●						
PC-485-BOX 220 VAC	4AAK4	RS232-RS485 signal converter	●	●	●	●	●	●	●	●	●							

## SOFTWARE

Energy Studio Manager		Software Energy Studo Manager. see description at page 3.	●	●	●	●	●	●	●	●	●	●						
STARLIGHT	4AA9X	easy to use monitoring sw. 128 instr. WIN 9.x/2000/XP Italian-English	●	●	●	●	●	●	●	●	●	●						
VIP VISION - 32-IT/UK	4AATG	SCADA sw up to 32 instruments; Win 9.x/NT4	●	●	●	●	●	●	●	●	●	●						
VIP VISION-247- IT/UK	4AATH	SCADA sw up to 247 instruments; Win 9.x/NT4	●	●	●	●	●	●	●	●	●	●						
PQ STUDIO	4AAXT	Software for JUPITER Win 9X/NT/2000, 5 languages											●					
VIP SYSTEM3 SOFTWARE	4AATB	Software for VIP SYSTEM3 Win 9X/NT/2000, 5 languages												●				
NANOWIN	4AARQ	Software for NANOVIP PLUS Win 9.X, NT, 2000,XP ; 5 Languages															●	●
MICROWIN	4AASK	Software for MICROVIP3PLUS; Win 9.X, NT, 2000,XP ; 5 Lang.													●			

# ACCESSORIES

## CABLES

			Star3 Din	Dimm3	Ed39 Din	Sirio	Vip Energy	Vip Mem	Star 3	Vip 396	Vip 96	Vip 96 Plus	JUPITER	Vip System3	Microvip3 Plus	Microvip3	Nanovip-Plus Mem	Nanovip-Plus	
CONNET. CAVO DISPER.	4AAAM	SHIELDED CONNECTION CABLE for black box Ima												●					
CAVO-MISURA-1000V	4AABG	Voltage LEADSET for meas. up to 1000Vrms without crocodiles												●	●	●	●	●	●
CAVI-MISURA-1000+COCCOD	4AAQQ	Voltage LEADSET for meas. up to 1000Vrms with crocodiles												●	●	●	●	●	●
CAVO-RS232-EPSON	4AACW	Connection cable System3 to serial printer.												●					
CAVO-RS232-IBM-PC-XT	4AACF	PC Connection cable 25 pin												●	●	●	●	●	●
CAVO-RS232-IBM-PC-AT	4AAL5	PC Connection cable 9pin												●	●	●	●	●	●
CAVO-RS232-MODEM	4AACN	Connection cable VIP SYSTEM 3 with modem												●					
CAVO-ADAPT-25P-9P	4AACM	ADAPTER RS232 9pin female/25 pin male												●	●	●	●	●	●
CAVO CENTRONIC	E1ADV	CENTRONICS standard cable												●					

## JUPITER ACCESSORIES

			Star3 Din	Dimm3	Ed39 Din	Sirio	Vip Energy	Vip Mem	Star 3	Vip 396	Vip 96	Vip 96 Plus	JUPITER	Vip System3	Microvip3 Plus	Microvip3	Nanovip-Plus Mem	Nanovip-Plus	
COMPACT FLASH 512Mb	4AA XV	Compact Flash Memory Card 512Megabyte												●					
COMPACT FLASH 1Gb	4AA XW	Compact Flash Memory Card 1Gigabyte												●					
ADD. BATTERY PACK	4AA XU	Package of 10 rechargeable NiMH batteries type AA												●					
AMPFLEX 1000A 80CM	4AA XX	Flexible Current Transformer 1000A-80cm, with direct connection												●					

## BLACK BOXES AND MEMORY PACKS FOR VIP SYSTEM3

			Star3 Din	Dimm3	Ed39 Din	Sirio	Vip Energy	Vip Mem	Star 3	Vip 396	Vip 96	Vip 96 Plus	JUPITER	Vip System3	Microvip3 Plus	Microvip3	Nanovip-Plus Mem	Nanovip-Plus	
MEMORY-PACK-128K	4AABF	Memory for Measurements Surveys												●					
MEMORY-PACK-512K	4AADJ	Memory for Measurements Surveys												●					
MP-PI-1	4AACP	Parallel Interface for Memory Pack Reading from Pc												●					
BLACK-BOX-CENTRONICS	4AACX	Box for Connection To External Parallel Printer												●					
BLACK-BOX-COGENERAT.	4AAES	Measures of Exported Energy Counters (Cogeneration)												●					
BLACK-BOX-HARMONICS	4AADG	Harmonic Analysis												●					
BLACK-BOX-LMA	4AACA	Measures of Leakage Current												●					
BLACK-BOX-GEN.USE	4AAD3	Measurements from the Analog Inputs												●					

## OTHER ACCESSORIES

			Star3 Din	Dimm3	Ed39 Din	Sirio	Vip Energy	Vip Mem	Star 3	Vip 396	Vip 96	Vip 96 Plus	JUPITER	Vip System3	Microvip3 Plus	Microvip3	Nanovip-Plus Mem	Nanovip-Plus	
COCCODRILLO-GRIP-C	4AABY	Voltage crocodile probe up to 1000V(AC-DC).												●	●	●	●	●	●
CORNICE VIP ENERGY	4AAF2	Flush mounting frame for panel meters 9 din	●	●	●		●												
CORNICE SIRIO	4AAF8	Flush mounting frame for panel meters 4 din				●													
ALIMENTATORE	4AAQI	POWER SUPPLY for Nanovip Plus PLUS MEM																●	
FBC2	4AACT	Fast Battery charger 230VAC for Vip System 3												●					

## CURRENT TRANSFORMERS

### CURRENT TRANSFORMERS /5

wide range of current transformers 5 Amps output available.  
Models : bus bar ; cables ; split core; summation; miniature.

contact EEN