

# G4500 BLACKBOX Portable Power Quality Analyzer



**EXCLUSIVE**  
Patented Technology

- No Triggers  
No Thresholds
- Records All Network  
Parameters for up to  
a Year
- Never Miss Another  
Event
- The Ultimate Tool for  
Definitive Root-Cause  
Analysis

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*Absolutely Identify All Power Quality Events*



[www.elspec-ltd.com](http://www.elspec-ltd.com)



# G4500 BLACKBOX Portable

*POWER QUALITY in HIGH DEFINITION*

Built on the same innovative technology as the BLACKBOX fixed Power Quality Analyzer (PQA), the Elspec G4500 BLACKBOX Portable, with its continuous onboard waveform logging, is the most advanced power quality meter on the market. The G4500 BLACKBOX has the power to determine the root cause of all Power Quality (PQ) issues, so plug it in and never miss another event. The wireless BLACKBOX Portable, coined *POWER QUALITY (PQ) in HIGH DEFINITION*, logs and stores all information all the time for more than a year at high accuracy, allowing no gaps in data recording. With a built-in 802.11b/g access point and built-in Ethernet router, the BLACKBOX Portable allows remote analysis from anywhere.

All-inclusive Single Line-item Package



Flexible AC Current Clamps (4)



G4500 BLACKBOX Portable Unit



DC Voltage Leads (2)



AC Voltage Leads (5)



Durable Carrying Case

Elspec G4150 Mobile Analysis Lab  
Graphically display and control all G4000 series power quality analyzers and historically logged data.

- Integrated PQSCADA software
- Investigator application
- Automated device discovery tool
- Wireless network
- Color LCD touch screen
- Full Tablet PC functionality



Full Documentation & PQSCADA Software

## BLACKBOX Portable Features

- No Thresholds / No Missed Events: Continuous 1+ year cycle by cycle logging of all network parameters
- Capture Everything: Cycle by Cycle RMS values, frequency, harmonics, and trends
- Sampling Rate: Voltage up to 1024 Samples per Cycle  
Current up to 256 Samples per Cycle
- Quickly Retrieve Data: Built-In Web server for remote monitoring using standard Web browser
- Integrated I/O & Compression

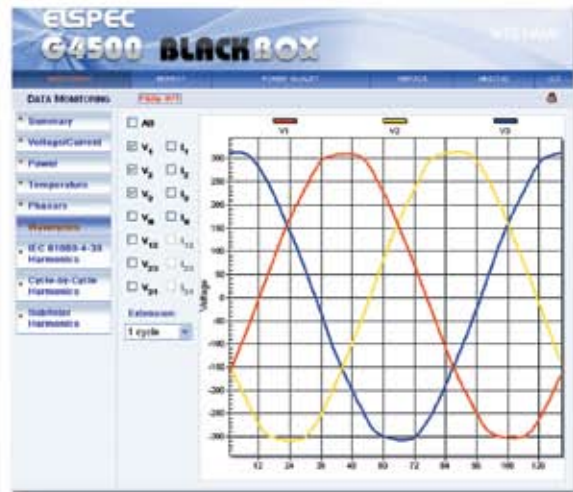
## G4150 Mobile Analysis Lab

Elspec reserves the right to change the model of the Tablet PC without notification.

- Rechargeable Power Supply: Built-in battery with up to 2 hours of stand-by power
- Plug and Play: Automatic setup with self-identifying probes
- Remote Connectivity and Diagnostics: Wireless 802.11g access point
- Software Included: PQSCADA and Investigator analysis software with Automatic EN50160 and customized report generation
- Standard Compliance Testing to EN50160, IEC6100-4-15

## Comprehensive Web Server for Local and Remote Real-Time Monitoring

Integrated Web server in BLACKBOX devices allow direct and comprehensive real-time monitoring and control of all electrical network parameters.



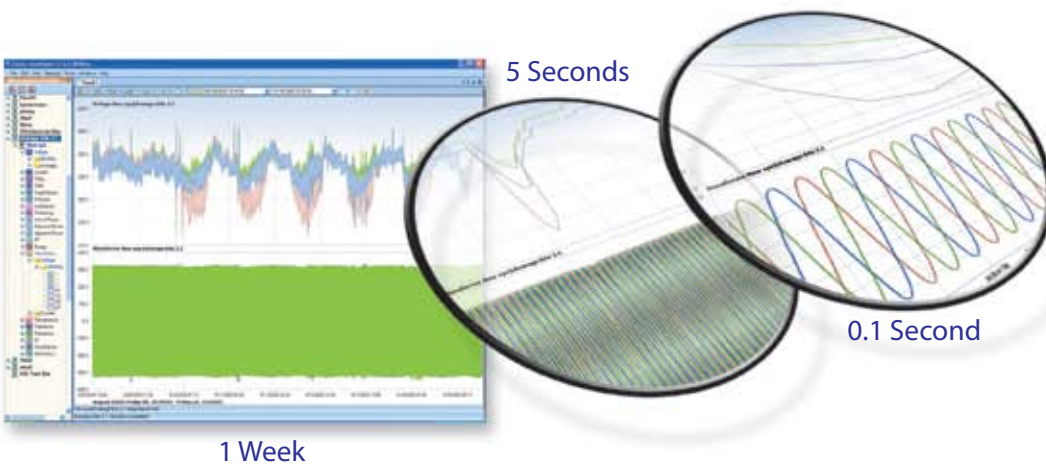
- Intuitive and easy to operate graphical Web screens
- Reachable via any location
- Monitoring and managing network data can be performed using the Web interface.



## PQSCADA Investigator - Cutting-Edge Analysis Software

By effectively processing enormous amounts of logged network data, the PQSCADA Investigator provides an immediate, understandable picture of everything that happens within the network. All selected parameters from single or multiple measuring points are presented on one synchronized time line, offering operators a clear and instant graphical view of everything that occurred within the network in a selected timeframe.

Full continuous data logging of electrical signals from multiple locations simultaneously



Zoom in and out from a year's worth of data to a millisecond's worth with just one click.



# ELSPEC G4500 BLACKBOX Portable



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## Technical Specifications

Product Specifications	
Input Channels	11 Measurement Channels: 4 AC Voltage 4 AC Current 1 DC Voltage 1 DC Current 1 Temperature
Power Supply	85-260VAC/2A, 120-370VDC 35-55VDC Up to 25 second ride-through Super Capacitor
Rated Voltage (Direct Voltage Readings) AC/DC	1KV RMS AC/ Up to 1KV DC
Dimensions (H x W x D) Unit Alone w/ Packaging	250x 60x300 / 425x240x400 mm.
Weight Gross/Net	6.25Kg./3.7 Kg.
Life Expectancy	10 Years
Basic Accuracy	Better than 0.1%
Current Clamps	Auto Detected
AC Voltage Clamps Fuse Rating	500mA/1000V
Fuse Ratings/Types Replacement	Same Fuse Type Only
RoHS Compatibility	Full
Battery backup	2 Hours
Environmental Specifications	
Intended Use	Indoor
Operating Temperature Range	Working Temperature: 0 to 50° C Storage Temperature: (-20) to 60° C
Maximum Relative Humidity	85%
Altitude	Up to 2000 Meters
Pollution Degree	2
Installation Categories	II
Real Time Measurements	
Sampling Rate(all channels simultaneously or concurrently)	Voltage: 1024 samples per cycle Current: 256 samples per cycle
Harmonics (Individual, Even, Odd, Total)	Voltage up to H511 Current up to H127
Inter-Harmonics	According to the standard 61000-4-30
Measurement during Overloading	x 10
Type of Analog to Digital Converter	16 bit
Data and Waveform Logs	
Time Stamp Resolution	LAN Ethernet (Good link) or GPS+PPS: 50
Internal Memory	32 GB
Firmware Limit for continuous data and waveform capture	Unlimited
Power Quality Analysis	
Transient detection	19.5/16u sec.
Communications and I/O	
Ethernet Ports	3 x 10/100Mb Fast Ethernet Ports, Integrated Router
Power Over Ethernet (PoE)	Available as output, 13Watt
Wi-Fi Interface	802.11 b/g with External Antenna
Serial Interface	1 x RS-232, 1 x RS-485
Digital I/O	4 x 5-24VDC digital Inputs
Relay (Dry Contacts)	1 x Change Over – Form C
Compact Flash	PCMCIA
Display	Mobile Analysis Lab with Full Capabilities of a Tablet PC
Communication	Internet, Intranet, GPRS, 3G, Dialup Modem
Synchronization	SNTP, IRIG-B, GPS, Self (RTC)

Note: 19bit – The hardware contains dual High & Low AFE circuits – each uses 16bit A2D. The difference between is x10 GAIN. This dual circuitry is combined per each measurement input and therefore creates more than 19bit effective A2D range.

Note: Specifications are subject to change without notification. For current standards compliance, contact Elspec technical support.

## The Elspec Product Family Features:

**Equalizer:** real-time power quality enhancement system for optimal power quality

**Activar:** power factor correction unit of unlimited transient-free operations

**G4000 BLACKBOX:** accurate detection and isolation of power anomalies facilitating effective, preventive maintenance

**G4500 BLACKBOX Portable:** portable power quality analyzer for in-depth site analysis

**PQSCADA:** measurement and analysis software for evaluating complex data in graphical format

**Iron Core Reactors:** harmonic filtration

**MKP Capacitors:** low-loss for reactive energy compensation



## About Elspec

Elspec is a global leader in providing power quality solutions for the commercial, industrial and utility markets. Since 1988, Elspec has been developing and marketing comprehensive electrical power quality solutions, cutting edge electrical network analysis, and management technologies that enable companies to optimize network efficiency and energy savings.

