

WHEN POWER MEETS QUALITY



VOLTAGE DROP
COMPENSATION &
ENERGY SAVING IN THE
RECYCLING INDUSTRY

CASE STUDY



The recycled packaging industry plays a significant role in food safety and convenience markets. Packaging production utilizes an exceptional amount of recycled content in Europe and around the world. To keep this success going, the recycled packaging industry must strike and constantly maintain a fine balance between sustainability, performance, and cost.



Huhtamaki is a leading Nordic packaging company operates in 38 countries and 114 locations around the world. Huhtamaki recycled packaging plant at the Czech Republic experienced micro-outages on the electrical network. Their machines showed frequent failures caused by voltage drops. They decided to approach Elspec.

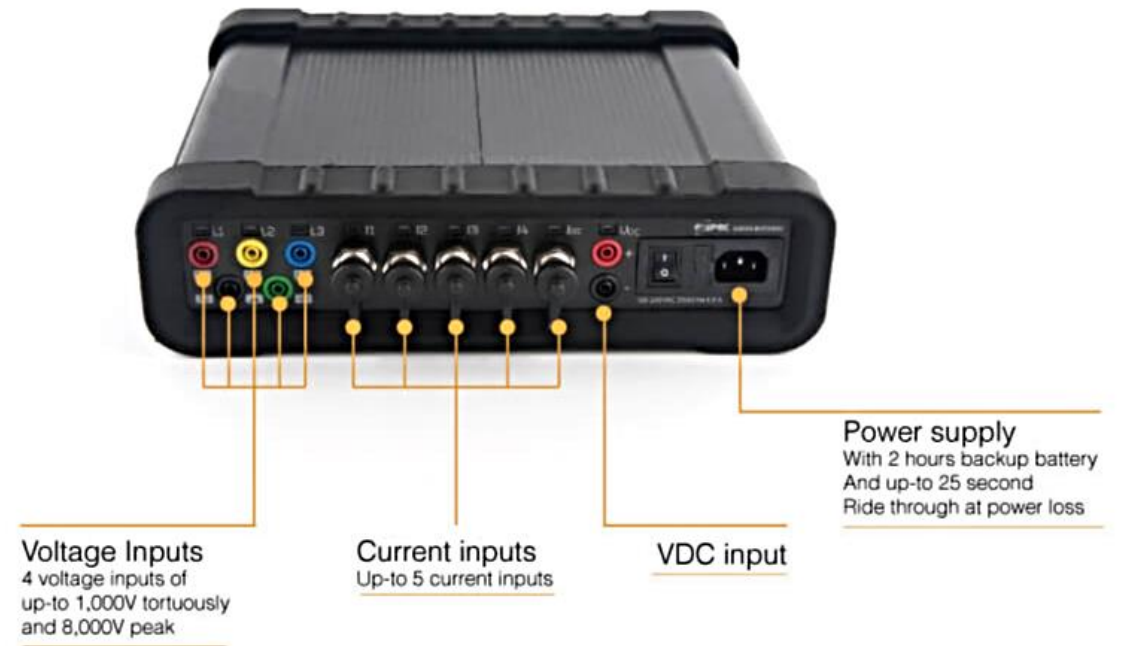


Making an in-depth power quality audit using Elspec BlackBox G4500 portable analyzer

- Records **5,000** power parameters continuously
- At a resolution of **½ cycles, 10/12 cycles, 150/180 cycles, 10 min and 2 hours**
- Exceeds memory limitations - The only solution with the ability to measure, store & analyze continuously waveform signals with no memory limitations
- Comply with IEC 61000-4-30 CLASS A



ELSPEC G4500 PQ PORTABLE ANALYZER



- Voltage Drops Reduction - comes mainly from the operation of production machines with peak current consumption and causes instability of the plant's internal network.
- Energy Saving need



- Transient-free, electronically switched Power Quality Solution and Factor Correction System
- Full power disturbance compensation in less than 2/3 cycle (typically 5 to 20 milliseconds at 50 Hz)
- Transient free smooth switching by connecting capacitors at zero-crossing
- Comprehensive Power Quality Analyzer
- Self-testing and comprehensive reporting feature
- Eliminates voltage drops
- Includes harmonics filtration
- Reduces voltage flickering & fluctuations
- Prolongs machinery lifetime
- Improves production quality



Installing the Equalizer reactive power compensation system led to:

- Electrical network stability improved significantly.
- Machine failures caused by voltage drops were eliminated.
- In the longer term, machine malfunctions have decreased.
- Higher-than-expected energy saving was achieved.



- Based on these results, the customer ordered additional reports for additional transformers, which revealed additional energy saving opportunities from merging the production facilities power supply to transformers.
- The merger saved one transformer for the future construction of a new production hall.
- The installation of additional Equalizer systems and the additional activities that were mentioned above, increased the production efficiency.

The ability to produce the same product at a lower cost placed this plant in the 2nd place at performance of all the plants under the customer's holding.

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