



P O W E R B O X C O M P A N Y P R E S E N T A T I O N



A P O W E R S U P P L Y M A N U F A C T U R E R

*The definition of a power converter is;
a voltage and current converter enabling
electrical equipment to operate.*

A dedicated supplier of power converters to professional markets

Products manufactured by Powerbox, may be generically classified as power supplies or power converters, and are essential component parts in all modern electronic systems and equipment. The power supply converts electrical energy from the public mains or a battery into precisely controlled power requirements for each specific application.

The power supply also has an important roll to play in protecting the equipment to which it is connected, and ensuring the safety of the user. Powerbox has extensive experience of the engineering principles involved and the requirements of all international safety approval agencies.

Product development is undertaken at any of several R&D centres in Europe, the United States, Australia or Asia, and subsequent assembly takes place at one of several world class contract manufacturers utilising the latest production technology and a highly skilled work force. Throughout the manufacturing process, quality control and environmental concerns are under the continuous control of specialist Powerbox engineers.

Our knowledge and experience, combined with the skill and motivation of our employees, ensures our position as one of the world's leading power supply companies.



A P P L I C A T I O N S

Telecom
Computers
Process control
Industrial control
Instrumentation
Robotics
Commercial
Automotive
Medical
Testing
Military
Development

*With hundreds of man years
experience of designing power
supplies there is practically no
application beyond our capability.*

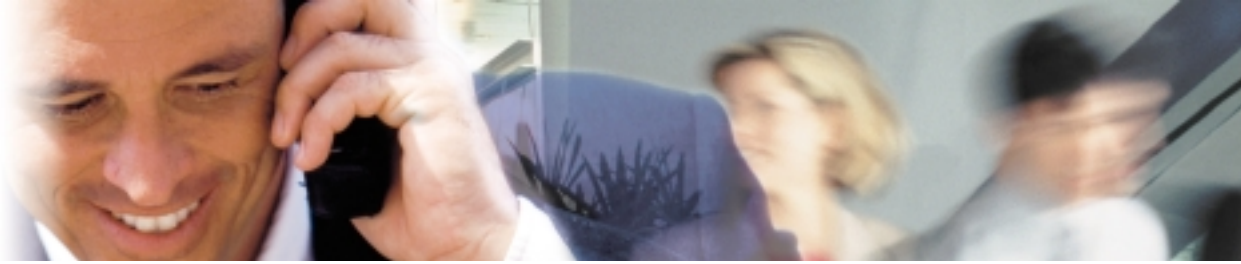
Professionally manufactured products for demanding applications

Electronic products and systems cover a very broad spectrum of industrial, telecommunication, IT, medical and military applications, but have one thing in common. All have precisely defined requirements for voltage, current, power, and performance to ensure reliable and continuous operation.

In selecting a suitable power supply it is essential to ensure that the characteristics of the power supply are correctly matched to those of the application. For example, in the medical sector where the continuous operation of a power supply can be a matter of life and death, both safety and reliability issues are major concerns.

Another example is in telecommunication applications where interference with other electronic equipment is essential thus radiated and conducted noise must be controlled within internationally agreed limits, and reaction to externally generated magnetic fields must be minimal.

More than one hundred man years of experience in power conversion technology is your guarantee that Powerbox will always provide an optimal power solution regardless of the complexity of the application, or the demanding requirements of its subsequent production.



C U S T O M E R S

ABB
ADtranz - Bombardier
Alcatel
Alfa Lavel
British Telecom
Deutsche Bank
Ericsson
Hewlett-Packard
Hunter-Douglas
IBM
Kongsberg
Lucent
Marconi
Motorola
NEC
Nokia
Philips
Rolls Royce
Saab
Siemens
Thomson
Volvo

*In partnership with our customers, find
the optimal power converter solution
in terms of price, performance,
deliver, quality and environment.*

Longterm partnership built on mutual trust and benefits

Many years of experience in power supply design has taught Powerbox the value of partnership. In fact we would go so far as to say that partnership is a necessity to achieve our aim of producing optimal power conversion solutions. This can only be achieved in a close and lasting relationship built on mutual trust and professional respect.

Our experience shows that the earlier our involvement in a project, the better and more cost effective the final solution. Our customers span a wide sector of the market, from the price sensitive office and IT sector, to performance sensitive applications in heavy industry.



I N T E R N A T I O N A L

Europe

Sweden

Norway

Denmark

Finland

Netherlands

Germany

Great Britain

France

Spain

Italy

North America

USA

Pacific

Australia

New Zealand

Asia

Singapore

We believe that the best service is provided by knowledgeable people who understand the cultural, economical, political and religious climate in their own country, and who speak the language. Our goal is to provide local service world wide.

Local solutions for global markets

Based on its skilled, experienced organisations in Europe, USA, Australia and Singapore, Powerbox is uniquely placed to support its world wide production and service obligations.

The concept of establishing local offices with local people has proved to be very successful and has contributed to the rapid growth of the Powerbox group today, and during the past decades. This achievement has been acknowledged by the award “Europes 500”, issued by the EU commission in recognition of Powerbox’s status as one of the top 500 growth companies in Europe.

The human resources – our most important asset

Human resources are the company’s most valuable asset. Experience combined with regular training for everyone

develops personal competence and strengthens the company’s knowledge base. This powerful combination provides the essential personal and corporate qualities which are necessary to meet the challenging demands of power supply marketing and manufacture.

Each individual at Powerbox has a personal development plan and is given both the encouragement and the opportunity to advance their personal and professional skills. Through training and personal development we strive to ensure, that corporate and individual goals are aligned; that teamwork is emphasised, and that “job satisfaction” is achieved.



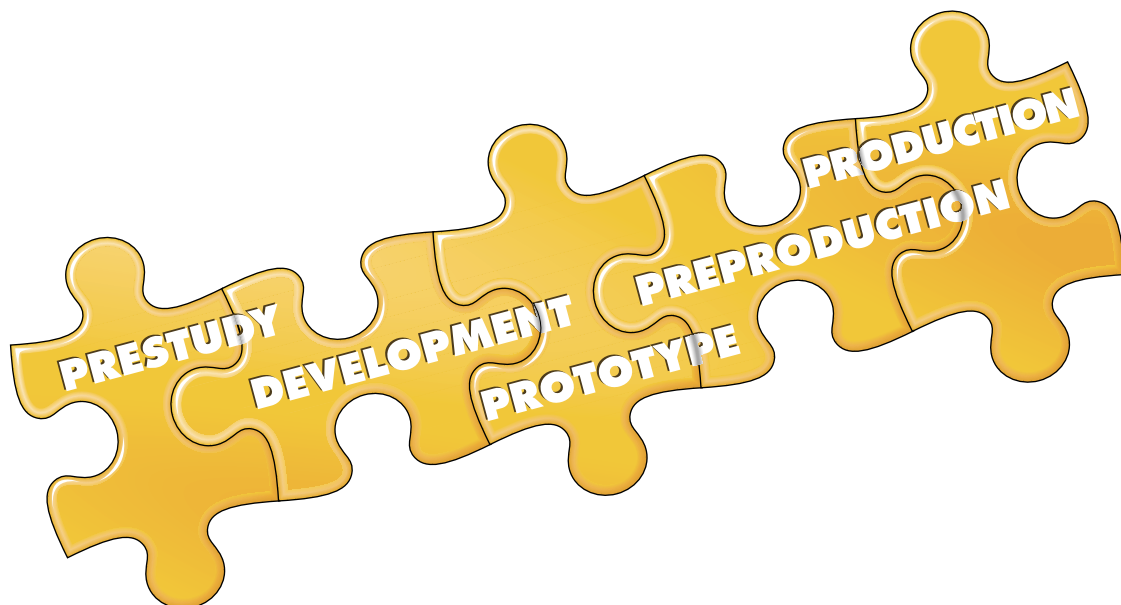
C O M P E T E N C E

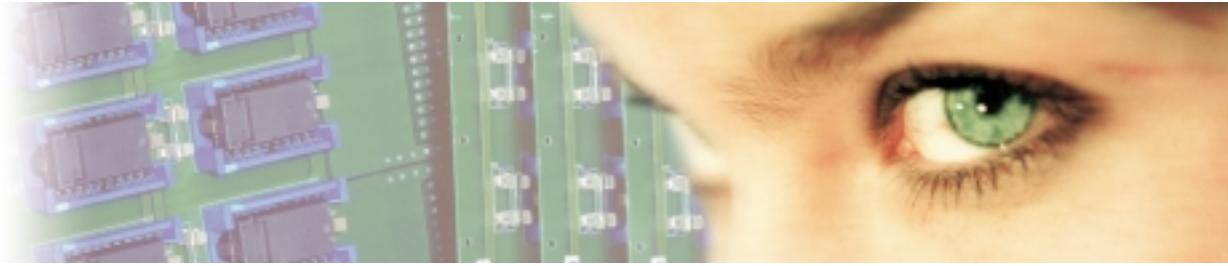
*From initial concept to finished products
demands a professional project management
and a close relationship between the
customers and our design engineers.*

From initial concept to finished products

Powerbox has been in business for more than 25 years. We have designed thousands of different power supplies in power ranges from 1 W to 5000 W in all quadrants AC/DC, DC/DC, DC/AC and AC/AC converters. Most of the designs today are switch mode or resonant converters with high efficiency, low conducted and radiated noise. We build with modern architecture incorporating surface

mount components where appropriate, and ensure that we understand the product application. Our strength is in complex designs with many output voltages, high isolation between input and output; input to chassis or output to chassis and tough environmental conditions. Powerbox design meets PFC and EMC requirements.





PRODUCTS & ENVIRONMENT

If all power supplies in use in the world could be improved from 60% to 70% efficiency, the saving in power in one year would be equal to more than 100 mid sized nuclear plants.

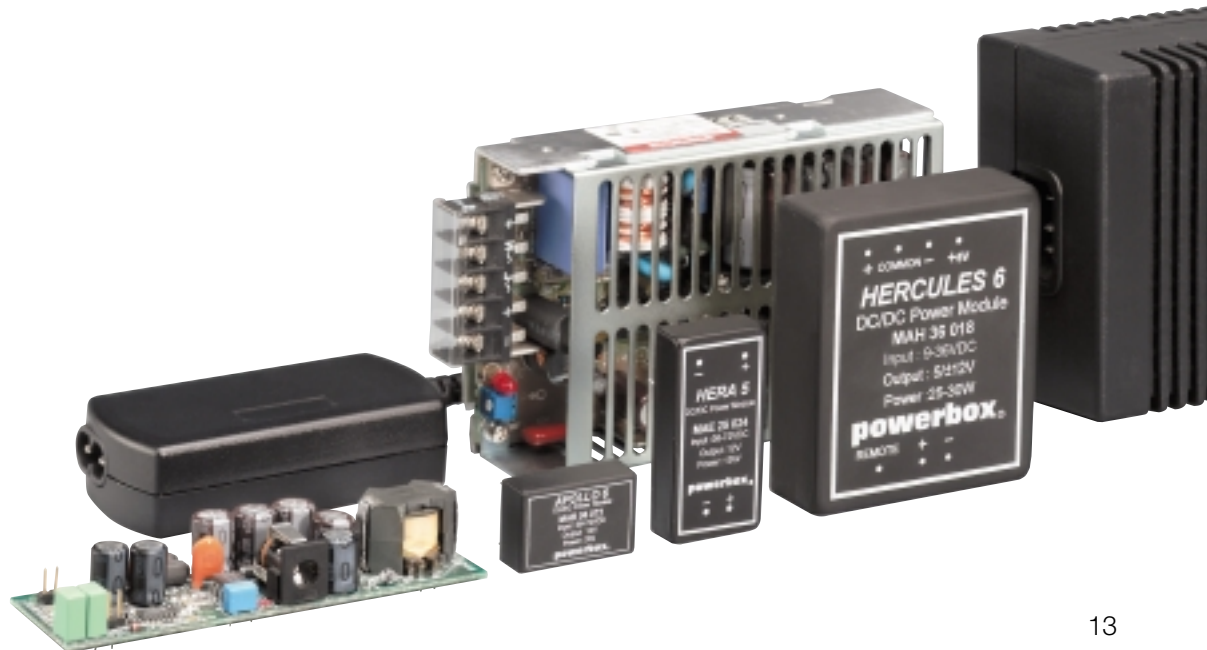
The power supply – the heart of electronic equipment

The products recommended for the customer's applications are the result of a careful selection process designed to achieve a cost effective power supply solution during the entire lifetime of the associated equipment.

A power converter has a lot in common with the human heart. It pumps energy into the product within which it is incorporated. The energy can either be AC current from the public mains, or DC current supplied from batteries. The power converter may be an integral

part of a product, but may also be an external component mounted between the power source and its associated equipment. Logically, this type of power supply is referred to as an "external power supply".

Exactly as for the human heart, a power supply can not be chosen in complete isolation. The life expectancy of the power supply must be carefully ascertained, and the quality of the environment in which it is expected to operate must be considered.





M A N U F A C T U R I N G

Flexible production offers the customer a choice of manufacturing locations based on those facilities most appropriate to the products price, performance, delivery and quality demands.

World class manufacturing

The Powerbox concept assumes full control over the manufacturing process from development through pre-production and final production to after sales service throughout the entire working life of the product.

By carefully analysing the power requirements of an application, an optimal design will ensure total suitability in terms of technology, production methodology, cost efficiency and overall quality.

Equal attention is paid to the selection of a production facility which is appropriate to the cost targets, expected performance, and production volume of each product. Powerbox works in close partnership with a number of modern well equipped contract manufacturers at several world sites. Each with a dedicated and skilled work force.

Powerbox offers products in small, medium and high volume. In the manufacturing we utilize both conventional

manufacturing technology as well as very demanding manufacturing processes and systems which are complex in mechanical design and also make use of the latest SMD mounting technology.

To handle the wide range of products our contract manufacturers are located in Asia as well as in Europe and USA. This enables us to cater for the most optimal solution in terms of our customers location, the engineering and manufacturing complexity of the product.

A total quality management system tracks the product throughout its life, from development through production to after delivery repair to always ensure Powerbox world class quality.

WORLD WIDE LOCAL SUPPORT

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