

QES – Quality Electronic Services

QES Limited
Quality Electronic Services

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www.qesltd.co.uk

Products



&

Services

21 years old!!

2011

QES - Quality Electronic Services

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QES – Power Conversion Products

QES - Quality Electronic Services

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DC/DC Converters

879766	Military DC/DC, 11-35V i/p-2 x 24V o/p (480W)	Page 8
QPC7687	Desktop 48V input – triple output (5V, +/-12V), 15W	Page 19

AC/DC Conversion

Single Output

QHFC30.0-6	Shipboard use, 90-260VAC i/p, 24VDC o/p, 150W	Page 20
QHS100,	Industrial use, 90-264VAC i/p, o/p's 5V to 48V, 100W	Page 21
879650,	Military use 115VAC 3ph 60Hz i/p, 48V DC o/p, 2,200W	Page 7

Dual Output (other output combinations available)

Industrial/Telecoms use

QUK1568G	115/230V input – 2 x 12V outputs, 650W	Page 18
QA402	115/230V input – 1 x 12V @ 16A & 1 x 24V @ 5A	Page 23

Multiple Output – Configurable (single o/p available on most)

Industrial/Telecoms use

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DC Regulators

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COMPANY PROFILE

QES is an independent limited company that is now in its 21st year of providing specialist electronic services. We specialize in dealing with electronics products particularly power conversion products – AC/DC power supplies, DC/DC converters, battery chargers, inverters and other similar products. We offer the following range of services for all electronic products:

Design & Development

We provide a design service for customers that are looking for something special. That something may be a direct replacement for an obsolete product, a military style 'to specification' product, or even help in developing an idea they have into a marketable product. We like to stretch our design & development skills into new areas as well as our traditional 'power supplies' products.

Manufacturing Services

As well as manufacturing our own products we carry out low volume high quality manufacturing on a contract basis. This can be anything from a product modification, to a special cable assembly, a surface mount circuit board or a complete product. Our quality and timely delivery are the best around.

Service & Repair

This is what QES is best known for. We repair and refurbish all types of power electronics equipment, product made by anyone from anywhere in the world. We provide service support to all markets dealing with a very wide spectrum of customers and markets from commercial, through industrial and into military.

Address & Contact Details

QES Limited
Unit 4, Chells Industrial Units
The Glebe, Chells Way
Stevenage
SG1 4QX

Telephone +44 1438 749849
Fax +44 1438 318420
Email sales@qesltd.co.uk

Approvals

QES operates management systems that ensure our work is carried out to the highest quality with minimum impact on the environment.

Our Quality System meets
ISO9001:2008
Certificate Number FM20484

Our Environmental Management System
meets **ISO14001**
Certificate Number EMS505098

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REPAIR SERVICES

QES is now in its 21st year of successfully providing electronic Repair Services to the UK & European markets. We will repair any type of power electronics made by anyone from anywhere in the world.

This is what we are best known for. We provide repair and refurbishment services for all markets taking in a very wide spectrum of customers. We are equally familiar with commercial, industrial and military product types and our database has thousands of listed products. Our customers come from all over Europe and further away.

We offer a comprehensive service that includes

**A full ISO9001 Quality Management System
An ISO14001 Environmental Management System
Fixed Pricing
Free 'New' Product evaluation
No Fix NO FEE**

**Minimum 6 months warranty
14 day turn around target**



Workshop System

We operate a fully integrated network computer system using specialist software. This enables us to access product data and history at all times, provide individual repair statistics to customers and record all parts used.

Statistics

Our Warranty Return rates are less than 1% on average
Our Repair Success Rates are generally higher than 90%

Skills

The QES repair staff are highly skilled, highly qualified individuals with thousands of hours of combined fault finding and testing on a huge variety of products

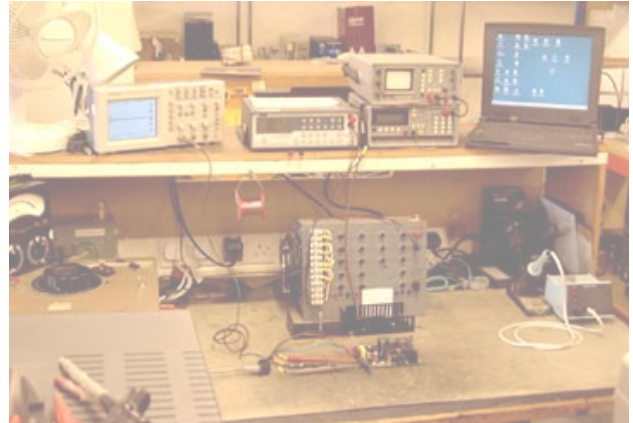


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REPAIR SERVICES

The Service

Our repair philosophy is to return a product to you that has many more years of service before any further failures occur. To achieve this we not only replace failed parts but replace others that are particularly susceptible to age related failure or were directly connected with the cause of the original failure and may have been overstressed.



We can also go one step further than this and carry out a complete product refurbishment whereby all capacitors, relays, fans and other relatively short lifespan components are replaced giving you a power supply with a lifetime pretty well equal to that of the original product. Beyond this level we can evaluate a product and suggest how its reliability can actually be improved or come up with a complete replacement product that will fit into the same space and mate up with the same cabling as the current product; for these two options see our **Design & Engineering Services**



Prices

We like to operate to a fixed price system once we know the product we are dealing with. This means you know exactly what costs you are incurring when you send repeat repairs to us.

We also offer discounted prices if you are sending product to us in greater than normal volumes

Business to Business

Whilst we operate in a business-to-business environment our customers vary enormously in size and the nature of their business. We deal with everybody from service companies, to power stations, to railway infrastructure and even several power supply manufacturers

Contacts

If you would like further information or want to send product to us for repair then contact our Operations Manager Paul Marshal (left) as below

Email paulm@qesltd.co.uk
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MANUFACTURING SERVICES

QES provides a high quality low volume electronics Manufacturing Facility for its own and its customers use.

We manufacture our own products for customers in the Defence, Industrial, Communications, Commercial and other markets. This has been the case over the last 21 years and has given us a fantastic background in understanding and meeting all of the different requirements.

We also carry out manufacturing work for a variety of customers covering a wide range of 'product' types. We have assembled complex items for microwave communications products, assembled modem testing equipment, assembled power supply units, made complex cable looms and assembled both conventional and surface mount circuit boards. All of these products were either made to customer drawings/specifications or to those we produced where customer information was limited.

In addition we also carry out a significant amount of 'modification' work. Customers who produce high volume products in overseas facilities often find that they have customers who want a slightly non-standard product. Frequently it is not possible for their factory to 're-tool' for a relatively small, but significant, quantity. So we take the standard product and modify it to meet their non-standard requirement. Sometimes this may involve changing one component, maybe a connector, on 200 or more units at a time and on other occasions, maybe replacing 5 or 6 electronic components and retesting the units. Again we either work to customer generated instructions or will generate our own where required.

We offer a comprehensive service that includes

**A full ISO9001 Quality Management System
An ISO14001 Environmental Management System
Fixed Pricing
Delivery to your schedule
1st off's for evaluation**

Approvals & Skills

As with everything else at QES the manufacturing is carried out in accordance with our **ISO9001 & ISO14001** systems.

Our manufacturing staff are highly skilled and experienced individuals who will produce the high quality that our reputation relies on



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DESIGN & ENGINEERING PRODUCTS/PROJECTS

QES provides specialist design and engineering consultancy to a wide section of UK industry covering everything from commercial through to military requirements.

Our specialist area is power conversion equipment, switched mode and linear power supplies, but we have been involved with design in many different fields including I/O measurement and control Systems and Heavy Plant warning devices.

We actively encourage people with new ideas and innovations to use our services. We help them develop their products in a cost effective way and enable them to hold on to their intellectual property rights.

Our services include:

- **Complete Product Design & development**
- **Reverse Engineering & Replacement Designs**
- **Product Modifications**
- **Product innovation**
- **Testing and Evaluation**

Complete product Design & Development

To your specification, or maybe one we generate in conjunction with you. High end military, completely new idea or just customisation to an Off The Shelf product (COTS).

For those involved in the Military, or Defence, business our UK MOD Contractors List reference Number is 14JQ01 and our NCAGE Code is KA042.

Reverse Engineering and Design Replacements

If you need a replacement for an obsolete, or non-performing, product then we will identify the best and most economical solution for you. This may involve customising an off the shelf product or reverse engineering to create a new product.

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DESIGN & ENGINEERING PRODUCTS/PROJECTS

Product Modifications

As a product reseller or distributor you have a customer that wants something slightly different from a standard product but your factory supplier will not oblige. We can do the modification for you! Either to the manufacturers instructions or we will produce our own. You get your sales and a happy customer.

New Ideas & Product Innovation

Perhaps you have an idea for a new product but do not have the background skills to develop it, well we are happy to help you and the product will still be yours. This scenario does occur. We have worked with a number of individuals with different product ideas and helped them to turn these into products with great ongoing potential!

Maybe your product needs something a bit unusual, perhaps something like a standard product – but not quite! Talk to us; what you want may be achievable with a little innovation on our part without a huge cost to you.

Testing and Evaluation

We can use our experience and facilities to test and evaluate product for you. This could be a new product requiring an independent assessment, or an existing product requiring practical failure analysis, or something else entirely?



UK Type 45 Destroyer – Artists Impression

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DESIGN & ENGINEERING PRODUCTS/PROJECTS

Military Shipboard 2.2kW

This product was designed to meet our customer's military specification using our customised modular technology.



This product is used within the SAMPSON radar system employed on the UK's Type 45 Destroyers

OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 3-Phase 115V 60Hz

General Details

Designed to EN60950 Safety Standards

CE Marked for EMC compliance

N+1 Modular configuration for improved reliability

Output Parameters

*48V DC at 2.2kW
with remote sensing*

Full set of signals outputs

Output Voltage & Current Monitoring

Environmental

Cooling - external airflow through slots

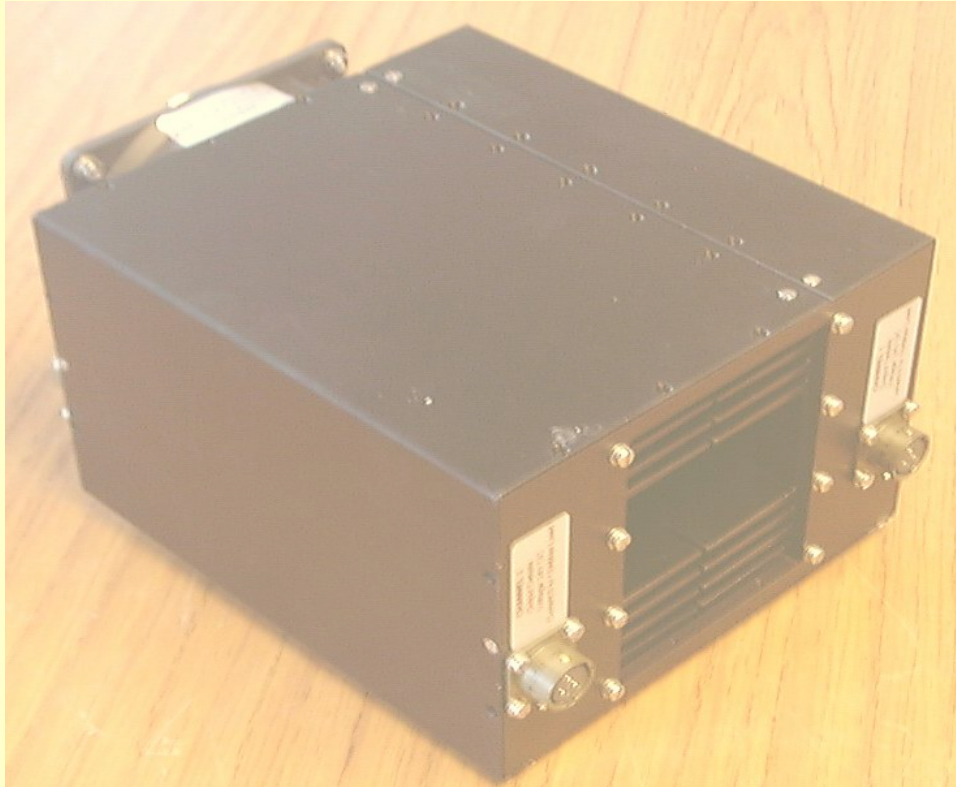
Naval Sheltered Conditions

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DESIGN & ENGINEERING PRODUCTS/PROJECTS

Mil Standard Vehicle Mounted DC/DC Converter

This product was designed to meet our customer's requirement for a rugged military type, vehicle mounted, DC/DC converter for powering auxiliary equipment



This product is intended for use in a vehicle mounted 'under the bonnet' location

OUTLINE SPECIFICATION

Input Parameters

11 to 35V DC

Full load operating current at 11V =26A

Input under voltage drop out at 9.5V DC

General Details

EMC – Designed to comply to MIL-STD-461E

Highly Efficient Operation – 80%
Rugged construction complete with shock/vibration mounts

Output Parameters

Two isolated 24VDC outputs rated to 10A each – no minimum load

Output Ripple & Noise less than 300mV

Line & Load Regulation better than 2%

Total Output Power 240W

Over current, Over voltage & Over Temperature protection

Environmental

Operating Temperature range -40 to +80°C

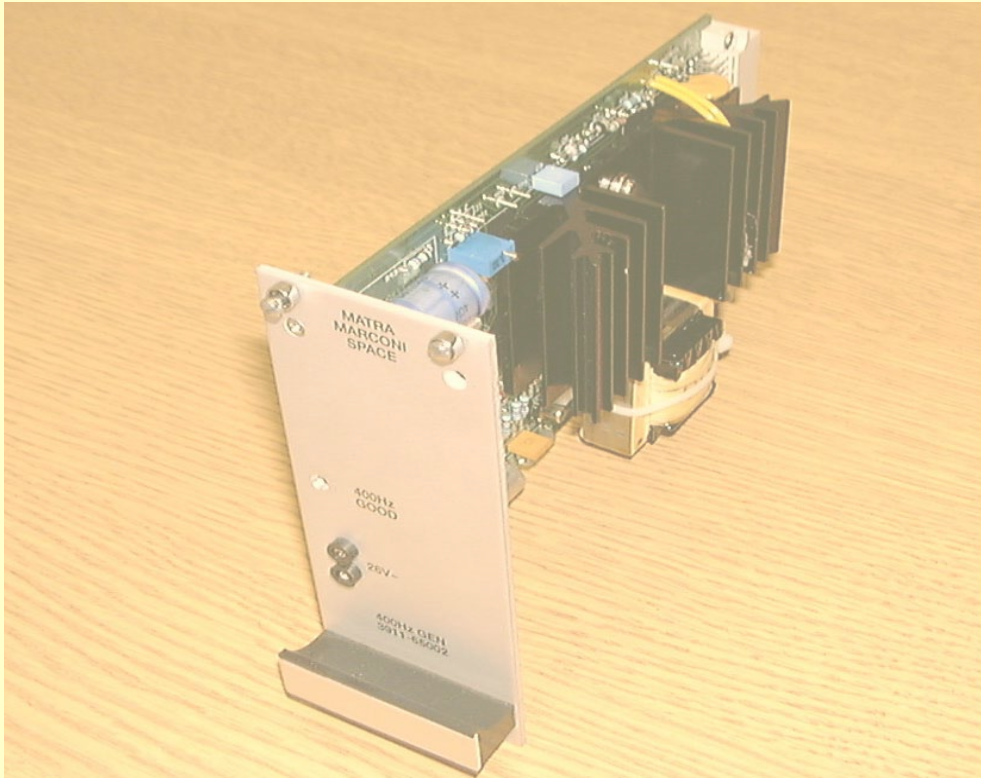
Storage Temperature range -50 to +125°C

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DESIGN & ENGINEERING PRODUCTS/PROJECTS

Military Shipboard Communications 400Hz Generator

This product was designed to meet our customer's military specification using innovative design technology it provides a 400Hz signal to antenna position resolvers



This product is used in a world wide communications system employed by a number of navies

OUTLINE SPECIFICATION

Input Parameters

23 to 28V DC

Inrush Current less than 1A

General Details

Plug-in Euro-card Format

Front Panel either 8 or 10 HP x 3U

Output Parameters

*400Hz Sine Wave 12VA
Distortion less than 5%*

Full set of signals outputs

Output Voltage Monitoring

Environmental

Convection Cooled

Naval Sheltered Conditions

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DESIGN & ENGINEERING PRODUCTS/PROJECTS

Quick Hitch Safety Pin Warning Unit

This product has been designed around an idea for safety improvements by someone working in the Heavy Plant industry



OUTLINE SPECIFICATION

Operation

Uses an inductive sensor to detect presence/absence of a safety pin & provide audible and visual warnings to the vehicle driver and nearby workers.

Operates from the vehicle 24V system

Rugged Construction

General Details

Designed to meet the Supply of Machinery (Safety) Regulations 1992

EMC Compliant to EN13309:2000 including ISO7637-2 load dump transients

CE Marked

Market

Used on off road bucket arm diggers such as JCB's to detect the presence of the Quick Hitch retaining safety pin

Innovator

This product was designed for Quick Switch UK Limited based on their original idea.

Further Products

Quick Switch UK Ltd have further ideas both to extend the way this product operates and to introduce further safety products into this market place. QES Ltd are delighted to be involved in these developments

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STANDARD & REPLACEMENT PRODUCTS

This section of our brochure sets out the specifications for products that we have designed and manufactured as replacements for obsolete products. They are shown both to let you know they are available and to illustrate that we can use this approach to solve the problem of other obsolete power conversion products.

These power supplies are modern designs and are as suitable for new projects as they are for supporting existing products.

In carrying out this type of work we keep our design charges to an absolute minimum by using, wherever possible, available standard product as the basis for the replacement unit. We then only need to deal with the necessary changes rather than design from scratch. This approach means that we can deal with requirements for very low quantities of product without charging a very high fee.

The following list gives some idea of the diversity of equipment that our products have been used in

Power Station Control Equipment
Railway Station Access Control Systems
Motorway Overhead Sign Systems
Shipboard Equipment
Mobile Military Weapon Systems

Our design team have many years experience in dealing with those problems that are specific to replacements. Ensuring correct physical size and compatible connectors are just two of these issues



As described in our Company Profile all of our work from design through to manufacture and test is covered by our ISO9001:2008 Quality System. This helps to ensure you get the best possible product for your application.

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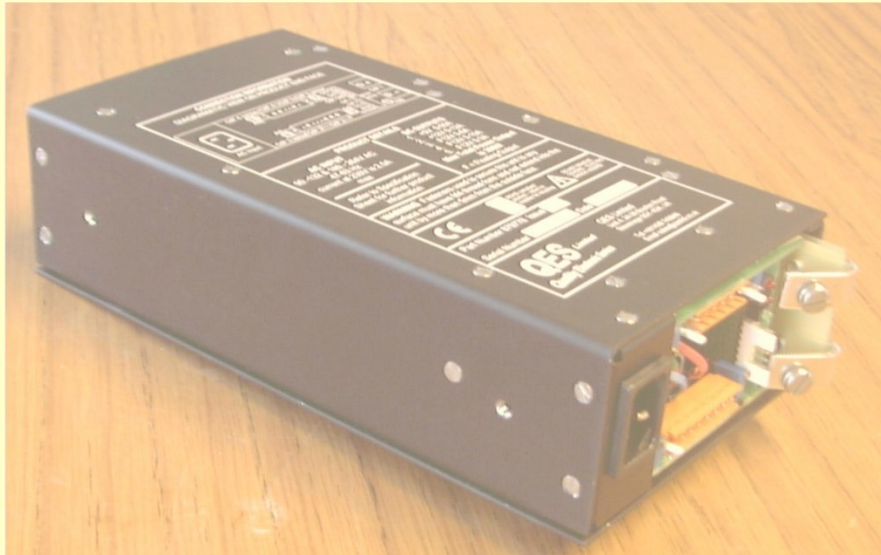
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STANDARD & REPLACEMENT PRODUCTS

QVWF350 Series 'Kestrel II'

This product has been designed as a fit, form & function replacement for the obsolete Advance Power VWF350 Series of power supplies



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 90–132V, 180-264V AC,
47 – 63Hz

Full load operating current - <2.5Arms
@220VAC

Inrush Current – Less than 10A @230V AC

General Details



RoHS Compliant

Designed to EN60950 Safety Standards

CE Marked for LVD compliance

EMC – Designed to meet EN55022 Level B

Isolation – Input/Output >3kV AC

Output Parameters

Up to 5 fully regulated DC Outputs
With over voltage & overload protection

Remote sensing on all outputs

Outputs adjustable 10%

Mains Power Fail Output

Inhibit Function available

Total Output Power 350W

Environmental

Operating Temperature range 0 to 70°C
(derate at 2.5% per °C from 50 to 70°C)

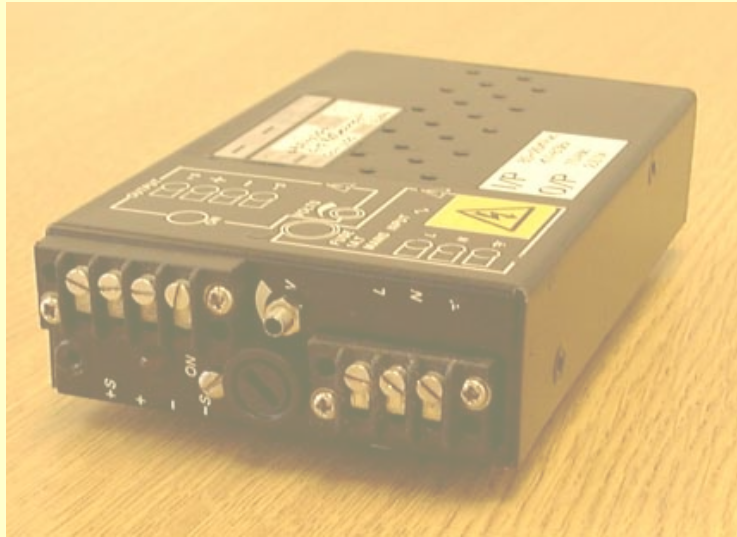
Over temperature Protection

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STANDARD & REPLACEMENT PRODUCTS

Other Advance Power/Farnell Units

A large number of power supplies were manufactured in the UK under the names Gould, Advance Power & Farnell Advance. A number of replacements for these are now available through QES.



REPLACEMENT PRODUCTS

The following fit and function replacements for selected models of obsolete Farnell / Advance power supplies are available

Description of products offered:

[COB Series](#) - Replacement for Advance **Hiflex HI-750 / HI-1000** power supplies

[PYT Series](#) - Replacement for Advance **Powerflex P350 / P500** power supplies

[PIN Series](#) - Replacement for Advance **Powerflex PB350 / PB500** power supplies

[MAM Range](#) - Replacement for Farnell **G** and Advance **MG / MMG** power supplies

[MAN Range](#) - Replacement for Farnell **NS055, NS110 and NS140** range power supplies

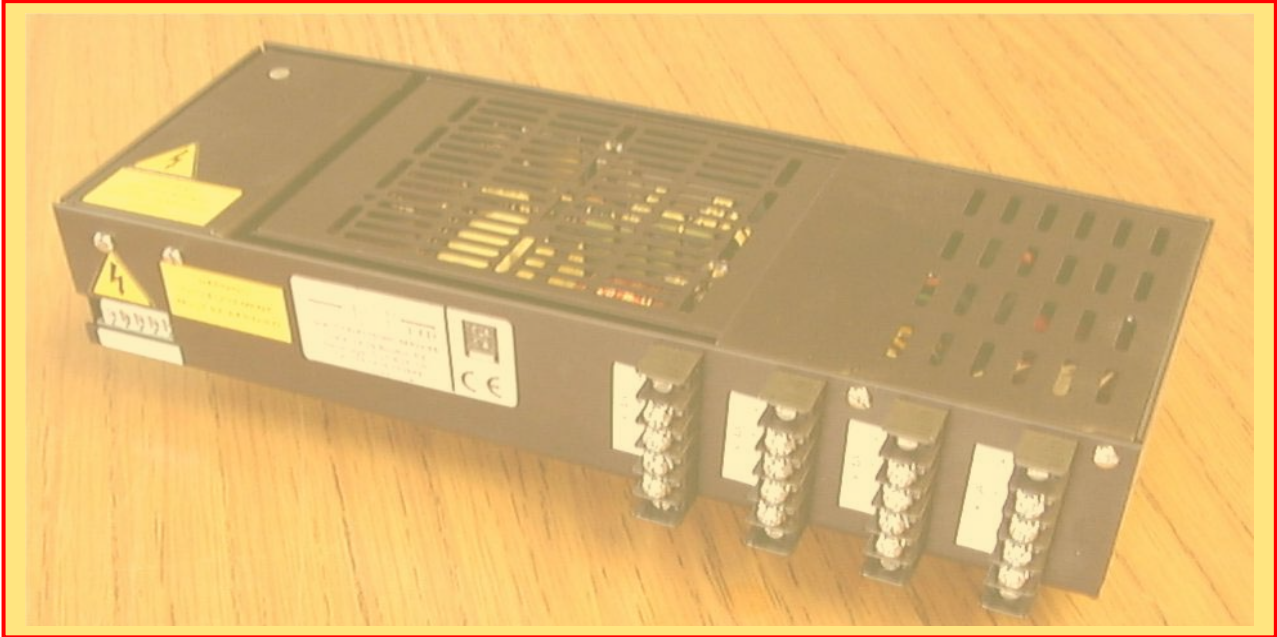
We are also happy to discuss your requirements for other product replacements however small the quantity.

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STANDARD & REPLACEMENT PRODUCTS

QML150 & 300 Series

These products have been designed as a fit, form & function replacement for the obsolete Coutant-Lambda ML150 & 300 Series of power supplies



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage
90-132 & 180-264VAC Auto-changeover
47-63Hz

Earth Leakage less than 3mA @
230VAC
Fused Input

General Details

All dimensions as original product
RoHS Compliant
Designed to EN60950 Safety Standards

Isolation

Input to Output 3kV
Input to Ground 1.5kV

Output Parameters

*Up to 4 DC Outputs**
(with sense & signals connections)

Total Output Power – 150W or 300W
(Convection Cooled)

Line Regulation +/- 0.2% o/p's 1-3
 +/- 0.4% o/p 4
Load Regulation +/- 0.8% o/p's 1-3
 +/- 1% o/p 4

Environmental

Operating Temperature range without
additional cooling 0 to 50°C

Storage Temperature range -20 to +
85°C

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STANDARD & REPLACEMENT PRODUCTS

QML200/400/600/800 Series

This product has been designed as a limited fit, form & function replacement for the obsolete Coutant MML200, 400, 600 & 800 Series of power supplies



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 90 – 264V AC
Frequency 47 – 63Hz

Power Factor 0.99 typical

General Details

All dimensions as original models

RoHS Compliant

Designed to EN60950 Safety Standards

Individual modules -CE Marked for LVD compliance

Efficiency 75% minimum

Isolation – Input/Output >3kV AC
Input/Ground 1.5kV AC
Output/Ground 250V DC

Output Parameters

Fully regulated DC Outputs
With overvoltage & overload protection

Mains Power Good Output

Total Output Power 200W, 400W, 600W or
800W – model dependant

Multiple Outputs; from 1 to 6 per unit
Each available with sense & signals

Units can be produced with any combination of
the following output voltages – 12, 15, 18, 24,
36, 48 & 54

Environmental

Operating Temperature range without
additional cooling 0 to 50°C
(derate at 2.5% per °C to 70°C)

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STANDARD & REPLACEMENT PRODUCTS

QENR & QEPR Regulators

This product has been designed as a fit, form & function replacement for the obsolete **Coutant ENR and EPR** Series of voltage regulators



OUTLINE SPECIFICATION

Input Parameters

DC Input Voltage:

Minimum of 3V greater than output
Maximum of 7V greater than output

General Details

Designed to match the mechanical outline and fixing points of the original Coutant product.

4 Terminal high spec Voltage Regulator

Limited convection cooling – designed for fixing to an external heatsink

Output Parameters

Positive and negative DC outputs available as below

Outputs adjustable by +/- 10% using trimming resistors

With foldback current limiting circuit

Ripple & Noise less than 0.2% pk-pk

Models Currently Available

+ve outputs: 5V, 12V & 16V

-ve outputs: 12V & 16V

other outputs available on request

Environmental

Operating temperature range -20 to +100°C
with max output power derated from 10W at 25°C to zero at +100°C

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STANDARD & REPLACEMENT PRODUCTS

Q3267/23 Mitra/Scroff Replacement

This product has been designed as a direct replacement for the obsolete Mitra & Schroff PE3267/23 power supply



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 85 - 264V AC, 47 – 63Hz & 400Hz

Full load operating current – 4.7Arms @230VAC

Inrush Current – Less than 20A

General Details



RoHS Compliant

Designed to EN60950 Safety Standards

CE Marked for LVD compliance

EMC –EN55022 Level B & EN6100

Isolation – Input/Output >4kV AC

Output Parameters

3 fully regulated DC Outputs
With over voltage & overload protection

+5V @ 100A, +12V @ 10A, -12V @ 8A

Remote sensing on output 1

Efficiency >83%

Line Regulation < 0.1%

Load Regulation < 1%

Total Output Power 600W

Environmental

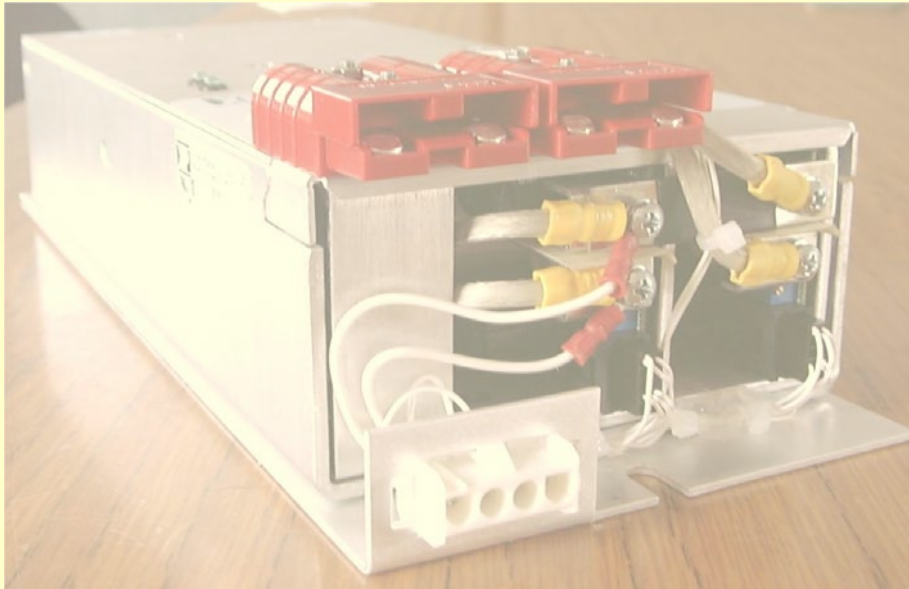
Operating Temperature range -20 to 70°C
(derate linearly from 50 to 70°C at 50% load))

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STANDARD & REPLACEMENT PRODUCTS

QUK1568G Replacement for Powerbox PBUK1568G

This product has been designed as a direct replacement for the Powerbox PBUK1568G power supply



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 90 - 264V AC, 47 – 63Hz

Inrush Current – 40A pk max

General Details



RoHS Compliant

Designed to EN60950 Safety Standards

CE Marked for LVD compliance

EMC –EN55022 Level B & EN6100

Isolation – Input/Output >3kV AC

Input/Ground 1.5kV AC

Output/Ground 500V AC

Output Parameters

2 fully regulated DC Outputs
With over voltage & overload protection

+6.5V @ 50A, +6.5V @ 50A

Efficiency 75% typical

Line Regulation < 0.1%

Load Regulation < 1%

Ripple & Noise 50mV or 1%

Total Output Power 650W

Environmental

Operating Temperature range 0 to 70°C
(derate linearly from 50 to 70°C at 50% load))

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STANDARD & REPLACEMENT PRODUCTS

QPC7687 Desktop Telecoms DC/DC Unit

This product has been designed as a functional replacement for the obsolete Racal Milgo unit P/N 33R141 (Weyrad PC7687) telecoms desktop DC/DC power supply



OUTLINE SPECIFICATION

Input Parameters

DC Input Voltage -20 to -72V DC
(Nominal -48V)

General Details

Designed for desktop use

RoHS Compliant

Designed to EN60950 Safety Standard

Isolation – Input/Output >500V DC

Single, dual & other triple output models
are available with the same basic input
and output parameters

Output Parameters

3 fully regulated DC Outputs

+5V @ 1.5A, +12V & -12V @ 300mA

Continuous short circuit, overload
protection

1% Line Regulation

2% Load Regulation

80% Efficiency

15W Output Power

Environmental

Operating Temperature range -25°C to
70°C

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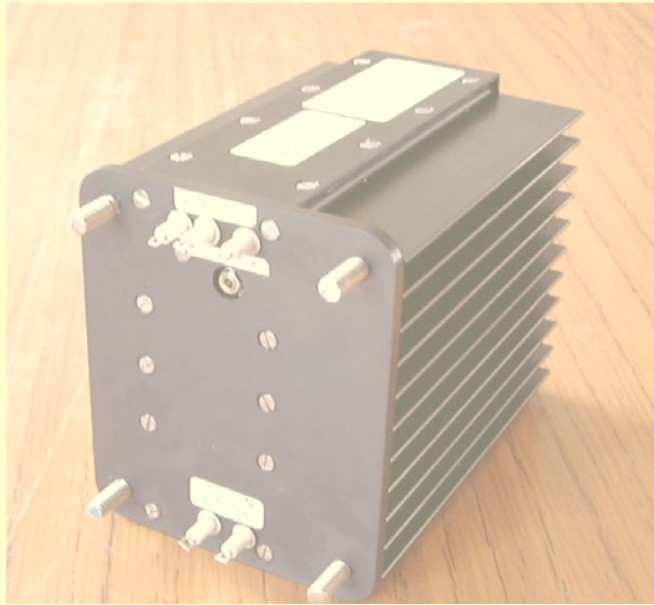
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STANDARD & REPLACEMENT PRODUCTS

QHFC30.0-6

This product has been designed as a fit, form & function replacement for the obsolete **Technipower HFC 30.0-6** power supply unit



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 90-260V AC, 47 – 440Hz

Input Current 2.5A at 100V AC

General Details

Designed for shipboard environment and to meet original mechanical specifications

Designed to EN60950 Safety Standards

Power module -CE Marked for LVD compliance

Convection cooled design

Output Parameters

Single fully regulated DC Output at 23.5V adjustable +/- 5%

150Watts max output

With overload protection

Models Currently Available

Single model as above

Environmental

Operating Temperature range without additional cooling -30 to +60°C

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STANDARD & REPLACEMENT PRODUCTS

QHS & QSS100 Series

This product has been designed as a fit, form & function replacement for the obsolete Weir SHS & HSS100 Series of power supplies



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 90 – 264V AC, 47 – 63Hz

Full load operating current - <1.5Arms

Inrush Current – Less than 30A

General Details

Dimensions as per original weir data sheets

RoHS Compliant

Designed to EN60950 Safety Standards

ICE Marked for LVD compliance

EMC – Individual parts to EN55022 Level B

Isolation – Input/Output >3kV AC
Input/Ground 1.5kV AC
Output/Ground 500V AC

Output Parameters

From 1 to 5 fully regulated DC Outputs
With overvoltage & overload protection

Mains Power Fail Output

Total Output Power (Convection Cooling)
100W

Models available to match original Weir units

Environmental

Operating Temperature range without additional cooling 0 to 50°C
(derate at 0.05% per °C to 70°C)

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STANDARD & REPLACEMENT PRODUCTS

QVS1 Series

This product has been designed as a fit, form & function replacement for the obsolete **Coutant SLS1000/1500** Series of power supplies



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 85 – 265V AC, 47 – 440Hz

Efficiency 75-82%

Inrush Current – Less than 40A pk

General Details

Designed to EN60950 Safety Standards

Power module -CE Marked for LVD compliance

Built In Fan Cooling

Output Parameters

Single fully regulated DC Output at 1500 or 1000W

With overvoltage & overload protection

Mains Power Fail Output

DC Power Good Output

Models Currently Available

QES P/No 879764 – 24V at 1000W

QES P/No 879765 – 24V at 1500W

Environmental

Operating Temperature range without additional cooling -10 to +50°C (derate linearly to 60% at 70°C)

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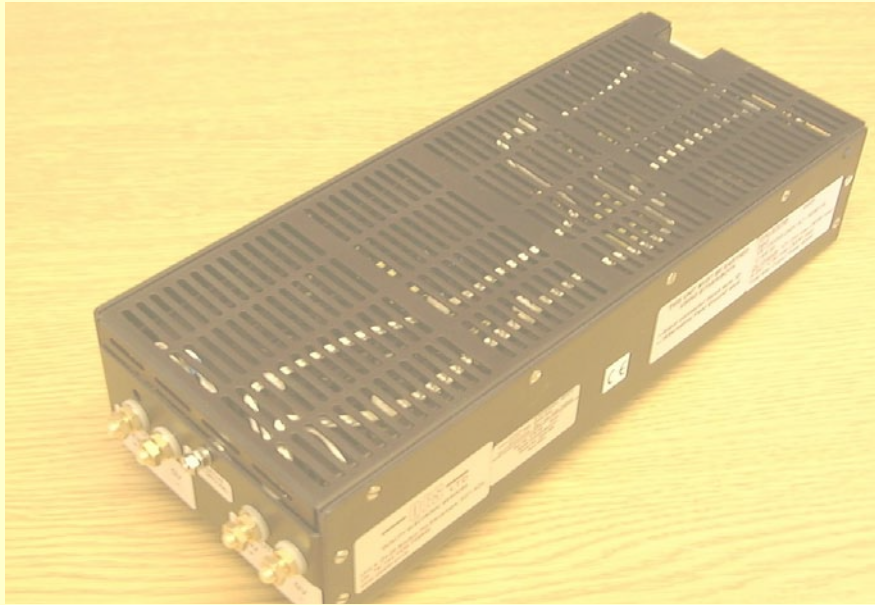
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STANDARD & REPLACEMENT PRODUCTS

QA402 Unit

This product has been designed as a fit, form & function replacement for the obsolete **Weir WA402** power supply unit



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage 115 – 264V AC, 47 – 63Hz

Power Factor-meets EN61000-3-2 class A

Inrush Current – Less than 70A pk

Efficiency 75% minimum

General Details

Designed to EN60950 Safety Standards

CE Marked for LVD compliance

Built In Fan Cooling

Output Parameters

Two DC outputs:

12V at 16A

24V at 5A

With overvoltage & overload protection

DC Power Good Output

Mechanical

Matches the size and fixing of the original Weir WA402 product

Environmental

Operating Temperature range without additional cooling 0 to +50°C (derate linearly to 50% at 70°C)

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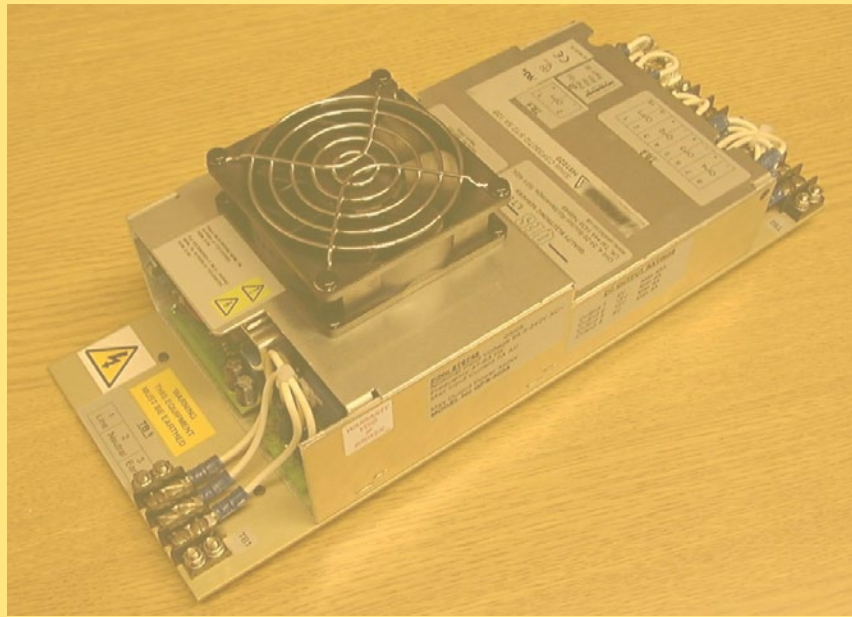
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STANDARD & REPLACEMENT PRODUCTS

QPS-300A

This product has been designed as a partial fit, form & function replacement for the obsolete Zenith ZPS-300A power supply



OUTLINE SPECIFICATION

Input Parameters

AC Input Voltage

85-264VAC, 45-440Hz
Power Factor typically 0.93
Inrush Current <25A at cold start

General Details

RoHS Compliant
Designed to EN60950 Safety Standards
CE Marked for LVD

Output Parameters

4 DC Outputs
Sense Lines available on output 1
Power Good signal output

Environmental

Operating Temperature range without
additional cooling 0 to 70°C
(de-rate at 2.5/°C above 50°C)
Storage Temp. range -40°C to + 85°C

Mechanical & Connections

Baseplate matches Zenith ZPS-300A
mechanical fixing locations
All input and output connections match
those of the ZPS-300A

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