

## Uninterruptible Power Supply 3RPQ15KB30A 15kVA, 115V, 3ph, 60Hz 30minutes



The 3RPQ15KB30A Uninterruptible Power Supply (UPS) supplies a battery supported, 115V, 60Hz three phase output to ships loads. The UPS consists of a transformer isolated rectifier, battery and an inverter.

The rectifier in the UPS is supplied by the ship's 440V 3phase 60Hz supply and provides power to supply the inverter and recharge the battery.

In normal operation, the rectifier float charges the battery and supplies the DC input to the inverter. The inverter supplies the output. When the input supply fails the battery supplies the DC input to the inverter that continues to supply the output. When the mains returns the rectifier recharges the battery.

As required for naval applications the UPS is designed to meet the necessary ruggedness in terms of shock, vibration and EMC requirements.

The unit is designed for front operation and maintenance and has an ingress protection rating of IP44.

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## ELECTRICAL CHARACTERISTICS

### Input

440 volts 3 phase 3 wire 60Hz in accordance with STANAG 1008 Edition 8 and Lloyds NSR

Input kVA	16.9kVA
Input Power	16.7kW
Input Rated Voltage	440V
Input Rated Current	22.2A/phase
Input Current THD	<4%
Power Factor	0.99
Inrush Current	<Inom

Option: Alternative input supply with ACOS  
Option: Anti-condensation heaters 115V or 230V

### Battery

Autonomy time: 30minutes,  
Nominal rated capacity 38Ah,  
Valve Regulated Sealed Lead Acid type,  
A single string of 40 blocks connected in series.  
Nominal voltage 480VDC.  
Specified lifetime of 7 to 10yrs at 20°C.  
Recommended normal operating temperature range is 20 to 25°C.  
Recharge to 80% from a fully discharged condition within 8 hours.  
Battery Float Voltage Temperature compensation.

### Output

115V, 3 phase, 60Hz, 15kVA , 15kW.

Waveform	Sinusoidal
THD	<2%
Static voltage regulation	± 1%
Dynamic voltage regulation	± 5%
Frequency stability	± 0.1%.

### Options

Earth isolation monitor  
Output distribution  
Auxiliary 24V DC Output  
Individual Battery monitoring

**Wild heat** 2.7kW

**Efficiency** > 83 %

### Protection

Input circuit breaker. Output short circuit and over current protection.  
Over voltage and over temperature trips are also provided to afford general protection to the unit. Battery cut off at the end of discharge, battery overvoltage protection.

### Local Controls and Indications.

Supply ON/OFF selector switch, Supply available LED, Rectifier LED  
Battery LED, Inverter LED, Liquid Crystal Display with scroll  
pushbuttons to view mimic and parameters

### Remote Indications.

Volt free contacts for Output On, earth fault, battery protection  
operation, battery discharge, bypass operation, UPS Alarm  
RS485/RS232 interface

## MECHANICAL FEATURES

### Enclosure

Fabricated mild steel folded and welded for strength. Deck mounted  
with top steadies. Lifting eyes are provided.

### Dimensions

(O/A)(hwxwd) mm 2015 x 1600 x 725

A clearance of at least 100 mm should be allowed around the unit  
(including base) to allow proper ventilation.

**Weight** 1540kg

### Cable Entry

Top/side/bottom via gland plate.  
User connections are made to internal rail mounted and stud  
terminals or direct to output circuit breakers. Access for the cables is  
by a gland plate that can be drilled or punched as required for glands.

### Ingress Protection Rating

IP44

### Cooling

The UPS is designed for air cooling by fans. Louvres of sufficient size  
are provided for this purpose. Individual cooling fans for power  
assemblies are provided. Unrestricted airflow should be allowed  
around the unit.

### Maintenance

Front maintenance – Lift off hinged doors for access.

### Internal wiring

Low fire hazard cross linked polyolefin RADOX 125.

### Earth

For safety the chassis of the UPS must be earthed. An external M10  
earth stud is situated adjacent to the gland plate.

## ENVIRONMENTAL CHARACTERISTICS

### Shock

The equipment is designed to meet a shock requirement of 15g  
(25ms half sine-wave pulse). For installed shock levels in excess of  
this shock mounts should be fitted.

### Vibration

The unit, when 'hard' mounted, is designed to meet shipboard  
vibration. Typically: 5 to 33Hz +/- 0.125mm

### Noise

< 65dbA. @ 1m

### Electromagnetic Compatibility.

EN62040-2 Radiated and Conducted Emissions  
EN61000-3-3 Harmonic Emissions  
EN61000-4-2 ESD  
EN61000-4-3 Radiated Susceptibility Electric Field  
EN61000-4-4 Fast Transient Burst  
EN61000-4-5 Voltage Surge  
EN61000-4-6 Conducted Interference  
EN61000-4-8 Power Frequency Magnetic Field  
EN61000-4-16 LF Conducted Susceptibility

### Ambient Temperature.

0°C to + 45°C.

### Relative Humidity

10% to 95% non-condensing.

### Ships Motion

The equipment is designed to withstand, without damage or  
degradation of performance or spillage of fluids, ship motion due to  
the action of the sea and weather as well as accelerations and  
velocities deriving from deliberate ship manoeuvres. Typically:

Roll angles ± 30°, Pitch angles ± 10°, Steady list angles ± 15°  
Steady trim angles ± 5°



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