DC System 3RP4KB30A

The 3RP4KB30A DC system consists of a charger, battery and appropriate switches/circuit breakers.

The charger provides a high quality nominal 24V output at the rated load from a 440V 3phase 60Hz supply. The charger uses switched mode rectifier modules configured in parallel to produce the regulated output and float charge the battery.

Built into a steel enclosures for deck mounting, the DC System is suitable for shock levels up to 15g. Above this, shock mounts should be used.

Ingress Protection level is to IP23, suitable for electrical compartments or IP44 suitable for machinery spaces
Meters, indicating lamps and the mains ON/OFF switch are situated on the front of the equipment.

The rectifier power modules and main control circuits are easily accessible for maintenance by opening the hinged front door.

High quality battery sized for 30minute autonomy

- EUROBAT Classification: 10 to 12 years 'Long Life'
- High rate discharge performance VRLA battery
- Compliant with IEC60896-21+22
- FR case to UL94:V0
- Absorbed Glass Mat construction with no free acid
- Gas recombination
- Good recovery from deep discharge

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ELECTRICAL CHARACTERISTICS

Input
440V, 3 phase 3 wire 60 Hz in accordance with STANAG 1008 and Lloyds NSR

Input kVA	5.2kVA
Input Power	4.9kW
Input Rated Voltage	440V
Input Rated Current	8A/phase
Internal fuses rated at	10A
Power Factor	0.95 (typical)
Inrush Current	<Inom

Option: Automatic change over to Emergency supply
Option: Anti-condensation heater 115V or 230V, 50/60Hz

Output

Nominal Output Voltage	24V
Float Output Voltage	27.3V (temperature compensated)
Max output current	150A
Voltage Regulation	<1%
Voltage Ripple	<20mVpk-pk
Voltage transients	<10% (90% load step)
Voltage recovery time	<100ms (90% load step)

Load
Output Power: 3.6kW (@24VDC)
4.1kW (@27.3VDC float)

Wild heat
0.55kW

Efficiency
>90%

Protection
Input fused, output current limited, over-voltage trip, over-temperature trip.

Charger Local Controls and Indications
Supply ON/OFF selector switch
Charger Output Switch
Output Voltmeter
Output Ammeter
Supply Available, Output On, Charge, Float, equalise, Fault, Overvoltage, Overtemperature, Current Limit LEDs,
ACH On and Emergency Supply Available LEDs (if options fitted)

Battery
160Ah – 30min at 3kW load

Battery Local Controls and Indications
Battery Circuit Breaker
Battery Voltmeter
Battery Ammeter
Available, Discharge, Overtemperature, Overcharge, Short circuit cell, Hydrogen >2%, Low battery, Overvoltage LEDs

Remote Indications
Fault, Output within limits, Battery Discharge (volt free contacts).

Output
Output circuit breakers to suit user requirements
Option: Earth leakage detection

MECHANICAL FEATURES

Enclosure
Fabricated mild steel folded and welded for strength. Deck mounted. Lifting eyes.

Dimensions
(O/A) (h x w x d): 1430 x 630 x 500 mm

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

Fixings: 4 holes 13.0mm dia. Centres 555 (w) x 356 (d) mm
Top Steadies: 2 holes 13.0mm dia. Centres 1401 (h) x 564 (w) mm

Weight
275kg

Cable Entry
Top via gland plate

Ingress Protection Rating
IP23

Cooling
Charge: Fan assisted
Battery natural ventilation

Maintenance
Front maintenance - Hinged door for access.

Internal wiring
Low fire hazard cross linked polyolefin RADOX 125.

Earthing
M10 external earth stud.

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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