

DC Supply/Charger

3RP10KB



The 3RP10KB provides a high quality output of 24 volts for ships DC systems.

The rectifier uses power factor corrected switched mode rectifier modules to produce the regulated output. In the event of failure of the ship's normal ac supply, the input can be switched automatically to an emergency supply if fitted with an input automatic changeover switch module.

Built into a steel enclosure for deck mounting, the rectifiers are suitable for shock levels up to 15g. Above this suitable shock mounts can 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.

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ELECTRICAL CHARACTERISTICS

Input

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

Input kVA	10.7kVA
Input Power	10.6kW
Input Rated Voltage	440V
Input Rated Current	14A/phase
Internal fuses rated at	20A
Power Factor	0.96
Inrush Current	<I _{nom}

Option: Automatic change over to Emergency supply

Option: Anti-condensation heater 115V or 230V, 50/60Hz

Output

Nominal Output Voltage	24V
Max output current	400A
Voltage Regulation	<1%
Voltage Ripple	<20mVpk-pk
Voltage transients	<10% (90% load step)
Voltage recovery time	<100ms (90% load step)

Load

Output Power: 9.6kW (@24VDC)

Wild heat

1kW

Efficiency

>90%

Protection

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

Local Controls and Indications

Supply ON/OFF selector switch
Output Voltmeter
Output Ammeter
Supply Available, Fan Fail, Current limit, Overvoltage, Overtemperature, Output On and Earth Fault LEDs
ACH On and Emergency Supply Available LEDs (if options fitted)

Remote Indications.

Fault, Output ON, Battery Discharge (volt free contacts).

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): 1338 x 563 x 524 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 510 (w) x 406 (d) mm
Top Steadies: 2 holes 13.0mm dia. Centres 1318 (h) x 500 (w) mm

Weight

120kg

Cable Entry

Bottom Via gland plate

Ingress Protection Rating

IP23 (option IP44)

Cooling

Fan assisted. Fan failure detection

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

< 60dbA. @ 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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