

DC Supply/Charger

3RP9KA



The 3RP9KA provides a high quality output of 27.4 volts dc when used for float charging valve regulated lead acid batteries or can be set for 24V for ships 24V systems.

The rectifier has an input auto transformer and 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 will be switched automatically to the emergency supply.

Built into a steel enclosure for bulkhead mounting, the chargers 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 charger output distribution consists of 2pole miniature circuit breakers which are accessible via the hinged flap on the front of the unit.

The power module and main control circuits are easily accessible for maintenance by opening the hinged.

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ELECTRICAL CHARACTERISTICS

Input

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

Input kVA	9.7kVA
Input Power	9.5kW
Input Rated Voltage	440V
Input Rated Current	12.7A/phase
Internal fuses rated at	20A
Power Factor	0.96
Inrush Current	<Inom

Automatic change over to Emergency supply

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

Output

Nominal Output Voltage	24V
Float output voltage	27.4V @20°C*
Boost output voltage	29 V
Max output current	300A
Voltage Regulation	<1%
Voltage Ripple	<20mVpk-pk
Voltage transients	<10% (90% load step)
Voltage recovery time	<100ms (90% load step)

*Temperature Compensated as per battery manufacturers recommendation -36mV/°C

Load

Output Power: 8.7kW

Wild heat

1.3kW

Efficiency

>85%

Protection

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

Local Controls and Indications.

Supply ON/OFF selector switch
Equalise battery voltage switch
Output Voltmeter
Output Ammeter
Output voltage adjust
Normal Supply Available, Emergency Supply Available, ACH On, Fan Fail, Current limit, Overvoltage, Overtemperature, Output On and Earth Fault LEDs

Remote Indications.

Fault, Output ON, Battery Discharge Remote indication by means of volt free contacts.

Distribution

Up to 12 x 2pole miniature circuit breakers
Actual current ratings and characteristics specific for the application

Earth leakage detection

Option: maintained and non-maintained loads

MECHANICAL FEATURES

Enclosure

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

Dimensions

(O/A)(hxwxh) mm 1160 x 715 x 460

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

Fixings (mm) 4 holes 13.0mm dia. Centres 650 (w) x 720 (h) mm

Weight 180kg

Cable Entry

Via gland plate

Ingress Protection Rating

IP44

Cooling

Fan assisted by two speed fans. 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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