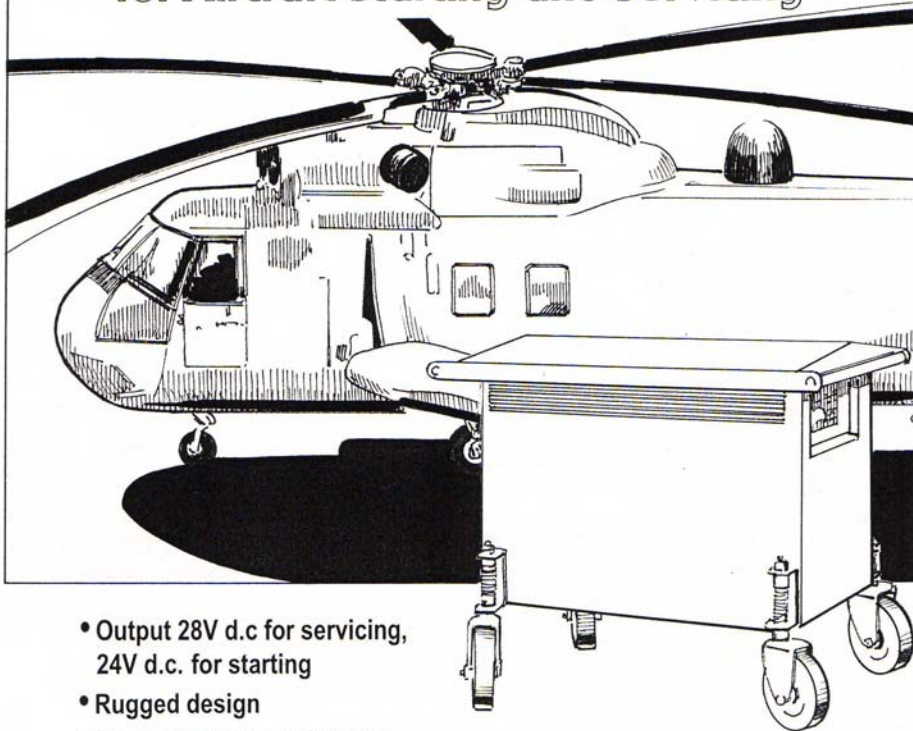


DEAKIN

GROUND POWER UNITS for Aircraft Starting and Servicing



- Output 28V d.c for servicing, 24V d.c. for starting
- Rugged design
- Weather-proof construction
- Minimum maintenance of static bridge rectifiers

This publication describes a range of transformer rectifier equipments for starting and servicing aircraft with 28V d.c. systems.

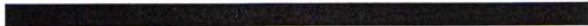
The equipments are mobile and are suitable for operation out of doors under adverse weather conditions.

The basic type 748B using Bridge rectifiers was designed to meet Air Ministry requirements such as the AM.37A, and its success has led to the development of the current range for commercial applications, which has now been converted to use power diode rectification.

Designs are available for the addition of d.c. smoothing, if required.

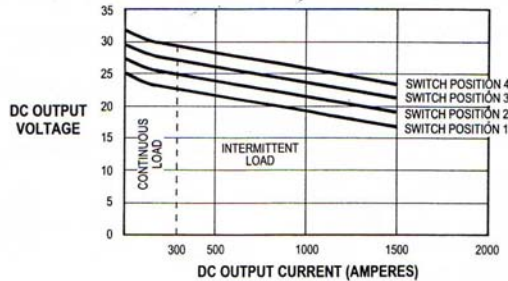
D.C. Output and A.C. Input cables are available as optional extras.

By using Bridge rectifier unit, this combines the advantages of minimum maintenance of static rectification and high intermittent starting capability.



Electrical Performance

- A.C. Input:** 380/400/420/440V, 3 phase, 50 or 60Hz. Voltage selection by primary tapings on the transformer.
- D.C. Output:** 300A continuous at 28V nominal for servicing. 1500A intermittent at 24V nominal for engine starting.
- Indication:** Mains input supply available lamp.
- Output Voltage Control:** Four output voltage levels as shown below are selected by a rotary switch:



- D.C. Metering:** Moving coil voltmeter range 0 – 35V.
- Main Control:** Input on/off switch.
- Protection:** Input line fuses.
- Ambient Temperature:** The ratings shown apply in ambient temperatures up to 45°C (113°F).
- Starting Duty Cycle:** An engine start is assumed to draw 1500A peak dropping rapidly to 700A, then gradually to 200A, the whole crank to occupy 30 seconds. The equipment is rated to withstand two starts at 30 second intervals followed by an 8 1/2 minute cooling period.
- Since starting is normally completed in 10 to 15 seconds, the cycle may be modified accordingly, and the manufacturer will be pleased to advise the optimum cycle against any specific duty.

Mechanical Details

- Cubicle:** The enclosure is weather resistant for operation in the open under adverse conditions. It is mounted on four castor wheels, two of which are provided with a brake and with a push bar at either end to allow easy manhandling. The switch and instrument panel is at one end under the canopy overhang. The fuses are below, behind a removable cover. Cable entry glands are at the other end. Brackets are provided on the sides of the cubicle for cable storage.
- Finish:** The transformer is protected against ingress of moisture by impregnation in enveloping varnish, and the cubicle is of powder coat finish to withstand the arduous environmental conditions often encountered.
- It is recommended however that storage is normally under cover, and that inspection is carried out at least once every six months to verify that components are not suffering ill effects from atmospheric exposure.
- The standard finish colour is Golden Yellow, B5.381 Colour No. 356, but other colours may be provided as an optional extra.
- Dimensions:** 1120mm length x 730mm width x 930mm height. Approx. 200Kg weight.
- Cables** Are available as optional extras, as follows:
- D.C. Cable Harness: comprising two 70mm² rubber covered C.S.P. sheathed flexible welding cables in parallel per line to form a quad arrangement bound and protected by hard rubber rings at 0.3m intervals, and terminated in a NATO connector 5935-99-145-4246 or equivalent 5A 434-9738.
 - Cable length to be specified bearing in mind that total resistance is 0.28 ohms/Km at 20°C, i.e. the additional regulation at 300A is 0.85V/10m length.
 - A.C. Input Cable: 4 core 16mm² rubber covered flexible cable. Cable length to be specified bearing in mind that the additional regulation on the d.c. output is 0.04V at 300A per 10m length.

D.C. Smoothing Components

- The standard equipment described above does not include smoothing, so that the normal output ripple is approx. 5% r.m.s.
- If a smoothed supply is required for servicing only, a version with L/C filter is available having less than 1% r.m.s. output ripple.
- Alternatively, if a smoothed supply is required for servicing and the equipment will also be used for engine starting duties, a version with L/C filter and a contactor for shorting out the series inductor during starting, is available.
- The dimensions of these equipments are as the standard above.
- In accordance with the company's policy of continuous product improvement, we reserve the right to make amendments to the product specification.

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