

BATTERY POWER UNIT

MODEL No 60166

OPERATOR'S HANDBOOK (PART No 34221)

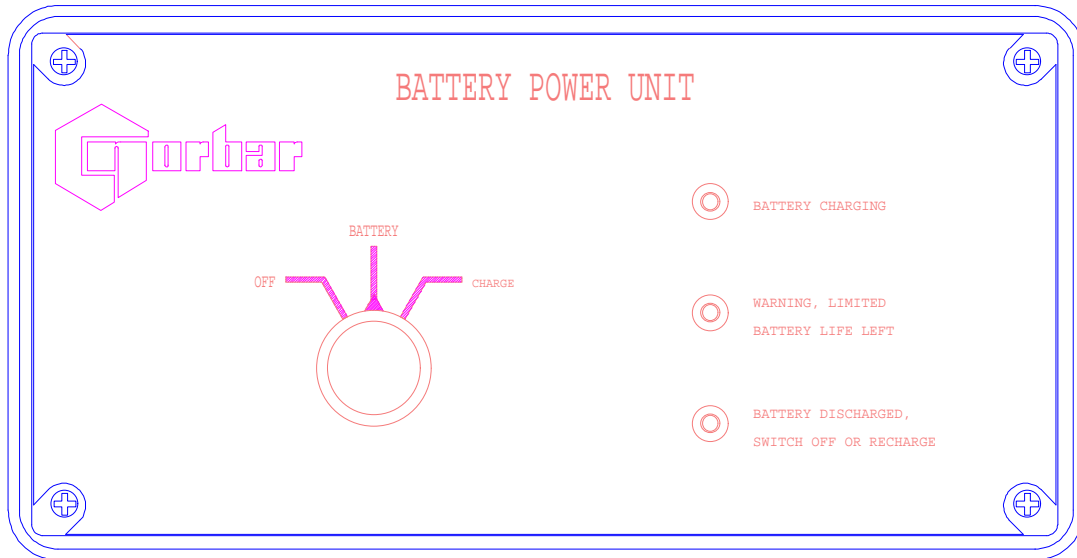
ISSUE 4



CONTENTS

	<u>PAGE</u>
Introduction	2
Mains Plug Fitting	2
Specifications	3
Operating Instructions	4
Recharging Instructions	5
Trouble Shooting	6

INTRODUCTION



The Norbar Battery Power Unit (BPU) is a ruggedly built, dual voltage re-chargable unit containing nickel cadmium cells that conforms to current EC Directives and Safety standards.

The BPU can power up to two Norbar display instruments, Electronic Transducer System (ETS), Dedicated Transducer System (DTS) or Torque Wrench Analyser (TWA), or one instrument and one Norbar DATA PRINTER, allowing portability of the whole measurement system. Housed in an instrument style case, the BPU can be stacked with display instruments, printers and 5 way switch units, with the addition of coupling extrusions.

A battery management circuit board is incorporated in the BPU to give an indication via a front panel Light Emitting Diode (LED) when approximately 30 minutes life is left in the batteries. If the BPU is used beyond this point it will automatically switch off (indicated by another front panel LED), before inaccurate readings can be obtained.

The mains inlet socket on the back panel and internal re-charge circuitry enable the BPU to be recharged via the mains supply.

MAINS PLUG FITTING :- _____

If a mains plug is not fitted, follow the plug's own instructions. The following may be useful :

BROWN-LIVE

BLUE-NEUTRAL

GREEN / YELLOW-EARTH

WARNING! It is important that live, neutral and earth are all connected between the BPU and the mains supply. If no earth is available (2 wire mains supply) it is recommended that a separate earth is connected between the case (the bottom right hand fixing screw in the corner of the back panel is ideal) and a suitable earth.

If the plug has an internal fuse, a 1 amp value is recommended.

CLEANING :- _____

Do not use abrasives or solvent based cleaners. We recommend a propriety brand of foam based fabric / vinyl cleaner. Use a soft cloth to avoid scratches.

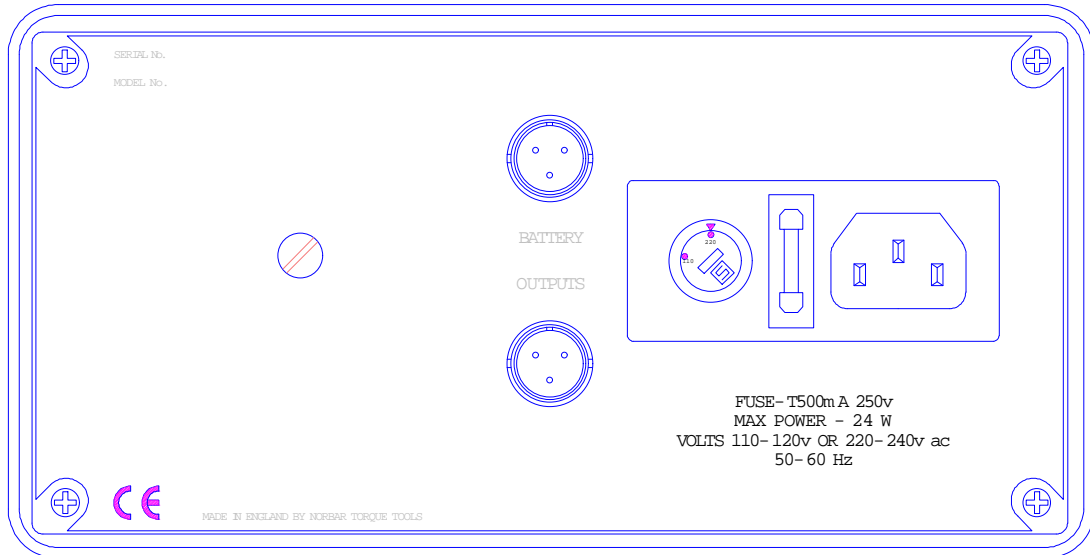
SPECIFICATIONS

BATTERY POWER UNIT SPECIFICATIONS :- _____

OPERATION TIME AFTER FULL CHARGE	Minimum of 8 hours with a load of 1 display instrument and 1 data printer.
RECHARGE TIME	16 Hours from fully discharged.
BATTERY PACK TYPE	Rechargeable nickel cadmium - Not user replaceable.
POSITIVE BATTERY PACK	+14.4 Volts, 4 amp hour.
NEGATIVE BATTERY PACK	-14.4 Volts, 1.4 amp hour.
POWER REQUIREMENTS	Selectable 110/120 Volts AC +/- 10 % or 220/240 Volts AC +/- 10% at 50-60 Hz.
MAINS POWER FUSE	T500 mA anti-surge.
POWER CONSUMPTION (RECHARGE)	24 W - maximum.
BATTERY FUSES (INTERNAL)	T2 Amp anti-surge (2 off)
OPERATING TEMP RANGE	0 °C to 50 °C.
MAXIMUM OPERATING HUMIDITY	85% Relative Humidity @30°C.
MAINS POWER CABLE	2.5 metres (8 ft 2 ins) long.
BATTERY CABLES	0.5 metres (1 ft 8 ins) long (2 off).
WEIGHT	5.35 kg (11.57 lb)
DIMENSIONS	108 mm high x 197 mm wide x 282 mm long.
CASE MATERIALS / FINISH	Case engineered in aluminium extrusions and castings. Finished in tough texture paint.
ENVIRONMENT	Indoor use within a light industrial environment.
ELECTROMAGNETIC COMPATIBILITY (EMC) DIRECTIVE	In conformance with EN 50081-1 : 1992 & EN 50082-1 : 1992.
LOW VOLTAGE DIRECTIVE	In conformance with EN 61010-1 : 1993. To environmental conditions Pollution Degree 2 & Installation Category (Overvoltage Category) II.

Note : If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment could be impaired.

OPERATING INSTRUCTIONS



1. Ensure the Battery Power Unit (BPU) front panel 'FUNCTION SWITCH' is in the 'OFF' position.
2. Fit the BPU connecting cable(s) to the back panels of the BPU and the instrument(s) being used.
3. Switch the front panel 'FUNCTION SWITCH' to the 'BATTERY' position. The equipment connected to the BPU can only be switched 'ON' and 'OFF' via the BPU front panel 'FUNCTION SWITCH'.
4. The equipment connected should now power up, allow 5 minutes for the instrument to warm up and stabilize. For operation refer to operators handbook for equipment connected.

RECHARGE INSTRUCTIONS

1. Switch the front panel 'FUNCTION SWITCH' to the 'CHARGE' position.
2. Ensure mains voltage selector at the rear of the BPU is correctly positioned for your mains supply.

Voltage selector indicates 110/120 or 220/240 V AC mains input. To alter voltage selection, firstly remove the mains lead, then place a small screwdriver into the slot and turn until the correct voltage is shown beneath the arrow head.

3. Connect AC mains lead and switch on mains supply to the BPU.
4. The 'BATTERY CHARGING' LED should now illuminate. Charge the BPU for 16 hours to ensure the batteries are fully charged. The equipment connected will no longer be powered by the BPU and can only be powered via the mains supply.

Note : To obtain maximum battery life and performance, it is highly recommended that the battery power unit is used in a cycle of :-

FULLY DISCHARGE - FULLY CHARGE (minimum 16 hours) - FULLY DISCHARGE

5. After charging, switch the front panel 'FUNCTION SWITCH' to the 'OFF' position and remove the mains lead.

TROUBLE SHOOTING

1. Charge LED does not illuminate when charging.

- a) Check the Voltage Selector is in the correct position for your mains supply.
- b) Check the mains power fuse which is located on the right hand side of the voltage selector. Always replace the fuse with the same value and type as originally fitted.
- c) Check fuse in mains plug.

2. Battery Power Unit fails to power equipment.

If Battery Power Unit (BPU) fails to power the equipment connected after recharging, check the two fuses protecting the batteries that are mounted on the Battery Pack P.C.B. This is achieved by following the procedure below :-

WARNING! Switch off the BPU and remove the power lead.

1. Remove the two upper most cross head screws on the BPU front and back panels (four screws in all).
2. Loosen the two lower cross head screws on the front panel half a turn.
3. Lift off the lid.

WARNING! Unplug the batteries from the battery pack p.c.b. before attempting to remove the fuses (2 A anti-surge), and reconnect once the fuses have been replaced. If problems are still incurred, return to Norbar or a Norbar appointed agent, for evaluation.

3. Repair of Battery Power Unit.

If there is any doubt concerning the functionality of the Battery Power Unit, it should be returned to Norbar, or a Norbar appointed agent for repair / recalibration.