

Powerflex models P350, P500, PB350, PD350 and PD500



INSTRUCTION SHEET

PLEASE READ AND OBSERVE THESE INSTRUCTIONS TO ENSURE SAFE AND PROPER OPERATION OF YOUR POWERFLEX POWER SUPPLY.

SAFETY

Powerflex units carry potentially lethal voltages and currents. All Powerflex units must be earthed. Allow a period of 3 minutes from switch off for voltages within the unit to discharge to a safe level. It is imperative that only qualified personnel are permitted to operate Powerflex units. Under no circumstances should live parts be touched during operation. An optional finger cover is available for P350 units. Always use exact replacement fuses.

Handling

To avoid damage, do not handle Powerflex units by any of the "on board" components or heatsinks. Handle by main chassis only.

Mounting

- (1) Base Mounted
Four M3 fixing holes provided with a maximum screw penetration of 5mm
- (2) Rear Mounted (P350, P500)
Four M3 fixing holes provided with a maximum screw penetration of 5mm.
- (3) Rear Mounted (PB & PD Models)
Four M3 fixing holes provided with a maximum screw penetration of 2mm.

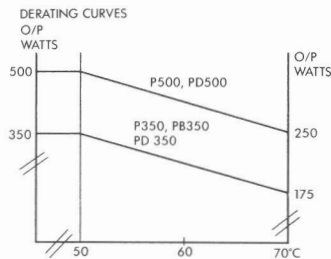
Cooling

P350 and PD350 units may be operated up to 350 watts total load when forced air cooled at a laminar flow rate of 1m/sec.

PB350 units may be operated up to 350 watts total load with the fan cover fitted.

P500 and PD500 units may be operated up to 500 watts total load with the fan cover fitted.

Note: All units must be mounted such that the airflow intake and exhaust are not obstructed. See derating curves for operation above 50°C.



Input fuses P350 & P500

12 Amp HRC Fuse on 110V input.
Littlefuse P/N 314012—Advance
P/N 56871.
6 Amp HRC on 220V input.
Littlefuse P/N 314006—Advance
P/N 55345.

PD

25 Amp HRC Fuse.
Littlefuse P/N 314025—Advance
P/N 57085.

PB

Not fitted with fuse (40A external fusing recommended).

Input connections P350/P500 units

These units are suitable for connection to IT power systems.

Input Connections

P350/P500 UNITS (Top View)

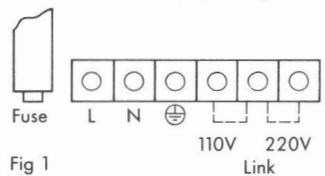


Fig 1

The input connections are to be found on the far left hand 6-way terminal block.

The terminal marked L denotes line input, N denotes neutral input and denotes the earth connection. The terminals marked with a 110V link are to be linked for 110, 120 Vac nominal inputs, and terminals marked with a 220V link are to be linked for 220, 240 Vac inputs. Note: only two terminals to be linked at any one time.

PB, PD units (Top View)

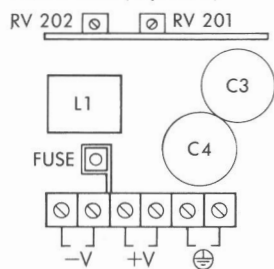


Fig 2

The input connections are to be found on the far left hand 6-way terminal block.

The terminal marked -V denotes the negative dc input, +V denotes the positive dc input and denotes the earth connection. The unit earth may be connected to either +V or -V. RV 201 & RV 202 are factory pre set and should not be adjusted.

OUTPUT CONNECTIONS (Top View)

Fig 3

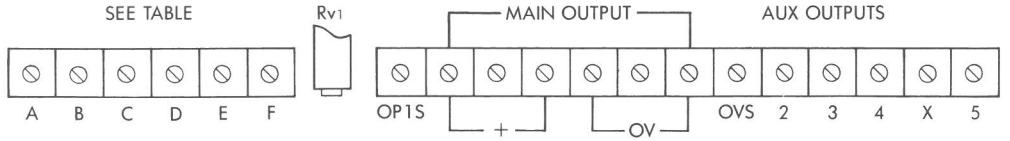


TABLE 1

(Applies only when optional signals card is fitted).

Mains Failure Signals After mains have failed.	Terminal A goes from logic 1 to logic 0. Terminal B goes from logic 0 to logic 1.
Outputs Up Signals When outputs reach 90% of set levels.	Terminal C goes from logic 0 to logic 1. Terminal D goes from logic 1 to logic 0.
Remote Shutdown Input To activate shutdown input, apply the following levels.	Terminal E, OV. Terminal F, +5V.

Note: Output Up signals are at the correct logic states when all outputs are within 10% of their nominal voltage.

MAIN OUTPUT

All units, as supplied, have sense links fitted in local sensing condition, i.e., OP1S to OP1 and OVS to OV. Do not remove these links unless remote sensing is required, in which case terminals OP1S and OVS should then be connected to the points at which the regulated voltage is required. Take care to observe correct polarity. RV1 (fig 3) adjusts the main output voltage.

The main output lead drop should not exceed 200mV if full hold-up capability is required.

Hazardous Voltage Caution

Live parts of outputs and circuitry exceeding 42V should be adequately protected from contact by personnel.

AUXILIARY OUTPUTS

SINGLE OUTPUT AUXILIARY CARD (Top View)



Fig 4

DUAL OUTPUT AUXILIARY CARD (Top View)

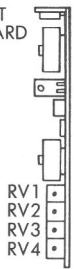


Fig 5

Unless specified, all outputs are commoned to the same OV line. A special option (factory set) enables output 4 or outputs 4 & 5 to be fully floating with respect to the remaining outputs. In this case, terminal X is used as the OV return for output 4 or outputs 4 & 5. Polarity and voltage settings are factory set. RV2 adjusts the auxiliary voltage. RV1 is factory pre set and should not be adjusted. Details of the particular settings of each unit are given on the label attached to the rear panel of the chassis.

There are dual output options available for use on output 4 only. On dual cards RV1 and RV2 are factory pre set and they should not be adjusted. RV3 and RV4 adjust the positive and negative outputs respectively of the dual card.

GENERAL

If the unit is inoperative, check the following:

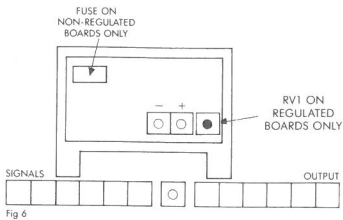
- Connections;
- Input fuse;
- Sensing links;
- Overheating of unit due to inadequate cooling;
- Total load demand.

Allow one minute for warm up before measuring any electrical parameters. P350 and P500 units have been proof voltage tested at 2000V rms input to chassis (all input terminals connected together), 500V rms output to chassis (all output terminals connected together), to give 2500V rms input to output, for one minute.

Further testing at the proof voltage will degrade insulation and invalidate the guarantee. Repeated testing may be performed at 80% of the proof voltage level.

PB and PD units have been proof voltage tested at 500V dc from input to earth and from input to output.

OPTIONAL 6TH OUTPUT (Front View)



Optional sixth output connections as shown above. The board is positioned under the main output diode assembly, internally in the Advance unit. Un-regulated outputs have load current fuse protection. 2A fuse Advance P/N 55999, Belling-Lee L1427B/2000 or standard fuse C19/2.

Regulated outputs have electronic load current protection. RV1 (Fig 6) adjusts the output voltage.

Note: This output is not available on PB units.

When this equipment is to be installed in Approved apparatus for connection to British telecommunication networks, the following instructions apply:

“Prevention of access by user. This apparatus is intended to be accessible only to authorised personnel. This apparatus must be installed in a locked room or similar environment, such that user-access is prevented. Failure to prevent such user-access will invalidate any approval given to this apparatus.”

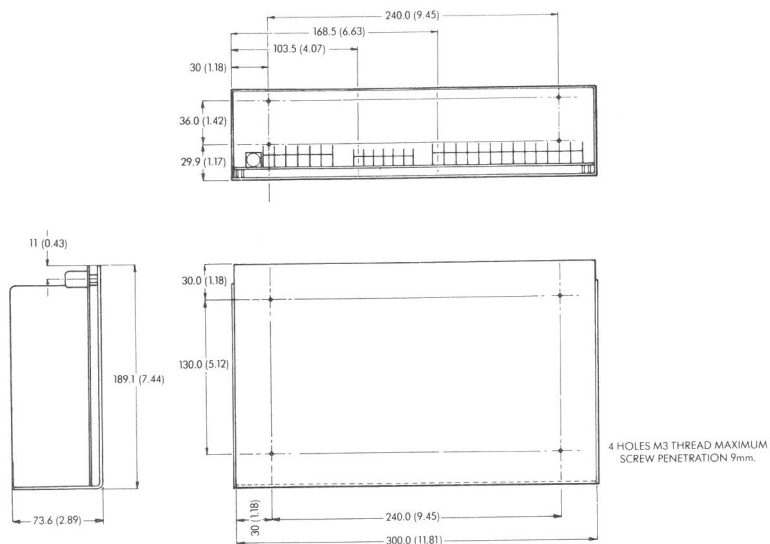
WARNING

1. Interconnection directly or by way of other apparatus, of ports marked in accordance with BS 6301 clause 4.3.1(a) with ports not so marked may produce hazardous conditions on telecommunication networks. Advice should be obtained from a competent engineer before such a connection is made.
2. The protective earth connection of this apparatus must be hard wired.
3. Use only with apparatus whose approval number starts with the letters NS.
4. Terminals marked A, B, C, D, E, F are connected to outputs that are protected from mains in accordance to BS 6301. Therefore these parts may only be connected to apparatus complying to BS 6301.

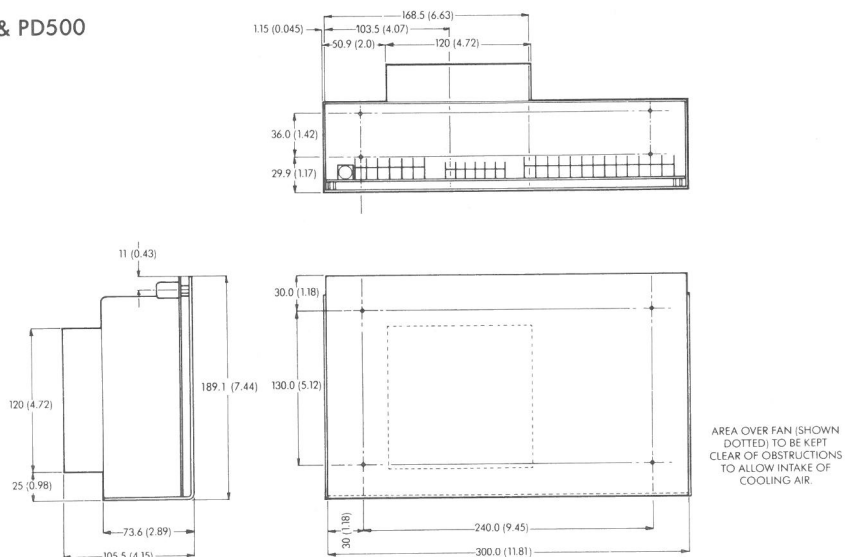
This power supply unit complies with BS 6301: 1982. For limiting values of output voltage and output current, refer only to the rating label on the particular unit.

Dimensions
 All dimensions in mm (inches in brackets).

P350 & PD350



PB350, P500 & PD500



Pt. No. 77168



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