

Calex 92000 Series

Installation and Application Information

These chassis mounting power supplies are intended for installation by suitably qualified personnel. All models are convection cooled and provision must be made for free air to flow round the unit. Additional cooling will improve the long term reliability, normally achieved by mounting on a large metal surface, or if this is not possible by fan cooling. NB. It is not abnormal for heat sink temperatures to exceed 80°C. Worst case condition temperatures in excess of 100°C may be found.

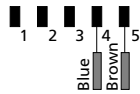
AC Connection

All models have two AC input ranges: 115/230 VAC +10% -12%. See input selection table. Units are factory set for 230 VAC input. For additional safety the transformer primary is protected from thermal overloads by a non-resettable thermal switch. This switch will permanently break if a transformer temperature of 130°C is exceeded.

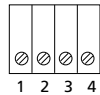
Input Selection Table

AC INPUT 47-63Hz		
For use at	115VAC	230VAC
Jumper	1&2; 3&4	2&3

Transformer Connections (91201, 91202, 92401 and 92402)



Input Voltage Select Terminal Block (91210, 91220, 92405, 92410, 92415 and 94805)



Overload Protection (91201, 91202, 92401 & 92402 only)

Models 91201, 91202, 92401 & 92402 are fitted with fold-back current limiting. This feature is factory set at 120% I max to minimise the risk of erroneous tripping due to line spikes etc. It is not recommended to run the power supply at greater than I max continuously.

Parallel Connection (91210, 91220, 92405, 92410, 92415 & 94805 only)

1. Units of the same type may be connected in parallel in order to achieve greater output currents. In simple parallel operation the unit with the highest output voltage will supply the load current up to its limit whereupon the next highest will provide the additional current up to its limit etc. To operate safely in this way the current limit should be adjusted to the nominal max unit current to avoid a constant overload situation. ie. set the current limit to 1 max rather than 1.2max as supplied. It should be noted that it is not possible for the load to be shared equally by the units connected in parallel.

2. In some applications it is required to have each supply capable of delivering 100% of the load current (parallel redundant). In this case the units should be connected as shown in Fig 1.

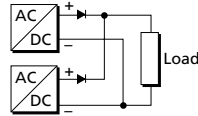


Figure. 1

Series Connection

Units may be connected in series to achieve higher output voltages. It is normal practice in these circumstances to install a diode across the output in order to protect each unit from the reverse voltage of the other, in the event of the load being shorted. See Fig 2.

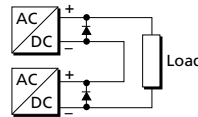


Figure. 2

In the above case, difficulties may occasionally be experienced at switch-on and overload recovery. Should this occur, a separate load switch may be incorporated to overcome this problem.

Grounding

Ground loops can cause serious interference problems when voltages developed by currents are coupled into sensitive circuits. Therefore a single point system ground should be employed where possible.

EMC

Linear power supplies have inherently low conducted and radiated noise levels. All the units meet the requirements of VDE 0871 for Class A equipment and FCC docket 20780 for Class A equipment without additional noise filtering.

Safety Specifications and Approvals

All the power supply units are designed to meet or exceed requirements for the following specifications. BS 7002, VDE 0806, IEC 380, IEC 435, ECMA-57, CEE 10 Part 2P, UL 1012, CSA 22.2 No 134, CSA 22.2 No 154. Specifically, field terminal spacing is greater than 3.5mm and creepage spacing from terminal to other metal is greater than 3.0mm, leakage current is less than 25.0uA and minimum dielectric withstanding is 3750 VAC input to chassis, 3750 VAC input to output and 500 VAC output to chassis.



Chassis Mounting

AC/DC LINEAR POWER SUPPLIES



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Calex 91201, 91202, 92401 & 92402

Chassis Mounting AC/DC Regulated Linear Power Supplies

SPECIFICATION

A.C. Input
115/230VAC
50/60Hz

D.C. Output

Model	Output Voltage Volts	Output Current Amps
91201	12	1
91202	12	2
92401	24	1.25
92402	24	2

Line Regulation

±2.0% for a 10% line change.

Load Regulation

±2.0% for a 100% load change.

Output Ripple

0.2% PK-PK maximum

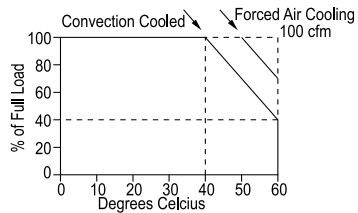
Short Circuit and Overload Protection

Automatic current limit/foldback

Temperature Rating

0°C to +40°C full-rated,
derated linearly to 40% at 60°C

TEMPERATURE DERATING CURVE



Efficiency (typical)

60%

Isolation

Input to ground: 3750VAC min.
Input to output(s): 3750VAC min.
Output to ground: 500VAC min.
Leakage current (live to ground): 5µA max.

Safety

In accordance with EN60950

MECHANICAL SPECIFICATION

Overall dimensions (l x w x h)

179 x 118.6 x 88mm

Weight

2.3kg

Mechanical Format

All units are supplied fully enclosed as standard

Mounting Orientation

Units may be mounted horizontally as shown on the outline drawing, or vertically with the cables entering from below.

Ventilation and Cooling

Units are convection cooled and therefore require free air flow around the chassis.

Fixings

Units have 4 x M3 ISO standard threaded inserts provided

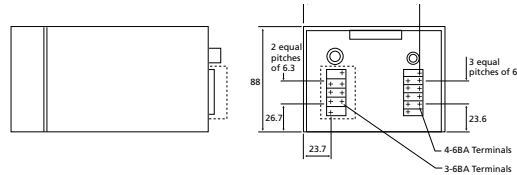
Connectors

The following connectors are provided on the power supply:

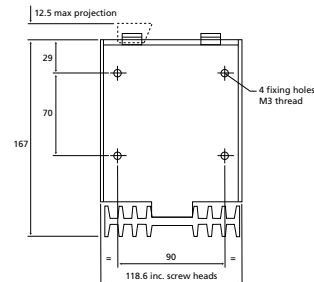
Screw terminals are provided for input and output connections

Input voltage selection is achieved using links on the transformer

OUTLINE DRAWING



All dimensions are nominal and are given in mm.



Calex 91210, 91220, 92405, 92410, 92415 & 94805

Chassis Mounting AC/DC Unregulated Linear Power Supplies

SPECIFICATION

A.C. Input
115/230VAC 50/60Hz

D.C. Output

Model	Output Voltage Volts	Output Current Amps
91210	12	10
91220	12	20
92405	24	5
92410	24	10
92415	24	15
94805	48	5

Load Regulation

20% or 3V whichever is the greater for 20 to 100% load change

Output Ripple & Noise

1.5Vrms maximum

Operating Temperature

0°C to +40°C

Isolation

Input to ground: 3750VAC min.

Input to output: 3750VAC min.

Output to ground: 500VAC min.

Safety

In accordance with EN60950 (Construction uses safety bobbin approved to VDE 0551)

Output overcurrent

Circuit breakers

MECHANICAL SPECIFICATION

Overall Dimensions

l x w x h: 210 x 152.1 x 140.1mm

Weight

91210, 92405: 3.9kg

91220, 94805, 92410: 5.8kg

92415: 7.7kg

Mechanical Format

All units are supplied fully enclosed as standard

Mounting Orientation

Units may be mounted horizontally as shown on the outline drawing, or vertically with the cables entering from below.

Ventilation and Cooling

Units are convection cooled and therefore require free air flow around the chassis.

Fixings

Units have 4 x 5.6mm (0.2in) mounting holes provided

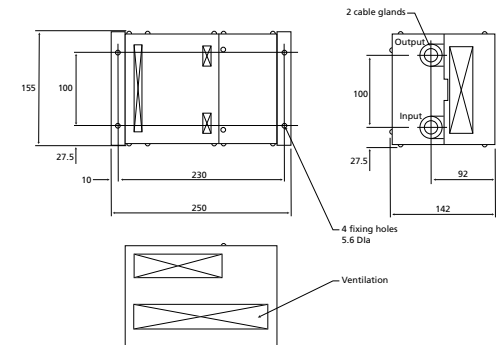
Connectors

The following connectors are provided on the power supply:

Screw terminals are provided for input and output connections

Input voltage selection is achieved using terminal block links

OUTLINE DRAWING



All dimensions are nominal and are given in mm.