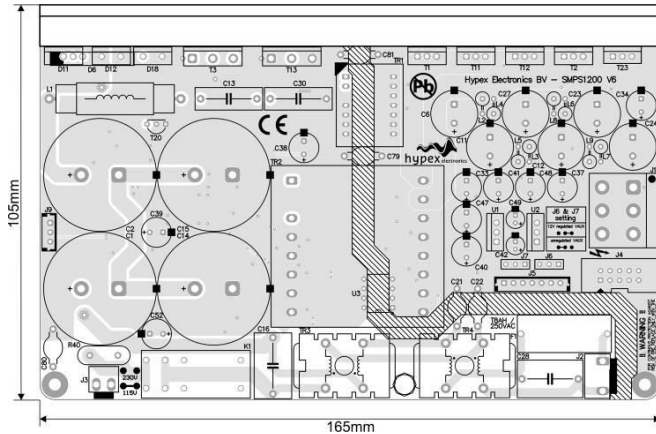


High Efficiency High Power Audio SMPS

! Caution: Please read the datasheet for more detailed information



Highlights

- High efficiency
- Selectable input voltage range
- Extremely small form factor
- Low EMI

Features

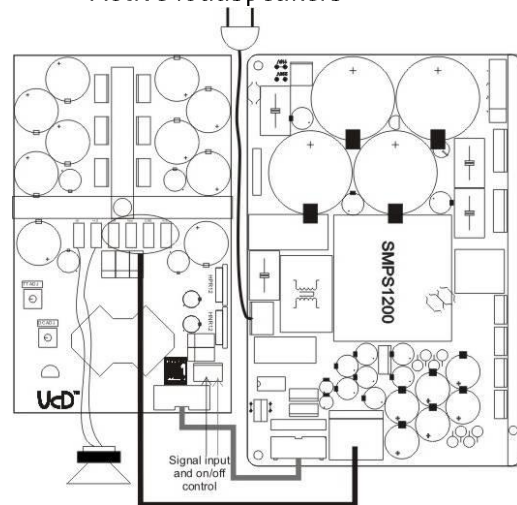
- Advanced over current protection
- Remote controlled operation
- Fixed output voltage (2 versions available)
- Dimensions: 165 x 105 x 55mm
- Low Weight: 850gms

Applications

- Supply for single or multiple amplifiers of the UcD range
- Active loudspeakers

Description

The SMPS1200 is a high efficiency Safety Class 2 switch mode power supply specifically designed for use with our range of UcD amplifier modules. The SMPS1200 includes an auxiliary isolated supply and a control circuit directly interfacing with our range of (OEM and standard) UcD amplifier modules. The SMPS1200 is optimized from the first phase of design to final implementation to realize the low EMI signature required of the most demanding audio applications.



Absolute maximum ratings

Correct operation at these limits is not guaranteed. Operation beyond these limits may result in irreversible damage.

Item	Symbol	Rating	Unit
Input voltage	V_{LINE}	270	Vac
Air Temperature	T_{AMB}	50	°C
Heat-sink temperature	T_{SINK}	95 ¹⁾	°C

Recommended Operating Conditions

Item	Symbol	Min	Typ	Max	Unit
High Line Input Voltage	V_B	180	230	264	Vac
Low Line input Voltage	$V_{B,FP}$	90	115	132	Vac

¹⁾ Unit will shut down when T_{SINK} exceeds 95° due to thermal protection

Cooling

The SMPS1200 is designed for music reproduction and is therefore not able to deliver its maximum output power long-term. The RMS value of any common music signal generally doesn't exceed 1/8th of the maximum peak power. The SMPS1200 is therefore perfectly capable of driving the connected amplifier in clipping continuously with a music signal without the need of forced cooling.



WARNING: These voltages can be potentially hazardous.

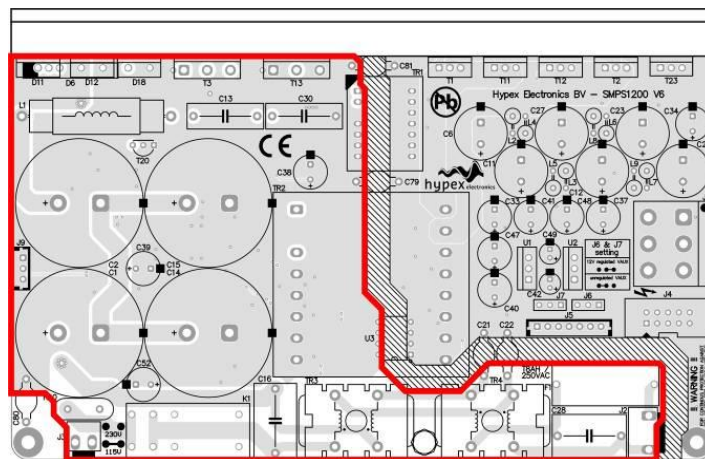
Safety precautions



The SMPS1200 operates at mains voltage and carries hazardous voltages at accessible parts. These parts may never be exposed to inadvertent touch. Observe extreme care during installation and never touch any part of the unit while it is connected to the mains. Disconnect the unit from the mains and allow all capacitors to discharge for **10 minutes before handling it.**

This product has no serviceable parts other than the on-board fuse. Replace the fuse only with the same type and rating (T5H).

This is a Safety Class 2 device. It is very important to maintain a 6mm clearance with all possible conducting parts (housing etc.) and cables. All parts enclosed by the red line carry hazardous voltages. This includes parts on the top and the bottom of the board.



Standard the SMPS1200 is supplied as a module mounted on an L-Shaped aluminium frame. This creates the mandatory 6mm clearance from the bottom side of the PCB to the chassis without the need for additional insulating material. However, if the enclosure is limited in height one could consider to drop the L-frame and use shorter spacers to mount the PCB onto the chassis providing a layer of insulation both above and below the SMPS with a minimum thickness of 0.4mm in order to comply with the Class 2 Safety Directive. If these measures are taken into account, the maximum height can be reduced to 45mm.

Instructions For Installation

Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

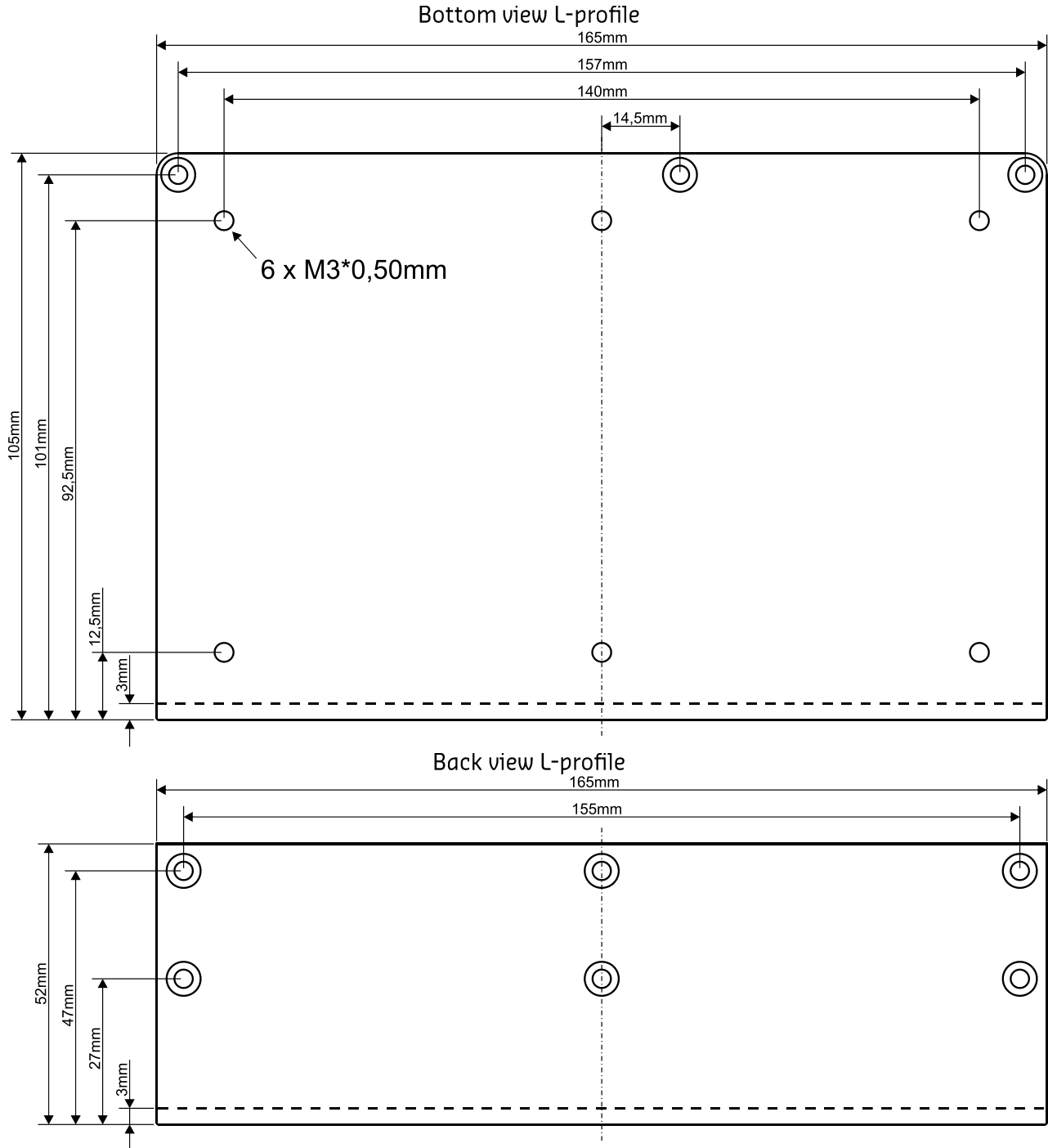
Warning: Disconnect the unit from the mains and allow all capacitors to discharge for 10 minutes before handling it.



This symbol indicates the presence of hazardous voltages at accessible conductive terminals on the board. Parts that are not highlighted in picture above may carry voltages in excess of 200VDC!

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the application.
7. Only use attachments/accessories specified or approved by the manufacturer.
8. Unplug this apparatus during lightning storms or when unused for long periods of time.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
10. This product is to be used with Hypex amplifier modules only.
11. Only the ready-made cable sets provided by Hypex may be used for external wiring of the SMPS400.
12. Don't run any cables across the top or the bottom of the SMPS1200. Apply fixtures to cables to ensure that this is not compromised.
13. Observe a minimum distance of 6mm maintain clearance with all possible conducting parts (housing etc.). All parts enclosed by the dotted line below carry hazardous voltages. This includes parts on the top and the bottom of the board. When the SMPS1200 is mounted in a tight space there needs to be at least 6mm clearance or a layer of insulation with a minimum thickness of 0.5mm between the top of the transformer and the housing.
14. Natural convection should not be impeded by covering the SMPS1200 (apart from the end applications housing).

Dimensions



Document Revision	Description	Date
R1	Initial draft.	26.04.2011
R2	Updated for SMPS1200 V6, new dimentions	14.02.2013