

BVSMP / BVSMP/LT

Firmware Version SMP V6.1 & SMPLT V6.1

Installation Manual



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BALDWIN BOX▲LL

BVSMP / BVSMP/PLT Power Supply & Charger

Introduction

The BVSMP contains two independent PSU modules and can power either two BV225, two BV125D or two BV050Q power amplifier modules.

The BVSMP/PLT contains a single PSU module and can power either one BV225, one BV125D or one BV050Q power amplifier.

Both the BVSMP and BVSMP/PLT employ “switch mode” techniques that improve efficiency, reduce unwanted heat dissipation and weight.

A third fused output is provided to power a mixer or auxiliary circuits. All these outputs together with a fault volt free changeover contact are provided by a 9 way crimp connector plug and socket.

Protection and Fuse Monitoring

The power supplies have over Current and over Voltage protection circuits and provide full monitoring of the Charger and all DC outputs to ensure system reliability.

In the event of mains failure the DC supplies are maintained using an external standby battery.

The unit has built in deep battery discharge cut off; this prevents total discharge that can destroy the standby batteries in the event of AC power failure for any long periods.

The charger section is totally monitored and has front panel LED fault indicators for the following states:

- AC Supply Healthy,
- Fuse failure,
- Charger failure,
- Battery High Resistance,
- Battery Low Voltage.

Should any of the above fault conditions occur an internal relay releases providing a changeover contact. This fault contact is normally connected to a fault input on a router or used to indicate a fault at the fire detection panel.

When a fault has been detected the relevant fault LED will illuminate and the OK LED will extinguish.

If the fault is subsequently cleared, the OK LED will illuminate but the relevant fault LED will flash to indicate the fault that existed. This is useful when fault finding.

To clear these “previously announced” faults press the Lamp Test button.

The charger incorporated is of the constant voltage type set for the recommended float charge. Should the battery be below this voltage the BVSMP will charge in a constant current mode at the rate of 3 amps which progressively reduces once the battery has achieved its nominal float level. Upto 4 chargers may be paralleled together when used for larger systems, however they must be synchronised together.

When paralleling units the “SYNC” connection on the 3 way battery connectors must all be connected together.

Battery Resistance Monitoring

The Battery Resistance Monitoring function ensures the battery condition is continuously monitored, and is a more accurate method than simple voltage measurement. The BVSMP monitoring meets the requirements of BS EN54-4.

Monitoring is controlled by a 2way DIL switch located behind the front panel.

Note: To ensure compatibility with previous versions of BVSMP the Resistance Monitoring can be disabled (see “Compatibility Mode” instructions below).

The BVSMP has a factory preset default threshold of 0.1Ω for the overall resistance of the cables and batteries. If the BVSMP detects a reading above this threshold then a fault will be announced.

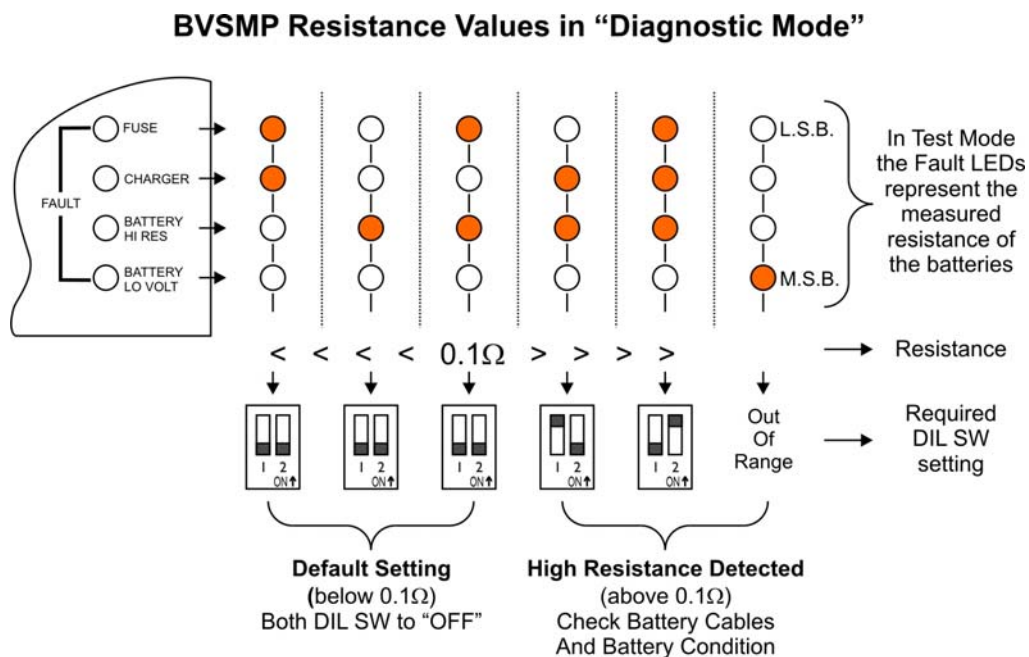
Depending on the cables and batteries in use it may be necessary to adjust this threshold to ensure correct fault detection.

BVSMP “Diagnostic Mode”

Press and hold the front panel “Lamp Test / Fault Accept” button for 10 seconds.

The unit will then enter a “Diagnostic Mode” and the Front Panel LEDs will display the Resistance Value the BVSMP has detected.

This is shown in the following figure:



Set the front panel DIL SW to match the detected resistance.

To leave “Diagnostic” mode and return the BVSMP to normal operation press the “Lamp Test / Fault Accept” for 10 seconds.

Compatibility Mode (Both DIL SW “ON”)

The resistance monitoring function must be disabled if the BVSMP is being retro-fitted to a system with other non-resistance monitoring BVSMP units.

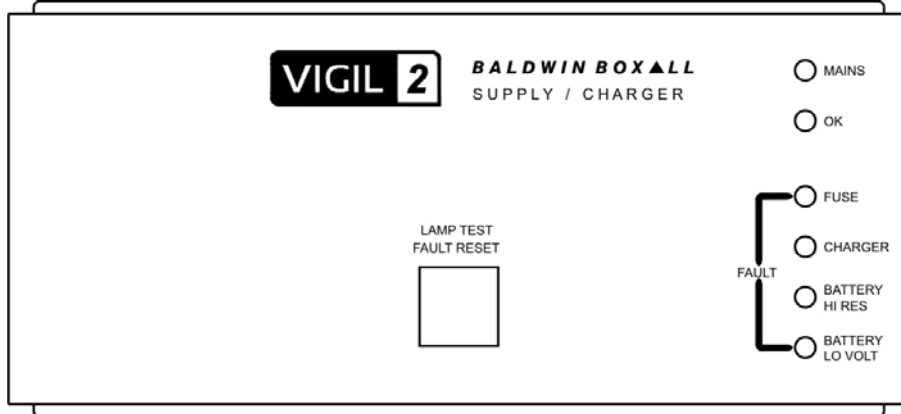
Set both DIL SW to “ON” to disable resistance monitoring.

In “Compatibility Mode” the battery monitoring detects and displays “Battery Low Voltage” faults.

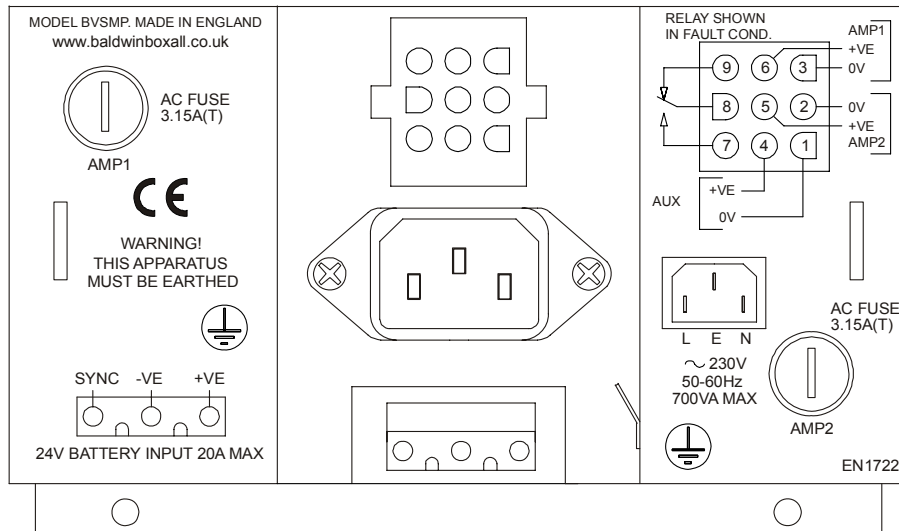
BVSMP / BVSMPLT SPECIFICATIONS

	BVSMP	BVSMPLT
AC supply input Voltage	200V – 250V 50 – 60Hz	200V – 250V 50 – 60Hz
Maximum power consumption:	700VA	350VA
Maximum inrush current @ 230V:	18A	9A
DC output 1 to amplifier 1:	31V @ 12A	31V @ 12A
DC output 2 to amplifier 2:	31V @ 12A	--
DC output 3 auxiliary mixers etc:	31V @ 2A	31V @ 1A
Battery charger output:		
Voltage @ 20 °C:	27.1V	
Temperature compensation:	-66mV/°C	
Maximum current:	3A	
Battery deep discharge cut off Voltage:	16V	
Volt free fault relay output contacts:	100V @ 1A max	
Fuse protection:		
AC supply (5 x 20mm):	2 x 3.15A(T)	1x 3.15A(T)
Battery (automotive blade):	2 x 20A	1 x 20A
Charger input (self-resettable):	6A	6A
Charger output (self-resettable):	4A	4A
Aux output (self-resettable):	1.1A	1.1A
Front panel indicators:		
AC supply	AC supply 'ON'	
OK	No Fault	
Fuse	Fuse Fault	
Charger	Charger Fault (Charger Input <29V) (Charger Output either <21V or >29V) (Charger Regulator not operating)	
Battery High Resistance	Battery High Resistance Fault (default >0.1Ω)	
Battery Low Voltage	Battery Voltage Low fault (<21V)	
Lamp test for the above indicators		
Terminations:		
AC supply input:	IEC 6A filtered connector	
24V battery input:	3-pin screw terminated connector	
DC outputs & fault relay contacts:	9-pin crimp terminated connector	

Front Panel View



BVSMP Rear Panel View



BVSMPLT Rear Panel View

