

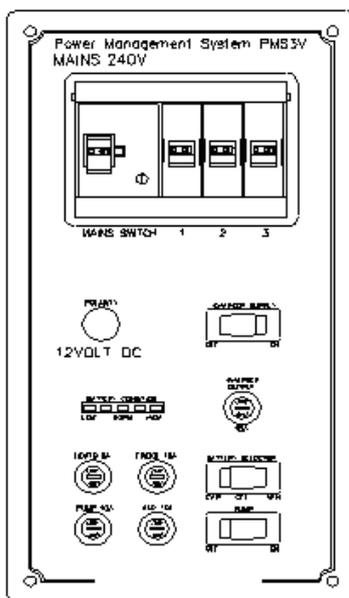
# Installation & User Instructions

## PMS3V/H

### Introduction

The PMS3 Power Management System is a 230 Volt AC mains and 12 Volt DC power control unit, providing all the necessary features for the control of the electrics in your caravan or motor home. This unit provides the following features:-

- |                   |  |
|-------------------|--|
| Mains 230 Volt AC | Earth leakage Protection<br>Over Current Protection<br>Reverse Polarity Indication   |
| 13.8 Volt DC      | Fully Stabilised Power Supply/ Battery Charger.  |
| <b>with</b>       | Short Circuit and Over- Current Protection.<br>Constant Current Limit @ 12 A<br>4 Fused Outputs<br>Battery Condition Meter<br>Battery Change Over Switch<br>Pump Isolation switch. |



The PMS 3 is designed to work *with* a battery in circuit, for optimum performance we recommend a good quality *leisure* battery.

#### Mains Protection

The 40 amp RCD (Residual Current Device) gives protection against earth faults and also acts as the mains isolation switch. This device should be tested periodically by pressing the 'test button', at which point the device should trip. The mains protection also includes three MCB's (Miniature Circuit Breakers) which are basically re-settable fuses to protect against over-current.

These MCB's will normally be connected as follows (only a guide)

- |           |                    |
|-----------|--------------------|
| MCB1(10A) | - SOCKETS          |
| MCB2(6A)  | - LIGHTING         |
| MCB3(6A)  | - FRIDGE / CHARGER |

#### Polarity Indicator

This red neon indicator mounted on the front of the unit, will illuminate if the mains input to the unit has become reversed and will require correction. Note: this indicator may illuminate whilst using certain generators, this is quite normal and safe.

### Operation

#### Power Supply/Charger

The PMS3 employs a fully automatic mains to 12 volt DC power-supply/charger which is able to provide a stable output voltage, even under load. The unit is capable of providing upto 12 amps, should this be exceeded then the PMS3 will enter current limit mode, thus preventing damage to itself and 12 volt electrics. The PMS3 will, if necessary, operate on a mains supply as low as 207 volts (making it ideal for low continental voltages) and still provide a stable (regulated) dc output voltage. To use the power-supply/charger place the rocker switch marked CHARGER SUPPLY on the front of the unit to the ON position, it should then illuminate.

#### Battery Selector Switch

- |              |  |
|--------------|--|
| VAN position | When in this position dc power is available from the caravan/motor-home battery to power all 12 volt electric circuits. If the charger is switched on, the battery will be charged up via the charger/ transformer unit.       |
| OFF position | With the charger/power-supply off, this position isolates all DC power in the caravan/motor-home.<br><b>Note:</b> The switch should be placed in this position when the caravan/motor-home is being driven between locations.  |
| CAR position | The switch can be placed in this position should the caravan/ motor-home battery become discharged and no mains power is available. Power will then be drawn from the car/main battery to power all 12 volt electric circuits. |

#### Battery Condition Meter

This electronic meter provides a 5-bar LED readout of the condition of your main or auxiliary battery. Readings should be taken as follows:

- |             |   |
|-------------|---|
| High region | Fully charged (no charge necessary)       |
| Norm region | Adequate charge (re-charge if desired)    |
| Low region  | Low charge (turn on charger to re-charge) |

#### Pump Isolation Switch

This switch is used to isolate power to the water pump in the event of a pump fault or merely as a safeguard against unwanted pump operation.

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The PMS3 is designed to be recessed into a wall, preferably at eye level and in a readily accessible position. Particular attention should be made to ventilation, ensuring that some form of air flow is available at the rear of the unit (refer to Installation Diagram, Fig 1)

- 1 First mark the required cut-out onto the surface to be removed using the template dimensions given in the Installation Diagram (See Fig 1)
- 2 Drill four 8mm holes, one in each corner of the cut-out.
- 3 Join the holes using a jig-saw or fret-saw to form a rectangular hole.
- 4 Test the unit in position and trim to fit if necessary.
- 5 The unit can now be electrically connected using the Wiring Diagram (See Fig 2). Ensure that the correct cable is used at all times as shown below and that no bare wire is visible at any connection. If in doubt consult a qualified electrician.
- 6 If your installation requires an isolation relay be fitted (normally manufacturers only) then see Fig 3 for recommended wiring.

			cable (mm <sup>2</sup> )
DC	-	Battery	4
	-	Lighting	1
	-	Pump	1.5
	-	Aux	1.5
AC	-	Sockets	1.5
	-	Fridge	1.5

- 6 Once all electrical connections have been made, push the unit into place and fix front panel with four pan-head screws.
- 7 The unit can now be tested using the procedure below.

#### Testing

- 1 Connect mains 240 volts ac to the caravan/motor-home (via mains inlet socket)
- 2 Observe mains polarity indicator status (see Unit Description)
- 3 Switch the RCD to the ON position (upwards).
- 4 Switch all MCB's to the ON position (upwards).
- 5 Place battery selector switch to VAN position (to use van/auxiliary battery power)
- 6 Check that the BATTERY CONDITION INDICATOR is in the green region, if it is not then the battery requires charging.
- 7 Place the CHARGER SUPPLY switch to the ON position, it should then illuminate to show charging is in progress. (see Battery Condition Meter section for details on when to charge battery)
- 8 The unit is now operational and will provide AC and DC power to all caravan/motor-home electrics.

#### Power whilst on the move

If your car or motor-home has been wired correctly using relays, power should be available to charge the van/auxiliary battery and power the fridge whilst on the move (fridge 12 volt power is via a fuse on the PMS3 front panel) When the ignition is turned off, both of the relays will open and disconnect the 12 volt supply. The reason for these relays is to avoid any discharge between car/main and van/auxiliary batteries or vice versa whilst the caravan/motor-home is parked with ignition turned off.

Whilst driving it is recommended that the BATTERY SELECTOR switch be placed in the OFF position to isolate the output of the charging system from the vehicle alternator.

#### Fault finding

- 1 Mains Supply - If no mains supply is available with the RCD/MCB's switched on, then check the Site Box has not tripped and the mains inlet cable is secure.
- 2 RCD/MCB tripped - Circuit breakers are usually tripped by an electrical appliance such as a kettle or fan heater, check the rating of appliances is no greater than 1.8kW

- 3 12 volt circuit failure - Check all dc fuses on PMS3. Check selector switch is in VAN position, or if in OFF position that charger is turned on.(see Battery Selector Switch section). Check in-line battery fuse has not blown.

### Specification

#### Charger/Power Supply

Input Voltage:	230 volts AC +/- 10%
Input Frequency:	47/63Hz
Output Voltage:	13.8Volts DC +/- 1%
Load Range:	12 Amps nominal
Protection:	Constant Current limit @12A
	Short circuit protection
	Input fuse on PCB @3.15A
	Reverse polarity protection
	Over-voltage protection
	Output fuse rated @15 Amps
Operating temp:	0°C to 50°C Full Load
Storage Temp:	-40°C to 85°C
Safety Standards:	BS EN60335-2-29

#### Mains

RCD:	40 amp, 30mA tripping
MCB's:	1 x 10 amp, 2 x 6 amp, type 3kA

### Product Info

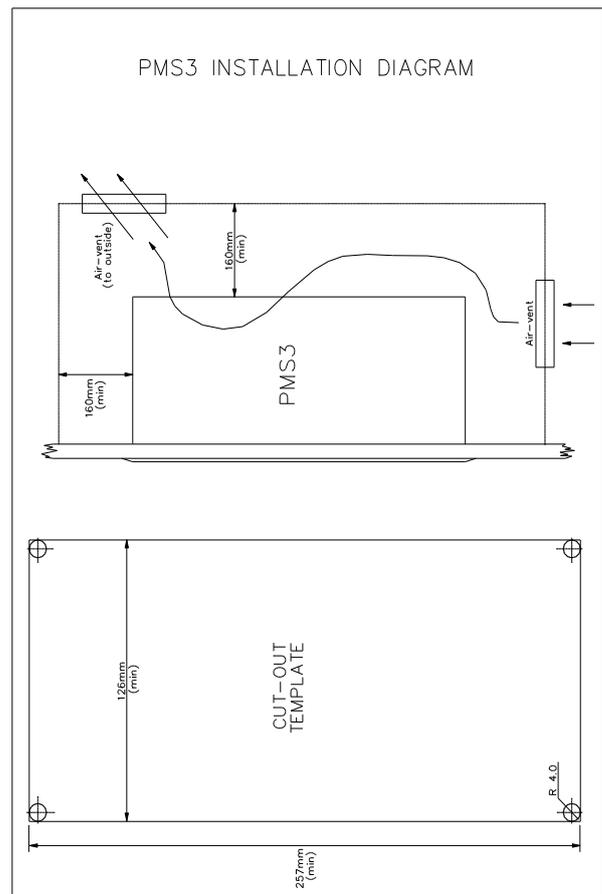


Fig 1 – Venting & Cut-out Details

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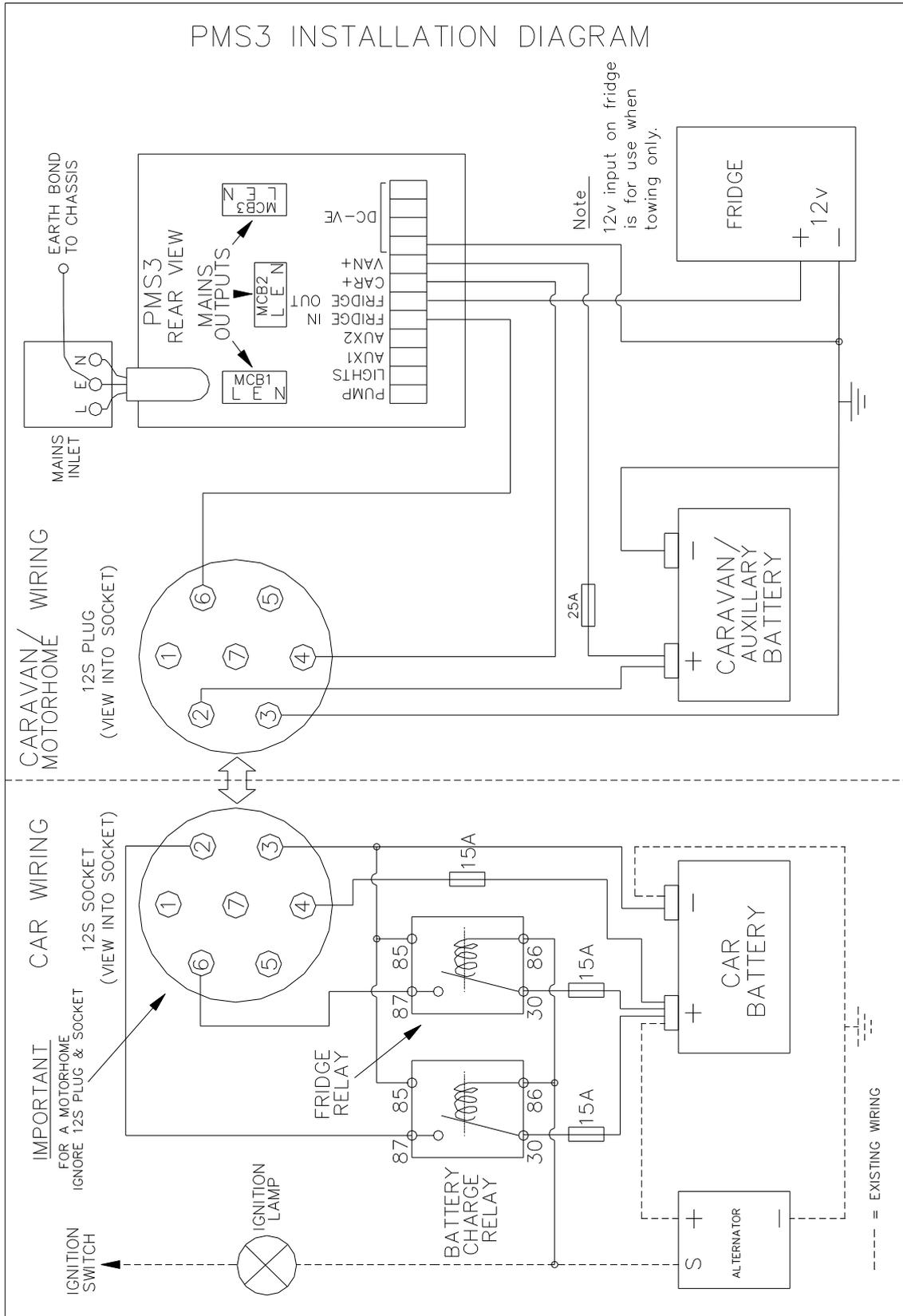


Fig 2 – Wiring Diagram