

INSULATION GUARD

25AMP INSULATION GUARD

Model No.

**ISO-25
ISO-25C**

USER MANUAL

Please read the manual before installing your Insulation Guard



ENGLISH DESCRIPTION

Introduction	3
Operation	4
Connection Diagram	5
Unit Installation	6
Specification	7

INTRODUCTION

AC power in a vehicle especially in a mobile application where AC power from the grid is not readily available is an attractive solution but brings with it certain safety and operational issues.

Within a automotive vehicle application and conformity to applicable safety legislation requires for the user safety of connected AC powered tools and equipment to / from a mains 230VAC power source generated by an DC to AC power inverter installed in a vehicle, Connection and operation of such tools and equipment outside the vehicle where a high safety hazard and potential risk of electric shock to the user would exist than an RCD (Residual Current Device) or an Invatec AC Isolation Guard must be correctly installed inline of the 230VAC inverter and AC electrical system within the vehicle, be regularly tested and conform to all relevant safety legislation and certification where applicable.

Be fully operational at all times as a safety protection device both whilst connected and whilst in use outside the vehicle.

NOTE:

If an RCD is used in the vehicle AC installation to / from a DC to AC power inverter than a GEC (Grounding Electrode Conductor) MUST be installed and always used as part of the AC power system for safety requirement of electric shock hazard. This MUST be installed at all times the vehicle is stationary and tested for correct and safe operation of Ground – Earth . This is only to be performed and confirmed by a qualified AC electrician with the correct knowledge and calibrated test equipment.

This is not always a practical option and qualified staff not always available therefore Invatec have developed the advanced solution to this issue of safety with the Invatec ISO-25 and ISO-25C.

NOTE:

If The Invatec ISO Series Isolation Guard is used in the vehicle AC installation to / from a DC to AC power inverter than a GEC (Grounding Electrode Conductor) is not required, A major safety and time saving benefit in the installation and operation of the DC to AC vehicle power system. The Invatec Isolation Guard is a fully automatic safety device that measure the electrical resistance in the vehicle AC power system wiring and will instantly switch OFF the AC power before a dangerous situation for the user can occur.



OPERATION

Is quick and simple, After normally switching ON the vehicle AC power inverter the installed Invatec ISO-25 series will make a short self-system test. After the test in complete the green LED on the unit will illuminate ON and the internal relay will switch ON the protected 230VAC supply from the vehicle AC power inverter to the installed AC vehicle electrical system outlet and to the user whilst constantly monitoring the AC power supply for potential electrical shock hazard when tools and equipment are be operated outside of the vehicle.

NOTE:

The Invatec unit automatic self-system test is safety critical before correct and safe operation of the system.

If the Invatec unit dose not operate in this procedure there may be a possible dangerous electrical safety situation detected by the unit and the green LED will not illuminate ON and the internal relay will not switch the AC power ON.

If this should be the case Switch OFF the vehicle AC power inverter at once and check the vehicle AC power inverter and vehicle AC power system for faults and possible causes before operation of the vehicle AC power system again.

You can turn the vehicle AC power inverter ON once all relevant tests and possible safety issues are resolved.

The Invatec ISO series will self-system test again, if everything is safe it will operate in the correct and safe procedure as above continuously checking the AC power system electrical resistance and instantly switching OFF the AC power supply before a dangerous situation of electrical shock hazard can occur.

The Invatec unit can be reset in this manor should the unit TRIP OUT whilst in operation but if this is the case further safety investigation as to the reason the unit isolated the AC power supply MUST be fully investigated tested and rectified before used of the vehicle AC power supply again.

NOTE:

If the Invatec unit continues to safety self-system test and detect a possible dangerous electrical safety situation further operation of the vehicle AC power inverter and vehicles AC power system should be suspended and isolated until the whole vehicle AC electrical power system can be checked rectified and confirmed safe to use by a qualified electrician.

CONNECTION DIAGRAM

Invatec ISO-25

A. AC Inverter out 230VAC



Invatec ISO-25C

A. AC Shore power (inverter in) 230VAC

B. AC Inverter out 230VAC



AC Wall socket, ISO protected output 230VAC AC Wall socket, ISO protected output 230VAC

UNIT INSTALLATION

The ISO-25 is used in combination with a separate inverter like the Invatec PS series.

The ISO-25C is used with a shore power / inverter combination.

The ISO-25C has dual input, one for shore power and one for inverter.

Check "floating" network: The Invatec ISO-25 series will only function properly in a "floating" network. The Invatec PS series inverters are standard floating.

The inverter must **not** run in powersafe / green power / search mode.
The inverter must always deliver 230 volts at the output.

SPECIFICATION

Specification:		
Model	ISO-25	ISO-25C
Voltage	230VAC	230VAC
Switching Current	25A	25A
Switching Capacity	5750W	5750W
Frequency	50-60 Hz	50-60Hz
Weight	1.75 Kg	2.05 Kg
Dimensions box (l x b x h) cm	17 x 10 x 10.5	
Connection:		
1 meter cable inverter out	x	x
1 meter cable inverter in.	o	x
3 meter cable Wall socket, IG protected output 230VAC	x	x
IP	65	65

Standards:
NEN1010-7-717, IEC 60364-7-717, DIN VDE 0100-717 (2005) Electrical installations in mobile or transportable units.

Complies with the requirements of the device standards:
DIN EN 61557-8 (VDE 0413-8), EN 61557-8, IEC 61557-8, IEC 61326-2-4, DIN EN 60664-1 (VDE 0110-1), DIN EN 60664-3 (VDE 0110-3), ASTM F1669M-96 (2007), ASTM F1207M-96 (2007)



Electronics for Mobile & Marine