

FEATURES

- Compact size
- Highly efficient switchmode design
- Less than 25 milliamp standby current draw
- Protected against spikes, surges and incorrect connections

Switchmode Voltage Reducers

SMF2, SMF5, SMF8, SMF10, SMF20, SMF30, SMF40, SMF60

FUNCTION

The SMF series of switchmode voltage reducers supply 13.6V or 13.7V +/-5% (depending on model) from a 24V negative ground automotive electrical system. They are suitable for lamps, small motors, computer and communications equipment, fridges, pumps, TV's and electronic loads to a maximum of between 2 and 60 Amps continuous rating depending on the unit. The reducers are ideally suited to applications that require a low noise output and are designed to operate sensitive radio and communication equipment.

The compact SMF series provide an ignition switched output as well as a constant output to allow for conserving radio memory.

*** SMF series switchmode voltage reducers should not be used to charge batteries. ***

*** Output voltage cannot be higher than input voltage - 1V. ***

PROTECTION

All SMF converters

are protected against voltage spikes, continuous overloads and short circuits.

SMF5 & SMF60

are also protected against reverse/swapped connections.

SMF10 to SMF60

Will REDUCE OUTPUT VOLTAGE OR SWITCH OFF in the event of an overload or short circuit, resetting automatically when the overload or short is removed. The load is protected by an independent over-voltage protection circuit. All protection is fully electronic and does not rely on relays or fuses.

PRECAUTIONS

SMF2,5 & 8 should be mounted in a sheltered location inside the vehicle. Steam cleaning, high pressure cleaning and water spray must be avoided.

SMF10 to SMF60 are fully potted in a silicon elastomer and are suitable for installations in locations external to the vehicle. High pressure cleaning should be avoided.

COMPACT SWITCHMODE REDUCERS

MODEL	SMF2	SMF5	SMF8
Supply Range	19-33VDC	15-33VDC	16-33VDC
O/P Current Rating	2 Amps	5 Amps	8 Amps
O/P Voltage	13.6VDC		
I/P Fuse Rating	2A	5A	10A
Operating Temperature	-10°C to +50°C		
Conversion Efficiency	>90%		
Standby Current Draw	15mA	25mA	20mA
Dimensions(mm)	90x45x30	100x45x30	125x45x30
Weight	185g	210g	270g
Warranty	2 years		

CONNECTIONS

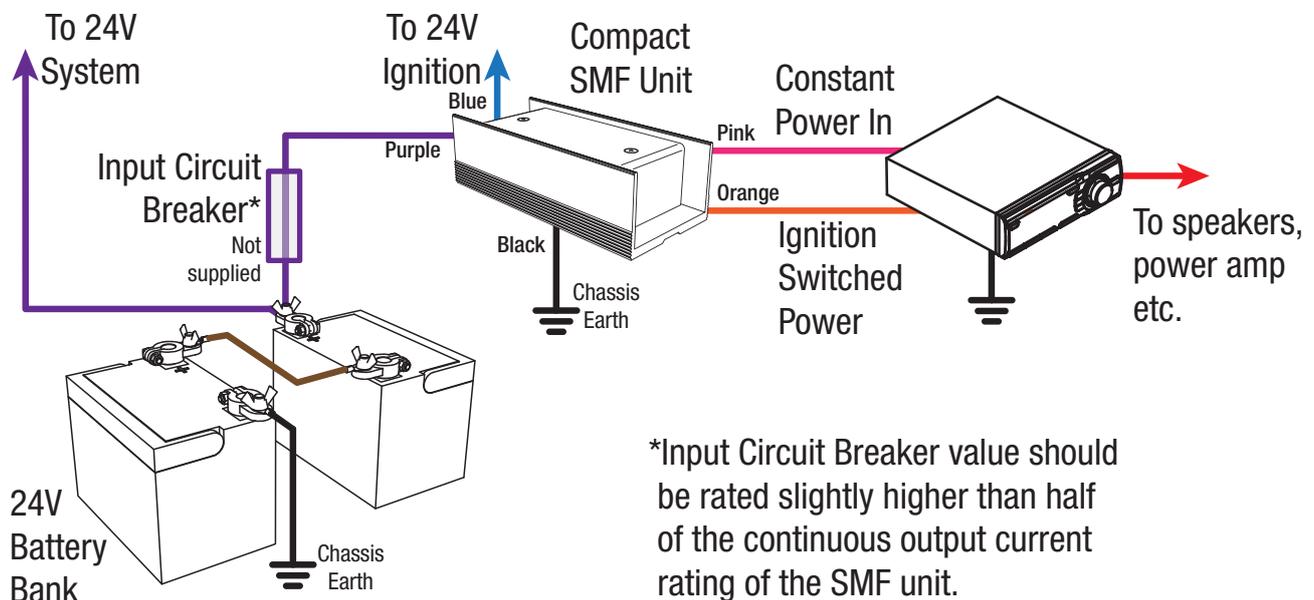
There are five connecting wires, to be connected as shown:

VIOLET WIRE	24V SUPPLY INPUT
PINK WIRE	CONSTANT 13.6V OUTPUT
BLUE WIRE	24V FROM IGN SWITCH
ORANGE WIRE	IGN SWITCHED 13.6V OUTPUT
BLACK WIRE	NEGATIVE GROUND

The metal case is internally connected to GROUND (BLACK wire).

During installation, fuses or circuit breakers (not provided) must be fitted to the input side of the unit. The recommended sizes are outlined in the table above.

DIAGRAM



STANDARD SWITCHMODE REDUCERS

MODEL	SMF10	SMF20	SMF30	SMF40	SMF60
I/P Volts Nominal	17-33V				
I/P Fuse Rating	7.5A	15A	20A	25A	40A
Output Current Rating	10A	20A	30A	40A	60A
Max. O/P Current	11A	22A	33A	44A	66A
Output Voltage	13.7V				
Conversion Efficiency	>90%				
Line Regulation	<0.1V	<0.1V	<0.1V	<0.1V	<0.1V
Load Regulation	<0.5V	<0.5V	<0.5V	<0.5V	<0.5V
Dimensions(mm)	100x135x50	160x135x50	160x135x60	160x135x60	220x135x67
Weight	600g	900g	1.1kg	1.1kg	1.3kg
Warranty	2 years				

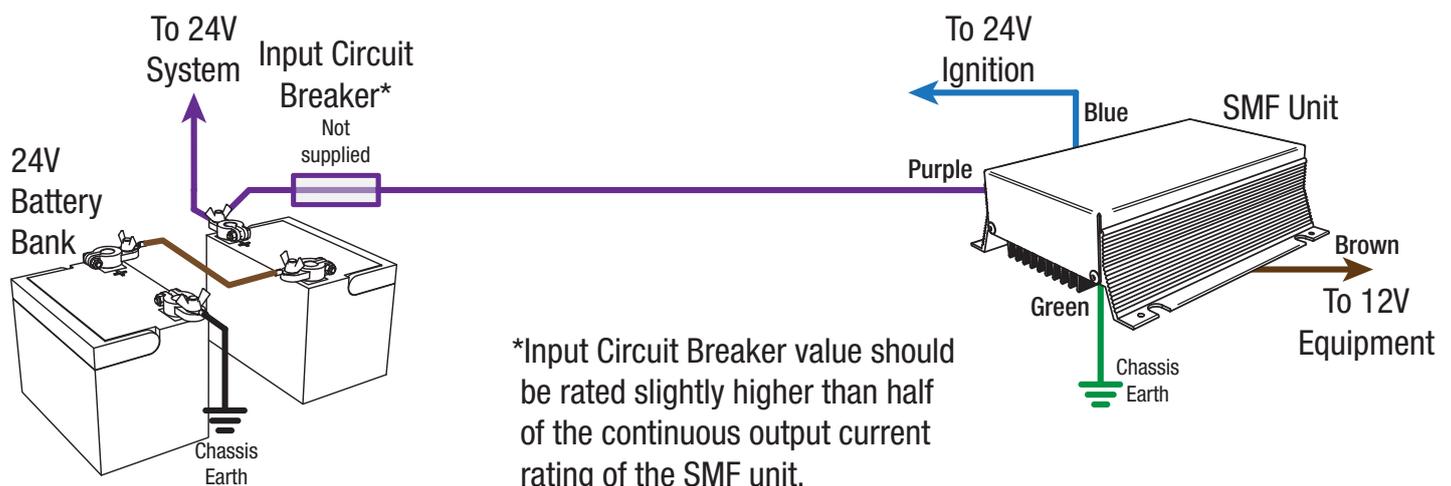
CONNECTIONS

The SMF series converters have four connecting wires:

- VIOLET WIRE +24VDC SUPPLY POSITIVE TERMINAL
- BLUE WIRE +24VDC CONTROL INPUT TO IGNITION POWER
- BROWN WIRE +13.7VDC OUTPUT
- GREEN WIRE GROUND (internally connected to case). EARTHED TO CHASSIS

These wires may be connected in any order. The VIOLET wire can be permanently connected to 24V (the fuse should be removed for long term storage), as the SMF series converters draw less than 10 mA when the BLUE ignition wire is switched off. When installing the SMF Voltage Converter the heatsink must be grounded.

DIAGRAM



TWO YEAR PRODUCT WARRANTY

Over the last three decades our company has established a reputation as the power conversion specialist.

A 100% Australian-owned company, we have met the needs of customers in transport and other industries through exciting, innovative thinking.

We believe in total customer satisfaction and practice this by offering our customers:

- Technical advice free of jargon and free of charge
- Prompt turnaround of orders throughout Australia and globally
- Friendly, personalised, professional service and product support

In the unlikely event that a technical issue arises with a REDARC product, customers are encouraged to initially contact the REDARC Technical Support Team on (08) 8322 4848 or power@redarc.com.au for prompt and efficient diagnosis and product support.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The benefits of this Warranty are in addition to other rights and remedies available at law in respect of the Products and shall not derogate from any applicable mandatory statutory provisions or rights under the Australian Consumer Law.

REDARC Electronics Pty Ltd at the REDARC Trust trading as REDARC Electronics ("REDARC") offers a warranty in respect of its Products where the Products are purchased from an authorised distributor or reseller of REDARC by a person ("Purchaser"), on the terms and conditions, and for the duration, outlined below in this document ("Warranty").

1. In this Warranty, the term **Products** means:
 - 1.1 all products manufactured or supplied by REDARC (excluding its solar products which are covered by REDARC's Solar Product Warranty); and
 - 1.2 any component of or accessory for any product in clause 1.1 manufactured or supplied by REDARC.

Offer and duration of product warranties

2. REDARC warrants that its Products will be free, under normal application, installation, use and service conditions, from defects in materials and workmanship affecting normal use, for **2 years** from the date of purchase (**Warranty Period**).
3. Where a Product malfunctions or becomes inoperative during the Warranty Period, due to a defect in materials or workmanship, as determined by REDARC, then subject to further rights conferred by the Australian Consumer Law on the Purchaser, REDARC will, in exercise of its sole discretion, either:
 - 3.1 repair the defective Product;
 - 3.2 replace the defective Product; or
 - 3.3 provide a refund to the Purchaser for the purchase price paid for the defective Product,without charge to the Purchaser.
4. The warranty given by REDARC in clause 3 covers the reasonable costs of delivery and installation of any repaired or replaced Products or components of Products to the Purchaser's usual residential address notified to REDARC, together with the reasonable costs of removal and return of any Products determined by REDARC to be defective.
5. If the Purchaser incurs expenses of the nature referred to in clause 4 in the context of making a claim pursuant to this Warranty that is accepted by REDARC, the Purchaser will be entitled to claim for reimbursement of those expenses which REDARC determines, in exercise of its sole discretion, to be reasonably incurred, provided that the claim is notified to REDARC in writing at the postal address or email address specified in clause 21 and includes:
 - 5.1 details of the relevant expenses incurred by the Purchaser; and
 - 5.2 proof of the relevant expenses having been incurred by the Purchaser.

Exclusions and limitations

6. This Warranty will not apply to, or include any defect, damage, fault, failure or malfunction of a Product, which REDARC determines, in exercise of its sole discretion, to be due to:
 - 6.1 normal wear and tear or exposure to weather conditions over time;
 - 6.2 accident, misuse, abuse, negligence, vandalism, alteration or modification;
 - 6.3 non-observance of any of the instructions supplied by REDARC, including instructions concerning installation, configuring, connecting, commissioning, use or application of the Product, including without limitation choice of location;
 - 6.4 failure to ensure proper maintenance of the Product strictly in accordance with REDARC's instructions or failure to ensure proper maintenance of any associated equipment or machinery;
 - 6.5 repairs to the Product that are not strictly in accordance with REDARC's instructions;
 - 6.6 installation, repairs or maintenance of the Product by, or under the supervision of, a person who is not a qualified auto electrician or technician, or if non-genuine or non-approved parts have been fitted;
 - 6.7 faulty power supply, power failure, electrical spikes or surges, lightning, flood, storm, hail, extreme heat, fire or other occurrence outside the control of REDARC;
 - 6.8 use other than for any reasonable purpose for which the Product was manufactured;
 - 6.9 any indirect or incidental damage of whatever nature outside the control of REDARC.
7. Warranty claims in respect of a Product must be made in writing to REDARC at the postal address or email address specified in clause 21 within the Warranty Period. Such claims must include the following:
 - 7.1 details of the alleged defect or fault and the circumstances surrounding the defect or fault;
 - 7.2 evidence of the claim, including photographs of the Product (where the subject of the claim is capable of being photographed);
 - 7.3 the serial number of the Product, specified on the label affixed to the Product; and
 - 7.4 proof of purchase documentation for the Product from an authorised distributor or reseller of REDARC, which clearly shows the date and place of purchase.The return of any Products without the prior written instructions of REDARC will not be accepted by REDARC.

8. Without limiting any other clause in this Warranty, REDARC has the right to reject any Warranty claim made by a Purchaser pursuant to this Warranty where:
 - 8.1 the Purchaser does not notify REDARC in writing of a Warranty claim within the Warranty Period;
 - 8.2 the Purchaser does not notify REDARC in writing of a Warranty claim within 1 month of becoming aware of the relevant circumstances giving rise to the claim, so that any further problems with the Product are minimised;
 - 8.3 the serial number of the Product has been altered, removed or made illegible without the written authority of REDARC;
 - 8.4 the Purchaser is unable to provide proof of purchase documentation in accordance with clause 7.4 or evidence that the Product was properly installed and removed (if relevant), and that proper maintenance has been performed on the Product, by, or under the supervision of, a qualified auto electrician or technician, in accordance with the instructions of REDARC.
9. If the Product is found to be working satisfactorily on return to REDARC or upon investigation by REDARC, the Purchaser must pay REDARC's reasonable costs of testing and investigating the Product in addition to shipping and transportation charges. Where REDARC is in possession of the Product, the Product will be returned to the Purchaser on receipt of the amount charged.
10. Any replaced Products or components of Products shall become the property of REDARC.
11. REDARC may, in exercise of its sole discretion, deliver another type of Product or component of a Product (different in size, colour, shape, weight, brand and/or other specifications) in fulfilling its obligations under this Warranty, in the event that REDARC has discontinued manufacturing or supplying the relevant Product or component at the time of the Warranty claim, or where such Product or component is superior to that originally purchased by the Purchaser.

Other conditions of Warranty

12. If the Purchaser acquired a Product for the purpose of resupply, then this Warranty shall not apply to that Product.
13. In particular, the sale of a Product via an online auction, online store or other internet website by a party that is not an authorised distributor or reseller of the Product will be deemed to be a resupply within the meaning of the Australian Consumer Law and will render this Warranty void, as REDARC has no control over the storage, handling, quality or safety of Products sold by such persons.
14. A Purchaser shall only be entitled to the benefit of this Warranty after all amounts owing in respect of the Product have been paid.
15. While REDARC warrants that the Products will be free from defects in materials and workmanship in the circumstances set out in this Warranty, to the maximum extent permitted by law REDARC does not warrant that the operation of the Products will be uninterrupted or error-free.
16. To the maximum extent permitted by law, REDARC's determination of the existence of any defect and the cause of any defect will be conclusive.
17. Spare parts or materials for the Products are guaranteed to be available for a period of at least 2 years after purchase of the Products.
18. The agents, officers and employees of any distributor or reseller of the Products and of REDARC are not authorised to vary or extend the terms of this Warranty.
19. REDARC shall not be responsible or liable to the Customer or any third party in connection with any non-performance or delay in performance of any terms and conditions of this Warranty, due to acts of God, war, riots, strikes, warlike conditions, plague or other epidemic, fire, flood, blizzard, hurricane, changes of public policies, terrorism and other events which are beyond the control of REDARC. In such circumstances, REDARC may suspend performance of this Warranty without liability for the period of the delay reasonably attributable to such causes.
20. If a clause or part of a clause in this Warranty can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way. If any clause or part of a clause in this Warranty is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this Warranty, but the rest of this Warranty is not affected.

REDARC's contact details

21. REDARC's contact details for the sending of Warranty claims under this Warranty are:

REDARC Electronics Pty Ltd
23 Brodie Road (North), Lonsdale SA 5160
Email: power@redarc.com.au
Telephone: +61 8 8322 4848