

# — APPLICATION NOTE

## REVERSE POLARITY PROTECTION

This Application Note applies to the following XP Power Product Series and describes how to protect an XP Power high voltage supply from a negative input voltage. A negative input voltage may cause damage to the unit.

- A Series
- CB Series
- FS Series
- P Series
- AG Series
- DX Series
- G Series
- Q Series
- C Series
- E Series
- GP Series
- CA Series
- F Series
- L Series

This Application Note does not apply to the following XP Power Product Series, which do not need additional protection.

- 4000 Series
- H Series

## Safety Warning

High voltage power supplies present a serious risk of personal injury if not used in accordance with design and/or use specifications, if used in applications on products for which they are not intended or designed, or if they are used by untrained or unqualified personnel.

For more information, please refer to the XP Power Safety Warning and Disclaimer at the end of this document.

## General Information

All XP Power units require a low voltage DC input for power. Typically, this input is specified as positive with respect to ground. If a negative voltage is applied instead of a positive voltage, the XP Power unit may be damaged. To protect against this reverse polarity input condition, place a diode in series with the input to the converter as shown in Figure 1.

- A Schottky diode is preferred because it introduces a lower voltage drop than a silicon diode.
- Select a diode with a voltage rating that is higher than the highest reverse voltage the circuit might get.
- Select a diode with a current rating that is higher than the max. input current rating of the XP Power model.

See the product series data sheets for more information on input voltage and input current specifications.

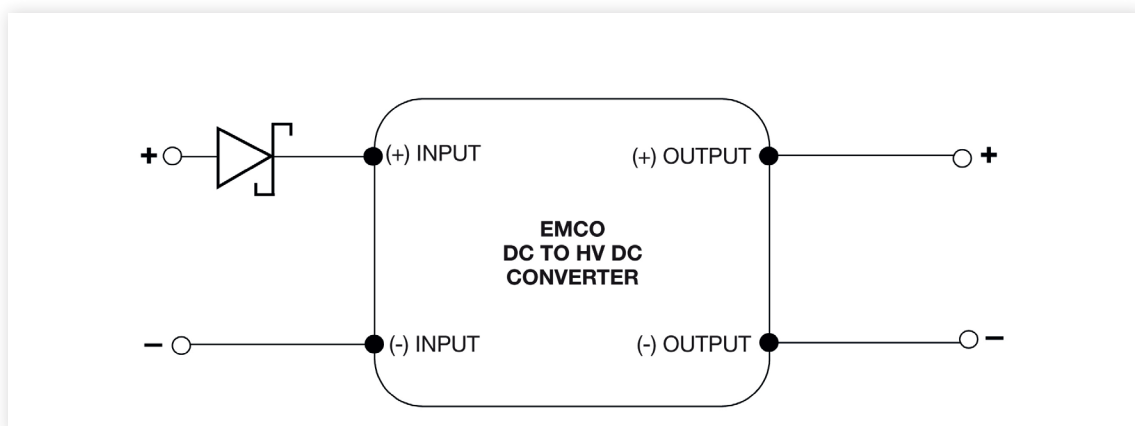


Figure 1

## Safety Information

High voltage power supplies present a serious risk of personal injury if not used in accordance with design and/or use specifications, if used in applications on products for which they are not intended or designed, or if they are used by untrained or unqualified personnel. Before testing, incorporating or using XP Power's products, read, understand and thereafter adhere to all instructions, protocol, cautions and safety procedures applicable not only to XP Power's products but to each product and/or application into which XP Power's products are incorporated or assembled, as well as industry standard safe practices and rules and regulations regarding the use of high voltage.