

Reverse Polarity Protection

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

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

This Application Note does not apply to the following XP EMCO 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 EMCO Safety Warning and Disclaimer located at:

<http://www.xppower.com/High-Voltage/Safety-Warning-Concern-HV.pdf>

General Information

All XP EMCO 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 EMCO 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 EMCO model.

See the product series Data Sheets for more information on input voltage and input current specifications.

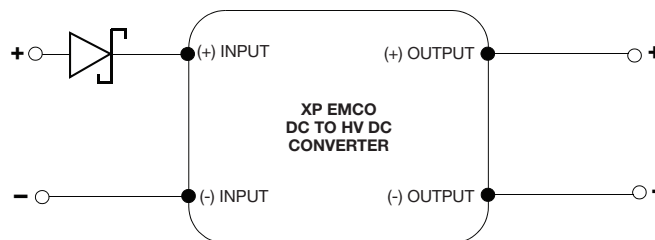


Figure 1

XP EMCO Main Office

1 EMCO Court, Sutter Creek, CA 95685 • (800) 546-3680 • (209) 267-1630 • www.xppower.com

We reserve the right to make changes without notification. AN7-A03