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Application Note Number ..140...

Product : Astec Power Supplies
Application Overview: EN61000-3-2 Mains Harmonic Correction requirements for power supplies

Originator: G. Fry

Location: Merry Hill

Date: 26/7/00

Description

EN61000-3-2 will come into effect on January 1st 2001. However the standard as it is written at present is subject to change. An amendment prA14 has been circulated to European national bodies for voting, the closing date for which is 15th September 2000.

The proposed changes will have an impact on the switch mode power supplies made by Astec in the following ways.

At present switch mode power supplies (without harmonic correction circuits), fall under the class D description of the standard due to the input current wave shape. In the amended version the classification is changed so that the Class will define application and not wave shape. The limits do not change.

The new classifications will be : (extract from new version of standard)

Class	Current Version of EN61000-3-2	Amendment prA14
Class A	Balanced three-phase equipment and all other equipment, except that stated in one of the following classes.	- Balanced three-phase equipment, - Household appliances excluding equipment identified as Class D - Tools excluding portable tools - Dimmers for incandescent lamps
Class B	Portable tools	Portable tools
Class C	Lighting equipment, including dimming devices	Lighting equipment
Class D	Equipment having an input current with a "special wave shape" and an active input power less than or equal to 600 W.	Equipment having a specified input power less than or equal to 600 W, of the following types: - Personal computers and personal computer monitors - Television receivers and video cassette recorders - Multimedia devices which are not professional equipment - Printers which are not professional equipment - Fax Machines which are not professional equipment

Equipment not specified in one of the above classes shall be considered as Class A equipment.

Professional Equipment is defined in EN61000-3-2 section 3.15 as: Equipment for use in trades, professions, or industries and which is not intended for sales to the general public.

Therefore since most applications of Astec Standard Power are in professional equipment this would fall into Class A. Class A has absolute limits whereas Class D has input power related limits. The outcome of this is that many low power switch mode power supplies would now meet the requirements without additional circuitry to add harmonic correction chokes or active circuits. However personal computer power supplies would need harmonic correction as they are classified under Class D.