AS 61800.3—2005
IEC 61800-3, Ed.2.0 (2004)

AS 61800.3—2005

Australian Standard™

Adjustable speed electrical power drive systems

Part 3: EMC requirements and specific test methods

STANDARDS AUSTRALIA

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Australian British Chamber of Commerce
Australian Electrical and Electronic Manufacturers Association
Energy Networks Association
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Part 3: EMC requirements and specific test methods

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-027, Power Electronics to supersede AS 61800.3—2001.

The objective of this Standard is to provide manufacturers, regulators, test laboratories and users with electromagnetic compatibility (EMC) requirements for electrical power drives.

This Standard is identical with, and has been reproduced from, IEC 61800-3, Ed.2.0 (2004), *Adjustable speed electrical power drive systems Part 3: EMC requirements and specific test methods*.

Explanatory notes have been added to table 17 (in clause 6.4.2.2).

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this international standard’ should read ‘this Australian Standard’.

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The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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1 Scope and object

This part of IEC 61800 specifies electromagnetic compatibility (EMC) requirements for power drive systems (PDSs). A PDS is defined in 3.1. These are adjustable speed a.c. or d.c. motor drives. Requirements are stated for PDSs with converter input and/or output voltages (line-to-line voltage), up to 35 kV a.c. r.m.s.

PDSs covered by this standard are those installed in residential, commercial and industrial locations with the exception of traction applications, and electric vehicles. PDSs may be connected to either industrial or public power distribution networks. Industrial networks are supplied by a dedicated distribution transformer, which is usually adjacent to or inside the industrial location, and supplies only industrial customers. Industrial networks can also be supplied by their own electric generating equipment. On the other hand, PDSs can be directly connected to low-voltage public mains networks which also supply domestic premises, and in which the neutral is generally earthed (grounded).

The scope of this part of IEC 61800, related to EMC, includes a broad range of PDSs from a few hundred watts to hundreds of megawatts. PDSs are often included in a larger system. The system aspect is not covered by this standard but guidance is provided in the informative annexes.

The requirements have been selected so as to ensure EMC for PDSs at residential, commercial and industrial locations. The requirements cannot, however, cover extreme cases which may occur with an extremely low probability. Changes in the EMC behaviour of a PDS, as a result of fault conditions, are not taken into account.

The object of this standard is to define the limits and test methods for a PDS according to its intended use. This standard includes immunity requirements and requirements for electro-magnetic emissions.

NOTE 1 Emission can cause interference in other electronic equipment (for example radio receivers, measuring and computing devices). Immunity is required to protect the equipment from continuous and transient conducted and radiated disturbances including electrostatic discharges. The emission and immunity requirements are balanced against each other and against the actual environment of the PDS.

This standard defines the minimum EMC requirements for a PDS.

Immunity requirements are given according to the environment classification. Low-frequency emission requirements are given according to the nature of the supply network. High-frequency emission requirements are given according to four categories of intended use, which cover both environment and bringing into operation.

As a product standard, this standard may be used for the assessment of PDS. It may also be used for the assessment of CDM or BDM (see 3.1), which can be marketed separately.