



NSAI
Standards

Irish Standard
I.S. EN 50491-5-1:2010

General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) -- Part 5-1: EMC requirements, conditions and test set-up

I.S. EN 50491-5-1:2010

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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| <i>This document replaces:</i> EN 50090-2-2:1996 (partially) | <i>This document is based on:</i> EN 50491-5-1:2010 | <i>Published:</i> 23 April, 2010 |
| This document was published under the authority of the NSAI and comes into effect on: 6 May, 2010 | | ICS number: 97.120 |
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English version

**General requirements for Home and Building Electronic Systems (HBES)
and Building Automation and Control Systems (BACS) -
Part 5-1: EMC requirements, conditions and test set-up**

Exigences générales relatives
aux systèmes électroniques pour
les foyers domestiques et les bâtiments
(HBES) et aux Systèmes de Gestion
Technique du Bâtiment (SGTB) -
Partie 5-1: CEM Exigences générales,
condition et montage d'essais

Allgemeine Anforderungen
an die Elektrische Systemtechnik für Heim
und Gebäude (ESHG) und an Systeme
der Gebäudeautomation (GA) -
Teil 5-1: EMV-Anforderungen,
Bedingungen und Prüfungen

This European Standard was approved by CENELEC on 2010-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared by a joint working group of CLC/TC 205, Home and Building Electronic Systems (HBES) and CEN/TC 247, Building Automation, Controls and Building Management (BACS). It was submitted to the formal vote and was accepted by CENELEC as EN 50491-5-1 on 2010-04-01.

This document supersedes the relevant parts of EN 50090-2-2:1996¹⁾; it is referenced by CEN/TC 247 and CLC/TC 205.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates are proposed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2011-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2013-04-01

As a result of the discussions at the CLC/TC 205 meeting on 2004-10-5/6 concerning the structuring of their standards in general parts and open system parts (see CLC/TC 205/Sec0413/INF) the following new parts of EN 50491 under the generic title “*General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS)*” under the task of the JWG CEN/TC 247–CLC/TC 205 are proposed:

- Part 2 Environmental conditions;
- Part 3 Electrical safety requirements;
- Part 4-1²⁾ Functional safety requirements (for non safety related systems);
- Part 4-2²⁾ Functional safety requirements (for safety related systems);
- Part 5-1 EMC requirements, conditions and test set-up;
- Part 5-2 EMC requirements for HBES/BACS used in residential, commercial and light industry environment;
- Part 5-3 EMC requirements for HBES/BACS used in industry environment.

This draft European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive EMC Directive 2004/108/EC. See Annex ZZ.

¹⁾ EN 50090-2-2:1996 + Corr. Mar 1997 + A1:2002 + A2:2007, *Home and Building Electronic Systems (HBES) – Part 2-2: System overview – General technical requirements*

²⁾ Under consideration.

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Introduction

EN 50491 series deals with developing and testing Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS).

The expression HBES/BACS covers any combination of HBES and/or BACS products including their separate connected/detachable devices linked together via one or more networks.

Part 5 of this series applies to HBES/BACS devices to ensure a common level of EMC requirements.

1 Scope

This product family standard sets the minimum level of EMC performance for HBES/BACS products intended to be connected to an HBES/BACS system.

A set of devices connected to perform a stand alone application is not considered to be an HBES/BACS system and therefore are outside the scope of this European Standard.

This European Standard provides the general performance requirements and test setups for EMC for all products connected to HBES/BACS.

This connection can be wired (e.g. communication cable, power line) or wireless (e.g. radiofrequency, infrared).

This European Standard is applicable (but not limited) to

- operator stations and other human system interface devices,
- devices for management functions,
- control devices, automation stations and application specific controllers,
- field devices and their interfaces,
- cabling and interconnection of devices,
- dedicated devices for engineering and commissioning tools for HBES/BACS.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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|-------------------|---|
| EN 50065 (series) | Signalling on low-voltage electrical installations in the frequency range 3 kHz to 148,5 kHz and 1,6 MHz to 30 MHz |
| EN 50428 | Switches for household and similar fixed electrical installations – Collateral standard – Switches and related accessories for use in home and building electronic systems (HBES) |
| EN 50491-3:2009 | General requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) – Part 3: Electrical safety requirements |
| EN 55022 | Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement (CISPR 22, mod.) |
| EN 60669-2-1 | Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic switches (IEC 60669-2-1, mod.) |
| EN 60730 (series) | Automatic electrical controls for household and similar use (IEC 60730 series, mod.) |
| EN 61000-3-2 | Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase (IEC 61000-3-2) |

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