



National Standards Authority of Ireland
Údarás um Chaighdeáin Náisiúnta na hÉireann

IRISH STANDARD

I.S. EN 60947-5-9:2007

ICS 29.130.20

**LOW-VOLTAGE SWITCHGEAR AND
CONTROLGEAR -- PART 5-9: CONTROL
CIRCUIT DEVICES AND SWITCHING
ELEMENTS - FLOW RATE SWITCHES (IEC
60947-5-9:2006 (EQV))**

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EUROPEAN STANDARD

EN 60947-5-9

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2007

ICS 29.130.20

English version

**Low-voltage switchgear and controlgear -
Part 5-9: Control circuit devices and switching elements -
Flow rate switches
(IEC 60947-5-9:2006)**

Appareillage à basse tension -
Partie 5-9: Appareils et éléments
de commutation pour circuit
de commande -
DéTECTEURS DE DÉBIT
(CEI 60947-5-9:2006)

Niederspannungsschaltgeräte -
Teil 5-9: Steuergeräte und
Schaltelemente -
Durchflussmengenschalter
(IEC 60947-5-9:2006)

This European Standard was approved by CENELEC on 2007-09-01. 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, 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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Foreword

The text of document 17B/1500/FDIS, future edition 1 of IEC 60947-5-9, prepared by SC 17B, Low-voltage switchgear and controlgear, of IEC TC 17, Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60947-5-9 on 2007-09-01.

This standard is to be used in conjunction with EN 60947-1:2004 and EN 60947-5-2:1998.

The provisions of the general rules, EN 60947-1, are applicable to this part of EN 60947, where specifically called for. General rules clauses and subclauses thus applicable, as well as tables, figures and annexes are identified by a reference to IEC 60947-1, for example 1.2.3 or Annex A of IEC 60947-1.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2008-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2010-09-01

This 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 (2004/108/EC). See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60947-5-9:2007 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|------------------------|-------------|---|--------------------------------|----------------------------|
| IEC 60446 | 1999 | Basic and safety principles for man-machine interface, marking and identification - Identification of conductors by colours or numerals | EN 60446 | 1999 ¹⁾ |
| IEC 60947-1 | 2004 | Low-voltage switchgear and controlgear - Part 1: General rules | EN 60947-1 + corr. November | 2004 ²⁾ 2004 |
| IEC 60947-5-2 (mod) | 1997 | Low-voltage switchgear and controlgear - Part 5-2: Control circuit devices and switching elements - Proximity switches | EN 60947-5-2 | 1998 |
| A1 | 1999 | | A1 | 1999 |
| A2 | 2003 | | A2 | 2004 |
| IEC 61000-3-2 | 2005 | Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤16 A per phase) | EN 61000-3-2 | 2006 |
| IEC 61000-3-3 | 1994 | Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection | EN 61000-3-3 + corr. July | 1995 1997 |
| A1 | 2001 | | A1 | 2001 |
| A2 | 2005 | | A2 | 2005 |
| IEC 61000-4-2 | 1995 | Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test | EN 61000-4-2 | 1995 |
| A1 | 1998 | | A1 | 1998 |
| A2 | 2000 | | A2 | 2001 |
| IEC 61000-4-3 | 2006 | Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test | EN 61000-4-3 | 2006 |
| IEC 61000-4-4 | 2004 | Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test | EN 61000-4-4 | 2004 |

¹⁾ EN 60446:1999 is superseded by EN 60446:2007, which is based on IEC 60446:2007.

²⁾ EN 60947-1:2004 is superseded by EN 60947-1:2007, which is based on IEC 60947-1:2007.

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| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|-------------------------------|----------------------|--|--------------------------------|--------------|
| IEC 61000-4-6 + A1 + A2 | 2003 2004 2006 | Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields | EN 61000-4-6 + corr. August | 2007 2007 |
| IEC 61000-4-8 A1 | 1993 2000 | Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test | EN 61000-4-8 A1 | 1993 2001 |
| IEC 61000-4-11 | 2004 | Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests | EN 61000-4-11 | 2004 |
| IEC 61000-4-13 | 2002 | Electromagnetic compatibility (EMC) - Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests | EN 61000-4-13 | 2002 |
| IEC 61140 A1 (mod) | 2001 2004 | Protection against electric shock - Common aspects for installation and equipment | EN 61140 A1 | 2002 2006 |
| IEC 61558-2-6 | 1997 | Safety of power transformers, power supply units and similar - Part 2-6: Particular requirements for safety isolating transformers for general use | EN 61558-2-6 | 1997 |
| CISPR 11 (mod) + A1 | 2003 2004 | Industrial, scientific and medical (ISM) radio-frequency equipment - Electromagnetic disturbance characteristics - Limits and methods of measurement | EN 55011 | 2007 |

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