



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 60870-2-1:1999

ICS 29.020  
33.200

**TELECONTROL EQUIPMENT AND SYSTEMS.  
PART 2: OPERATING CONDITIONS.  
SECTION 1: POWER SUPPLY AND  
ELECTROMAGNETIC COMPATIBILITY  
(IEC 870-2-1:1995)**

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EUROPEAN STANDARD

**EN 60870-2-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1996

ICS 29.020; 33.200

Supersedes HD 546.2.1 S1:1991

**Descriptors:** Telecontrol, electric power supply, electromagnetic compatibility, earthing, operating condition, environmental condition, immunity, emission, harmonic content, insulation withstand voltage, data transmission, teleprotection, distribution line carrier system, distribution automation system

English version

**Telecontrol equipment and systems**  
**Part 2: Operating conditions**  
**Section 1: Power supply and electromagnetic compatibility**  
**(IEC 870-2-1:1995)**

**Matériels et systèmes de téléconduite**  
**Partie 2: Conditions de fonctionnement**  
**Section 1: Alimentation et compatibilité**  
**électromagnétique**  
**(CEI 870-2-1:1995)**

**Fernwirkereinrichtungen und -systeme**  
**Teil 2: Betriebsbedingungen**  
**Hauptabschnitt 1: Stromversorgung und**  
**elektromagnetische Verträglichkeit**  
**(IEC 870-2-1:1995)**

This European Standard was approved by CENELEC on 1995-11-28. 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.

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**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

### Foreword

The text of document 57/217/FDIS, future edition 2 of IEC 870-2-1, prepared by IEC TC 57, Power system control and associated communications, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60870-2-1 on 1995-11-28.

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) 1996-09-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 1996-09-01

Annexes designated "normative" are part of the body of the standard.

In this standard, annex ZA is normative.

Annex ZA has been added by CENELEC.

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### Endorsement notice

The text of the International Standard IEC 870-2-1:1995 was approved by CENELEC as a European Standard without any modification.

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**Annex ZA (normative)****Normative references to international publications  
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These *normative references* are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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 38 (mod)	1983	IEC standard voltages <sup>1)</sup>	HD 472 S1	1989
IEC 50(161)	1990	International electrotechnical vocabulary (IEV) Chapter 161: Electromagnetic compatibility	-	-
IEC 60	series	High-voltage test techniques	HD 588.1 S1 EN 60060-2	1991 1994
IEC 664-1	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	-	-
IEC 1000-3-2	1995	Electromagnetic compatibility (EMC) Part 3: Limits - Section 2: Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)	EN 61000-3-2 + A12	1995 1996
IEC 1000-3-3	1994	Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current up to and including 16 A	EN 61000-3-3	1995
IEC 1000-4-1	1992	Part 4: Testing and measurement techniques - Section 1: Overview of immunity tests	EN 61000-4-1	1994
IEC 1000-4-2	1995	Section 2: Electrostatic discharge immunity test	EN 61000-4-2	1995
IEC 1000-4-3	1995	Section 3: Radiated, radio-frequency, electromagnetic field immunity test	-	-
IEC 1000-4-4	1995	Section 4: Electrical fast transient/burst immunity test	EN 61000-4-4	1995

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1) The title of HD 472 S1 is: Nominal voltages for low voltage public electricity supply systems.

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**EN 60870-2-1:1996**

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 1000-4-5	1995	Section 5: Surge immunity test	EN 61000-4-5 <sup>2)</sup>	1995
IEC 1000-4-6 <sup>3)</sup>		Section 6: Immunity to conducted disturbances, induced by radio-frequency fields	-	-
IEC 1000-4-8	1993	Section 8: Power frequency magnetic field immunity test	EN 61000-4-8	1993
IEC 1000-4-9	1993	Section 9: Pulse magnetic field immunity test	EN 61000-4-9	1993
IEC 1000-4-10	1993	Section 10: Damped oscillatory magnetic field immunity test	EN 61000-4-10	1993
IEC 1000-4-11	1994	Section 11: Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	1994
CISPR 22	1993	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	EN 55022	1994

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2) EN 61000-4-5 includes corrigendum October 1995 to IEC 1000-4-5.

3) At present at the stage of draft international standard.

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