



National Standards Authority of Ireland
Údarás um Chaighdeáin Náisiúnta na hÉireann

IRISH STANDARD

I.S. EN 50160:2007

ICS 29.020

**VOLTAGE CHARACTERISTICS OF
ELECTRICITY SUPPLIED BY PUBLIC
DISTRIBUTION NETWORKS**

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English version

**Voltage characteristics of electricity
supplied by public distribution networks**

Caractéristiques de la tension
fournie par les réseaux publics
de distribution

Merkmale der Spannung
in öffentlichen
Elektrizitätsversorgungsnetzen

This European Standard was approved by CENELEC on 2007-06-01. 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.

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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

Foreword

This European Standard was prepared by the Working Group 1, Physical characteristics of electrical energy, of the Technical Committee CENELEC TC 8X, System aspects for electrical energy supply.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50160 on 2007-06-01.

This European Standard supersedes EN 50160:1999 + corrigendum September 2004.

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with the EN have to be withdrawn (dow) 2010-06-01

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1 Scope and object

1.1 Scope

This European Standard defines, describes and specifies the main characteristics of the voltage at a network user's supply terminals in public low voltage and medium voltage electricity distribution networks under normal operating conditions. This standard describes the limits or values within which the voltage characteristics can be expected to remain over the whole of the public distribution network and does not describe the average situation usually experienced by an individual network user.

NOTE 1 For the definitions of low and medium voltage see 3.7 and 3.8.

The European Standard does not apply under abnormal operating conditions including the following:

- a temporary supply arrangement to keep the network users supplied during condition arising as a result of a fault, maintenance and construction work or to minimize the extent and duration of a loss of supply;
- in case of non-compliance of a network user's installation or equipment with the relevant standards or with the technical requirements for connection, established either by the public authorities or the distribution network operator (DNO) including the limits for the emission of conducted disturbances;

NOTE 2 A network user's installation may include load as well as generation.

- in exceptional situations, in particular,
 - exceptional weather conditions and other natural disasters,
 - third party interference,
 - acts by public authorities,
 - industrial actions (subject to legal requirements),
 - force majeure,
 - power shortages resulting from external events.

The voltage characteristics given in this standard are not intended to be used as electromagnetic compatibility (EMC) levels or user emission limits for conducted disturbances in public distribution networks.

The voltage characteristics given in this standard are not intended to be used to specify requirements in equipment product standards and in installation standards.

NOTE 3 The performance of equipment might be impaired if it is subjected to supply conditions which are not specified in the equipment product standard.

This standard may be superseded in total or in part by the terms of a contract between the individual network user and the DNO.

1.2 Object

The object of this European Standard is to define and describe the characteristics of the supply voltage concerning

- frequency,
- magnitude,
- wave form,
- symmetry of the line voltages.

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