Irish Standard
I.S. EN 50152-3-1:2017

Railway applications - Fixed installations - Particular requirements for a.c. switchgear - Part 3-1: Measurement, control and protection devices for specific use in a.c. traction systems - Devices

I.S. EN 50152-3-1:2017

Incorporating amendments/corrigenda/National Annexes 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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This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

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National Foreword

I.S. EN 50152-3-1:2017 is the adopted Irish version of the European Document EN 50152-3-1:2017, Railway applications - Fixed installations - Particular requirements for a.c. switchgear - Part 3-1: Measurement, control and protection devices for specific use in a.c. traction systems - Devices

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Compliance with this document does not of itself confer immunity from legal obligations.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50152-3-1

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ICS 29.130.20; 29.280

Supersedes EN 50152-3-1:2003

English Version

Railway applications - Fixed installations - Particular requirements for a.c. switchgear - Part 3-1: Measurement, control and protection devices for specific use in a.c. traction systems - Devices

Applications ferroviaires - Installations fixes - Exigences particulières pour appareillage à courant alternatif - Partie 3-1 : Dispositifs de mesure, de commande et de protection pour usage spécifique dans les systèmes de traction à courant alternatif - Guide d'application

Bahnanwendungen - Ortsfeste Anlagen - Besondere Anforderungen an Wechselstrom-Schalteinrichtungen - Teil 3-1: Mess-, Steuerungs- und Schutzeinrichtungen für Wechselstrom-Bahnanlagen - Geräte

This European Standard was approved by CENELEC on 2016-12-26. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 50152-3-1:2017) has been prepared by CLC/SC 9XC “Electric supply and earthing systems for public transport equipment and ancillary apparatus (Fixed installations)”.

The following dates are 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)	2017-12-26
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2019-12-26

This document supersedes EN 50152-3-1:2003.

EN 50152-3-1:2017 includes the following significant technical changes with respect to EN 50152-3-1:2003:

It was completely reworked to:

— distinguish between requirements, Clauses 4 and 5, and application guides, annexes;

— include requirements on devices e.g. control and protection relays not included before;

— remove parts already included in other standards, e.g. EN 50633 protection principles.

The EN 50152 series is divided as follows:

— *Railway applications — Fixed installations — Particular requirements for alternating current switchgear — Part 1: Circuit-breakers with nominal voltage above 1 kV*;

— *Railway applications — Fixed installations — Particular requirements for alternating current switchgear — Part 2: Disconnectors, earthing switches and switches with nominal voltage above 1 kV*;

— *Railway applications — Fixed installations — Particular requirements for a.c. switchgear — Part 3-1: Measurement, control and protection devices for specific use in a.c. traction systems — Devices*;

— *Railway applications — Fixed installations — Particular requirements for a.c. switchgear — Part 3-2: Measurement, control and protection devices for specific use in a.c. traction systems — Current transformers*;

— *Railway applications — Fixed installations — Particular requirements for a.c. switchgear — Part 3-3: Measurement, control and protection devices for specific use in a.c. traction systems — Voltage transformers*.

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

Introduction

EN 50152-3-1 is intended for measurement, control and protection devices for specific use in a.c. traction systems other than current and voltage transformers. These are covered by EN 50152-3-2 and EN 50152-3-3 respectively.

This standard covers a large variety of different kinds of equipment used in railway fixed installations which do not have railway specific product standards. It provides clarification on how to select ratings and test values relevant for operation in fixed installations. This standard needs to be read in conjunction with the relevant product standard of the equipment concerned.

Annexes A and B are application guides. Annex A deals with railway specific measurement principles and Annex B provides guidance in the design of control systems for a.c. traction. These application guides identify characteristics of and parameters for procedures and functions used. Guidance in protection principles is given in EN 50633.

The clause numbering of this part is different to that used in all other parts of the series. Clause numbering in the other parts is the same as in the specific referenced product standard

1 Scope

This European Standard is applicable to new low voltage devices for measurement, control and protection which are:

— for indoor or outdoor fixed installations in traction systems, and

— operated in conjunction with high voltage equipment with an a.c. line voltage and frequency as specified in EN 50163.

NOTE EN 50163 specifies the a.c. traction systems 15 kV 16,7 Hz and 25 kV 50 Hz.

This European Standard also applies to measurement, control and protective devices other than low voltage devices and not covered by a specific railway product standard as far as reasonably possible. Requirements of this document prevail.

2 Normative references

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

EN 50121-5, *Railway applications — Electromagnetic compatibility — Part 5: Emission and immunity of fixed power supply installations and apparatus*

EN 50124-1, *Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment*

EN 50152-2:2012, *Railway applications - Fixed installations - Particular requirements for alternating current switchgear - Part 2: Disconnectors, earthing switches and switches with nominal voltage above 1 kV*

EN 50152-3-2:2016, *Railway applications - Fixed installations - Particular requirements for a.c. switchgear - Part 3-2: Measurement, control and protection devices for specific use in a.c. traction systems - Current transformers*

EN 50152-3-3:2016, *Railway applications - Fixed installations - Particular requirements for a.c. switchgear - Part 3-3: Measurement, control and protection devices for specific use in a.c. traction systems - Voltage transformers*

EN 50163:2004[1], *Railway applications — Supply voltages of traction systems*

EN 60255-1, *Measuring relays and protection equipment - Part 1: Common requirements (IEC 60255-1)*

EN 61243-5, *Live working - Voltage detectors - Part 5: Voltage detecting systems (VDS) (IEC 61243-5)*

EN 61869 (all parts), *Instrument transformers (IEC 61869, all parts)*

EN 61869-1:2009, *Instrument transformers - Part 1: General requirements (IEC 61869-1:2007, modified)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50152 (all parts) and the following apply.

[1] As impacted by EN 50163:2004/A1:2007, EN 50163:2004/Corrigendum:2010, EN 50163:2004/AC:2013.