



NSAI
Standards

Irish Standard
I.S. EN 61881-2:2012

Railway applications - Rolling stock equipment - Capacitors for power electronics -- Part 2: Aluminium electrolytic capacitors with non solid electrolyte (IEC 61881-2:2012 (EQV))

I.S. EN 61881-2:2012

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**Railway applications -
Rolling stock equipment -
Capacitors for power electronics -
Part 2: Aluminium electrolytic capacitors with non solid electrolyte
(IEC 61881-2:2012)**

Applications ferroviaires -
Matériel roulant -
Condensateurs pour électronique de
puissance -
Partie 2: Condensateurs électrolytiques à
l'aluminium, à électrolyte non solide
(CEI 61881-2:2012)

Bahnanwendungen -
Betriebsmittel auf Bahnfahrzeugen -
Kondensatoren für Leistungselektronik -
Teil 2: Aluminium Elektrolytkondensatoren
mit nicht festen Elektrolyten
(IEC 61881-2:2012)

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European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

I.S. EN 61881-2:2012

EN 61881-2:2012

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Foreword

The text of document 9/1679/FDIS, future edition 1 of IEC 61881-2, prepared by IEC/TC 9, "Electrical equipment and systems for railways" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61881-2:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-06-12
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-09-12

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The text of the International Standard IEC 61881-2:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60077-1:1999	NOTE	Harmonized as EN 60077-1:2002 (modified).
IEC 60077-2:1999	NOTE	Harmonized as EN 60077-2:2002 (modified).
IEC 60664-1:2007	NOTE	Harmonized as EN 60664-1:2007 (not modified).
IEC 61287-1:2005	NOTE	Harmonized as EN 61287-1:2006 (not modified).
IEC 61881-1	NOTE	Harmonized as EN 61881-1.
IEC 61881-3	NOTE	Harmonized as EN 61881-3.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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 60062	2004	Marking codes for resistors and capacitors	EN 60062 + corr. January	2005 2007
IEC 60068-2-14	2009	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	2009
IEC 60068-2-17	1994	Environmental testing - Part 2: Tests - Test Q: Sealing	EN 60068-2-17	1994
IEC 60068-2-20	-	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	-
IEC 60068-2-21 + corr. January	2006 2012	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	2006
IEC 60068-2-78	-	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	-
IEC 60384-1 + corr. November	2008 2008	Fixed capacitors for use in electronic equipment - Part 1: Generic specification	EN 60384-1	2009
IEC 60384-4	2007	Fixed capacitors for use in electronic equipment - Part 4: Sectional specification - Aluminium electrolytic capacitors with solid (MnO ₂) and non-solid electrolyte	EN 60384-4	2007
IEC 60721-3-5	1997	Classification of environmental conditions - Part 3: Classification of groups of environmental parameters and their severities - Section 5: Ground vehicle installations	EN 60721-3-5	1997
IEC 61373 + corr. October	2010 2011	Railway applications - Rolling stock equipment - Shock and vibration tests	EN 61373	2010
IEC 62497-1	-	Railway applications - Insulation coordination -- Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment	-	-
IEC 62498-1 + corr. November	2010 2010	Railway applications - Environmental conditions for equipment - Part 1: Equipment on board rolling stock	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RAILWAY APPLICATIONS –
ROLLING STOCK EQUIPMENT –
CAPACITORS FOR POWER ELECTRONICS –**
Part 2: Aluminium electrolytic capacitors with non-solid electrolyte

FOREWORD

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International Standard IEC 61881-2 has been prepared by technical committee 9: Electrical equipment and systems for railways.

The text of this standard is based on the following documents:

FDIS	Report on voting
9/1679/FDIS	9/1707/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 61881 series, under the general title *Railway applications – Rolling stock equipment – Capacitors for power electronics*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

RAILWAY APPLICATIONS – ROLLING STOCK EQUIPMENT – CAPACITORS FOR POWER ELECTRONICS –

Part 2: Aluminium electrolytic capacitors with non-solid electrolyte

1 Scope

This part of IEC 61881 applies to d.c. aluminium electrolytic capacitors (cell, module and bank) for power electronics intended to be used on rolling stock.

This standard specifies quality requirements and tests, safety requirements, and describes installation and operation information.

NOTE Example of the application for capacitors specified in this Standard; d.c. filtering, etc.

Capacitors not covered by this Standard:

- IEC 61881-1: Paper/plastic film capacitors;
- IEC 61881-3: Electric double-layer capacitors.

Guidance for installation and operation is given in Clause 9.

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.

IEC 60062:2004, *Marking codes for resistors and capacitors*

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IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60384-1:2008, *Fixed capacitors for use in electronic equipment – Part 1: Generic specification*

IEC 60384-4:2007, *Fixed capacitors for use in electronic equipment – Part 4: Sectional specification – Aluminium electrolytic capacitors with solid (MnO₂) and non-solid electrolyte*

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