Australian/New Zealand Standard™

Connectors for DC-application in photovoltaic systems — Safety requirements and tests (IEC 62852:2014, MOD)





AS/NZS 62852:2020

This Joint Australian/New Zealand Standard[™] was prepared by Joint Technical Committee EL-042, Renewable Energy Power Supply Systems and Equipment. It was approved on behalf of the Council of Standards Australia on 25 March 2020 and by the New Zealand Standards Approval Board on 4 March 2020.

This Standard was published on 3 April 2020.

The following are represented on Committee EL-042:

Australasian Fire and Emergency Service Authorities Council

Australian Energy Council

Australian Energy Market Operator

Australian Industry Group

Australian PV Institute

Clean Energy Council, Australia

Clean Energy Regulator, Australia

Communications, Electrical and Plumbing Union — Electrical Division, Australia

Consumer Electronics Suppliers Association, Australia

Consumers' Federation of Australia

CSIRO

Electrical Compliance Testing Association of Australia

Electrical Regulatory Authorities Council, Australia

Electrical Safety New Zealand

Electricity Engineers Association of New Zealand

Energy Efficiency and Conservation Authority, New Zealand

Energy Networks Australia

Engineers Australia

Institute of Electrical and Electronics Engineers, Australia

Institute of Electrical Inspectors, Australia

Joint Accreditation System of Australia and New Zealand

Master Electricians Australia

National Electrical and Communications Association, Australia

NSW FairTrading

Office of the Technical Regulator, SA

Smart Energy Council, Australia

Solar Energy Industries Association, Australia

Sustainable Electricity Association New Zealand

Sustainable Energy Association of Australia

University of New South Wales

Wellington Electrical Association

WorkSafe New Zealand

This Standard was issued in draft form for comment as DR AS/NZS IEC 62852:2019.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

www.standards.govt.nz

ISBN 978 1 76072 803 8

This is a preview. Click here to purchase the full publication.

Australian/New Zealand Standard™

Connectors for DC-application in photovoltaic systems — Safety requirements and tests (IEC 62852:2014, MOD)

First published as AS/NZS 62852:2020.

COPYRIGHT

© IEC 2020 — All rights reserved

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth) or the Copyright Act 1994 (New Zealand).

[©] Standards Australia Limited/the Crown in right of New Zealand, administered by the New Zealand Standards Executive 2020

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-042, Renewable Energy Power Supply Systems and Equipment.

The objective of this Standard applies to connectors for use in the d.c. circuits of photovoltaic systems according to class II of IEC 61140:2001 with rated voltages up to 1 500 V d.c. and rated currents up to 125 A per contact.

This Standard applies to connectors without breaking capacity but which might be engaged and disengaged under voltage.

This Standard also applies to connectors which are intended to be built-in or integrated in enclosures of devices for photovoltaic systems. This Standard may be used as a guide for connectors in photovoltaic systems of classes 0 and III according to IEC 61140:2001 as well as for protection for Class II equipment intended for use at less than 50 V d.c.

This Standard is an adoption with national modifications, and has been reproduced from, IEC 62852:2014, *Connectors for DC-application in photovoltaic systems* — *Safety requirements and tests*. The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to IEC 62852:2014 for the application of this Standard in Australia and New Zealand.

As this document has been reproduced from an International Standard, the following applies:

- (a) In the source text "this International Standard" should read "this Australian/New Zealand Standard".
- (b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

CONTENTS

F	OREWO	RD	4
1	Scop	e	6
2	Norm	native references	6
3	Term	is and definitions	8
4	Classification		12
•	4.1	General	
	4.2	Type of connector	
	4.3	Additional characteristics	
5		tructional requirements and performance	
	5.1	General	
	5.2	Marking and identification	_
	5.2.1	· ·	
	5.2.2		
	5.2.3	· ·	
	5.3	Provision against incorrect mating (non-intermateable)	
	5.4	Protection against electric shock	
	5.5	Terminations and connection methods	
	5.6	Resistance to deterioration	
	5.7	General design	
	5.8	Design of a free connector	
	5.9	Degree of protection (IP Code)	
	5.10	Dielectric strength	
	5.11	Mechanical and electrical durability	
	5.12	Range of ambient temperature	
	5.13	Temperature rise	16
	5.14	Cable anchorage	16
	5.15	Mechanical strength	17
	5.16	Connector without locking device	17
	5.17	Connector with locking device	17
	5.18	Clearances and creepage distances	17
	5.18.	1 General	17
	5.18.	2 Clearances	18
	5.18.	3 Creepage distances	18
	5.19	Insulation parts	20
	5.19.	1 General	20
	5.19.	2 Outer accessible parts	20
	5.19.	3 Inner parts	20
	5.20	Current carrying parts and resistance against corrosion	20
6	Tests	S	20
	6.1	General	20
	6.2	Preparation of specimens	21
	6.3	Performance of tests	
	6.3.1	General	22
	6.3.2	Durability of marking	23
	6.3.3	Protection against electric shock	23
	6.3.4	Temperature rise	23