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Photovoltaic Devices Part 10: Methods of Linear Dependence and Linearity Measurements (*Second Revision*)

Last date of receipt of comments: **25 October 2021**

Solar Photovoltaic Energy Systems Sectional Committee, ETD 28

NATIONAL FOREWORD

This draft Indian Standard which is identical with IEC 60904-10: 2020 “Photovoltaic Devices Part 10: Methods of Linear Dependence and Linearity Measurements” issued by the International Electrotechnical Commission (IEC) will be adopted by the Bureau of Indian Standards on the recommendation of the Solar Photovoltaic Energy Systems Sectional Committee and approval of the Electrotechnical Division Council.

This standard was first published in 2010 and subsequently revised in 2014 to align it with IEC 60904-10: 2009. This second revision has been undertaken to take into consideration the developments that have taken place subsequently and also to align with the latest version of IEC 60904-10: 2020.

The text of IEC Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminologies and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 60891, Photovoltaic devices – Procedures for temperature and irradiance corrections to measured I-V characteristics	IS 12763: 2013- Photovoltaic Devices — Procedures for Temperature and Irradiance Corrections to Measured I-V Characteristics (<i>First Revision</i>)	Identical with IEC 60891 : 2009
IEC 60904-1, Photovoltaic devices – Part 1: Measurements of photovoltaic current-voltage characteristics	IS 12762 (Part 1): 2010 - Photovoltaic Devices Part 1 Measurement of Photovoltaic Current-Voltage Characteristics	Identical with IEC 60904-1 : 2006

	(<i>First Revision</i>)	
IEC 60904-1-1, Photovoltaic devices – Part 1-1: Measurement of current-voltage characteristics of multi-junction photovoltaic (PV) devices	IS 12762 (Part 1/Sec 1): 2020 - Photovoltaic Devices Part 1 Measurement of Current-Voltage Characteristics Section 1 Multi-Junction PV Devices	Identical with IEC 60904-1-1 : 2017
IEC TS 60904-1-2, Photovoltaic devices – Part 1-2: Measurement of current-voltage characteristics of bifacial photovoltaic (PV) devices	IS 12762 (Part 1/Sec 2): 2020- Photovoltaic Devices Part 1 Measurement of Current-voltage Characteristics Section 2 Bi-facial photovoltaic (PV) devices	Identical with IEC/TS60904-1-2:2019
IEC 60904-2, Photovoltaic devices – Part 2: Requirements for photovoltaic reference devices	IS 12762 (Part 2): 2013 - Photovoltaic Devices Part 2 Requirements for Reference Solar Devices (<i>First Revision</i>)	Identical with IEC 60904-2 : 2015
IEC 60904-3, Photovoltaic devices – Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data	IS 12762 (Part 3): 2020 Photovoltaic Devices Part 3 Measurement Principles for Terrestrial Photovoltaic PV Solar Devices with Reference Spectral Irradiance Data (<i>Third Revision</i>)	Identical with IEC 60904-3: 2019
IEC 60904-7, Photovoltaic devices – Part 7: Computation of the spectral mismatch correction for measurements of photovoltaic devices	IS 12762 (Part 7): 2013 - Photovoltaic Devices Part 7 Computation of The Spectral Mismatch Correction for Measurements of Photovoltaic Devices	Identical with IEC 60904-7: 2008
IEC 60904-8, Photovoltaic devices – Part 8: Measurement of spectral responsivity of a photovoltaic (PV) device	IS 12762 (Part 8): 2018 - Photovoltaic Devices Part 8 Measurement of Spectral Responsivity of a Photovoltaic (PV) Device (<i>First Revision</i>)	Identical with IEC 60904-8: 2014
IEC 60904-8-1, Photovoltaic devices – Part 8-1: Measurement of spectral responsivity of multi junction photovoltaic (PV) devices	IS 12762 (Part 8/Sec 1): 2020 - Photovoltaic Devices Part 8 Measurement of Spectral Responsivity of a Photovoltaic (PV) Device Section 1 Multi-Junction (PV) Devices	Identical with IEC 60904-8-1 : 2017
IEC 60904-9, Photovoltaic devices – Part 9: Solar simulator performance requirements	IS 12762 (Part 9): 2010 - Photovoltaic Devices Part 9 Solar Simulator Performance Requirements	Identical with IEC 60904-9:2007
IEC 61215 (all parts), Terrestrial photovoltaic (PV) modules – Design qualification and type approval	IS 14286 (all parts) - Terrestrial photovoltaic (PV) modules – Design qualification and type approval	Identical with IEC 14286: 2019
IEC 61724-1, Photovoltaic system performance – Part 1: Monitoring	IS/IEC 61724-1: 2017 - Photovoltaic System Performance Part 1 Monitoring (<i>First Revision</i>)	Identical with IEC 61724-1 : 2017
IEC TS 61836, Solar photovoltaic energy systems – Terms, definitions and symbols	IS 12834: 2013 - Solar Photovoltaic Energy Systems — Terms, Definitions and Symbols (<i>First</i>	Identical with IEC/TS 61836 : 2007

	<i>Revision</i>	
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The technical committee has reviewed the provisions of the following international standards referred in this adopted standard and decided that they are acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO/TS 28037	Determination and use of straight-line calibration functions

Only the English language text has been retained while adopting it in this Indian Standard, and as such, the page numbers given here are not the same as in the IEC Publication.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test, shall be rounded off in accordance with IS 2: 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Note: The technical content of the document is not available on website. for details, please refer the corresponding IEC 60904-10: 2020 or kindly contact:

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