SA/SNZ TS 61724.3:2020

Technical Specification

Photovoltaic system performance

Part 3: Energy evaluation method (IEC TS 61724-3:2016, MOD)

SA/SNZ TS 61724.3:2020

This Joint Australian/New Zealand Technical Specification 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 24 March 2020 and by the New Zealand Standards Executive on 6 March 2020.

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The following are represented on Committee EL-042:

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Australian Energy Council
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Australian Industry Group
Australian PV Institute
Clean Energy Council, Australia
Clean Energy Regulator, Australia
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Preface

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

The objective of this Technical Specification is to define a procedure for measuring and analysing the energy production of a specific photovoltaic system relative to expected electrical energy production for the same system from actual weather conditions as defined by the stakeholders of the test. The energy production is characterized specifically for times when the system is operating (available); times when the system is not operating (unavailable) are quantified as part of an availability metric.

For best results, this procedure should be used for long-term performance (electrical energy production) testing of photovoltaic systems to evaluate sustained performance of the system over the entire range of operating conditions encountered through the duration of the test (preferably one year). Such an evaluation provides evidence that long-term expectations of system energy production are accurate and covers all environmental effects at the site. In addition, for the year, unavailability of the system (because of either internal or external causes) is quantified, enabling a full assessment of electricity production.

The aim of this technical specification is to define a procedure for comparing the measured electrical energy with the expected electrical energy of the PV system.

This test procedure is intended for application to grid-connected photovoltaic systems that include at least one inverter and the associated hardware.

This procedure is not specifically written for application to concentrator (>3X) photovoltaic (CPV) systems, but may be applied to CPV systems by using direct-normal irradiance instead of global irradiance.

This test procedure was created with a primary goal of facilitating the documentation of a performance guarantee, but may also be used to verify accuracy of a model, track performance (e.g. degradation) of a system over the course of multiple years, or to document system quality for any other purpose. Specific guidance is given for providing the metrics requested for the IECRE certification process, providing a consistent way for system performance to be documented.

This Technical Specification is an adoption with national modifications, and has been reproduced from, IEC TS 61724-3:2016, *Photovoltaic system performance — Part 3: Energy evaluation method*. 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 TS 61724-3:2016 for the application of this Technical Specification in Australia and New Zealand.

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

(a) In the source text “this part of IEC 61724” should read “this Australian/New Zealand Technical Specification”.

(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.

NOTES