INTERNATIONAL STANDARD

Maximum power point tracking efficiency of grid connected photovoltaic inverters
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MAXIMUM POWER POINT TRACKING EFFICIENCY OF GRID CONNECTED PHOTOVOLTAIC INVERTERS

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International Standard IEC 62891 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

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1 Scope

This document provides a procedure for the measurement of the efficiency of the maximum power point tracking (MPPT) of inverters used in grid-connected photovoltaic (PV) systems. Both the static and dynamic MPPT efficiency are considered. Based on the static MPPT efficiency calculated in this document and steady state conversion efficiency determined in IEC 61683 the overall efficiency can be calculated.

The dynamic MPPT efficiency is indicated separately.

NOTE This document addresses PV inverters connected to an AC grid. However, this procedure may also be used for other power conversion devices with MPPT functionality used in PV systems, such as charge controllers or optimizers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61683, Photovoltaic systems – Power conditioners – Procedure for measuring efficiency

IEC TS 61836, Solar photovoltaic energy systems – Terms, definitions and symbols

EN 50160, Voltage characteristics of electricity supplied by public distribution networks