Title (en)

OPTIMIZED PHOTOVOLTAIC MODULE HAVING A BYPASS NETWORK

Title (de)

OPTIMIERTES PHOTOVOLTAIK-MODUL MIT BYPASS-NETZWERK

Title (fr)

MODULE PHOTOVOLTAÏQUE OPTIMISÉ AVEC RÉSEAU DE DÉRIVATION

Publication

EP 3317901 A1 20180509 (DE)

Application

EP 16733395 A 20160623

Priority

- EP 15020105 A 20150630
- EP 2016064531 W 20160623

Abstract (en)

[origin: WO2017001277A1] The invention relates to a photovoltaic module (1) having at least one bypass network (2) with a data processing unit (36), which allows for at least an entire module string in conjunction with a string monitoring server a simple and cost-effective detection of faults in the circuit even in PV modules which are non-illuminated at night. The bypass network (2) comprises a parallel circuit of a component (31) limiting the negative voltage in the bypass, an additional power switch (30) and an input of a DC-DC converter (33). Provided that the current flowing through the bypass network (2) is below the trigger current, the bypass network (2) can permanently assume in the active region a first active state, in which the additional power switch (30) is not switched on and in which a significant current flows via the bypass network (2). The DC-DC converter (33) is capable of supplying energy to the data processing unit (36) which is associated with the bypass network (2) and, if necessary, actuates the additional power switch (30), provided that the voltage at the bypass network (2) becomes more negative than a start-up voltage (Ustart) of the DC-DC converter (33).

IPC 8 full level

H01L 31/02 (2006.01)

CPC (source: EP)

H01L 31/02021 (2013.01); Y02E 10/50 (2013.01)

Citation (search report)

See references of WO 2017001277A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3113232 A1 20170104; EP 3317901 A1 20180509; WO 2017001277 A1 20170105

DOCDB simple family (application)

EP 15020105 A 20150630; EP 16733395 A 20160623; EP 2016064531 W 20160623