

CPC**COOPERATIVE PATENT CLASSIFICATION****H02S****GENERATION OF ELECTRIC POWER BY CONVERSION OF INFRA-RED RADIATION, VISIBLE LIGHT OR ULTRAVIOLET LIGHT, e.g. USING PHOTOVOLTAIC [PV] MODULES**

(light sensitive inorganic semiconductor devices [H01L 31/00](#); thermoelectric devices [H01L 35/00](#); pyroelectric devices [H01L 37/00](#); light sensitive organic semiconductor devices [H01L 51/00](#); obtaining electrical energy from radioactive sources [G21H 1/12](#); solar heat collectors [F24J 2/00](#))

H02S 10/00

PV power plants; Combinations of PV energy systems with other systems for the generation of electric power

WARNING

Groups [H02S 10/10](#) - [H02S 10/40](#) are incomplete pending reclassification of documents from group [H02S 10/00](#).

Until reclassification is complete, groups [H02S 10/00](#) should be considered in order to perform a complete search.

H02S 10/10

- including a supplementary source of electric power, e.g. hybrid diesel-PV energy systems (combinations with gas-turbine plants [F02C 6/00](#))

H02S 10/12

- Hybrid wind-PV energy systems

WARNING

Group [H02S 10/12](#) is incomplete pending reclassification of documents from groups [F03D 9/00](#), [F03D 9/001](#), [F03D 9/002](#), [F03D 9/003](#), [F03D 9/005](#), [F03D 9/006](#), [F03D 9/007](#), [F03D 9/008](#), [F03D 9/10](#), [F03D 9/11](#), [F03D 9/13](#), [F03D 9/14](#), [F03D 9/16](#) and [F03D 9/17](#).

All groups listed in this Warning should be considered in order to perform a complete search.

H02S 10/20

- Systems characterised by their energy storage means ([H02S 40/38](#) takes precedence)

H02S 10/30

- Thermophotovoltaic systems (photovoltaic cells specially adapted for conversion or sensing of infra-red [IR] radiation [H01L 31/00](#); thermoelectric devices [H01L 35/00](#))

H02S 10/40

- Mobile PV generator systems

H02S 20/00

Supporting structures for PV modules

NOTE

H02S 20/00

(continued)

Supporting structures also intended for use with solar heat collectors should also be classified in groups [F24J 2/38](#) or [F24J 2/52](#)

WARNING

Groups [H02S 20/10](#) - [H02S 20/32](#) are incomplete pending reclassification of documents from groups [H02S 20/00](#), [F24J 2/00](#), [F24J 2/38](#), and [H01L 31/048](#).

Until reclassification is complete, groups [H02S 20/00](#), [F24J 2/00](#), [F24J 2/38](#), and [H01L 31/048](#) should be considered in order to perform a complete search.

- [H02S 20/10](#)
 - Supporting structures directly fixed to the ground ([H02S 20/30](#) takes precedence)
- [H02S 20/20](#)
 - Supporting structures directly fixed to an immovable object ([H02S 20/30](#) takes precedence)
- [H02S 20/21](#)
 - . specially adapted for motorways, e.g. integrated with sound barriers
- [H02S 20/22](#)
 - . specially adapted for buildings
- [H02S 20/23](#)
 - . . specially adapted for roof structures
- [H02S 20/24](#)
 - . . . specially adapted for flat roofs
- [H02S 20/25](#)
 - Roof tile elements
- [H02S 20/26](#)
 - . . . Building materials integrated with PV modules, e.g. façade elements ([H02S 20/25](#) takes precedence)
- [H02S 20/30](#)
 - Supporting structures being movable or adjustable, e.g. for angle adjustment
- [H02S 20/32](#)
 - . specially adapted for solar tracking

H02S 30/00

Structural details of PV modules other than those related to light conversion (semiconductor device aspects of modules of electrolytic light sensitive devices [H01G 9/20](#), of inorganic PV modules [H01L 31/00](#), of organic PV modules [H01L 51/42](#))

WARNING

Groups [H02S 30/10](#) and [H02S 30/20](#) are incomplete pending reclassification of documents from group [H02S 30/00](#).

Until reclassification is complete, group [H02S 30/00](#) should be considered in order to perform a complete search.

- [H02S 30/10](#)
 - Frame structures
- [H02S 30/20](#)
 - Collapsible or foldable PV modules

H02S 40/00

Components or accessories in combination with PV modules, not provided for in groups [H02S 10/00](#) - [H02S 30/00](#)

WARNING

Groups [H02S 40/10](#) - [H02S 40/44](#) are incomplete pending reclassification of documents from groups [H02S 40/00](#), [F24J 2/00](#), [H01L 31/0232](#), [H01L 31/05](#) - [H01L 31/055](#).

Until reclassification is complete, groups [H02S 40/00](#), [F24J 2/00](#), [H01L 31/0232](#) and [H01L 31/05](#) - [H01L 31/055](#) should be considered in order to perform a complete search.

H02S 40/10	• Cleaning arrangements
H02S 40/12	• • Means for removing snow
H02S 40/20	• Optical components
H02S 40/22	• • Light-reflecting or light-concentrating means (directly associated with the PV cell or integrated with the PV cell H01L 31/054)
H02S 40/30	• Electrical components
H02S 40/32	• • comprising DC/AC inverter means associated with the PV module itself, e.g. AC modules
H02S 40/34	• • comprising specially adapted electrical connection means to be structurally associated with the PV module, e.g. junction boxes
H02S 40/345	• • • {with cooling means associated with the electrical connection means, e.g. cooling means associated with or applied to the junction box (cooling means for PV cells H01L 31/052 , for PV modules H02S 40/42)}
H02S 40/36	• • characterised by special electrical interconnection means between two or more PV modules, e.g. electrical module-to-module connection
H02S 40/38	• • Energy storage means, e.g. batteries, structurally associated with PV modules
H02S 40/40	• Thermal components (H02S 10/30 takes precedence)
H02S 40/42	• • Cooling means (cooling means directly associated or integrated with the PV cell H01L 31/052)
H02S 40/425	• • • {using a gaseous or a liquid coolant, e.g. air flow ventilation, water circulation}
H02S 40/44	• • Means to utilise heat energy, e.g. hybrid systems producing warm water and electricity at the same time (directly associated with the PV cell or integrated with the PV cell H01L 31/0525)
H02S 50/00	Monitoring or testing of PV systems, e.g. load balancing or fault identification
	<u>WARNING</u>
	Groups H02S 50/10 - H02S 50/15 are incomplete pending reclassification of documents from group H02S 50/00 .
	Until reclassification is complete, group H02S 50/00 should be considered in order to perform a complete search.
H02S 50/10	• Testing of PV devices, e.g. of PV modules or single PV cells (testing of semiconductor devices during manufacturing {H01L 22/00})
H02S 50/15	• • using optical means, e.g. using electroluminescence
H02S 99/00	Subject matter not provided for in other groups of this subclass