

# CPC COOPERATIVE PATENT CLASSIFICATION

## H ELECTRICITY

(NOTE omitted)

## H02 GENERATION; CONVERSION OR DISTRIBUTION OF ELECTRIC POWER

### H02S GENERATION OF ELECTRIC POWER BY CONVERSION OF INFRA-RED RADIATION, VISIBLE LIGHT OR ULTRAVIOLET LIGHT, e.g. USING PHOTOVOLTAIC [PV] MODULES (obtaining electrical energy from radioactive sources [G21H 1/12](#); light sensitive inorganic semiconductor devices [H01L 31/00](#); thermoelectric devices [H01L 35/00](#); pyroelectric devices [H01L 37/00](#); light sensitive organic semiconductor devices [H01L 51/42](#))

<b>10/00</b>	<b>PV power plants; Combinations of PV energy systems with other systems for the generation of electric power</b>	<b>40/00</b>	<b>Components or accessories in combination with PV modules, not provided for in groups <a href="#">H02S 10/00</a> - <a href="#">H02S 30/00</a></b>
10/10	• including a supplementary source of electric power, e.g. hybrid diesel-PV energy systems ( <a href="#">combinations with gas-turbine plants F02C 6/00</a> )	40/10	• Cleaning arrangements
10/12	• . Hybrid wind-PV energy systems	40/12	• . Means for removing snow
10/20	• Systems characterised by their energy storage means ( <a href="#">H02S 40/38</a> takes precedence)	40/20	• Optical components
10/30	• Thermophotovoltaic systems ( <a href="#">photovoltaic cells specially adapted for conversion or sensing of infra-red [IR] radiation H01L 31/00</a> ; thermoelectric devices <a href="#">H01L 35/00</a> )	40/22	• . Light-reflecting or light-concentrating means ( <a href="#">directly associated with the PV cell or integrated with the PV cell H01L 31/054</a> )
10/40	• Mobile PV generator systems	40/30	• Electrical components
<b>20/00</b>	<b>Supporting structures for PV modules</b>	40/32	• . comprising DC/AC inverter means associated with the PV module itself, e.g. AC modules
	<b>NOTE</b>	40/34	• . comprising specially adapted electrical connection means to be structurally associated with the PV module, e.g. junction boxes
	Supporting structures also intended for use with solar heat collectors should also be classified in groups <a href="#">F24S 25/00-F24S 30/00</a> or <a href="#">F24S 50/20</a>	40/345	• . . {with cooling means associated with the electrical connection means, e.g. cooling means associated with or applied to the junction box ( <a href="#">cooling means for PV cells H01L 31/052</a> , for PV modules <a href="#">H02S 40/42</a> )}
20/10	• Supporting structures directly fixed to the ground ( <a href="#">H02S 20/30</a> takes precedence)	40/36	• . characterised by special electrical interconnection means between two or more PV modules, e.g. electrical module-to-module connection
20/20	• Supporting structures directly fixed to an immovable object ( <a href="#">H02S 20/30</a> takes precedence)	40/38	• . Energy storage means, e.g. batteries, structurally associated with PV modules
20/21	• . specially adapted for motorways, e.g. integrated with sound barriers	40/40	• Thermal components ( <a href="#">H02S 10/30</a> takes precedence)
20/22	• . specially adapted for buildings	40/42	• . Cooling means ( <a href="#">cooling means directly associated or integrated with the PV cell H01L 31/052</a> )
20/23	• . . specially adapted for roof structures	40/425	• . . {using a gaseous or a liquid coolant, e.g. air flow ventilation, water circulation}
20/24	• . . . specially adapted for flat roofs	40/44	• . Means to utilise heat energy, e.g. hybrid systems producing warm water and electricity at the same time ( <a href="#">directly associated with the PV cell or integrated with the PV cell H01L 31/0525</a> )
20/25	• . . . Roof tile elements		
20/26	• . . Building materials integrated with PV modules, e.g. façade elements ( <a href="#">H02S 20/25</a> takes precedence)	<b>50/00</b>	<b>Monitoring or testing of PV systems, e.g. load balancing or fault identification</b>
20/30	• Supporting structures being movable or adjustable, e.g. for angle adjustment	50/10	• Testing of PV devices, e.g. of PV modules or single PV cells ( <a href="#">testing of semiconductor devices during manufacturing {H01L 22/00}</a> )
20/32	• . specially adapted for solar tracking	50/15	• . using optical means, e.g. using electroluminescence
<b>30/00</b>	<b>Structural details of PV modules other than those related to light conversion (<a href="#">semiconductor device aspects of modules of electrolytic light sensitive devices H01G 9/20</a>, of inorganic PV modules <a href="#">H01L 31/00</a>, of organic PV modules <a href="#">H01L 51/42</a>)</b>	<b>99/00</b>	<b>Subject matter not provided for in other groups of this subclass</b>
30/10	• Frame structures		
30/20	• Collapsible or foldable PV modules		