

# CPC COOPERATIVE PATENT CLASSIFICATION

## H ELECTRICITY

(NOTE omitted)

### H02 GENERATION; CONVERSION OR DISTRIBUTION OF ELECTRIC POWER

#### H02S GENERATION OF ELECTRIC POWER BY CONVERSION OF INFRARED 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 [H10F](#); light sensitive organic semiconductor devices [H10K 30/00](#); thermoelectric devices [H10N 10/00](#); pyroelectric devices [H10N 15/00](#))

<b>10/00</b>	<b>PV power plants; Combinations of PV energy systems with other systems for the generation of electric power</b>	30/20	• Collapsible or foldable PV modules
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> )	<b>40/00</b>	<b>Components or accessories in combination with PV modules, not provided for in groups <a href="#">H02S 10/00 - H02S 30/00</a></b>
10/12	• . Hybrid wind-PV energy systems	40/10	• Cleaning arrangements
10/20	• Systems characterised by their energy storage means ( <a href="#">H02S 40/38 takes precedence</a> )	40/12	• . Means for removing snow
10/30	• Thermophotovoltaic systems (photovoltaic cells specially adapted for conversion or sensing of infrared [IR] radiation <a href="#">H10F 10/00</a> ; thermoelectric devices <a href="#">H10N 10/00</a> )	40/20	• Optical components
10/40	• Mobile PV generator systems	40/22	• . Light-reflecting or light-concentrating means (directly associated with the PV cell or integrated with the PV cell <a href="#">H10F 77/42</a> )
<b>20/00</b>	<b>Supporting structures for PV modules</b>	40/30	• Electrical components
	<b>NOTE</b>	40/32	• . comprising DC/AC inverter means associated with the PV module itself, e.g. AC modules
	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>	40/34	• . comprising specially adapted electrical connection means to be structurally associated with the PV module, e.g. junction boxes
20/10	• Supporting structures directly fixed to the ground ( <a href="#">H02S 20/30 takes precedence</a> )	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 <a href="#">H10F 77/63</a> , for PV modules <a href="#">H02S 40/42</a> )}
20/20	• Supporting structures directly fixed to an immovable object ( <a href="#">H02S 20/30 takes precedence</a> )	40/36	• . characterised by special electrical interconnection means between two or more PV modules, e.g. electrical module-to-module connection
20/21	• . specially adapted for motorways, e.g. integrated with sound barriers	40/38	• . Energy storage means, e.g. batteries, structurally associated with PV modules
20/22	• . specially adapted for buildings	40/40	• Thermal components ( <a href="#">H02S 10/30 takes precedence</a> )
20/23	• . . specially adapted for roof structures	40/42	• . Cooling means
20/24	• . . . specially adapted for flat roofs	40/425	• . . {using a gaseous or a liquid coolant, e.g. air flow ventilation, water circulation}
20/25	• . . . Roof tile elements	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 <a href="#">H10F 77/67</a> )
20/26	• . . Building materials integrated with PV modules, e.g. façade elements ( <a href="#">H02S 20/25 takes precedence</a> )		
20/30	• Supporting structures being movable or adjustable, e.g. for angle adjustment	<b>50/00</b>	<b>Monitoring or testing of PV systems, e.g. load balancing or fault identification</b>
20/32	• . specially adapted for solar tracking	50/10	• Testing of PV devices, e.g. of PV modules or single PV cells (testing of semiconductor devices during manufacturing ( <a href="#">H01L 22/00</a> ))
<b>30/00</b>	<b>Structural details of PV modules other than those related to light conversion (semiconductor device aspects of modules of electrolytic light sensitive devices <a href="#">H01G 9/20</a>, of inorganic PV modules <a href="#">H10F 10/00</a>, <a href="#">H10F 19/00</a>, of organic PV modules <a href="#">H10K 30/00</a>)</b>	50/15	• . using optical means, e.g. using electroluminescence
30/10	• Frame structures	<b>99/00</b>	<b>Subject matter not provided for in other groups of this subclass</b>