SOLAR PANELS USING A SET OF ELECTRONIC COMPONENTS CONNECTED TOGETHER WITH A SET A ELECTRIC CABLES

Technological advantages

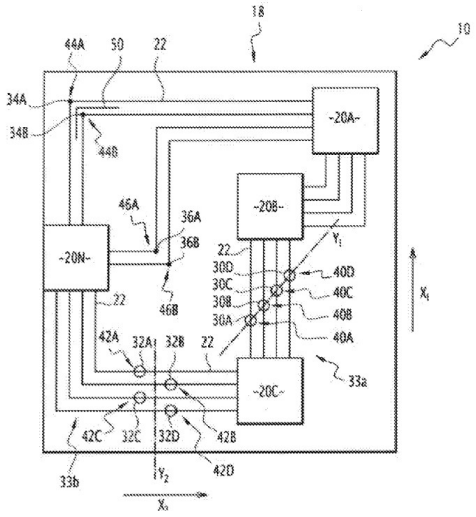
- Differentiation in the electric cabling process on a solar panel.
- Varying constraints levels between adjacent electric cables.
- Reduction / suppression of defects in electric cables near one another.
- Risks of electric arcs largely attenuated.

Invention synthesis

The invention aims at the reduction and even suppression in the risk of electric arcs due to cracks and tears close one another on solar panel cables. The cables are located with known constraints areas (thermal, mechanical, electro-mechanical). Two adjacent cables possess at least one pair of constraint area. The shortest route between each pair of constraint areas is at least 20mm. The cables attachment points define a constraint area. An electric barrier, at least 18mm high, made of a dielectric material (kapton, …) extends the shortest route between constraint areas.

Potential applications

- Solar panels for space vehicles
- All mobile or fixed solar panels on earth
- Any solar panels for space exploration (rovers, probes...)



View of the back of a solar panel (night side)

20A à 20N) electronic components
18) back side of a solar panel
10) solar panel
22) electric cables
30A à 30D) attachment point
32A à 32D) attachment point
33A 33B) rectilinear guide portion
40, 42, 44, 46) contraints areas
34, 36) routing direction change
50) electric barrier made of dielectric material

Commercial benefits

- Protecting solar panel components
- Enhances the solar panel lifespan by avoiding electric arcs between damaged cables

Patented invention - under license.

For more information :

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