ENERGY SOLAR

Solar Arrays for Spacecraft - Comprehensive Solar Power Solutions

Explore our Solar Arrays for spacecraft, including both flexible and rigid solar wings. These solar arrays provide high efficiency, versatile deployment modes, and are tailored to meet the energy demands of next-generation satellites and space vehicles.

Our **Solar Arrays for Spacecraft** include both **Flexible Solar Wings** and **Rigid Solar Arrays**, providing versatile energy solutions for a range of space applications. These solar arrays are designed to meet diverse energy requirements, from lightweight modular designs to high-stiffness, expandable solutions, suitable for various satellite and spacecraft missions.

Product Features

The solar array has been successfully applied in manned spaceflight, deep space exploration, communication, navigation, and remote sensing fields. We provide a range of power from **100W** to **10000W**, tailored to different needs, offering high-performance and high-reliability solar arrays for more than **400 satellites/ships**.

Applications

- **Customizable Solar Arrays**: Products are customizable for different power requirements and usage scenarios.

Partners

At present, our solar arrays are used in **manned spaceflight**, **deep space exploration**, **communication**, **navigation**, and **remote sensing fields**. Our high-performance solar arrays have powered over **400 satellites/ships**.

Parameters

Product Type	Body-mounted solar arrays	Rigid solar arrays	Semi-rigid solar arrays	Flexible solar arrays	Fully flexible solar arrays
Key Performance Parameters					
Cell Efficiency	28% ~ 32%	28% ~ 32%	28% ~ 32%	28% ~ 32%	28% ~ 32%
Specific Power Ratio	80 ~ 100 W/kg	90 ~ 100 W/kg	100 ~ 150 W/kg		>400 W/kg
Volume Specific Power Ratio	3.3 ~ 4.1 kW/m³	3.5 ~ 4.5 kW/m³	11.7 ~ 18.4 kW/m³		>26 kW/m³
Voltage Range	28V ~ 42V	28V ~ 42V	28V ~ 42V	28V ~ 42V	28V ~ 42V
Operating Temperature	-170°C ~ +145°C	-170°C ~ +145°C	-170°C ~ +145°C	-170°C ~ +145°C	-170°C ~ +145°C
Working Environment					
Application Orbit	LEO, GEO, IGSO, deep space exploration	LEO, GEO, IGSO, deep space exploration	LEO, GEO, IGSO, deep space exploration	LEO, GEO, IGSO, deep space exploration	LEO, GEO, IGSO, deep space exploration
Working Temperature	-175°C~110°C	-175°C~110°C	-175°C~110°C	-175°C~110°C	-175°C~110°C

Types of Solar Arrays

Flexible Solar Wings

The **Flexible Solar Wings** are perfect for next-gen flat-panel satellites, designed with rigid battery circuits, flexible substrates, and advanced deployment mechanisms. They are ideal for satellite networking, deep space exploration, and mass production due to their lightweight and highly modular structure.

- **High Storage**: Achieves a volume-to-power ratio 8 times higher than traditional rigid wings.
- **Lightweight**: Significantly lighter than traditional rigid wings.
- **Modularity**: Modular component design for easy mass production.
- **Advanced Deployment**: Includes reel-type versions optimized for space-saving and efficient energy output.

Rigid Solar Array

The **Rigid Solar Array** consists of a solar cell array, substrate, expansion drive mechanism, and unlocking mechanisms. It supports different expansion modes, including body mounting, single folding, and multiple folding, making it adaptable to the in-orbit energy supply requirements of different types of space vehicles.

- **High Stiffness**: Designed for high stability and reliability during deployment.
- **Multiple Expansion Modes**: Supports body mounting, single folding, and multiple folding for diverse spacecraft applications.
- **Rapid Deployment**: Ensures quick and reliable energy availability during critical missions.

For more information about our **Solar Arrays** and how they can support your spacecraft energy needs, please contact us.