



CIGS Thin-film Solar Panel

Manual

- Features
- Electrical Parameters
- CIGS Products & Solutions
- Contact Us

Features

Composition

CIGS solar panels are made up of thin layers of semiconductor materials, primarily copper, indium, gallium, and selenium. These materials are deposited in thin-film form onto a flexible substrate, typically made of plastic or metal.

Efficiency

CIGS technology has undergone significant advancements in recent years, resulting in improved efficiency levels. While CIGS panels historically had lower efficiency compared to traditional crystalline silicon panels, our CIGS panels can achieve competitive efficiency rates 17%.

Flexibility

One of the standout features of CIGS flexible solar panels is their high flexibility. They can be bent, curved, or conformed to fit a wide range of surfaces, including curved building materials, vehicles, and even clothing. This flexibility makes them suitable for applications where rigid solar panels cannot be used.

Light Weight

CIGS panels are lightweight compared to traditional solar panels, making them suitable for installations where weight is a concern, such as on lightweight structures or vehicles.

Durability

CIGS panels are generally robust and durable. They can withstand a variety of environmental conditions, including rain, wind, and temperature fluctuations. Some manufacturers incorporate protective coatings to enhance durability further.

Aesthetics

Due to their flexibility and thin profile, CIGS panels can be integrated into architectural designs more seamlessly than rigid panels, making them a choice for building-integrated photovoltaics (BIPV) where aesthetics are important.

Applications

CIGS flexible solar panels find use in various applications, including:

Building-integrated photovoltaics (BIPV): They can be integrated into building materials like roofing, facades, and windows, providing a source of renewable energy without altering the building's appearance significantly.

Portable solar chargers: Their lightweight and flexible nature make them ideal for portable solar chargers for outdoor activities.

Transportation: They can be applied to vehicles, including cars, buses, and boats, to harness solar energy for auxiliary power or propulsion.

Off-grid and remote power: CIGS panels are suitable for off-grid and remote power applications, such as powering remote communication stations, weather stations, and rural electrification projects.

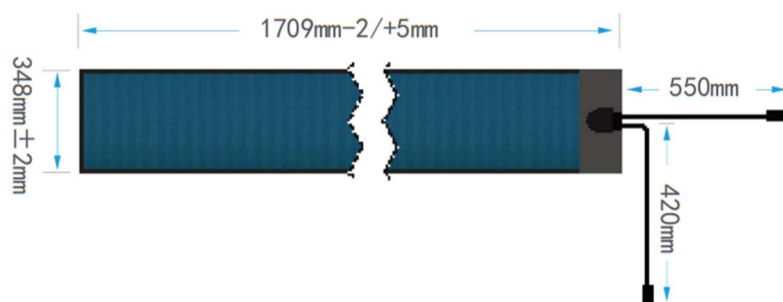
Environmental Benefits

CIGS technology is considered more environmentally friendly compared to traditional solar panel manufacturing processes. It typically requires fewer raw materials and has a lower carbon footprint in production.

Electrical Parameters

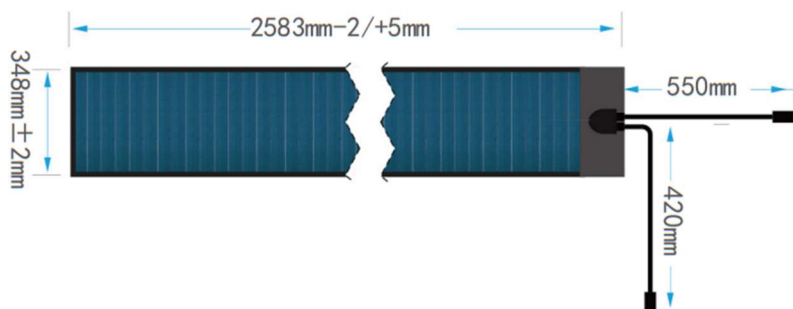
Electrical Parameters

N36 70W/75W/80W

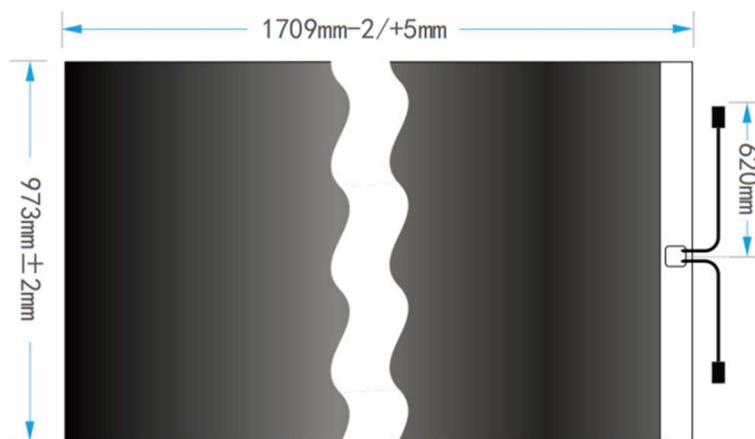


	N36-70	N36-75	N36-80
Nominal Power (Pmax)	70W	75W	80W
Power Output Tolerance	-5~+5W	0~+5W	0~+5W
Aperture Efficiency(η)	14.2%	15.2%	16.2%
Maximum Power Voltage (Vmp)	17.8V	18.3V	18.8V
Maximum Power Current (Imp)	3.93A	4.09A	4.26A
Open Circuit Voltage (Voc)	22.6V	23.3V	23.8V
Short Circuit Current (Isc)	4.65A	4.70A	4.74A
Maximum Series Fuse Rating (Fmax)	10A	10A	10A
NOCT	48°C	48°C	48°C
Temperature Coefficient Of P _{MPP}	-0.38%/°C	-0.38%/°C	-0.38%/°C
Temperature Coefficient Of V _{OC}	-0.28%/°C	-0.28%/°C	-0.28%/°C
Temperature Coefficient Of I _{SC}	0.008%/°C	0.008%/°C	0.008%/°C
Cell Temperature Operating Range	-40~+85°C	-40~+85°C	-40~+85°C
Dimension	1709*348*20 mm	1709*348*20 mm	1709*348*20 mm
Weight (Module without adhesive)	1.2 Kg	1.2 Kg	1.2 Kg
Weight (Module with adhesive)	1.6 Kg	1.6 Kg	1.6 Kg

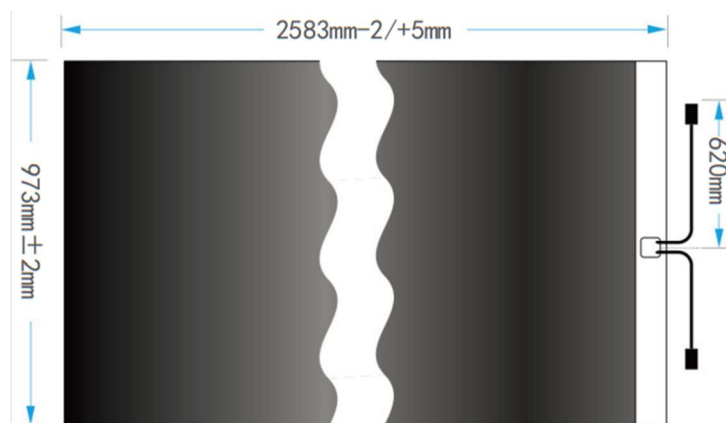
N56 115W/120W/125W



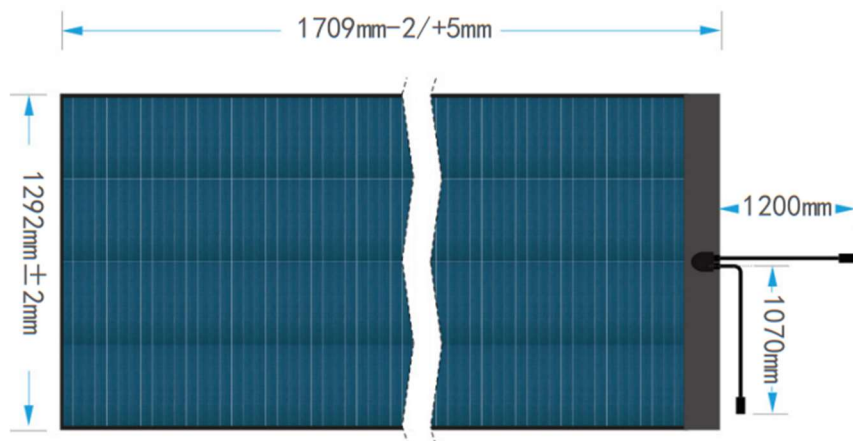
	N56-115	N56-120	N56-125
Nominal Power (Pmax)	115W	120W	125W
Power Output Tolerance	-5~+5W	0~+5W	0~+5W
Aperture Efficiency(η)	15.0%	15.6%	16.3%
Maximum Power Voltage (Vmp)	28.3V	28.8V	29.3V
Maximum Power Current (Imp)	4.06A	4.16A	4.27A
Open Circuit Voltage (Voc)	36.0V	36.5V	37.0V
Short Circuit Current (Isc)	4.69A	4.71A	4.75A
Maximum Series Fuse Rating (Fmax)	10A	10A	10A
NOCT	48°C	48°C	48°C
Temperature Coefficient Of PMPP	-0.38%/°C	-0.38%/°C	-0.38%/°C
Temperature Coefficient Of VOC	-0.28%/°C	-0.28%/°C	-0.28%/°C
Temperature Coefficient Of ISC	0.008%/°C	0.008%/°C	0.008%/°C
Cell Temperature Operating Range	-40~+85°C	-40~+85°C	-40~+85°C
Dimension	2583*348*20 mm	2583*348*20 mm	2583*348*20 mm
Weight (Module without adhesive)	1.7 Kg	1.7 Kg	1.7 Kg
Weight (Module with adhesive)	2.3Kg	2.3Kg	2.3Kg

M36**220W/230W/235W/240W**

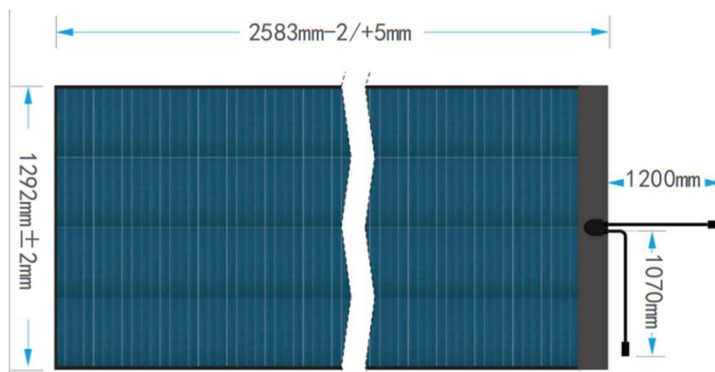
	M36-225	M36-230	M36-235	M36-240
Nominal Power (Pmax)	220W	230W	240W	250W
Power Output Tolerance	-10~+10W	0~+10W	0~+10W	0~+10W
Aperture Efficiency(η)	14.8%	15.5%	16.2%	16.9%
Maximum Power Voltage (Vmp)	18.2V	18.8V	19.4V	20.0V
Maximum Power Current (Imp)	12.12A	12.25A	12.38A	12.52A
Open Circuit Voltage (Voc)	23.3V	23.8V	24.2V	24.7V
Short Circuit Current (Isc)	13.95A	14.00A	14.04A	14.08A
Maximum Series Fuse Rating (Fmax)	25A	25A	25A	25A
NOCT	48°C	48°C	48°C	48°C
Temperature Coefficient Of P _{MPP}	-0.38%/°C	-0.38%/°C	-0.38%/°C	-0.38%/°C
Temperature Coefficient Of V _{OC}	-0.28%/°C	-0.28%/°C	-0.28%/°C	-0.28%/°C
Temperature Coefficient Of I _{SC}	0.008%/°C	0.008%/°C	0.008%/°C	0.008%/°C
Cell Temperature Operating Range	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C
Dimension	1709*973*20 mm	1709*973*20 mm	1709*973*20 mm	1709*973*20 mm
Weight (Module without adhesive)	2.9 Kg	2.9 Kg	2.9 Kg	2.9 Kg
Weight (Module with adhesive)	3.5Kg	3.5Kg	3.5Kg	3.5Kg

M56**350W/360W/370W/375W/380W**

	M56-350	M56-360	M56-370	M56-375	M56-380
Nominal Power (Pmax)	350W	360W	370W	380W	390W
Power Output Tolerance	-10~+10W	0~+10W	0~+10W	0~+10W	0~+10W
Aperture Efficiency(η)	15.2%	15.6%	16.0%	16.5%	16.9%
Maximum Power Voltage (Vmp)	29.6V	29.8V	30.1V	30.3V	30.5V
Maximum Power Current (Imp)	11.83A	12.07A	12.31A	12.55A	12.80A
Open Circuit Voltage(Voc)	37.2V	37.3V	37.6V	37.6V	37.8V
Short Circuit Current (Isc)	13.78A	13.88A	13.98A	14.10A	14.31A
Maximum Series Fuse Rating (Fmax)	25A	25A	25A	25A	25A
NOCT	48°C	48°C	48°C	48°C	48°C
Temperature Coefficient Of P _{MPP}	-0.38%/°C	-0.38%/°C	-0.38%/°C	-0.38%/°C	-0.38%/°C
Temperature Coefficient Of V _{OC}	-0.28%/°C	-0.28%/°C	-0.28%/°C	-0.28%/°C	-0.28%/°C
Temperature Coefficient Of I _{SC}	0.008%/°C	0.008%/°C	0.008%/°C	0.008%/°C	0.008%/°C
Cell Temperature Operating Range	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C
Dimension	2583*973*20 mm	2583*973*20 mm	2583*973*20 mm	2583*973*20 mm	2583*973*20 mm
Weight (Module without adhesive)	4.3 Kg	4.3 Kg	4.3 Kg	4.3 Kg	4.3 Kg
Weight (Module with adhesive)	5.3Kg	5.3Kg	5.3Kg	5.3Kg	5.3Kg

W36**290W/300W/310W/320W**

	W36-290	W36-300	W36-310	W36-320
Nominal Power (Pmax)	290W	300W	310W	320W
Power Output Tolerance	-10~+10W	0~+10W	0~+10W	0~+10W
Aperture Efficiency(η)	14.7%	15.2%	15.7%	16.2%
Maximum Power Voltage (Vmp)	38.3V	38.4V	38.5V	38.6V
Maximum Power Current (Imp)	7.57A	7.81A	8.04A	8.29A
Open Circuit Voltage (Voc)	48.0V	48.1V	48.2V	48.3V
Short Circuit Current (Isc)	9.01A	9.10A	9.21A	9.34A
Maximum Series Fuse Rating (Fmax)	25A	25A	25A	25A
NOCT	48°C	48°C	48°C	48°C
Temperature Coefficient Of P _{MPP}	-0.38%/°C	-0.38%/°C	-0.38%/°C	-0.38%/°C
Temperature Coefficient Of V _{OC}	-0.28%/°C	-0.28%/°C	-0.28%/°C	-0.28%/°C
Temperature Coefficient Of I _{SC}	0.008%/°C	0.008%/°C	0.008%/°C	0.008%/°C
Cell Temperature Operating Range	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C
Dimension	1709*1292*20 mm	1709*1292*20 mm	1709*1292*20 mm	1709*1292*20 mm
Weight (Module without adhesive)	3.7 Kg	3.7 Kg	3.7 Kg	3.7 Kg
Weight (Module with adhesive)	4.4Kg	4.4Kg	4.4Kg	4.4Kg

W56**460W/480W/490W/500W/510W**

	W56-460	W56-480	W56-490	W56-500	W56-510
Nominal Power (Pmax)	460W	480W	490W	500W	510W
Power Output Tolerance	-20~+20W	0~+10W	0~+10W	0~+10W	0~+10W
Aperture Efficiency(η)	15.0%	15.6%	15.9%	16.3%	16.6%
Maximum Power Voltage (Vmp)	59.6V	59.9V	60.0V	60.2V	60.2V
Maximum Power Current (Imp)	7.72A	8.02A	8.16A	8.31A	8.47A
Open Circuit Voltage (Voc)	74.8V	74.9V	75.0V	75.1V	75.2V
Short Circuit Current (Isc)	9.09A	9.20A	9.25A	9.32A	9.42A
Maximum Series Fuse Rating (Fmax)	25A	25A	25A	25A	25A
NOCT	48°C	48°C	48°C	48°C	48°C
Temperature Coefficient Of P _{MPP}	-0.38%/°C	-0.38%/°C	-0.38%/°C	-0.38%/°C	-0.38%/°C
Temperature Coefficient Of V _{OC}	-0.28%/°C	-0.28%/°C	-0.28%/°C	-0.28%/°C	-0.28%/°C
Temperature Coefficient Of I _{SC}	0.008%/°C	0.008%/°C	0.008%/°C	0.008%/°C	0.008%/°C
Cell Temperature Operating Range	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C
Dimension	2583*1292*20 mm	2583*1292*20 mm	2583*1292*20 mm	2583*1292*20 mm	2583*1292*20 mm
Weight (Module without adhesive)	5.6 Kg	5.6 Kg	5.6 Kg	5.6 Kg	5.6 Kg
Weight (Module with adhesive)	6.6Kg	6.6Kg	6.6Kg	6.6Kg	6.6Kg

• CIGS Products & Solutions

Solar Backpack

Our Large Capacity CIGS Solar Laptop Bag, designed to accommodate notebooks of up to 16 inches. Crafted from high-quality nylon fabric, it boasts remarkable wear resistance and splash-proof capabilities.

Equipped with a cutting-edge micro energy storage module and an intelligent power generation management system, this bag fully supports the latest fast charging and quick release protocols, ensuring you stay powered up when you need it most.

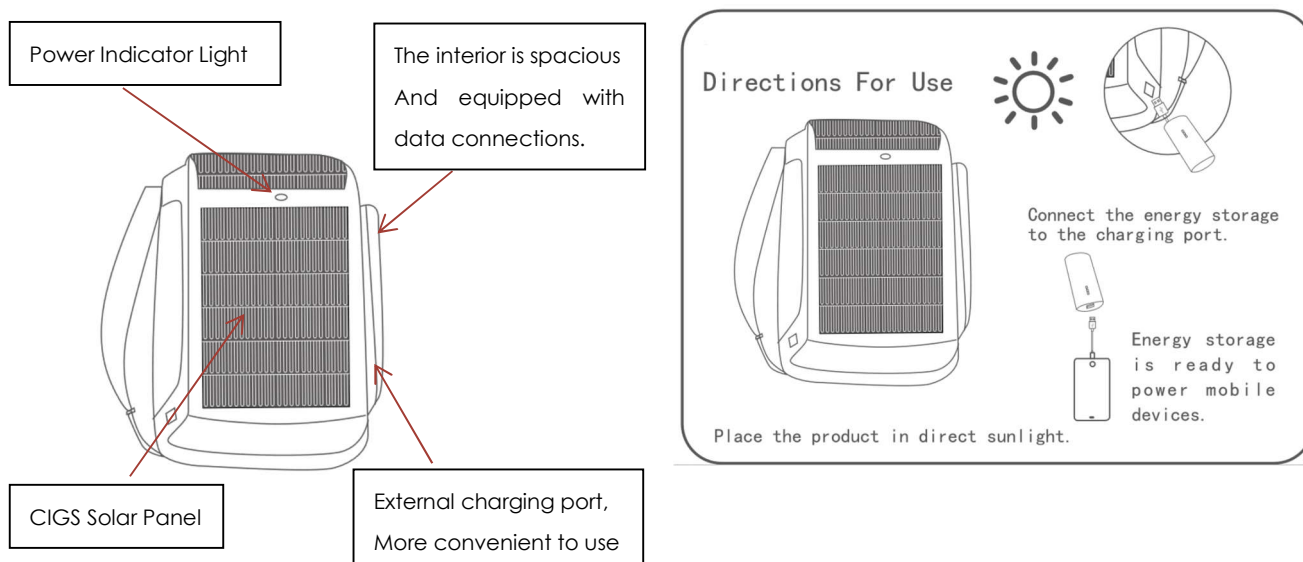
Additionally, our bag serves as a reliable emergency charging solution for your smartphones, sports watches, power banks, and other essential devices, effectively extending their battery life and your overall endurance.

Elevate your daily productivity with our feature-rich Large Capacity CIGS Solar Laptop Bag.

Specification	8.3W/7.7V/1.08A
Dimension	460*320mm
Weight	1.25kg
Output USB	5V1A

Energy Storage Options

Preferred energy storage 4000mAh product or other matching energy storage products.



Flexible Solar Panel Portable Power Supply

It can provide charging for smart phones, sports watches, air series energy storage devices, etc., to extend the battery life.

6.5W

Specification	6.5W/6.4V/1.02A
Dimension	196*308mm
Weight	0.13kg
Output USB	5V

13W

Specification	13W/6.4V/2.03A
Dimension	308*195mm
Unfolded Dimension	308*390mm
Weight	0.26kg
Output USB	5V

40W

Specification	40W/24.1V/1.66A
Dimension	750*633mm
Weight	0.8kg
Output USB	USB+DC/DC

80W

Specification	80W/24.1V/3.32A
Dimension	1015*944mm
Weight	0.26kg
Output USB	USB+DC/DC

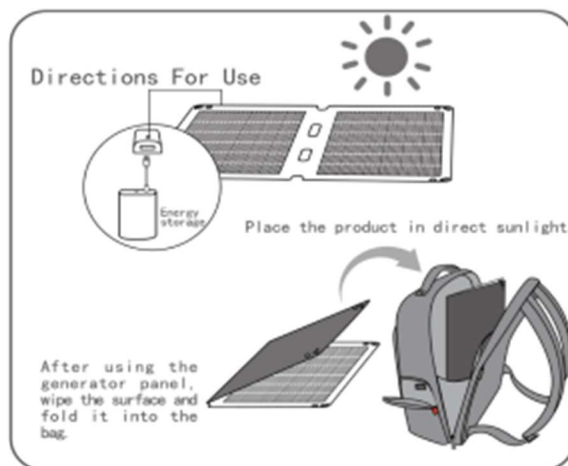
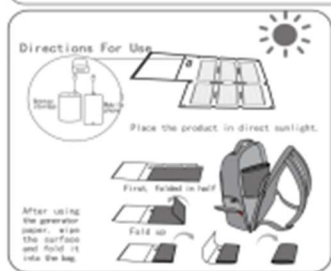
120W

Specification	120W/22.1V/5.43A
Dimension	1945*518mm
Weight	2.2kg
Output USB	DC/MC4

240W

Specification	240W/6.4V/2.03A
Dimension	1945*1042mm
Unfolded Dimension	
Weight	4.2kg
Output USB	MC4





Contact US



lili.xssm@gmail.com



WhatsApp/Cellphone: +86 15693116266



www.xisisolar.com