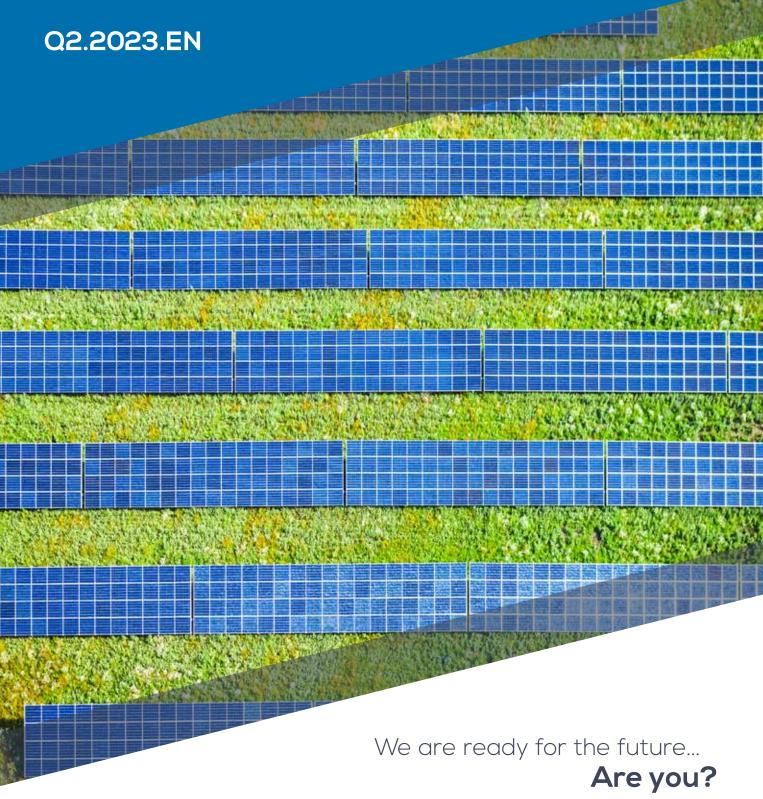
PRODUCT CATALOGUE





THE COMPANY



Founded in 2005, Voltalia is an international player in renewable energy generation and storage, acting both as Power Producer and Service Provider for its Clients.

With a historic purpose to "Improve global environment, fostering local development", Voltalia has officially become a "Mission-Driven" company in 2021 to enhance its environmental and social commitments.

It also provides services to independent customers. Voltalia operates in 20 countries over 3 continents and is able to act worldwide on behalf of its customers.

Acting as a Distributor on a global scale, since 2008, enabled us to supply more than 1 GW of solar PV technology, making sure that distribution is always accompanied by knowledge and services that add value for/to our customers, in the Residential, Commercial and Industrial sector.

The distribution business line of Voltalia is specialized in the distribution of Solar Equipment: modules, inverters, mounting systems, batteries, self-consumption kits and all type of PV accessories and components.

On the distribution, our aim is to provide added value solutions to meet our clients' requirements and contribute to the expansion of their business, building a real partnership with them.

OUR PRESENCE



YOUR PV PARTNER

We are more than a sustainable solutions partner/provider, we also aim to contribute to expand your business, building a strong partnership that will benefit both parties.

- Our team is devoted in finding the best solutions and products to fulfill your PV requirements;
- Our more than 12 years PV expertise and know how guarantee the quality and reliability of the products and solutions we distribute;
- We are flexible, and we supply customized solutions.

WE FOCUS NOT ONLY ON THE PRODUCT, BUT ALSO ON THE SERVICE:

- Personalized Commercial Attention / Local dedicated Sales Force:
- · Technical support / Training workshops;
- Logistics and Warehousing: Flexible Logistics provided by large and reliable International and local logistics network;
- After Sales Service:
- Team with local presence;
- · We speak your language.

We are ready for the future. Flexibility, excellence in service and continuous technological innovation are our guidelines, conceived to provide installers worldwide with the best offer for all kinds of PV installations.

"When you choose Voltalia as Distributor, you choose a reliable companion that will always be available for you during the whole process to back up the success of your projects"

OUR COMMITMENT

Voltalia Distribution business line commitment is much more than towards quality and service; we are also highly involved in the environmental protection and in the research and development of new photovoltaic solutions to build together with our clients and partners a safer and greener future.

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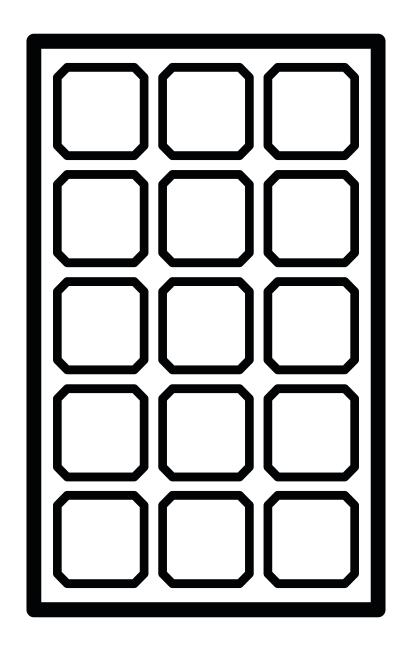
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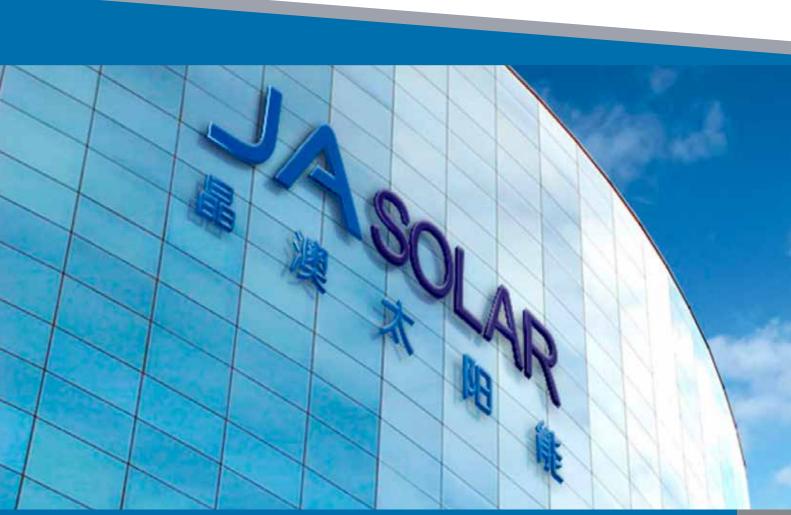
Solar Modules



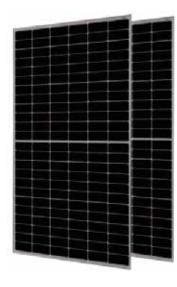
Company

Founded in 2005, JA Solar is a manufacturer of high-performance photovoltaic products. With 12 manufacturing bases and more than 20 branches around the world, the company's business covers silicon wafers, cells, modules and photovoltaic power stations. JA Solar products are available in over 120 countries and regions and are used extensively in ground-mounted power plants, commercial & industrial rooftop PV systems and residential rooftop PV systems. With its advantages of continuous technological innovation, sound financial performance, and well-established global sales and service networks, JA Solar has been well received and highly recognized by clients from home and abroad. The company has been listed on Fortune China 500 and Global Top 500 New Energy Enterprises for several consecutive years.

Annual Sales Revenue (2019): ¥21.2 billion Cumulative Shipments (As of Q4, 2019): 45GW Clients Worldwide (As of Q4, 2019): 33000 Employees (As of Q4, 2019): 22000



390W MBB Half-Cell Module



365-390/MR

JAM60S20









+ info

Model	JAM60S20 -365/MR	JAM60S20 -370/MR	JAM60S20 -375/MR	JAM60S20 -380/MR	JAM60S20 -385/MR	JAM60S20 -390/MR	
Maximum Efficiency	19.6%	19.9%	20.2%	20.4%	20.7%	21.0%	
Weight / Dimensions		1	8.8kg / 1769	x 1052 x 35 m	m		
Tolerance			0~-	+5W			
Pmax Temperature Coefficient			-0.35	0%/°C			
Cells			Perc Mond	ocrystalline			
Mechanical Load	5400 Pa (front) / 2400 Pa (back)						
Product Warranty	12-y	ear product w	arranty 25-y	ear linear pow	er output war	ranty	

^{*}some models can be supplied with black frame/all black

415W MBB Half-Cell Module



390-415/MR

JAM54S30









+ info

Model	JAM54S30 -390/MR	JAM54S30 -395/MR	JAM54S30 -400/MR	JAM54S30 -405/MR	JAM54S30 -410/MR	JAM54S30 -415/MR	
Maximum Efficiency	20.0%	20.2%	20.5%	20.7%	21.0%	21.3%	
Weight / Dimensions		2:	L.5kg / 1722 x	1134 x 30 m	m		
Tolerance			0~+	5W			
Pmax Temperature Coefficient			-0.350	%/°C			
Cells			Perc Mono	crystalline			
Mechanical Load	5400 Pa (front) / 2400 Pa (back)						
Product Warranty	12-year product warranty 25-year linear power output warranty						

^{*}some models can be supplied with black frame/all black

470W MBB Half-Cell Module



445-470/MR

JAM72S20









Model	JAM72S20 -445/MR	JAM72S20 -450/MR	JAM72S20 -455/MR	JAM72S20 -460/MR	JAM72S20 -465/MR	JAM72S20 -470/MR			
Maximum Efficiency	20.0%	20.3%	20.5%	20.7%	20.9%	21.2%			
Weight / Dimensions		22.8kg / 2112 x 1052 x 35 mm							
Tolerance			0~+	5W					
Pmax Temperature Coefficient			-0.350	%/°C					
Cells			Perc Mono	crystalline					
Mechanical Load	5400 Pa (front) / 2400 Pa (back)								
Product Warranty	12-ye	ear product wa	arranty 25-ye	ar linear pow	er output warı	ranty			

^{*}some models can be supplied with black frame/all black

505W MBB Bifacial Mono PERC



480-505/MB

JAM66D30







+ info

Model	JAM66D30 -480/MB	JAM66D30 -485/MB	JAM66D30 -490/MB	JAM66D30 -495/MB	JAM66D30 -500/MB	JAM66D30 -505/MB		
Maximum Efficiency	20.2%	20.4%	20.6%	20.8%	21.0%	21.2%		
Weight / Dimensions		29	9.0kg / 2100 x	1134 x 35 mi	m			
Tolerance			0~+	5W				
Pmax Temperature Coefficient			-0.350	%/°C				
Cells			Perciun	n Cells				
Mechanical Load	5400 Pa (front) / 2400 Pa (back)							
Product Warranty	12-ye	ear product wa	arranty 30-ye	ar linear pow	er output warı	ranty		

^{*}some models can be supplied with black frame/all black

505W MBB Half-Cell Module



480-505/MR

JAM66S30









+ info

Model	JAM66S30 -480/MB	JAM66S30 -485/MB	JAM66S30 -490/MB	JAM66S30 -495/MB	JAM66S30 -500/MB	JAM66S30 -505/MB	
Maximum Efficiency	20.2%	20.4%	20.6%	20.8%	21.1%	21.3%	
Weight / Dimensions		26	5.3kg / 2094 x	1134 x 35 m	m		
Tolerance			0~+	5W			
Pmax Temperature Coefficient			-0.350	%/°C			
Cells			Perc Mono	crystalline			
Mechanical Load	5400 Pa (front) / 2400 Pa (back)						
Product Warranty	12-year product warranty 25-year linear power output warranty						

^{*}some models can be supplied with black frame/all black

550W MBB Half-Cell Module



525-550/MR

JAM72S30









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Model	JAM72S30 -525/MR	JAM72S30 -530/MR	JAM72S30 -535/MR	JAM72S30 -540/MR	JAM72S30 -545/MR	JAM72S30 -550/MR			
Maximum Efficiency	20.3%	20.5%	20.7%	20.9%	21.1%	21.3%			
Weight / Dimensions		28.6kg / 2279 x 1134 x 35 mm							
Tolerance	0~+5W								
Pmax Temperature Coefficient			-0.350	%/°C					
Cells			Perc Mono	crystalline					
Mechanical Load	5400 Pa (front) / 2400 Pa (back)								
Product Warranty	12-ye	ear product wa	rranty 25-ye	ar linear pow	er output war	ranty			

 $^{{}^*}$ some models can be supplied with black frame/all black

550W MBB Bifacial Mono PERC



525-550/MB

JAM72D30







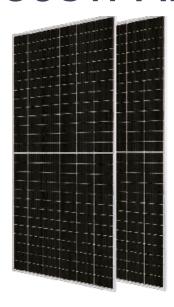


+ info

Model	JAM72D30 -525/MB	JAM72D30 -530/MB	JAM72D30 -535/MB	JAM72D30 -540/MB	JAM72D30 -545/MB	JAM72D30 -550/MB			
Maximum Efficiency	20.3%	20.5%	20.6%	20.8%	21.0%	21.2%			
Weight / Dimensions	31.6kg / 2285 x 1134 x 35 mm								
Tolerance			0~+	5W					
Pmax Temperature Coefficient			-0.350	%/°C					
Cells			Perciun	n Cells					
Mechanical Load	5400 Pa (front) / 2400 Pa (back)								
Product Warranty	12-ye	ar product wa	rranty 30-ye	ar linear pow	er output warı	ranty			

^{*}some models can be supplied with black frame/all black

605W MBB Half-cell module



580-605/MR

JAM78S30









Model	JAM78S30 -580/MR	JAM78S30 -585/MR	JAM78S30 -590/MR	JAM78S30 -595/MR	JAM78S30 -600/MR	JAM72S30 -605/MR		
Maximum Efficiency	20.7%	20.9%	21.1%	21.3%	21.5%	21.6%		
Weight / Dimensions		33	L.1kg / 2467 x	1136 x 36 m	m			
Tolerance	0~+5W							
Pmax Temperature Coefficient			-0.350	%/°C				
Cells			Мо	no				
Mechanical Load	5400 Pa (112lb/ft²) / 2400 Pa (50lb/ft²)							
Product Warranty	12-ye	ear product wa	rranty 30-ye	ar linear pow	er output war	ranty		

^{*}some models can be supplied with black frame/all black





RISEN ENERGY CO., LTD

Risen Energy Co., Ltd. was founded in 1986 and listed as a Chinese public company (Stock Code: 300118) in 2010. Risen Energy is one of the pioneers in solar industry and has committed to this industry as a R&D expert, an integrated manufacturer from wafers to modules, a manufacturer of off-grid systems, and also an investor, a developer and an EPC of PV projects. Aiming to deliver the green energy worldwide, Risen Energy is developing internationally with offices and sales networks in China, Germany, Australia, Mexico, India, Japan, USA and others.

Exported to the world

As a state-level high-tech enterprise, Risen Energy has more than 45 key business core technologies, and has established a national level photovoltaic laboratory, which is independent and received CNAS certification. The laboratory can carry out 54 project tests according to EC61215, IEC61730-2 and UL1703, and provide support for the design, development and quality control of the company and other photovoltaic enterprises.



RSM40-8-390M-410M



390M-410M

RSM40-8



+ info

Model	RSM40-8- 390M	RSM40-8- 395M	RSM40-8- 400M	RSM40-8- 405M	RSM40-8- 410M		
Maximum Efficiency	20.3%	20.5%	20.8%	21.1%	21.3%		
Weight / Dimensions		21.0kg	/ 1754 x 1096 x	30 mm			
Pmax Temperature Coefficient			-0.34%/°C				
Cells		Pe	erc Monocrystallir	ne			
Mechanical Load	wind load 2400Pa & snow load 5400Pa						
Product Warranty	12-	year product war	ranty 25-year lii	near power warra	inty		

^{*}some models can be supplied with black frame/all black

RSM144-7-435M-455M



435M-455M

RSM144-7



Model	RSM144-7- 435M	RSM144-7- 440M	RSM144-7- 445M	RSM144-7- 450M	RSM144-7- 455M		
Maximum Efficiency	19.7%	19.9%	20.1%	20.4%	20.6%		
Weight / Dimensions		24.5kg	/ 2108 x 1048 x	35 mm			
Pmax Temperature Coefficient			-0.37%/°C				
Cells		Pe	erc Monocrystallir	ne			
Mechanical Load	2400Pa & snow load 5400Pa resistance						
Product Warranty	12-	year product war	ranty 25-year lir	near power warra	inty		

^{*}some models can be supplied with black frame/all black

RSM130-8-430-450M



430M-450M

RSM130-8



+ info

Model	RSM130-8- 430M	RSM130-8- 435M	RSM130-8- 440M	RSM130-8- 445M	RSM130-8- 450M		
Maximum Efficiency	20.7%	21.0%	21.2%	21.4%	21.7%		
Weight / Dimensions		22.5kg	/ 1894 x 1096 x	30 mm			
Tolerance			0~+3%				
Pmax Temperature Coefficient			-0.34%/°C				
Cells		Pe	erc Monocrystallir	ne			
Mechanical Load	wind load 2400Pa & snow load 5400Pa						
Product Warranty	12-	year product war	ranty 25-year lii	near power warra	anty		

^{*}some models can be supplied with black frame/all black

RSM110-8-530-550BMDG



530-550BMDG

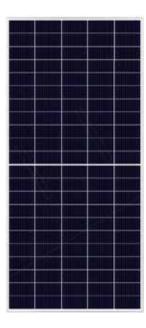
RSM110-8



Model	RSM110- 8-530BMDG	RSM110- 8-535BMDG	RSM110- 8-540BMDG	RSM110- 8-545BMDG	RSM110- 8-550BMDG	
Maximum Efficiency	20.3%	20.5%	20.7%	20.9%	21.0%	
Weight / Dimensions		33±0.5	kg / 2384×1096>	30mm		
Tolerance			0~+3%			
Pmax Temperature Coefficient			-0.34%/°C			
Cells	Perc Monocrystalline					
Mechanical Load	wind load 2400Pa & snow load 5400Pa					
Product Warranty	12-year product warranty 25-year linear power warranty					

^{*}some models can be supplied with black frame/all black

RSM110-8-535M-555M



535M-555M

RSM110-8

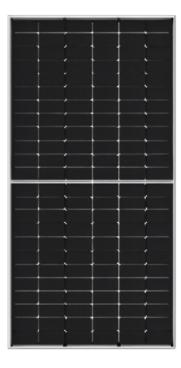


+ info

Model	RSM110-8- 535M	RSM110-8- 540M	RSM110-8- 545M	RSM110-8- 550M	RSM110-8- 555M	
Maximum Efficiency	20.5%	20.7%	20.9%	21.0%	21.2%	
Weight / Dimensions		29.0kg	/ 2384 x 1096 x	35 mm		
Tolerance			0~+5W			
Pmax Temperature Coefficient	-0.37%/°C					
Cells	Perc Monocrystalline					
Mechanical Load	5400 Pa (front) / 2400 Pa (back)					
Product Warranty	12-year product warranty 25-year linear power warranty					

^{*}some models can be supplied with black frame/all black

RSM144-10-570BNDG-595BNDG



570-595W

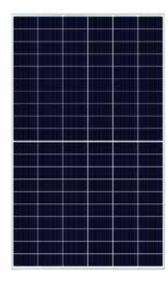
RSM144-10



Model	RSM144- 10- 570BNDG	RSM144- 10- 575BNDG	RSM144- 10- 580BNDG	RSM144- 10- 585BNDG	RSM144- 10- 590BNDG	RSM144- 10- 595BNDG
Maximum Efficiency	21.1%	21.3%	21.5%	21.6%	21.8%	22.0%
Weight / Dimensions		33	3.5kg / 2384 ×	1134 × 30mr	n	
Tolerance			0~+3	5%		
Pmax Temperature Coefficient	-0.32%/°C					
Cells	Perc Monocrystalline					
Mechanical Load	wind load 2400Pa & snow load 5400Pa					
Product Warranty	1	2-year produc	t warranty 25	-year linear p	ower warrant	ty

^{*}some models can be supplied with black frame/all black

RSM120-8-580M-600M



580M-600M

RSM120-8

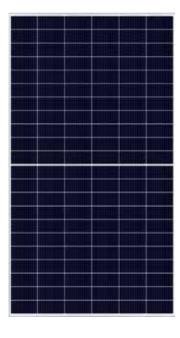


+ info

Model	RSM120-8- 580M	RSM120-8- 585M	RSM120-8- 590M	RSM120-8- 595M	RSM120-8- 600M	
Maximum Efficiency	20.5%	20.7%	20.8%	21.0%	21.2%	
Weight / Dimensions		31.5±0.5	kg / 2172 x 1303	x 35 mm		
Pmax Temperature Coefficient			-0.37%/°C			
Cells	Perc Monocrystalline					
Mechanical Load	wind load 2400Pa & snow load 5400Pa					
Product Warranty	12-	year product war	ranty 25-year lir	near power warra	anty	

^{*}some models can be supplied with black frame/all black

RSM132-8-640M-660M



640M-660M

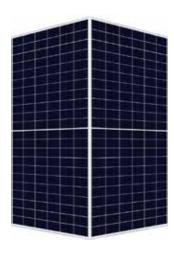
RSM132-8



Model	RSM132-8- 640M	RSM132-8- 645M	RSM132-8- 650M	RSM132-8- 655M	RSM132-8- 660M	
Maximum Efficiency	20.6%	20.8%	20.9%	21.1%	21.2%	
Weight / Dimensions		34.0kg	g / 2384 x 1303 x	35 mm		
Pmax Temperature Coefficient			-0.34%/°C			
Cells	Perc Monocrystalline					
Mechanical Load	wind load 2400Pa & snow load 5400Pa					
Product Warranty	12-	year product wai	ranty 25-year li	near power warra	anty	

^{*}some models can be supplied with black frame/all black

RSM132-8-640BMDG-665BMDG —



640BMDG-665BMDG

RSM132-8



+ info

Model	RSM132-8- 640BMDG	RSM132-8- 645BMDG	RSM132-8- 650BMDG	RSM132-8- 655BMDG	RSM132-8- 660BMDG	RSM132-8- 665BMDG
Maximum Efficiency	20.6%	20.8%	20.9%	21.1%	21.2%	21.4%
Weight / Dimensions		40	0.0kg / 2384)	k 1303 x 35 m	m	
Pmax Temperature Coefficient			-0.34	.%/°C		
Cells	Perc Monocrystalline					
Mechanical Load	wind load 2400Pa & snow load 5400Pa					
Product Warranty	1	2-year produc	t warranty 3	0-year linear	power warrant	y

^{*}some models can be supplied with black frame/all black

RSM132-8-645-670M



645-670M

RSM132-8



Model	RSM132-8- 645M	RSM132-8- 650M	RSM132-8- 655M	RSM132-8- 660M	RSM132-8- 665M	RSM132-8- 670M		
Maximum Efficiency	20.8%	20.9%	21.1%	21.2%	21.4%	21.6%		
Weight / Dimensions			34.0kg / 2384	x 1303 x 35 m	m			
Tolerance			0~+	÷3%				
Pmax Temperature Coefficient		-0.34%/°C						
Cells			Perc Mond	ocrystalline				
Mechanical Load	wind load 2400Pa & snow load 5400Pa							
Product Warranty		12-year produ	ıct warranty 2	5-year linear	power warrant	y		

 $^{{}^{*}}$ some models can be supplied with black frame/all black

RSM132-8-665-690BNDG



665-690W

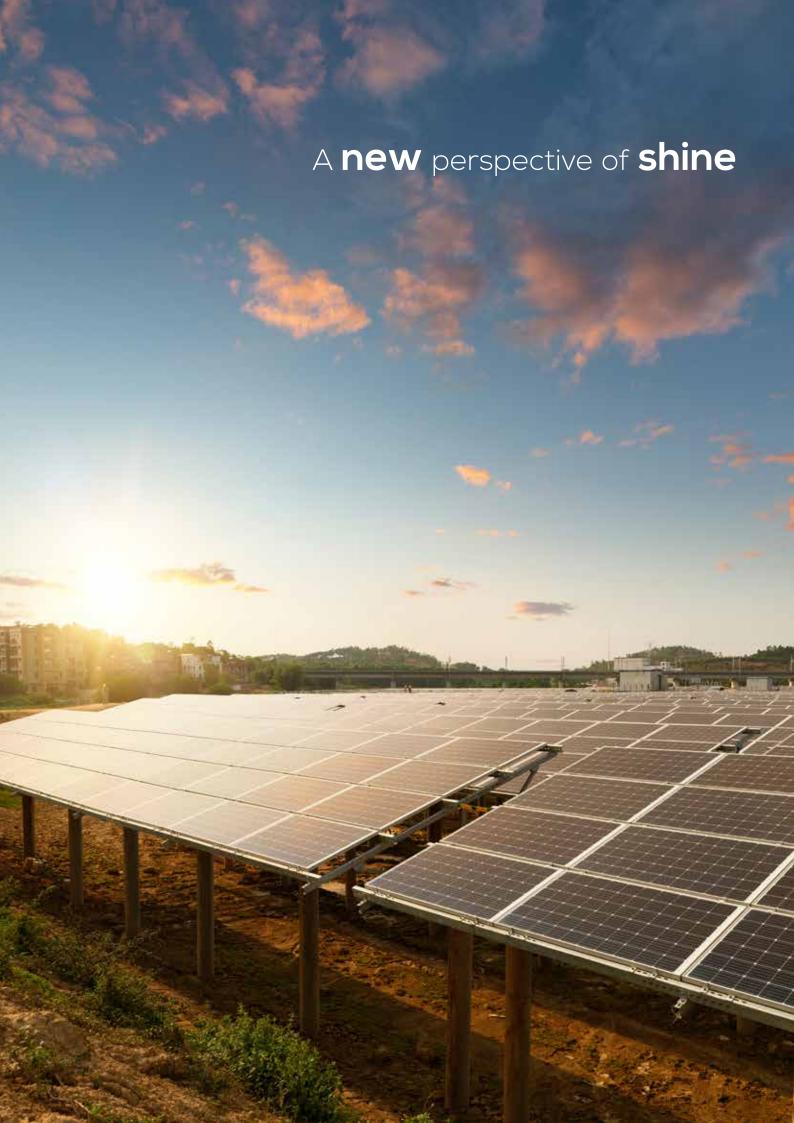
RSM132-8



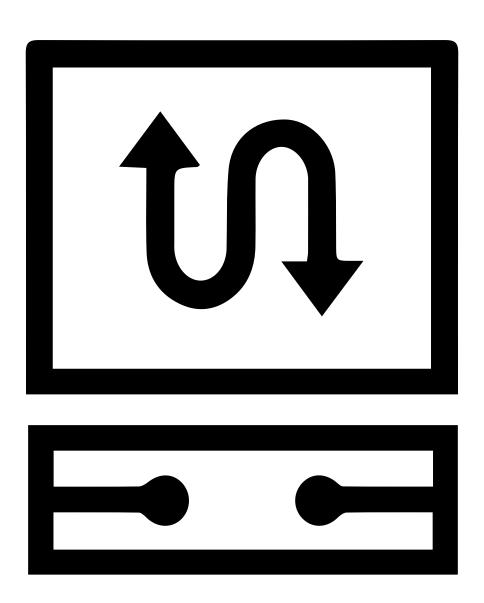
RSM132-8- 670BNDG	RSM132-8- 675BNDG	RSM132-8- 680BNDG	RSM132-8- 685BNDG	RSM132-8- 690BNDG			
21.6%	21.7%	21.9%	22.1%	22.2%			
38.5kg / 2384×1303×35mm							
0~+3%							
	670BNDG 21.6%	670BNDG 675BNDG 21.6% 21.7% 38.5kg / 2384	670BNDG 675BNDG 680BNDG 21.6% 21.7% 21.9% 38.5kg / 2384×1303×35mr	670BNDG 675BNDG 680BNDG 685BNDG 21.6% 21.7% 21.9% 22.1% 38.5kg / 2384×1303×35mm			

Model 665BNDG 670BNDG 675BND 21.4% **Maximum Efficiency** 21.6% 21.7% 38.5kg / 2 Weight / Dimensions Tolerance **Pmax Temperature Coefficient** -0.32%/°C Cells Perc Monocrystalline Mechanical Load wind load 2400Pa & snow load 5400Pa **Product Warranty** 12-year product warranty | 30-year linear power warranty

^{*}some models can be supplied with black frame/all black







Inverters



Company

Huawei, a leading global ICT and network energy solutions provider, serves more than one-third of the world's population. We have nearly 188,000 employees, and we operate in more than 170 countries and regions, serving more than three billion people around the world. With over CNY480 billion invested into R&D over the past decade, Huawei continues to innovate based on customer needs and are committed to enhancing customer experience and delivering maximum value.

FusionSolar

With an established presence in solar markets worldwide, Huawei provides new generation string inverters with smart management technology to create a fully digitalized Smart PV Solution – FusionSolar®. FusionSolar® is smart, safe and reliable whilst consistently delivering high yields and ROI, making Huawei the preferred choice for investors and developers worldwide. Huawei has been ranked as No.1 in the world for global inverter shipments from 2015 to 2018.



Smart PV Optimizer

SUN2000-450W





One-Fits-All Optimizer Easier Business



<1.5 min Pairing with Inverter



<5s Module Auto-Mapping



Arc Fault Pinpoint Position

+ info

Model	SUN2000-450W-P
Rated input power	450 W
Maximum Efficiency	99.5 %
Protection	IP68

Smart PV Optimizer

SUN2000-600W







One-Fits-All Optimizer Easier Business



<1.5 min Pairing with Inverter



<5s Module Auto-Mapping



Arc Fault Pinpoint Position

+ info

Model	SUN2000-600W-P
Rated input power	600 W
Maximum Efficiency	99.5 %
Protection	IP68

Smart Energy Center

SUN2000-2/3/3.68/4/4.6/5/6KTL-L1





Active Safety



Higher Yields



2x POWER Battery Ready

	•				
Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
SUN2000L-2KTL-L1	2200 VA	98.2%	2000 W		IP65
SUN2000L-3KTL-L1	3300 VA	98.3 %	3000 W		
SUN2000L-3.68KTL-L1	3680 VA	98.4 %	3680 W		
SUN2000L-4KTL-L1	4400 VA	98.4 %	4000 W	2	
SUN2000L-4.6KTL-L1	5000 VA	98.4 %	4600 W		
SUN2000L-5KTL-L1	5500 VA	98.4 %	5000 W		
SUN2000L-6KTL-L1	6000 VA	98.4 %	6000 W		

Smart Energy Center

SUN2000-3/4/5/6/8/10KTL-M1





Active Safety



Higher Yields



Flexible Communication

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
SUN2000-3KTL-M1	3300 VA	98.2%	3000 W		IP65
SUN2000-4KTL-M1	4400 VA	98.3%	4000 W		
SUN2000-5KTL-M1	5500 VA	98.4%	5000 W	,	
SUN2000-6KTL-M1	6600 VA	98.6%	6000 W	2	
SUN2000-8KTL-M1	8800 VA	98.6%	8000 W		
SUN2000-10KTL-M1	11000 VA	98.6%	10000 W		

Smart String Inverter SUN2000-12/15/17/20KTL-M2





Active Safety



Higher Yields



Flexible Communication

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
SUN2000-12KTL-M2	13200 VA	98.50%	12000 W		IP65
SUN2000-15KTL-M2	16500 VA	98.65%	15000 W	2	
SUN2000-17KTL-M2	18700 VA	98.65%	17000 W	2	
SUN2000-20KTL-M2	22000 VA	98.65%	20000 W		

Smart String Inverter

SUN2000-30/36/40KTL-M3





Smart



Efficient



Safe



Reliable

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
SUN2000-30KTL-M3	33000 VA		30000 W		
SUN2000-36KTL-M3	40000 VA	98.7%	36000 W	4	IP66
SUN2000-40KTI -M3	44000 VA		40000 W		

Smart String Inverter

SUN2000-50KTL-M3







Active Safety



Higher Yields



Flexible Communication

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection	AC Voltage	DC Voltage
SUN2000-	FF 000 VA	00.70/	F0.000W	,	IP66	(00)/	1.100\/
50KTL-M3	55,000 VA	98.7%	50,000W	4	1700	400V	1,100V

Smart String Inverter

SUN2000-100KTL-M2

NEW









98.8% (@480V) Max. Efficiency



String-level Management



Smart I-V Curve Diagnosis Supported



MBUS Supported



Fuse Free Design







IP66 Protection

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection	AC Voltage	DC Voltage
SUN2000-	110.000 VA	98.6% @ 400 V,	100.000 W	10	IP66	400 V	1.100V
100KTL-M2	110,000 VA	98.8% @ 480 V	100,000 W	10	IPOO	400 V	1,1000

Smart String Inverter

SUN2000-115KTL-M2







10 MPP Trackers



98.8% (@480V) Max. Efficiency



String-level Management



Smart I-V Curve Diagnosis Supported



MBUS Supported



Fuse Free Design



Surge Arresters for DC & AC



IP66 Protection

Model	Maximum Power	Maximum Ef- ficiency	Nominal Power	МРРТ	Protection	AC Voltage	DC Voltage
SUN2000-115KTL-M2	125,000 VA	98.6% @400 V, 98.8% @480 V	115,000 W	10	IP66	400 V	1,100V

String Inverter SUN2000-330KTL-H1

NEW



Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
SUN2000-300KTL-H1	33000 VA	≥99.0%	300.000 W	6	IP66



Company

Established in 2010, GoodWe is a world-leading PV inverter and energy storage solutions provider, with the research and manufacturing of PV inverters and energy storage solutions at its core.

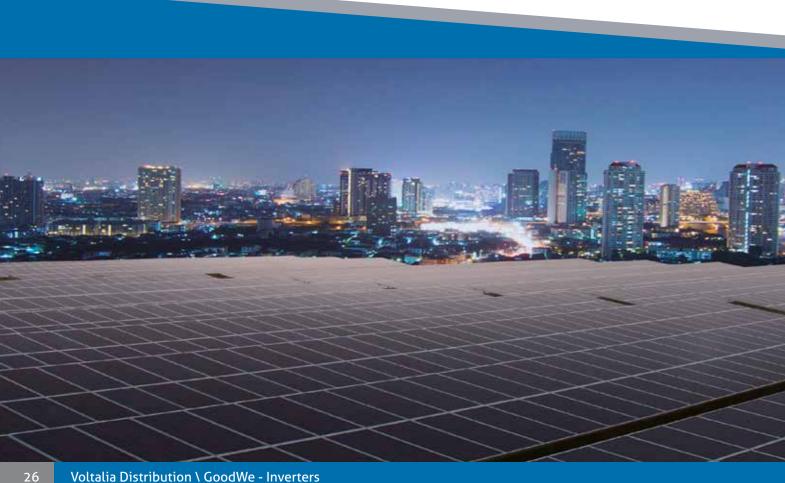
GoodWe is listed as a public limited company on the Shanghai Stock Exchange (Stock Code: 688390), with a long-standing strong presence in the solar market. GoodWe PV inverters have seen an accumulative installation of 35 GW in more than 100 countries in residential and commercial rooftops, industrial and utility scale systems and range from 0.7kW to 250kW. GoodWe has more than 4,000 employees situated in over 20 different countries and is regarded as the Global Top 3 storage inverter supplier by Wood Mackenzie in 2021.

GoodWe's financial stability has landed it the highest Altman-Z score among PV manufacturers on BloombergNEF's 2021 report, displaying its strong financial health and bankability, and until today is the sole inverter brand that has won the TÜV Rheinland All Quality Award for 7 consecutive years (2015-2021). In 2022 GoodWe was awarded the Silver Medal by EcoVadis, placing the company in the top 14% of 100,000+ companies across 175 countries: a firm statement of the company's commitment to a sustainable, smart energy future.

DRIVING THE WORLD'S SMART ENERGY FUTURE

In numbers:

- 4.000+ employees.
- 700+ employees working in R&D.
- 35 GW installed globally.



XS Series

Single-MPPT, Single-Phase



- A4 size
- Light weight
- **⊚** 30% DC oversizing
- **97% European Efficiency**
- LAN/WIFI communication

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
GW700-XS	910	97.2%	700		
GW1000-XS	1300	97.2%	1000		IP65
GW1500-XS	1950	97.3%	1500		
GW2000-XS	2600	97.5%	2000	1	
GW2500-XS	3250	97.4%	2500		
GW3000-XS	3900	97.4%	3000		

DNS Series

Dual-MPPT, Single-Phase



- O Lowest startup voltage at 120V
- **●** Wide range of MPPT voltage
- **●** Small, lightweight and easy to install
- Built-in anti-reserve function
- **IP65 dustproof and waterproof**
- Fanless and noiseless

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
GW3000D-NS	3900	97.8%	3000		IP65
GW3600D-NS	4680	97.8%	3600		
GW4200D-NS	5460	97.8%	4200	2	
GW5000D-NS	6500	97.8%	5000		
GW6000D-NS	7200	97.8%	6000		

SDT G2 Series

Dual-MPPT, Three-Phase



- **●** 50% DC Input Oversizing
- **10% AC Output Overloading**
- Built-in Anti-reverse current
- Arc-Fault circuit interrupter

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
GW4K-DT	6000	98.2%	4000		
GW5K-DT	7500	98.2%	5000		
GW6K-DT	9000	98.2%	6000		
GW8K-DT	12000	98.2%	8000	2	IP65
GW10KT-DT	15000	98.3%	10000		
GW12KT-DT	18000	98.3%	12000		
GW15KT-DT	22500	98.3%	15000		

SDT G2 Series

Dual-MPPT, Three-Phase



- **O 50% DC Input Oversizing**
- **10% AC Output Overloading**
- Built-in Anti-reverse current
- Arc-Fault circuit interrupter

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
GW17KT-DT	25500	98.4%	17000		
GW20KT-DT	30000	98.4%	20000	2	IP65
GW25KT-DT	37500	98.4%	25000		

SDT G2 PLUS+ Series

Dual-MPPT, Three-Phase



- Smart Shadow Scan with adjustable scan interval
- Multi-protocol compatibility for smart home integration
- Optional AFCI and Optional exchangeable DC Type II SPD & SPD failure alarm
- **⊙** Up to 200% DC input oversizing & 110% AC output overloading
- Up to 16 A max. DC input current per stringCompatible with highpower 182mm/210mm modules
- Fanless design for quiet operations
- Elegant and compact design

Model	Max. AC Active Power (W)	Maximum Efficiency	Nominal Output Power (W)	MPPT	Protection
GW4000-SDT-20	4400	98.2%	4000		
GW5000-SDT-20	5500	98.2%	5000		
GW6000-SDT-20	6600	98.2%	6000		
GW8000-SDT-20	8800	98.3%	8000		
GW10KSDT-20	11000	98.3%	10000		
GW12KSDT-20	13200	98.4%	12000	2	IP65
GW12KLVSDT-20	12000	96.9%	12000		
GW15KSDT-20	16500	98.4%	15000		
GW17KSDT-20	18700	98.4%	17000		
GW20KSDT-20	22000	98.4%	20000		

SMT Series

Three-MPPT, Three-Phase



- Ompact and lightweight
- **30% DC input oversizing**
- **O** Up to 10% AC output overloading
- **◎** Wide MPPT range from 200 V to 950 V
- IP65 dustproof and waterproof

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
GW25K-MT	32500	98.7%	25000		
GW30K-MT	39000	98.8%	30000	3	IP65
GW36K-MT	42900	98.8%	36000		

SMT Series

Up to 6 MPPTs, Three Phase



- Smart Control & Monitoring
- Superb Safety & Reliability
- Friendly & Thoughtful Design
- **O** High Power Generation for High Returns

Model	Maximum Efficiency	Nominal Power	MPPT	Protection
GW50KS-MT	00.60/	50 kW	5	IP65
GW60KS-MT	98.6%	60 kW	6	1602

HT Series

100-136kW | Up to 12 MPPTs | Three Phase



- String Level Monitoring
- O Dynamic power export limit
- IP66 and C5 protection
- Optional Type I Surge Protection & AFCI
- Full load running at 45°C
- O Up to 12 MPPTs
- Easy and quick configuration via Bluetooth
- Power line communication

+ info

Model	Max. AC Active Power (kW)	Maximum Efficiency	Nominal Output Power (kW)	MPPT	Protection
GW100K-HT	110		100	10	
GW110K-HT	121	98.6%	110	12	IP66
GW120K-HT	132		120	12	

HT Series

225/250kW | Three phase | 6/12 MPPTs



- String level monitoring
- Real-time monitoring
- Smart string protection switch
- **•** Type II SPD for both DC and AC
- AC terminal ready for 300mm2 aluminum cables
- Reactive power compensation at night
- 20A max. current per string
- Anti-PID function

Model	Max. AC Active Power (kW)	Maximum Efficiency	Nominal Output Power (kW)	MPPT	Protection
GW225K-HT	247.5		225	12	IP66
GW250K-HT	250	00.00/	250	12	
GW225KN-HT	247.5	99.0%	225	6	
GW250KN-HT	250		250	6	

ET Plus + Series

5-10kW | Three Phase | Hybrid Inverter



- Smart load control
- **150% DC input oversizing**
- **100% unbalanced output**
- **⊚** In-built Type II SPD for DC
- Battery ready option
- **◎** <10ms UPS-level switching

+ info

Model	Max. Input Power (W)	Maximum Efficiency	Nominal Power	MPPT	Protection
GW5K-ET	7500	98.0%	5000	2	IP66
GW6.5K-ET	9700		6500		
GW8K-ET	12000	00.20/	8000		
GW10K-ET	15000	98.2%	10000		

ET PLUS+ Series16A

5-10kW | Three Phase | Hybrid Inverter



- Smart load control
- Peak shaving
- In-built Type II SPD on DC side
- IP66 ingress protection
- Fanless cooling for quiet operation
- Elegant and compact design
- Battery ready option
- Maximum 16A DC input current per string

Model	Мах. Input Power (W)	Maximum Efficiency	Nominal Power	MPPT	Protection
GW5KN-ET	7500	98.0%	5000	2	IP66
GW6.5KN-ET	9700	90.0%	6500		
GW8KN-ET	12000	98.2%	8000		
GW10KN-ET	15000	90.2%	10000		

ES Series

3.6-5kW | Single Phase | Hybrid Inverter



- Charge controller and inverter integrated
- Export control (Zero export)
- Safe and reliable UPS function with automatic switchover time of 10 ms
- Maximum charge and discharge up to 100A
- IP65 dustproof and waterproof
- Fanless design, long lifespan

+ info

Model	Max. DC Input Power (W)	Maximum Efficiency	Nominal Power	MPPT	Protection
GW3648D-ES	4600	97.6%	3680	2	ID6 F
GW5048D-ES	6500	97.6%	4600	2	IP65

ES G2 Series

3-6kW | Single Phase | 2 MPPTs |

Hybrid inverter (LV)



- Plug & Play
- Elegant and compact design
- Maximum 16A DC input current per string and high-power module compatibility
- Strong backup power supply

+ info

Model	Max. DC Input Power (W)	Maximum Efficiency	Nominal Power	MPPT	Protection
GW3000-ES-20	4500		3000	1	IP65
GW3600-ES-20	5400		3680	1	
GW3600M-ES-20	5400		3680		
GW5000-ES-20	7500	97.6%	5000		
GW5000M-ES-20	7500		5000	2	
GW6000-ES-20	9000		6000		
GW6000M-FS-20	9000		6000		

Smart load control with dry contacts

: - : B

EM Series

3-5kW | Single Phase | LV Hybrid Inverter



- Smart battery management function
- Export control (Zero export)
- Safe and reliable UPS function with automatic switchover time of 10 ms
- **●** 50A charge & discharge capacity
- IP65 dustproof and waterproof
- Fanless design, long lifespan

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
GW3048-EM	3900	97.6%	3000	1	
GW3648-EM	4600	97.6%	3680	2	IP65
GW5048-FM	6500	97.6%	5000		

EH Series

3.6-6kW | Single phase | 2 MPPTs | Hybrid ready (HV)



- <10ms UPS-level switching</p>
- Smart home integration with multi-protocol communications
- IP65 ingress protection
- Quality and robust components
- Fanless cooling for quiet operation
- Pre-wired communication cables
- Strong backup power supply
- Wide battery voltage range 85~450V

Model	Max. Input Power (W)	Maximum Efficiency	Nominal Power	MPPT	Protection
GW3600-EH	4800		3600		
GW5000-EH	6650	97.6%	5000	2	IP65
GW6000-EH	8000		6000		

EH PLUS+ Series

3.6-6kW | Single Phase | 2 MPPTs | Battery Ready (HV)



- <10ms UPS-level switching</p>
- Peak shaving
- Built-in Type II SPD on DC side
- IP65 ingress protection
- Fanless cooling for quiet operation
- Pre-wired communication cables
- Battery ready option
- Maximum 16A DC input current per string

+ info

Model	Max. Input Power (W)	Maximum Efficiency	Nominal Power	MPPT	Protection
GW3600N-EH	5400		3600		
GW5000N-EH	7500	97.6%	5000	2	IP65
GW6000N-EH	9000		6000		

BH Series

3-6kW | Single phase | AC-coupled retrofit inverter (HV)



- <10ms UPS-level switching</p>
- Smart home integration with multi-protocol communications
- IP65 ingress protection
- Quality and robust components
- Fanless cooling for quiet operation
- Pre-wired communication cables
- Strong backup power supply
- Wide battery voltage range 85~450V

Model	Max. Input Power (W)	Maximum Efficiency	Nominal Power	MPPT	Protection
GW3600-EH	4800		3600		
GW5000-EH	6650	97.6%	5000	2	IP65
GW6000-EH	8000		6000		

BT Series

5-10kW | Three phase | AC-coupled retrofit inverter (HV)



- <10ms UPS-level switching</p>
- Smart home integration with multi-protocol communications
- IP65 ingress protection
- Quality and robust components
- Fanless cooling for quiet operation
- Elegant and compact design
- **110% AC output overloading**
- Wide battery voltage range 180 ~ 600V

+ info

Model	Max. Input Power (W)	Maximum Efficiency	Nominal Power	Protection
GW5K-BT	5000	97.6%	5000	
GW6K-BT	6000		6000	1044
GW8K-BT	8000		8000	IP66
GW10K-BT	10000		10000	

SBP G2 Series

3.6-6kW | Single Phase | AC-coupled retrofit inverter (LV)

COMING SOON



- <10ms UPS-level switching</p>
- Smart home integration with multi-protocol communications
- IP65 ingress protection
- Remote Shutdown
- Plug & Play
- Elegant and compact design
- AC-coupled battery storage retrofit solution
- Suitable for both single-phase & three-phase systems

Model	Мах. Input Power (W)	Maximum Efficiency	Nominal Power	Protection
GW3600-SBP-20	3600		3680	
GW5000-SBP-20	5000	95.5%	5000	IP65
GW6000-SBP-20	6000		6000	





Growatt was established in 2011 by a group of pioneers in the global PV industry with a vision to build a green and sustainable future. Specializing in sustainable energy generation, storage and consumption, as well as energy digitalization, the company designs, develops and manufactures PV inverters, energy storage products, EV chargers, smart energy management system and others.

Favored by global customers, Growatt ranks among the global top three PV inverter suppliers*. In particular, the company is ranked the number one residential inverter supplier globally* as well as the world's largest supplier of user-side energy storage inverters* in terms of shipment volume.

Since its foundation, Growatt has been committed to continuous product and technology innovations. With a well-established R&D platform and a R&D team of more than 650 professionals, the company constantly introduces new upgrades and innovations in the energy efficiency, functional safety and intelligent solutions of inverter, energy storage and EV charging applications. Till now, it has obtained more than 150 patents.

Mission

To enable everyone to benefit from sustainable energy.

Vision

To build the world's largest intelligent sustainable energy ecosystem for human kind.



Smart photovoltaic inverter -

MIC 750~3300 TL-X



- · Maximum efficiency of 97.6%
- · Compact design
- · Touch key& OLED display
- · Flexible monitoring options
- · AFCI optional

+ info

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
MIC 750TL-X	1050W		750W		IP65
MIC 1000TL-X	2100W	07.406	1000W		
MIC 1500TL-X	2100W	97.4%	1500W		
MIC 2000TL-X	2800W		2000W	1	
MIC 2500TL-X	3500W		2500W		
MIC 3000TL-X	4200W	97.6%	3000W		
MIC 3300TL-X	4290W		3300W		

Smart photovoltaic inverter -

MOD 3000~9000 TL3-X



- · Max. efficiency 98.6%
- · OLED and touch button
- · Type II SPD on DC and AC side
- · String Monitoring
- · AFCI function ready

Model	Maximum Power	Maximum Efficiency	Nominal Power	MPPT	Protection
MOD 3000TL3-X	4500W		3000W		IP66
MOD 4000TL3-X	6000W	08 70%	4000W		
MOD 5000TL3-X	7500W	98.3%	5000W		
MOD 6000TL3-X	9000W		6000W	1	
MOD 7000TL3-X	10500W		7000W		
MOD 8000TL3-X	12000W	98.6%	8000W		
MOD 9000TL3-X	13500W		9000W		



Planting A Greener Future

With thoughts created in 2010, SolaX Power has grown year on year to become a world recognised international company, with offices in the UK, Netherlands, Germany, Australia and the USA. This growth reflects the increased demand for renewable energy products across the world. SolaX Power strive to continue to be at the forefront of the solar power revolution with a huge commitment to the research and development ensuring it's products remain the market leading solution.

SolaX Power envision a clean, sustainable future powered by renewable energy. By pushing back the boundaries with what is possible in solar inverter technology, SolaX Power have been able to produce some of the most efficient solar inverters on the market today, enabling our customers to harness even more of the free, clean energy available to us from the sun.

The Solax Power Vision

SolaX Power envisions a clean, sustainable future powered by renewable energy. By pushing the boundaries with what is possible in solar inverter technology, Solax Power has been able to produce some of the most efficient solar inverters on the market today, enabling our customers to harness even more of the free, clean energy available to us from the sun.



Single Phase String Inverter

X1-Mini





Low Start-Up Voltage



High Efficiency



Small & compact sizw



IP66 Rated

+ info

Model	Maximum Power	Maximum Efficiency	Nominal AC Power	MPPT	Protection
X1-0.6-S-D(L) / X1-0.6-S-N(L)	900		600		
X1-0.7-S-D(L) / X1-0.7-S-N(L)	1050		700		
X1-1.1-S-D(L) / X1-1.1-S-N(L)	1650		1100		
X1-1.5-S-D(L) / X1-1.5-S-N(L)	2200		1500		
X1-2.0-S-D(L) / X1-2.0-S-N(L)	3000	98%	2000	1	IP66
X1-2.5K-S-D(L) / X1-2.5K-S-N(L)	3750		2500		
X1-3.0K-S-D(L) / X1-3.0K-S-N(L)	4500		3000		
X1-3.3K-S-D(L) / X1-3.3K-S-N(L)	4950		3300		
X1-3.6K-S-D(L) / X1-3.6K-S-N(L)	5400		3680		

Single Phase String Inverter

X1-BOOST





Easy to install and setup



High Efficiency



upgrade and maintenance



IP66 Rated

Model	Maximum Power	Maximum Efficiency	Nominal AC Power	MPPT	Protection
X1-3.0-T-D(L) / X1-3.0-T-N(L)	4500		3000		
X1-3.3-T-D(L) / X1-3.3-T-N(L)	4950		3300		
X1-3.6-T-D(L) / X1-3.6-T-N(L)	5400		3680		
X1-4.2-T-D(L) / X1-4.2-T-N(L)	6300	97.80%	4200	2/1	IP66
X1-4.6-T-D(L) / X1-4.6-T-N(L)	6900		4600		
X1-5.0-T-D(L) / X1-5.0-T-N(L)	7500		5000		
X1-5.5K-T-D(L) / X1-5.5K-T-N(L)	8250		5500		
X1-6.0K-T-D(L) / X1-6.0K-T-N(L)	9000		6000		

Three Phase String Inverter

X3-MIC G2







High Efficiency



Small & compact sizw



IP66 Rated

Model	Maximum Power	Maximum Efficiency	Nominal AC Power	MPPT	Protection
X3-MIC-3K-G2	6000		3000		IP66
X3-MIC-4K-G2	8000		4000		
X3-MIC-5K-G2	10000		5000		
X3-MIC-6K-G2	12000		6000		
X3-MIC-8K-G2	16000	98.3%	8000	2(1/1)	
X3-MIC-10K-G2	20000		10000		
X3-MIC-12K-G2	24000		12000		
X3-MIC-15K-G2	30000		15000		



Hoymiles is a world's leading microinverter company specializing in MLPE (Module LevelPowerElectronics) solutions for global solar investors & end users.

As one of the fastest growing solar inverter brands globally, Hoymiles has offered a safer, smarter & easier module-leve l MPPT & module-level monitoring microinverter in over 50 countries covering the United States, Europe, the UK, Aust ralia, LATAM, India, Japan, Korea, South East Asia, Middle East & South Africa.

Back in 2008, Hoymiles was founded by 3 post-doctors as a R&D team in China's National Power Electronics Lab based at Zhejiang University, one of the top 3 universities in China and one of the top 60 in the world.

In 2015, Hoymiles microinverter achieved the world's No.1 CEC peak efficiency - 96.7% in California, the United States, by which Hoymiles was ranked worldwide as the most efficient microinverter, in comparison with other reputable and respectable microinverter brands known among global installers & end users.

Today, 10,000+ commercial & residential roof-top installations (the biggest one 3.6MW) are built annually with different types of Hoymiles microinverters: single panel unit(MI-250/300), 2 in 1unit(MI-500/600/700) & 4 in 1 unit(MI-1000/1200).

With constant efforts of Hoymiles 500+ staff & local distribution/service partners all over the world, Hoymiles has established its local logistics & Service in over 20 countries, e.g. Germany, Netherlands, Poland, Estonia, Brazil, Mexico, South Africa, the United States, Canada, Korea & India etc., LOCALIZATION combined with local warehouses, local training & local service centers keeps Hoymiles together with local customers 24/7/365.



HM-300/350/400





Warranty



Easy installation, just plug and play



External antenna for stronger communication with DTU



Power factor (adjustable) 0.8 leading... ... 0.8 lagging



High reliability NEMA (IP67) enclosure 6000V surge protection

+ info

Model	DC Power	Peak Efficiency	Output Power	Weight (kg)	Dimensions
HM-300	240 ~ 380		300		
HM-350	280-440	96.70%	350	1.98	182 x 164 x 29.5 mm
HM-400	720-500		400		

Hoymiles HM-600/700/800





Warranty



Easy installation, just plug and play



External antenna for stronger communication with DTU



Power factor (adjustable) 0.8 leading... ... 0.8 lagging



Compliant with VDE-AR-N 4105: 2018 & EN50549-1: 2019



High reliability NEMA (IP67) enclosure 6000V surge protection

Model	DC Power	Peak Efficiency	Output Power	Weight (kg)	Dimensions
HM-600	240 ~ 380		600		
HM-700	280-440	96.70%	700	3.0 Kg	250 x 170 x 28 mm
HM-800	320-500		800		

HM-1000/1200/1500





Warranty



Easy installation, just plug and play



External antenna for stronger communication with DTU



Power factor (adjustable) 0.8 leading... ... 0.8 lagging



High reliability NEMA (IP67) enclosure 6000V surge protection



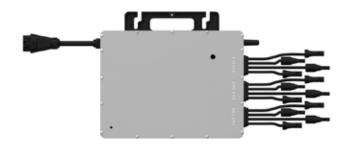
The highest power density microinverter on the market Compliant with VDE-AR-N 4105: 2018 & EN50549-1: 2019

+ info

Model	DC Power	Peak Efficiency	Output Power	Weight (kg)	Dimensions
HM-1000	200~310		1000		
HM-1200	240-380	96.70%	1200	3.75 Kg	280 x 176 x 33 mm
HM-1500	300-470		1500		

Hoymiles

HMT-1800/2250





Warranty



Three-phase output, more suitable for commercial and industrial applications.



Each microinverter supports up to 6 modules, faster installation and lower cost.



Up to 2250VA output, adapted to mainstream high-powered PV modules.



With Reactive Power Control, meets the requirements of EN50549-1:2019, VDE-AR-N 4105:2018, TOR Erzeuger: 2019-12, etc.



The Sub-1G wireless solution enables the stable communication when installed for commercial and industrial stations.

Model	DC Power	Peak Efficiency	Output Power	Weight (kg)	Dimensions
HMT-1800	240 ~ 380	06.00/	1800	5.5 Kg	330 x 250 x 35 mm
HMT-2250	300~470	96.0%	2250	6.0 Kg	330 x 250 x 37 mm

HMS-400/450/500

NEW



Warranty

- High-powered microinverter for
 1-in-1 with output power up to 500 VA
- With Reactive Power Control, compliant with

 EN 50549-1:2019, VDE-AR-N 4105:2018, UL 1741, etc
- Safer for rooftop solar stations with rapid shutdown compliance and isolated transformer
- Connected to one panel, flexible for various applications
- Sub-1G wireless solution allows stable communication with Hoymiles gateway DTU

+ info

Model	Commonly used module power (W)	Peak Efficiency	Output Power	Weight (kg)	Dimensions
HMS-400	320 to 500+		400		
HMS-450	360 to 565+	96.5%	450	1.75 Kg	182 × 164 × 30 mm
HMS-500	400 to 625+		500		

Hoymiles

HMS-800/900/1000

NEW





o

Warranty

- High-powered microinverter for 1-in-1 with output power up to 500 VA
- With Reactive Power Control, compliant with

 EN 50549-1:2019, VDE-AR-N 4105:2018, UL 1741,
 ABNT NBR 16150, etc.
- Safer for rooftop solar stations with rapid shutdown compliance and isolated transformer
- Connected to one panel, flexible for various applications
- 2-in-1 design enables faster installation
- Sub-1G wireless solution allows stable communication with Hoymiles gateway DTU

Model	Commonly used module power (W)	Peak Efficiency	Output Power	Weight (kg)	Dimensions
HMS-800-2T	320 to 540+	96.7%	800		
HMS-900-2T	360 to 600+	96.5%	900	3.1 Kg	261 × 223 × 31 mm
HMS-1000-2T	400 to 670+	96.5%	1000		

HMS-1600/1800/2000

NEW





Warranty

High-powered microinverter with output power up to 2000 VA

 Independent MPPT and monitoring ensure greater energy harvest and easier maintenance

With Reactive Power Control, compliant with

EN 50549-1:2019, VDE-AR-N 4105:2018, UL 1741,
ABNT NBR 16150, etc.

• 4-in-1 design enables faster installation and comes with a lower cost

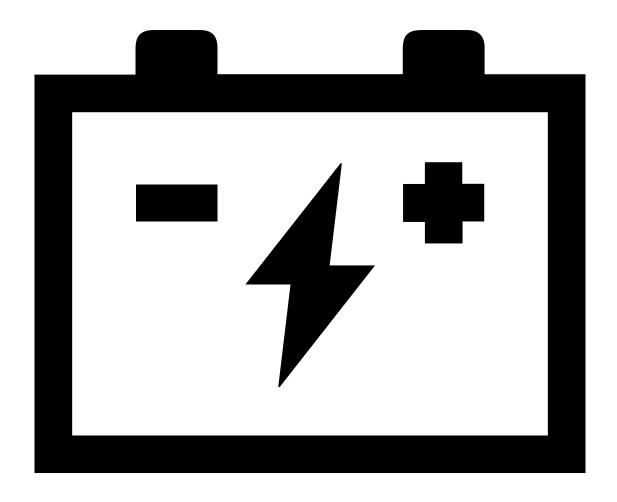
• Safer for rooftop solar stations with rapid shutdown compliance and isolated transformer

Sub-1G wireless solution allows stable communication in commercial and industrial settings

Model	Commonly used module power (W)	Peak Efficiency	Output Power	Weight (kg)	Dimensions
HMS-1600-4T	320 to 540+		1600	4.7	
HMS-1800-4T	360 to 600+	96.5%	1800		261 × 223 × 31 mm
HMS-2000-4T	400 to 670+		2000	Kg	







Batteries



Huawei, a leading global ICT and network energy solutions provider, serves more than one-third of the world's population. We have nearly 188,000 employees, and we operate in more than 170 countries and regions, serving more than three billion people around the world. With over CNY480 billion invested into R&D over the past decade, Huawei continues to innovate based on customer needs and are committed to enhancing customer experience and delivering maximum value.

FusionSolar

With an established presence in solar markets worldwide, Huawei provides new generation string inverters with smart management technology to create a fully digitalized Smart PV Solution – FusionSolar®. FusionSolar® is smart, safe and reliable whilst consistently delivering high yields and ROI, making Huawei the preferred choice for investors and developers worldwide. Huawei has been ranked as No.1 in the world for global inverter shipments from 2015 to 2018.



Smart String Battery LUNA2000-5/10/15-S0





More Usable Energy



Flexible Investment



Safe & Reliable





Easy Installation Quick Commissioning



Perfect Compatibility

Model	Max. output power	Dimension	Weight	Protection
LUNA2000-5-S0	2.5 kW	670 x 150 x 600 mm	63.8 kg	
LUNA2000-10-S0	5 kW	670 x 150 x 960 mm	113.8 kg	IP55
LUNA2000-15-S0	5 kW	670 x 150 x 1320 mm	163.8 kg	



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DRIVING THE WORLD'S SMART ENERGY FUTURE

In numbers:

- 4.000+ employees.
- 700+ employees working in R&D.
- 35 GW installed globally.



GoodWe

Lynx Home U Series - Low Voltage



- **⊙** Safe & Reliable
- Independent Operation in Parallel
- Install Anywhere Anyhow
- Great User Experience

+ info

Model	Max. Charge Current	Dimension	Weight	Protection
LX U5.4-L	50A		57 kg	
2*LX U5.4-L			114 kg	
3*LX U5.4-L		505 x 175 x 570 mm (LX U5.4-L)	171 kg	IP65 (Outdoor / Indoor)
4*LX U5.4-L	100A	303 X 173 X 370 Hilli (LX 03.4-L)	228 kg	1P05 (Outdoor / Indoor)
5*LX U5.4-L			285 kg	
6*LX U5.4-L			342 kg	

GoodWe

Lynx Home S Series



- **O Charge Your Battery within ONE HOUR**
- Auto Under-voltage Reboot
- Remote Diagnosis & Upgrade
- **O** IP65 Protection Level

Model	Max. Charge Current	Dimension	Weight	Protection
LX S7.5-H		610 x 226 x 1170 mm	126 kg	
LX S10-H		610 x 226 x 1445 mm	163 kg	
LX S13-H	50A (1C)	1220 x 226 x 1170 mm	200 kg	IP65 (Outdoor / Indoor)
LX S15-H	30A (IC)	1220 x 226 x 1170 mm	237 kg	1P05 (Outdoor / Indoor)
LX S18-H		1220 x 226 x 1445 mm	274 kg	
LX S20-H		1220 x 226 x 1445 mm	311 kg	

GoodWe

Lynx C Series



- Reliable and safe LFP battery cells
- Compact design
- Remote monitoring & updates via inverter

Model	Usable Energy (kWh)	Dimension	Weight	Protection
LX C101-10	101.38	1155 × 1650 × 730	1120kg	
LX C120-10	119.81	1155 ^ 1050 ^ 750	1280 kg	IP21
LX C138-10	138.24	1155 × 2065 × 730	1480 kg	IPZI
LX C156-10	156.67	1133 ^ 2003 ^ 730	1650 kg	



Anywhere. Anytime.

The Energizer HardCase Professional range of portable power stations are built to last. Whether your'e on-site on in the field, you can rely on Energizer for safe, durable power.

 $\label{thm:energizer-law} Energizer\, Hard Case\, Professional\, range\, of\, portable\, power\, stations\, can\, be\, used\, anywhere,\, anytime.$



Energizer - Portable Power

Everest PPS 100



+ info

Model	Capacity	USB-A Port	USB-C Port	Dimensions	Weight
Everest PPS 100	108 Wh (3.6V/30000 mAh)	2 x 5V/2.4A Output Port	1 x 5V-20V / 60W Max, Input/Output Port	83 x 83 x 210 mm	1.08 kg

Energizer - Portable Power

Everest 300



- O Lightweight and durable
- O Hours of extended battery life for your devices
- Multiple outputs to power just about anything
- O Long lasting and ultra safe Lithium Ion batteries
- Splash and dustproof protective housing

+ info

Model	Capacity	USB-A Port	USB-C Port	Dimensions	Weight
Everest 300	289 Wh (3.7V/78000 mAh)	5V/3.1A	1 x 5V-12V/3.0A 18W Max	260 x 210 x 140 mm	4 kg

Energizer - Portable Power

Everest 500





TOUGH & DURABLE



ADVANCED BATTERY MANAGEMENT



CHARGE VIA SOLAR PANEL



MULTI -FUNCTION LCD SCREEN & FLASHLIGHT



AC OUTLET

Model	Capacity	USB-A Port	USB-C Port	Dimensions	Weight
Everest 500	515Wh (34.8Ah,14.8V	USB 1: QC 3.0, 18W, USB 2: 5V 2.4A, USB 3: 5V 2.4A, USB 4: 5V 2.4A	PD 60W (5V 3A/9V 3A /12V 3A /15V 3A / 20V 3A)	260 x 172 x 171 mm	5.6 kg

Energizer - Portable Power

Everest 1100





TOUGH & DURABLE



ADVANCED BATTERY MANAGEMENT



CHARGE VIA SOLAR PANEL



9 LAYERS OF SAFETY PROTECTION



2X AC OUTLET

+ info

Model	Capacity	USB-A Port	USB-C Port	Dimensions	Weight
Everest 1100	1166Wh (21.6V/54,000mAh)	USB 1: QC 3.0, 18W, USB2: QC 3.0, 18W, USB 3: 5V 2.4A, USB 4: 5V 2.4A	USB-C 1 , PD 100W : 5V 3A/9V 3A/12V 3A/15V 3A/20V 5A, USB-C 2, PD 27W : 5V 3A/9V 3A/12V 2.25A	340 x 235 x 206 mm	11 kg

Energizer - Foldable Panels

SUNPACK 80W



- Monocrystalline panel technology
- Patented LCD Display
- Provides clean and renewable electricity supply with 3-way charging options for Li-ion generators
- Powered by USB or USB-C ports

Model	Peak Power	Cell efficiency	Warranty	Dimensions (unfolded)	Weight
SUNPACK 80W	80W	23%	24 months	1185 x 525 x 7 mm	3 kg

Energizer - Foldable Panels

SUNPACK 120W

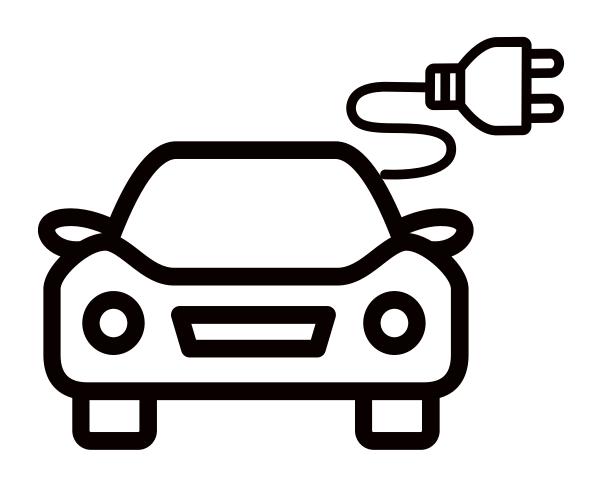


- Monocrystalline panel technology
- Patented LCD Display
- Provides clean and renewable electricity supply with 3-way charging options for Li-ion generators
- Powered by USB or USB-C ports

Model	Peak Power	Cell efficiency	Warranty	Dimensions (unfolded)	Weight
SUNPACK 120W	120W	23%	24 months	1612 x 530 x 7 mm	5.2 kg







E-mobility



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Ev Charger

NEW





PV Power Preferred

Power Your Car Completely with Solar

Make EV Even Greener



Automatic Phase Switch

Automatic Switch between 1 Phase and 3 Phase

More Usable Green Power



All on a Single App
Full Control Through One App
Cable E -Lock for Anti -theft



Dynamic Charging Power

Automatic Detection and Adjustment

No Worry about Overload



3 - Step Installation
Fast Installation in 16 Minutes
Wiring -free Maintenance



Auto - Authentication

Bluetooth Auto - authentication Before Charging

Model	Charge power (configurable) 1.	Dimension	Weight
AP07NEU	1.4 kW to 7 .4 kW		3 kg
AP022NEU	1.4 kW 4 to 22 kW	335 mm x 180 mm x 145 mm	3.1 kg



Growatt was established in 2011 by a group of pioneers in the global PV industry with a vision to build a green and sustainable future. Specializing in sustainable energy generation, storage and consumption, as well as energy digitalization, the company designs, develops and manufactures PV inverters, energy storage products, EV chargers, smart energy management system and others.

Favored by global customers, Growatt ranks among the global top three PV inverter suppliers*. In particular, the company is ranked the number one residential inverter supplier globally* as well as the world's largest supplier of user-side energy storage inverters* in terms of shipment volume.

Since its foundation, Growatt has been committed to continuous product and technology innovations. With a well-established R&D platform and a R&D team of more than 650 professionals, the company constantly introduces new upgrades and innovations in the energy efficiency, functional safety and intelligent solutions of inverter, energy storage and EV charging applications. Till now, it has obtained more than 150 patents.

Mission

To enable everyone to benefit from sustainable energy.

Vision

To build the world's largest intelligent sustainable energy ecosystem for human kind.



Growatt Smart EV Charger

NEW



- Compatible with all branded EV
- APP smart control & smart scheduling
- IP65 design for indoor or outdoor use
- Charge EV with 100% renewable energy by surplus solar power

Model	Input voltage	Dimension	Weight
THOR 03AS-S			-1
(WIFI/4G)		240/380/164mm	7kg
THOR 07AS-P	230V AC		O. Film
(WIFI/4G)			9.5kg
THOR 07AS-S			-1
(WIFI/4G)			7kg



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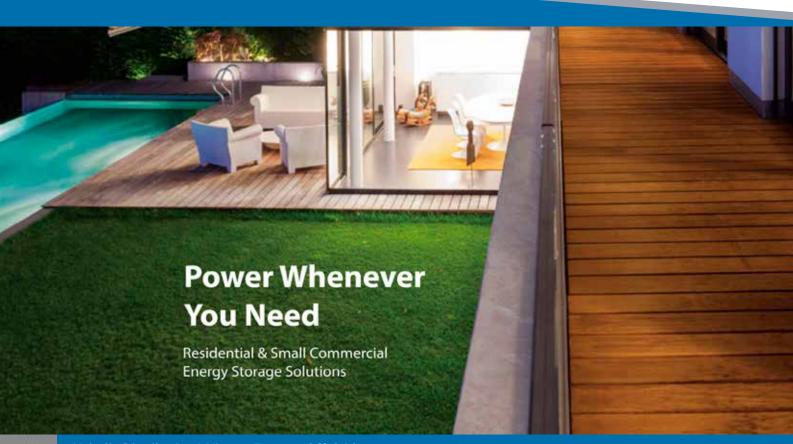
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DRIVING THE WORLD'S SMART ENERGY FUTURE

In numbers:

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- 35 GW installed globally.



EV Charger Series

NEW





Smart charging management



Compatible with all EV brands

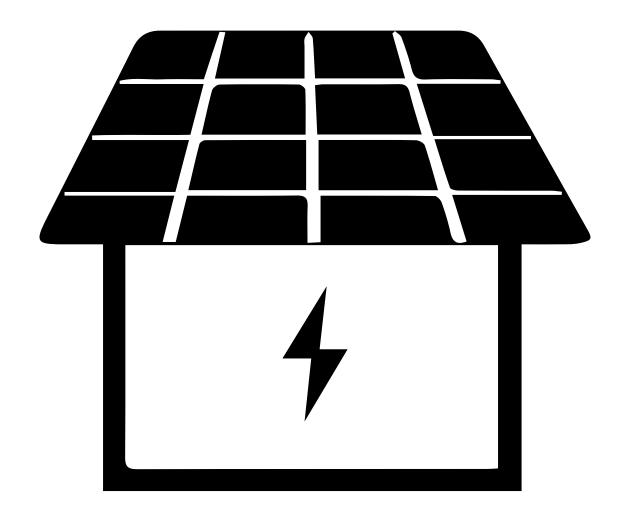


Charging cable included

Model	Input Voltage (Vac)	Output Power (W)	Dimension	Weight
GW7K-HCA	230Vac, L/N/PE	7000		<7kg
GW11K-HCA	400Vac, 3L/N/PE	11000	256 x 603 x 170 mm	<7 kg
GW22K-HCA	400Vac, 3L/N/PE	22000		<10 kg







Off-Grid



Victron Energy is a Dutch company specialized in the design and manufacture of products for battery-based energy systems. Since 1975, Victron Energy has grown from a one-office technology startup to become an international enterprise with nearly 1,000 different products sold worldwide. In the off-grid sector, we offer reliable and innovative solutions from solar home systems to mini-grids. Our product range includes sinewave inverters, inverters-chargers, solar chargers, remote monitoring and even more. Our network of distributors, authorised installers and service partners covers more than 25 countries in Africa.

Off-grid and Backup

The presence of a functional electricity grid is not always as obvious as it would seem to be. An insufficient infrastructure is often the cause for an unreliable grid. Things become even more difficult when there is no grid at all. And yet you are in need of a reliable electricity supply. A local and properly functioning system is the only answer at this point. Victron Energy offers you such an answer. We are proud to offer you our modern translation for freedom and independence. Energy, Anytime, Anywhere.



SmartSolar

MPPT 100/30 & 100/50



- Bluetooth Smart built-in
- VE.Direct
- Ultrafast Maximum Power Point Tracking (MPPT)
- Advanced Maximum Power Point Detection in case of partial shading conditions
- Outstanding conversion efficiency
- Flexible charge algorithm
- Extensive electronic protection
- Internal temperature sensor
- Optional external battery voltage and temperature sensing via Bluetooth
- Fully discharged battery recovery function

+ info

Model	Rated Charge Current	Nominal PV power 12V 24V	Maximum Efficiency	Protection
SmartSolar MPPT 100/30	30A	440W 880W	98%	PV reverse polarity
SmartSolar MPPT 100/50	50A	700W 1400W	98%	Output short circuit Over temperature

SmartSolar

MPPT 150/35 & 150/45



- Bluetooth Smart built-in
- VE.Direct
- Ultrafast Maximum Power Point Tracking (MPPT)
- Advanced Maximum Power Point Detection in case of partial shading conditions
- Outstanding conversion efficiency
- Flexible charge algorithm
- Extensive electronic protection
- Internal temperature sensor
- Optional external battery voltage and temperature sensing via Bluetooth
- Fully discharged battery recovery function

Model	Rated Charge Current	Nominal PV power	Maximum Efficiency	Protection	
SmartSolar MPPT 150/35	35A	12V: 500W 24V: 1000W 36V: 1500W 48V: 2000W	98%	PV reverse polarity	
SmartSolar MPPT 150/45	45A	12V: 650W 24V: 1300W 36V: 1950W 48V: 2600W	98%	Output short circuit Over temperature	

SmartSolar

MPPT 150/45 up to 150/70



- Bluetooth Smart built-in
- Ultra-fast Maximum Power Point Tracking (MPPT)
- Advanced Maximum Power Point Detection in case of partial shading conditions
- Outstanding conversion efficiency
- Flexible charge algorithm
- Extensive electronic protection
- Internal temperature sensor
- Optional external battery voltage, temperature and current sensing via Bluetooth
- Synchronized parallel charging with Bluetooth
- Fully discharged battery recovery function
- VE.Direct
- Remote on-off
- Programmable relay
- Optional: SmartSolar pluggable LCD display

+ info

Model	Rated Charge Current	Nominal PV power 12V 24V 36V 48V	Maximum Efficiency	Protection
SmartSolar MPPT 150/45	45A	650W 1300W 1950W 2600W	98%	PV reverse polarity
SmartSolar MPPT 150/60	60A	860W 1720W 2580W 3440W	98%	Output short circuit
SmartSolar MPPT 150/70	70A	1000W 2000W 3000W 4000W	98%	Over temperature

SmartSolar

MPPT 250/60 & 250/70



- Bluetooth Smart built-in
- Ultra-fast Maximum Power Point Tracking (MPPT)
- Advanced Maximum Power Point Detection in case of partial shading conditions
- Outstanding conversion efficiency
- Flexible charge algorithm
- Extensive electronic protection
- Internal temperature sensor and optional external battery voltage and temperature sensing via Bluetooth
- Synchronized parallel charging with Bluetooth
- Fully discharged battery recovery function
- VE.Direct
- Remote on-off
- Programmable relay
- Optional: SmartSolar pluggable LCD display

Model	Rated Charge Current	Nominal PV power 12V 24V 36V 48V	Maximum Efficiency	Protection
SmartSolar MPPT 250/60	60A	860W 1720W 2580W 3440W	99%	PV reverse polarity
SmartSolar MPPT 250/70	70A	1000W 2000W 3000W 4000W	99%	Output short circuit

MultiPlus - II

Inverter/Charger



- A MultiPlus, plus ESS (Energy Storage System) functionality
- PowerControl and PowerAssist Boosting the capacity of the grid or a generator
- **⑤** Solar energy: AC power available even during a grid failure
- Two AC Outputs
- Virtually unlimited power thanks to parallel and three phase operation (not available for the 8k and 10k models)
- On-site system configuring, monitoring and control
- Remote configuring and monitoring

+ info

Model	Maximum AC input current	Peak power	Maximum Efficiency	Protection
MultiPlus-II 12/3000/120-32 24/3000/70-32 48/3000/35-32	32A	5500W	93%/94%/95%	
MultiPlus-II 24/5000/120-50 48/5000/70-50	50A	9000W	96%	IP22
MultiPlus-II 48/8000/110-100	100A	15000W	95%	
MultiPlus-II 48/10000/140-100	100A	18000W	96%	

Cerbo GX & GX Touch



- Cerbo GX: communication-centre
- GX Touch: display accessory
- Remote Console on VRM
- Perfect monitoring & control
- Simple mounting and configuration

Model	Mounting	Outer dimensions	Supply voltage	Display Resolution
Cerbo GX	Wall or DIN rail (35mm)	78 x 154 x 48 mm	8 – 70V DC	-
GX Touch 50 / GX Touch 70	With included mounting accessories	GX Touch 50: 87 x 128 x 12.4 mm GX Touch 70: 113 x 176 x 13.5 mm	-	GX Touch 50: 800 x 480



Consult Victron energy systems design

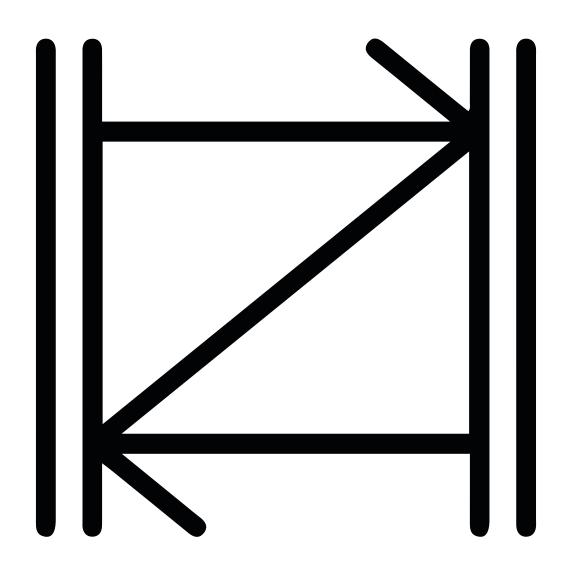
Off-Grid-backup-and-island-systems

Booklet-Off-Grid-System









Mounting Systems



Company

Esdec has supplied universal mounting systems for roof-mounted PV installations on flat and pitched roofs since 2004. With over 15 years of experience and over 7GW of solar panels installed, Esdec has developed into an international market leader.

Quick, Reliable, Innovative

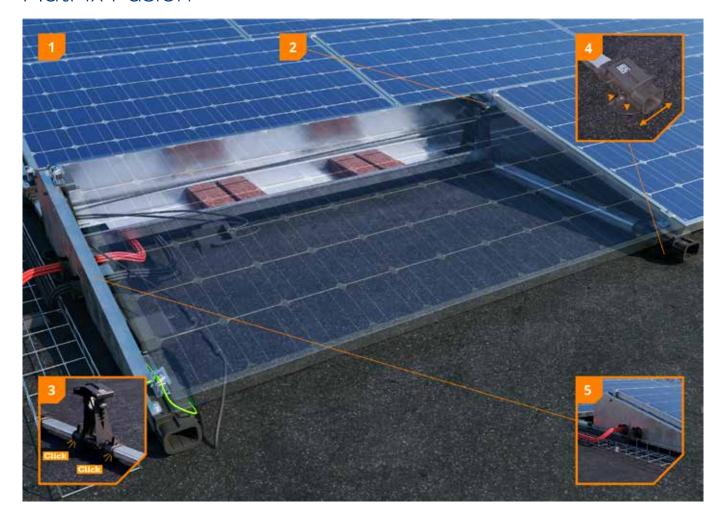
Esdec was founded by installers. Convenience for the installer is always the priority in the design of Esdec products. Esdec mounting systems consist of light, sturdy components that can be mounted quickly and easily.

International market Leader

In recent years, the Esdec Solar Group acquired the American companies Ecofasten Solar, Iron Ridge and Quick Mount PV. With these acquisitions, Esdec is now also the market leader in the U.S. in the segment of residential PV. Esdec also has a strong focus on growth in Europe.



FlatFix Fusion



Installation video + info

Advantages for the installer

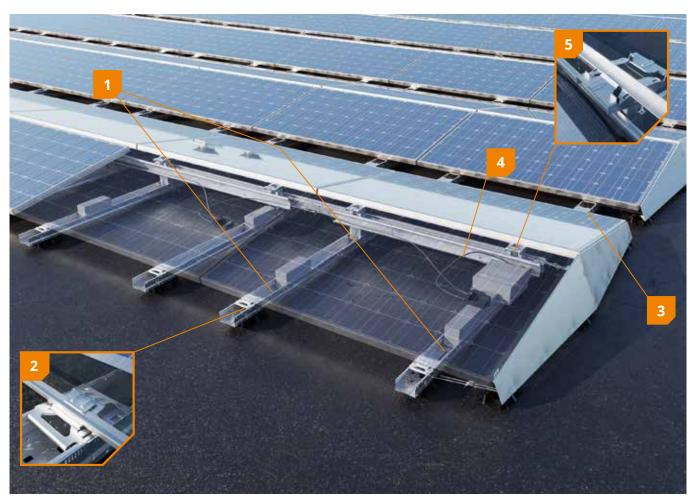
- Modular mounting solution with click connection
- Flexible installation on any roof
- Integrated grounding and equipotential bonding
- Ease of installation with optimizer ready cable clip

Advantages for the end user

- Roof-specific configuration
- Safe and reliable
- No damage of the roof material
- 20-year warranty

- 1 Modular click system
- 2 Lightweight system
- 3 Unique click connection
- 4 With thermal decoupling
- 5 With integrated cable management

FlatFix Wave Plus



Installation video + info

Advantages for the installer

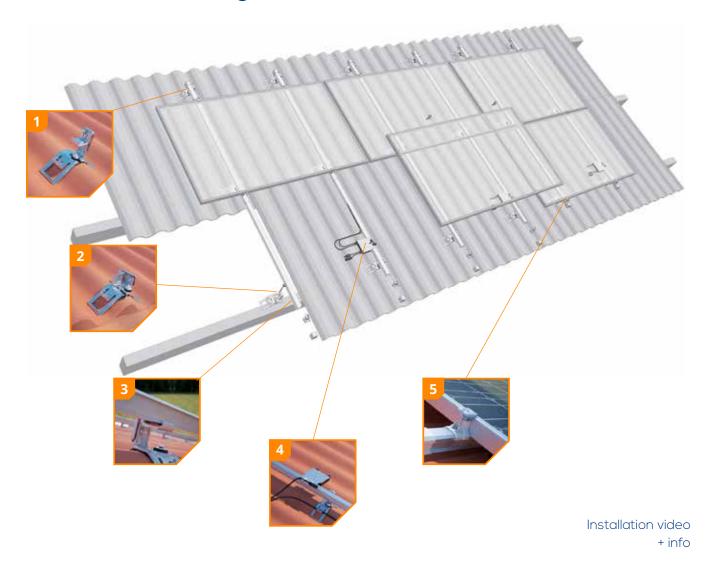
- Super-quick and error-free installation
- No tools needed
- Easy to mount
- Integrated cable management

Benefits for the owner

- Maximum efficiency for commercial projects
- In accordance with the latest insurance requirements
- Use of premium materials
- 20-year warranty

- 1 2 units per panel
- 2 Unique, patented clamping system
- 3 No tools needed
- 4 Integrated cable management
- 5 Integrated bonding

ClickFit EVO Corrugated roof



The benefits for the installer

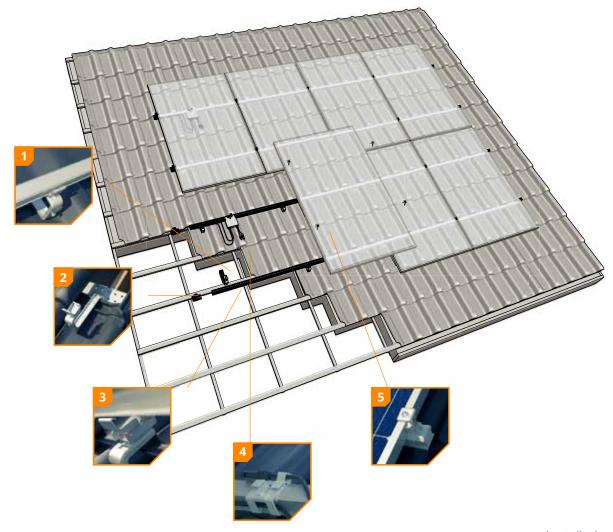
- 4 components
- 1 tool
- Easy installation on new & existing roofs
- Safe and reliable
- 20-year product warranty

The benefits for your customer

- Rock-solid base for solar panels
- 100% waterproof
- Safe and reliable
- 20-year product warranty
- The roof stays intact

- 1 Universally adjustable
- Attachment using existing corrugated sheet screws
- 3 Unique click connection
- 4 Integrated cable management
- 5 The right dimensions at all times

ClickFit EVO Tiled roof



Installation video

+ info

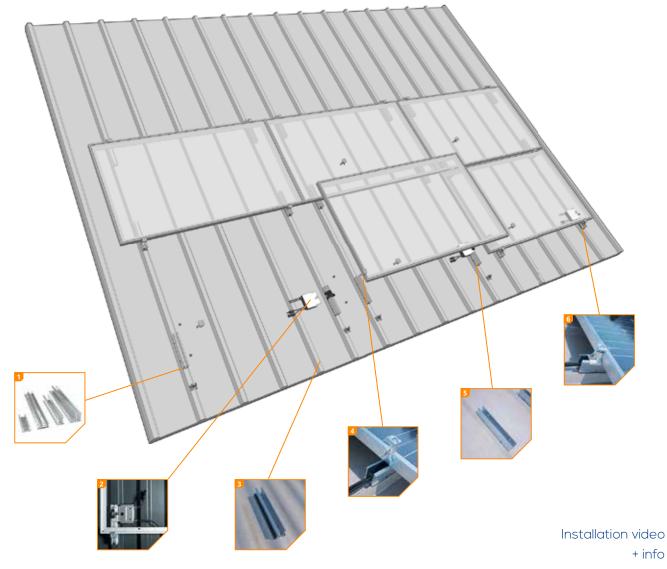
Benefits for the installer

- Up to 40% quicker mounting
- Only 4 components
- Light and durable
- Only 1 tool necessary
- 20 years' warranty

- Rock solid basis for solar panels
- The roof stays intact
- Reliable
- 20 years' warranty

- 1 Universally adjustable
- 2 Screw option possible
- Fully renewed snap connection mechanism
- 4 Integrated cable management
- 5 Always the right size

ClickFit EVO Steel roof



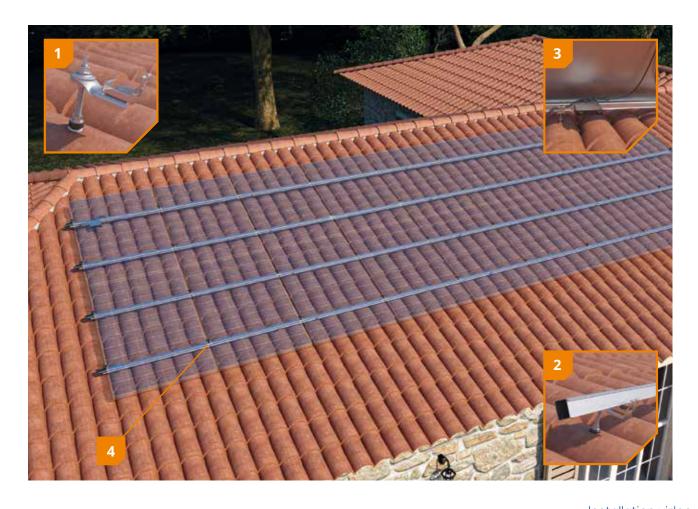
Benefits for the installer

- Choice of low or high mounting profiles
- No need to drill into the roof any more
- Only 4 components
- Light and strong
- 1 tool
- Optimizer clamp with cable management can be used
- Optional: adapter profile for corrugated steel roof
- 20 years warranty

- Integrated water barrier
- Very solid base for solar panels
- No unnecessary drilling
- Safe and reliable
- 20 years warranty

- 1 Choice of 4 mounting profiles
- 2 Fitting optimizer
- 3 Suitable for corrugated steel roof
- 4 Universal module clamp
- 5 Mounting profiles with rubber seals
- 6 Just 4 components

ClickFit EVO Arabic tiles



Installation video

+ info

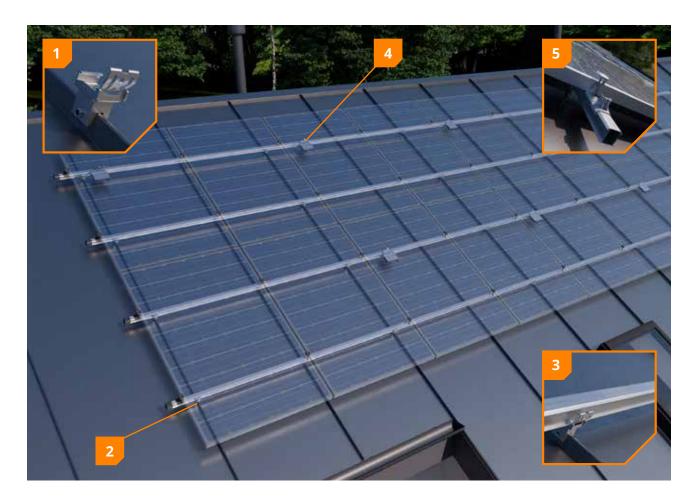
Benefits for the installer

- Both landscape and portrait placement
- Four components on the roof
- Only one tool needed
- Quick and easy installation
- 20-year product warranty

- 100% waterproof
- Aesthetic design, also available in black
- -Comprehensively tested
- 20-year product warranty

- 1 Unique hanger bolt
- Fitted with a ClickFit EVO click connection
- Integrated cable management
- 4 Always the right size

ClickFit EVO Standing Seam Roof



Installation video

+ info

Benefits for the installer

- Pre-assembled seam clamp
- Only 4 components on the roof
- Only one tool needed
- Quick and easy installation
- 20-year product warranty

- 100% waterproof
- The roof remains intact
- Aesthetic design, also available in black
- Extensively tested product
- 20-year product warranty

- 1 Assembled clamp
- Fixed in place with integrated torx screw
- 3 Unique click connection
- 4 Integrated cable management
- 5 Always the right size



Company

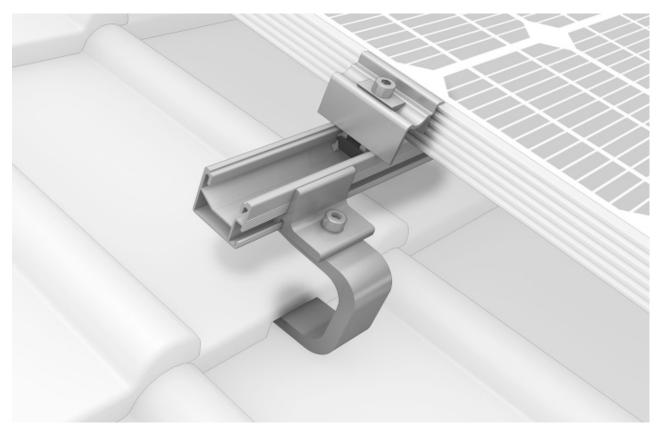
As a roof-mounting specialist, K2 systems focus on developing and optimising innovative mounting systems, while always keeping the feet on the ground. Through constant exchange with the customers, K2 can offer practical, long-lasting and secure solutions.

Philosophy

"We all have a responsibility to preserve the Earth as a liveable planet for future generations. K2 Systems has the know-how, the power, and the team to decisively advance the energy transition with the help of solar power. And above all: we have the will to tackle things today and not put them off until tomorrow."



SingleRail System

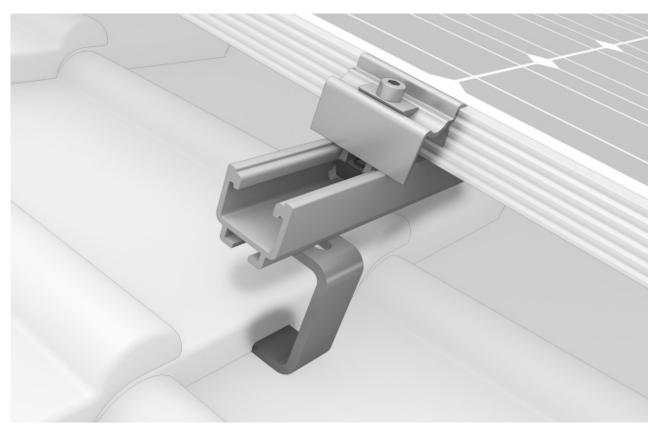


Installation video

Quick and low-cost with direct lateral connections to the rail including customised height adjustment.

The SingleRail mounting system for photovoltaic assemblies is suitable for roofing with pan tiles and corrugated fibre cement or corrugated sheet metal. The roof fastening is done using roof hooks or hanger bolts.

SolidRail System



Installation video

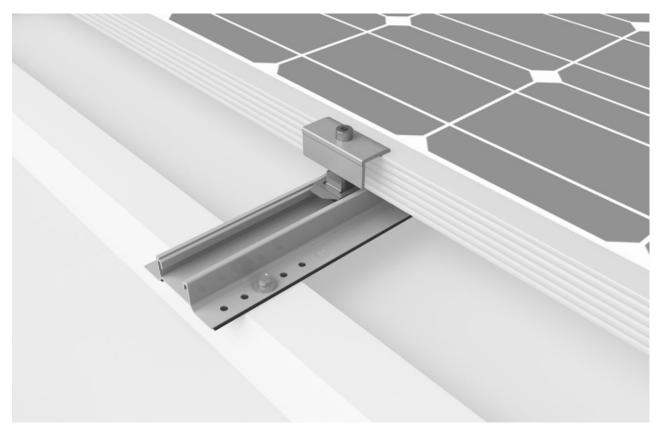
+ info

Suitable for different load cases and many ranges of spans inclusive extensive range of rails.

The SolidRail mounting system for photovoltaic assemblies is suitable for nearly all coverings. This includes pan tiles, plain tiles, slate tiles, trapezoidal sheet metal, corrugated fibre cement, corrugated sheet metal and standing seam roof.

- · Comprehensive range of mounting rails for varying load profiles
- Robust, structurally proven
- High flexibility for a diverse range of widths

NEW - MiniRail MK2 System



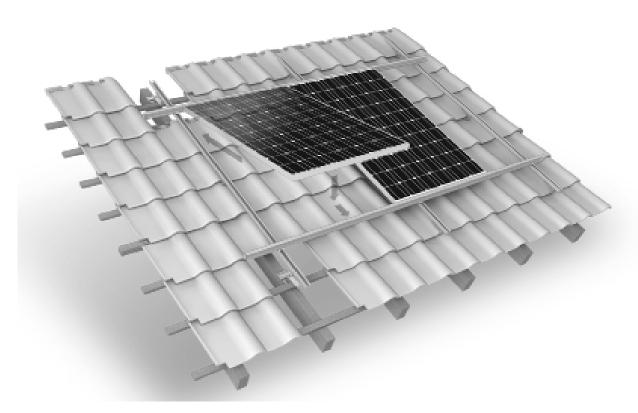
Installation video

+ info

MiniRail with MK2 rail channel - High flexibility and a wide range of applications on the roof are created. The new MK2 rail channel eliminates the need for a separate, dedicated module clamp and improves the connection of the optimisers and the elevation with RailUp.

- Innovative and statically optimised short rail system that is quick and easy to mount
- Universal module clamps and suitable for portrait and landscape orientation
- High planning reliability, optimised for storage and transport
- 5° elevation with MiniFive: significantly more output thanks to improved ventilation and optimised solar irradiation

InsertionRail System



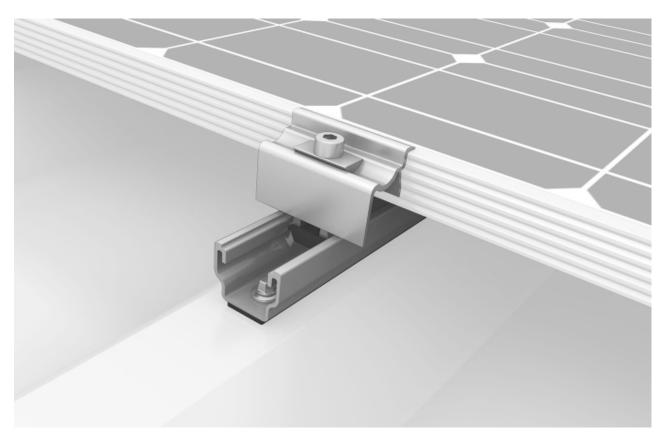
Installation video

+ info

Sleek design with continuous closed surface adds further robustness.

- It is suitable for roofing with pantiles, corrugated fibre cement or corrugated sheet metal and is fixed with roof hooks or hanger bolts.
- Sleek design with continuous closed surface adds further robustness
- Insertion profile provides additional frame reinforcement
- Without having to apply clamps eliminates the need for assistance ensuring lightning-fast installation
- Module wiring quick and easy

MultiRail System



Installation video

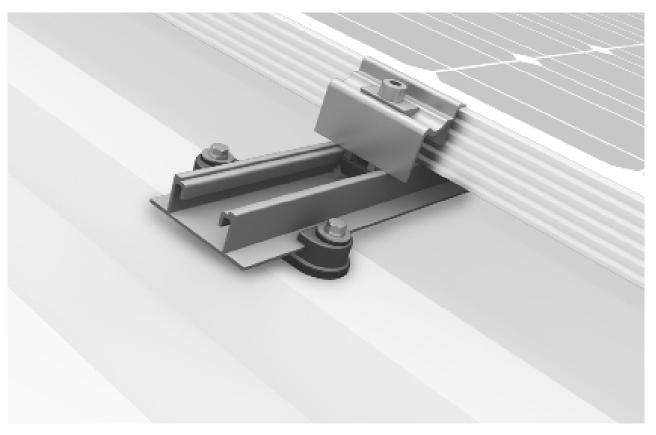
+ info

Roof connection and module railing in one single component. Short rail or a flexible component in various lengths available.

The MultiRail mounting system for photovoltaic assemblies is suitable for trapezoidal and corrugated sheet metal roofs. It blends roof connection with module railing in one single component.

- Easy and proven as a short rail or a flexible component in various lengths
- · Quick planning with less material and greater effectiveness
- Solid base rail for trapezoidal elevation with Dome 6

SpeedRail System



Installation video

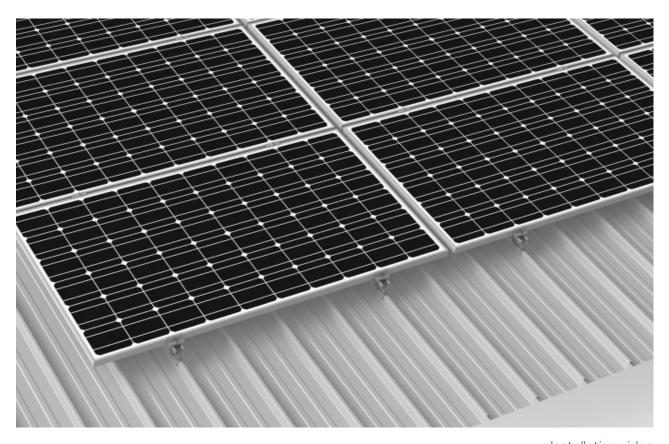
+ info

All-rounder with only 4 installation steps. Floating with controlled thermal linear expansion.

The SpeedRail mounting system for photovoltaic systems has been specially developed for trapezoidal sheet metal roofs. In Germany, the system has an abZ certification.

- The proven long rail system for trapezoidal sheet metal applications as well as floating with controlled thermal linear expansion.
- Our best-selling system over 2 GW installed worldwide
- All-rounder with only 4 installation steps also suitable for high load

Universal KL-Clamp System



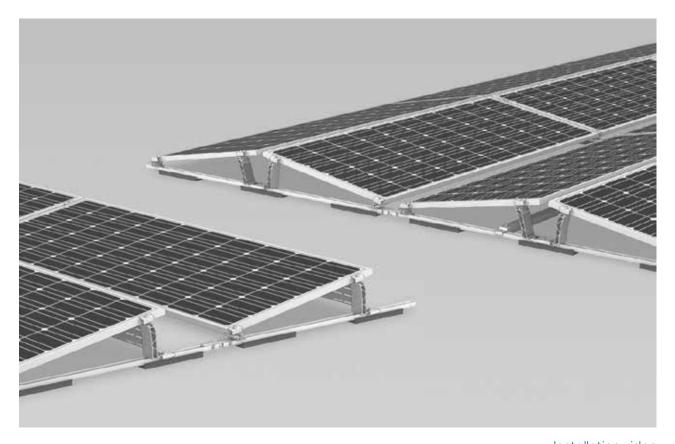
Installation video

+ info

Ultra-quick assembly solution for roofing types Klip-Lok® and Klip-Tite® with universal module clamp.

- Ultra-quick assembly solution for roofing types Klip-Lok® and Klip-Tite®
- Rail-less landscape assembly with one module-bearing clamp
- Comfortable portrait assembly with SingleRail
- Also possible for wider roof profile ribs

Dome 6 System

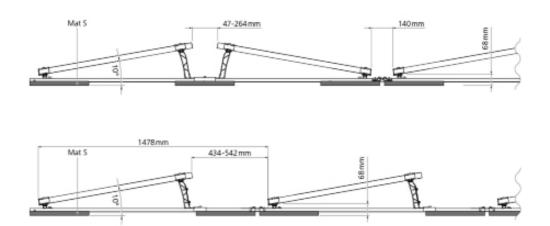


Installation video

+ info

Solutions for all roof coverings. Clearly ballast-optimised system based on the latest wind tunnel standards.

- Flat roof all-rounder solutions for all roof coverings
- Clearly ballast-optimised system based on the latest wind tunnel standards
- Secure anchoring with fixed connection for roofs < 10° and low load reserves
- Component-optimised system



Dome Zero System



Installation video

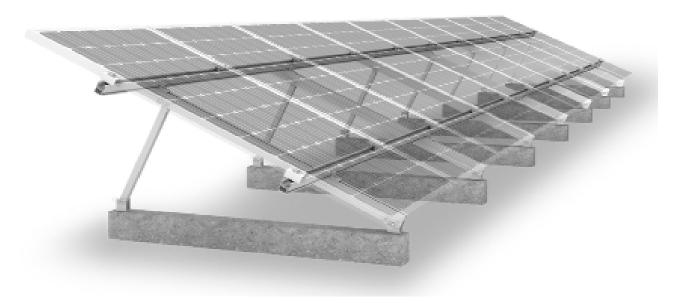
+ info

Roof-parallel mounting system suitable for roof pitches up to 10° with typical flat roof coverings.

- Roof parallel mounting system for flat roofs with Dome 6 components
- Suitable for roof pitches up to 10° with typical flat roof coverings
- · Placement in portrait orientation of the modules
- Very flat construction height can be hidden behind a parapet



TiltUp Vento System



Installation video

+ info

3 different elevation angles

- All module arrangements in 3 elevation angles available: 20°, 25° and 30°;
- Component connections identical throughout

Different module layouts

- Portrait/landscape possible;
- Clamping on the short or long side

Few components

- Refined system with well thought-out connections;
- Enables systemic storage and flexible application possibilities

Various roof connections

- Ballasted with concrete foundation: for almost every flat roof;
- Direct connection with concrete anchors possible

MultiAngle System

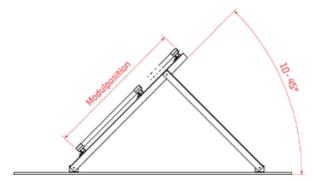


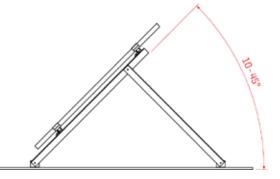
Installation video

+ info

High flexibility due to individually adjustable elevation angles and universal module orientation.

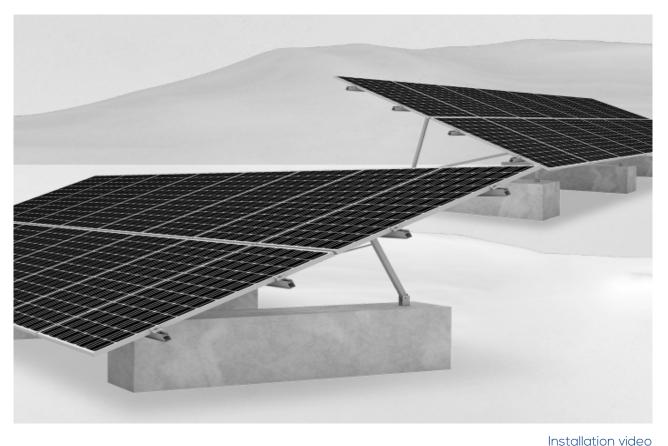
- High flexibility and individual solutions
- Suitable for almost all flat roofs
- Individually adjustable elevation angles
- Universal module orientation





OTHER AREAS OF APPLICATION —

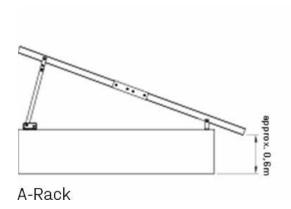
A-Rack / P-Rack System

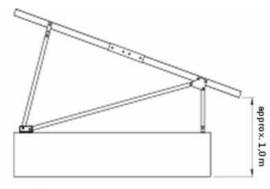


+ info

Simple solution for small ground mounted projects and off-grid systems. Components pre-assembled with assemble 15°, 20° and 25°.

- Simple solution for small ground-mounted projects and off-grid systems
- Detailed foundation and reinforcement plans
- Pre-assembled components: Ready to assemble 15°, 20° and 25°.
- Delivery complete as pallet goods (maximum rail length 1.9 m/transport possible on pick-up vehicles)





P-Rack

+ video

Company

Van der Valk Solar Systems is since 2009 one of the fastest-growing companies in the solar industry and focuses entirely on the development and production of solar mounting systems for pitched roofs, flat roofs, and open fields. Van der Valk Solar Systems also has an office and warehouse in the UK, offices in Sweden and Spain and is currently active in 13 countries.









Flat roofs

Pitched roofs

Ground mount

Cable management









Calculation Software

Valkpvplanner.com



Online calculation software

With the free to use ValkPVplanner, every flat or pitched roof project can be designed via satellite images, a building drawing prepared by you, or simply by specifying the number of panels desired. The result is a detailled manual including installation drawings and material lists, and for flat roofs a ballast overview.

The ValkPVplanner is user-friendly, it can be linked to your webshop and/or another PV programme via an API connection.

Default values for the most common variables provide rapid insight into the possibilities for your project.

Option 1: Simple mode

Draw a system without a building

- Draw a system on a blank sheet
- · Specify the number of panels per row and the number of rows



Option 2: Satellite map

Draw a system on a existing building

- Draw the system on an existing roof using satellite images, such as Google Maps
- · Quickly and easily define the mounting material for multiple and different roof surfaces



Option 3: White map Draw a system on a new building

- Draw a system on a blank sheet
- For new buildings, it is sufficient to state the building dimensions



+ info

- Innovative systems designed according to globally valid norms
- Fast and reliable deliveries thanks to modern machine park and large stocks
 - System supplier since 1963
 - Free to use software for project design and calculation
 - · Rapid mounting thanks to pre-mounting of essential components
 - Extensive technology and marketing support
 - Committed and entrepreneurial family-owned company

ValkKits

PV Kits for flat and pitched roofs

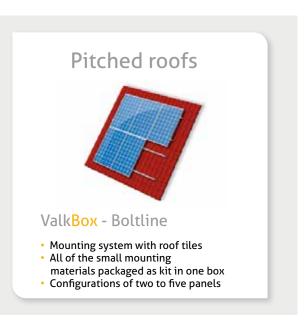








With the kits from Van der Valk Solar Systems, speed is of the essence including: the calculating speed with the ValkKITSplanner, the order picking speed, and the mounting speed. With the kits, you just need to keep a few products in stock and then quickly choose the materials you need for your order. This greatly reduces the chance of errors and makes preparing for a job child's play. Add ease of installation to all of this and you know you can quickly finish the job with the kits from Van der Valk Solar Systems.



+ info

Flat Roofs

ValkPro+



Orientation: south

Orientation: east-west

ValkPro+

- Suitable for all panel sizes
- Landscape mounting
- 10° tilt angle
- South and east-west mounting
- Option for extra panel support in case of a high snow load or with very large solar panels
- Option to fixation to the roof with ValkSolarFix





ValkPro+ Max

- For maximum solar panel load
- Portrait mounting
- 10° tilt angle
- South and east-west mounting
- Option to fixation to the roof with ValkSolarFix







Advantages:

- ValkPro+ in 10 degree landscape and portrait
- Mounting speed of 3 minutes per solar panel
- 100% equipotential bonding
- Certified for lightning protection
- Specific approval for Germany (abZ)
- Standard application up to 25m height (higher upon request)
- · Minimal number of articles required
- Low ballast, supported by the Eurocodes and windtunnel tests

(specially tested for PVC roofs)

- Fitted with flexible, soft rubber feet for absorbing expansion and shrinkage and protecting roof
- Panel clamps standard with stainless steel plate for equipotential bonding
- Smart and safe cable management

+ info

The solar mounting systems of Van de Valk Solar Systems for flat roofs have been developed while taking roof and wind load into consideration and thus comply with the strictest safety requirements. Our assortment for flat roofs are well-known for their simplicity and speed of mounting. After completing the design with our calculation software, the necessary ballast (small quantity) can be ordered directly. This simplifies the logistics and installation.

Commercial pitched roofs





Unique to this PV mounting system:

- · Clamp system
- Universal mid-clamps and endclamps (H28 50mm)
- · Logistical advantage due to short profile lengths
- If desired, long lengths also available
- Waterproof mounting system with special screws or rivets



Unique to this PV mounting system:

- Universal hanger bolt clamp for M10 and M12 hanger bolts/ threaded ends
- Easily adjustable in height
- Hanger bolts available for wooden and steel purlins
- Suitable as a single layer or cross bond system



Unique to this PV mounting system:

- · Clamp system
- System for standing seam roofs | round
- Universal mid and end panel clamps (H 28-50 mm)

+ info

Residencial pitched roofs







Unique to this PV mounting system:

- Clamp system
- Universal mid and end clamps (H 28-50 mm)
- · Less roof fixing necessary due to very strong profile
- · Connection piece as strong as profile, so no weak spots
- · Practical and safe lateral mounting

Unique to this PV mounting system:

- Clamp system
- Universal mid-clamps and endclamps (H28 50mm)
- Easy to adjust vertically and horizontally
- · Landscape and portrait mounting possible
- Universal L-adapter for M10 and M12 hanger bolts/cable ends

+ info

Ground mount





Solar ramps

ValkDouble / ValkTriple / ValkQuattro

- Up to twice as many panels on a roof
- · Universal mid-clamp and endclamps (H 28-50 mm)
- Minimal height due to small fixed tilt angle of 10°
- · Can also be used as grount mount system



Ground

- No ground penetration and heavy machines needed
- · Special foundation blocks take care of height, ballast and stability
- · All variants of ValkPro+ possible

ValkPro+









+ info

Solar ramps and ValkPro+

All versions of the Van der Valk Solar Systems ground mount systems are easy to place on flat open surfaces like an abandoned industrial terrain, field or garden. No anchoring points have to be drilled into the ground, making the systems ideal for a water purification plant, for example.

By focussing on a double use of surfaces for solar panels, our systems can be placed on roofs, parking places and waste dumps. This makes optimal use of the limited space that is available and avoids taking up scarce areas.

The large concrete blocks and/or special concrete foundation blocks provide the necessary ballast, offer stability and raise up the system, making maintenance easier. To prevent weed formation, a root-proof membrane is used.

Cable management ValkCableCare



Cable baskets

- Wide range of cable baskets, lids, dividers and accessories
- · Special roof support for one, two or even three cable baskets next to each other
- Cable baskets can be positioned in the recesses of the rubber tile carriers of the ValkPro+ system



Cable clamps

- Effective solutions for tying up DC & AC cables and connectors
- Cable clamps can be secured to profiles, roof carriers and solar panels
- Various accessories for evening out surfaces

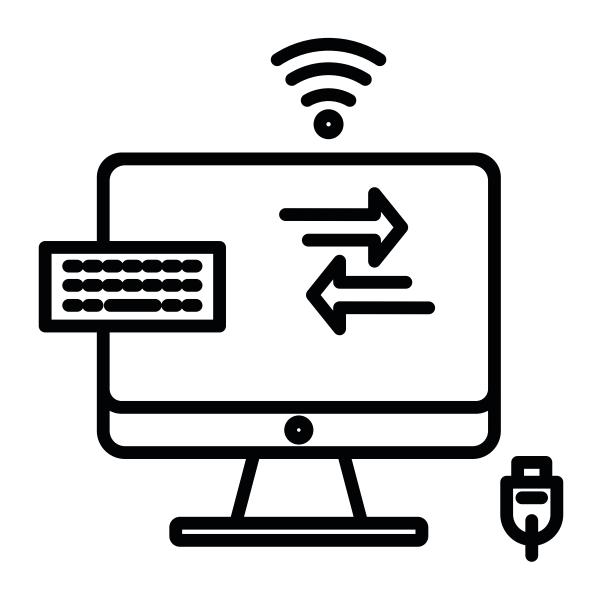


Van der Valk Solar Systems offers a complete range of cable management products under the name ValkCableCare. With these products the cabling of the PV-system can be arranged in a neat, safe and quick manner.

+ info







Monitoring Systems



SmartLogger 3000A





Smart Smart zero export control design



Simple & Easy
Easy to install on site



Safe & Reliable
Safety by lighning protection module

+ info

Smart Power Sensor





Accurante
Class 1 measurement accurancy



Simple & Easy
LCD display, easy to set and check



Safe & Reliable
Overall power consumption ≤ 1 W

+ info

Smart Dongle





Smart 2G, 3G, 4G / WLAN communication Support 3rd-party monitoring system



Simple Plug & Play



Reliable
IP65 | Support auto reconnection

+ info



DTU-Lite-S



+ info

DTU-Pro





Smart Meter GM3000 / GM1000



GoodWe Smart Meter is designed with high precision small dimensions, convenient operation and installation. It is available for both single-phase and three-phase grid system connection to detect voltage, current, power and energy, for working with invertersincluding SEMS systems for the purpose energy management.



+ info

EzLogger Pro



EzLogger Pro is a self-developed monitoring device by GoodWe. In combination with a GoodWe solar inverter, it can easily read and record all key plant data and constantly transmit the data to the GoodWe portal via internet.

+ info

SEC1000 / SEC1000S



The SEC (Smart Energy Controller) is composed of GoodWe's three-phase meter and control board. It can be connected with SEMS to control and manage the performance of inverters in each string. SEC1000 is for monitoring, export power control and reactive power compensation, while SEC1000S is for export power control and ET Series inverter parallel control (up to 10 units). Small box, mighty functions!

+ info



Si-RS485TC-2T-v-MB + Tamb-Si + Vwind-Si



+ info

- **O** Si sensor with waterproof connectors for one temperature sensor and one wind speed sensor
- External sensors with preconfigurated plugs
- **Optional Shield Tamb-Si as a weather and radiation protection**

Measured Parameters	Si Sensor Types	Accessories
- Solar Irradiance	Si-RS485TC-2T-v-MB	Tamb-Si
- Temperature of Sensor Cell		Vwind-Si
- Ambient Temperature		

- Wind Speed

Growatt

Company

Growatt was established in 2011 by a group of pioneers in the global PV industry with a vision to build a green and sustainable future. Specializing in sustainable energy generation, storage and consumption, as well as energy digitalization, the company designs, develops and manufactures PV inverters, energy storage products, EV chargers, smart energy management system and others.

Favored by global customers, Growatt ranks among the global top three PV inverter suppliers*. In particular, the company is ranked the number one residential inverter supplier globally* as well as the world's largest supplier of user-side energy storage inverters* in terms of shipment volume.

Since its foundation, Growatt has been committed to continuous product and technology innovations. With a well-established R&D platform and a R&D team of more than 650 professionals, the company constantly introduces new upgrades and innovations in the energy efficiency, functional safety and intelligent solutions of inverter, energy storage and EV charging applications. Till now, it has obtained more than 150 patents.

Mission

To enable everyone to benefit from sustainable energy.

Vision

To build the world's largest intelligent sustainable energy ecosystem for human kind.



ShineGPRS-X



- Plug and play
- Built-in memory for up to one month of data
- Remote online monitoring and maintenace
- Support more than 100 telecommunication

+ info

Model	Rated power	GSM/GPRS/EDGE frequency range	Operating current	Dimensions(L/H/W)	
ShineGPRS-X	5W	850/900/1800/1900MHz	2A	122/32/47mm	

ShineWiFi-X



- Cable free, easy installation
- USB communication port
- Built-in memory for up to one month of data
- Online monitoring and maintenance

Model	Rated power	Frequency range Operating voltage		Dimensions(L/H/W)	
ShineWiFi-X	1.2W	2.4GHz~2.5GHz (2412MHz~2484MHz)	5V(±5%)	135/79/29 mm	

ShineLAN-X



- Enthernet direct connection
- Built-in memory for up to one month of data
- Remote online monitoring and maintenace
- Plug and Play

+ info

Model	Nominal voltage	ninal voltage Nominal current		Dimensions(L/H/W)	
ShineLAN-X	5V(±5%)	2W(MAX:3W)	2W(MAX:3W)	152/47/28mm	

ShineLink-X



- Cable free, easy installation
- Opnamic IP, plug and play
- **⑥** Communication distance up to 120m
- Support up to 8 devices
- Built-in memory for up to one month of data
- Online monitoring and maintenance

Model	Power consumption	Voltage range	Frequency	Dimensions(L/H/W)
ShineLink-X	<2W standby,<5W peak	196V~250V	50/60Hz	105/85/26mm

ShineMaster



- Local webserver for easy configuration
- Supports RS485,Ethernet, 4G communication
- Output of the second of the
- Multi-function and high performance

+ info

Model	Power adapter	Power consumption	Max. communication range	Dimensions(L/H/W)
	Input: 100-240V, 50/60Hz			
ShineMaster	AC	2.5W	500m	130/84/25mm
	Output 5V(+/-15%), 1A DC			

Growatt Smart Meter

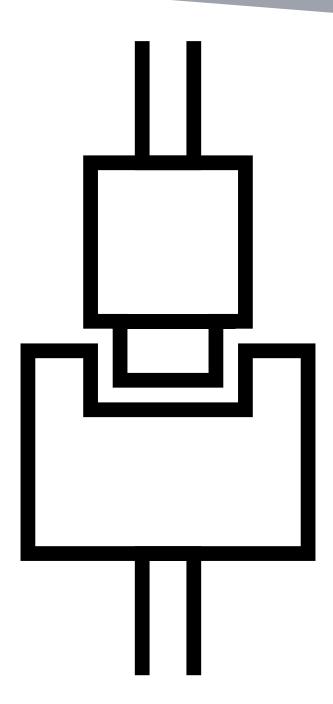


- **⊙** Class 1 measurement accuracy
- LCD display, easy to operation and check
- Compatible with Growatt storage and solar inverters

Model	Power grid type	Input voltage	Interface	Dimensions(L/H/W)	
SPM-E	1P2W	21P2W	RS485	36/99/63mm	
TPM-E	3P4W	3P4W		72/94.5/65 mm	







Equipment & Accessories



TÜV SOLAR CABLE (H1Z2Z2-K)



- 1-1st insulation: halogen free special copolymer
- 2- 2nd insulation: halogen free special copolymer
- 3- Copper conductor



1st and 2nd INSULATION COLOUR



Twisted flexible tinned copper conductor

CET SOLAR CABLE 1Xn,00 mm2 1.0/1.0 kV H1Z2Z2-K TÜV Rheinland Type Approved R60113052 IEC 60332-1 CE

+ info

Туре	Section	Max Wire Diameter of Conductor	INSULATION THICKNESS 1 ST / 2 ND	OVERALL DIAMETER	RAME STAGNATO TINNED COPPER	REACTANCE (at 50 Hz)
	mm²	mm	mm	mm	Ω/Km	Ω/Km
	1x2.50	0.26	0.70 / 0.80	5.00	8.21	1
TÜV SOLAR	1x4.00	0.31	0.70 / 0.80	5.40	5.09	0.143
CABLE	1x6.00	0.31	0.70 / 0.80	6.20	3.39	0.135
5.15 ==	1x10.0	0.41	0.70 / 0.80	7.40	1.95	0.119

*Diameters tollerances: according with TÜV standards



TOPSOLAR HIZ2Z2-K

TOPSOLAR PV AL 1500V

+ info + info



Electrical performance LOW VOLTAGE 1,5 (1,8) kV DC \cdot 1,0/1,0 kV AC.

Standard EN 50618 / IEC 62930 / UTE C 32-502

Approvals TÜV / RETIE / CE / RoHS / AENOR

CPR Construction Product Regulation



Electrical performance: Low voltage 1,5/1,5 (1,8) kV CC based

on EN 50618 · 1,8/3 (3,6) kV according to IEC 60502-1.

Standard IEC 60502-1

CPR Construction Products Regulation Eca

Weidmüller **3**E

BUKO WM4 C BT



+ info

WM4 C photovoltaic connectors

- One crimp contact for 4 mm² and 6 mm² cables
- $\, \odot \,$ TÜV approval according to the latest standard DIN EN 50521
- Can be loaded with a rated current of up to 35 A

BUGH WM4 C BT



+ info

WM4 C photovoltaic connectors

- One crimp contact for 4 mm² and 6 mm² cables
- TÜV approval according to the latest standard DIN EN 50521
- Can be loaded with a rated current of up to 35 A

SFKO WM4 CBT



+ info

WM4 C photovoltaic connectors

- One crimp contact for 4 mm² and 6 mm² cables
- TÜV approval according to the latest standard DIN EN 50521
- Can be loaded with a rated current of up to 35 A

SFGH WM4 C BT



+ info

WM4 C photovoltaic connectors

- One crimp contact for 4 mm² and 6 mm² cables
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STÄUBLI

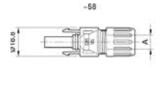
Female and male cable coupler MC4



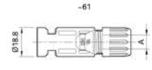








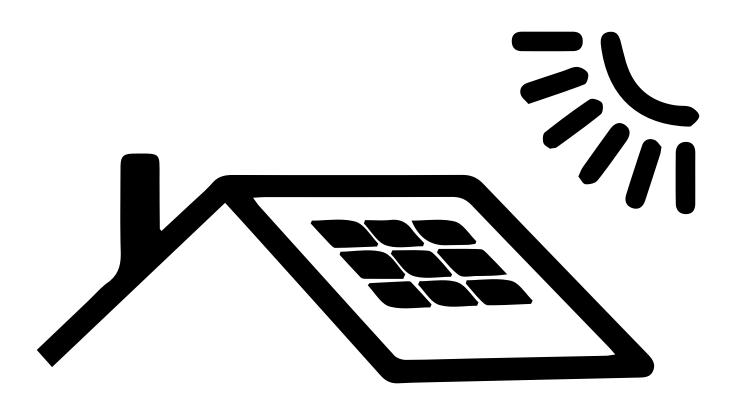








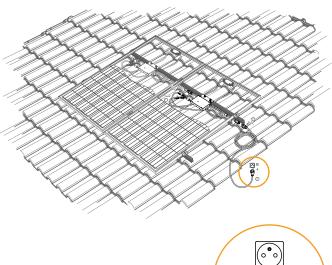




DYI Kits

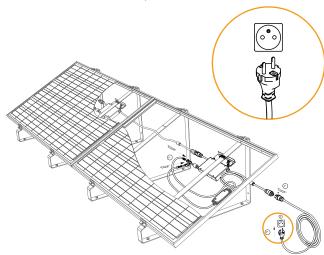


Modular Solar Energy Kit - DIY



Advantages

- Produce your own energy from an endless source, the SUN
- Reduce your energy bill
- Protect the environment by producing energy without CO2 emissions or other particles
- Modular KIT expandable



(illustrative images)

What is included?

The SOLAR ENERGY KIT contains a photovoltaic system with all components needed to start immediately working:

- 1 photovoltaic module
- 1 micro inverter
- 1 fixing structure
- Cable and plugs for connection
- Screws and accessories
- 1 instruction manual for installation

Learn more at:

www.energy-kit.com

veltalia



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