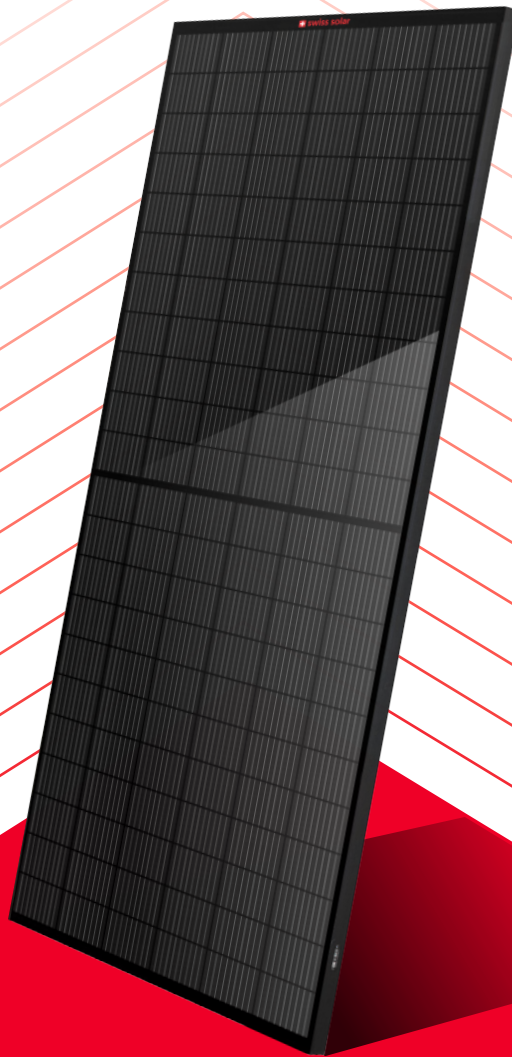




IBEX 132MHC-EiGER

FULL BLACK

495/500

IBEX HIGH EFFICIENCY MONOCRYSTALLINE SOLAR MODULES WITH HALF CELL TECHNOLOGY

0+5

Positive power tolerance (0+5W) guaranteed



High performance under low light.
Works at cloudy, rainy days



The monolithic perc cell structure technology (low resistance characteristics) is adopted (the maximum conversion efficiency of modules is up to 21.06%)



EXTREME WEATHER RATING. High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (3800 Pa)



Reduced resistance between cells Less micro cracks, higher output power



SUPER STRONG FRAME. The overflow tank is waterproof with double layers. Aluminum frame enhances the mechanical load strength by 10%

- IEC61215(2016), IEC61730(2016)
- ISO9001:2015: Quality Management System
- ISO45001:2018 Occupational health and safety management systems



IBEX 132MHC-EiGER 495-500 FULL BLACK

MONOCRYSTALLINE SOLAR MODULE

ELECTRICAL DATA AT STC

Rated power P _{mp} [Wp]	495	500
P _{mp} range to	0/+5W	0/+5W
Rated current I _{mp} [A]	12.85A	12.92A
Rated voltage V _{mp} [V]	38.52V	38.70V
Short-circuit current I _{sc} [A]	13.74A	13.81A
Open-circuit voltage U _{oc} [V]	46.51V	46.67V
Efficiency at STC up to	20.85%	21.06%
Application Class	Class A	Class A

Specification as per STC (Standard test conditions): irradiance 1000 W/m² | module temperature 25°C | Air Mass = 1.5

ELECTRICAL DATA AT NOCT

Power at P _{mp} [Wp]	373.00	377.00
Rated current I _{mp} [A]	10.35	10.39
Rated voltage V _{mp} [V]	36.04	36.28
Short-circuit I _{sc} [A]	10.97	11.01
Open-circuit voltage U _{oc} [V]	44.03	44.28

NOCT (nominal operating cell temperature): irradiance 800 W/m² | Wind speed 1 m/sec | Ambient temperature | 20°C cell operating temperature 45 +/-2°C | Air Mass = 1.5

LIMITING VALUES

Max. system voltage [V]	1500V DC (IEC)
Max. return current [I]	20A
Operating Temperature	- 40 to +85°C
Max. tested pressure load [Pa] ²	5400
Max. tested tensile load [Pa] ²	3800

TEMPERATURE COEFFICIENT

I _{sc}	V _{oc}	P _{max}
0.05% /°C	-0.28% /°C	-0.36% /°C

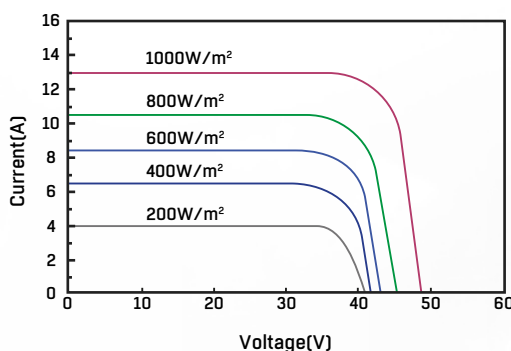
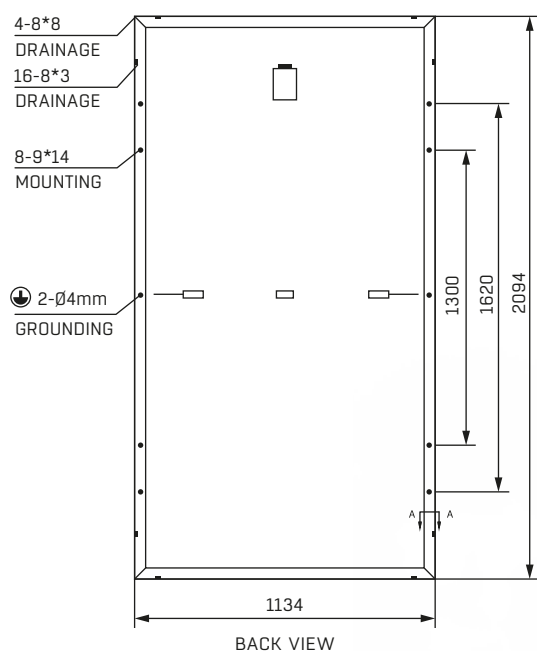
SPECIFICATIONS

Number of cells	132 (6 x 22) 182x182 mm
Dimensions	2094x1134x35 mm
Weight	25.5 kg
Front-side glass	3.2 mm tempered Low Iron Glass
Frame	Stable, anodised aluminium frame, black
Junction box	Split Junction Box (IP68)
Cable	4 mm ² , +300mm,-400mm Cust.Length
Diodes	3 Diodes
Plug-in connection	MC4 Compatible
Hail test (max. hailstrom)	Ø45mm 23 m/s 83 km/h

PACKING CONFIGURATION

Container	40 HQ	Pieces Per Pallet	31
Pallets Per container	22	Pieces per Container	682

The specifications and average values can vary slightly. Relevant is the corresponding data of the individual measurement. Specifications are subject to change without notice. Measurement tolerance depending on equipment: rated power +/- 3%, other values +/- 10%. All information given in this data sheet corresponds to DIN EN 50380. A potential light-induced degradation of the power after commissioning is not considered here. Further information in the installation manuals. 1 The specific warranty conditions are given under www.swissenergy-solar.ch | 2 Horizontal mounted | 3 Tolerance L/W = +/- 3 mm. H +/-2mm, the dimensions given in the order confirmation will be decisive | 4 Location and dimensions of holes on request



WARRANTY

20 YEARS

PRODUCT WARRANTY

30 YEARS

POWER WARRANTY

swiss solar

SWISSENERGY-SOLAR.CH

SUN2000-5/8/10KTL-M0 Smart Energy Controller



Higher Revenue

Max. efficiency 98.6%



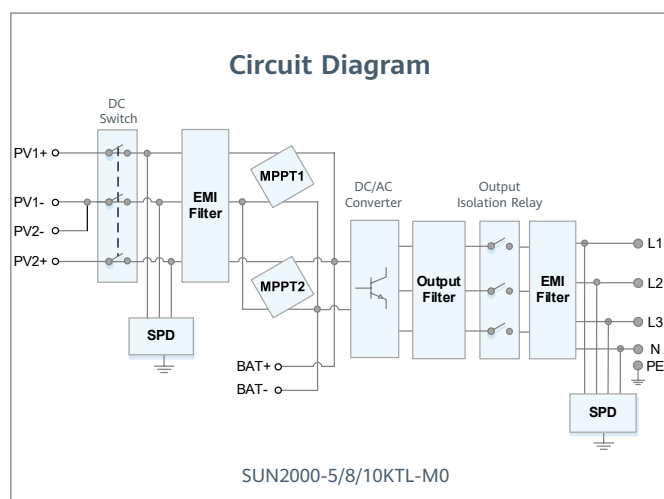
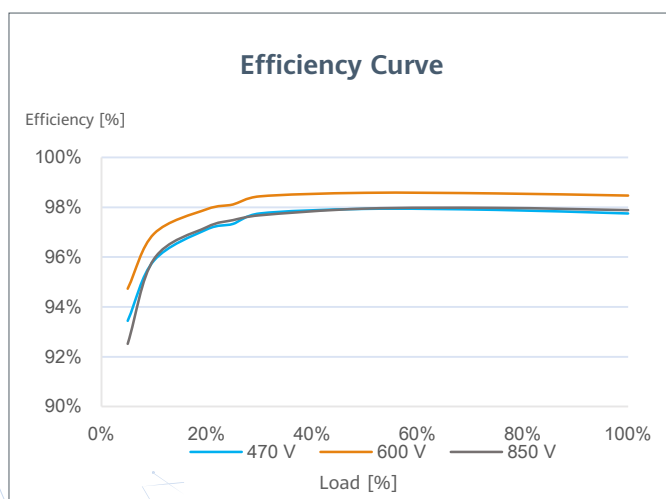
Simple & Easy

17 kg



Safe & Reliable

Arc fault protection



SUN2000-5/8/10KTL-M0

Technical Specification

Technical Specification	SUN2000-5KTL-M0	SUN2000-8KTL-M0	SUN2000-10KTL-M0
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Efficiency			
Max. efficiency	98.4%	98.6%	98.6%
European weighted efficiency	97.5%	98.0%	98.1%

Input			
Max. input voltage ¹	1,100 V		
Operating voltage range ²	140 V ~ 980 V		
Start-up voltage	200 V		
Full power MPPT voltage range	240 V ~ 850 V	380 V ~ 850 V	470 V ~ 850 V
Rated input voltage	600 V		
Max. input current per MPPT	11 A		
Max. short-circuit current	15 A		
Number of MPP trackers	2		
Max. number of inputs	2		

Output			
Grid connection	Three-phase		
Rated output power	5,000 W	8,000 W	10,000 W
Max. apparent power	5,500 VA	8,800 VA	11,000 VA
Rated output voltage	220 Vac / 380 Vac, 230 Vac / 400 Vac , default 3W / N+PE ; 3W+PE		
Rated AC grid frequency	50 Hz / 60 Hz		
Max. output current	8.5 A	13.5 A	16.9 A
Adjustable power factor	0.8 leading ... 0.8 lagging		
Max. total harmonic distortion	≤ 3 %		

Features & Protections	
Input-side disconnection device	Yes
Anti-Islanding protection	Yes
DC reverse polarity protection	Yes
Insulation monitoring	Yes
DC surge protection	Yes, compatible TYPE II protection class according to EN/IEC 61643-11
AC surge protection	Yes, compatible TYPE II protection class according to EN/IEC 61643-11
Residual current monitoring	Yes
AC overcurrent protection	Yes
AC short-circuit protection	Yes
AC overvoltage protection	Yes
Ripple receiver control	Yes
Arc fault protection (AFCI)	Yes

General Data	
Operating temperature range	-25 ~ + 60 °C (-13 °F ~ 140 °F)
Relative operating humidity	0 %RH ~ 100 %RH
Operating altitude	0 - 4,000 m (13,123 ft.)
Cooling	Natural convection
Display	LED Indicators; Integrated WLAN + FusionSolar App
Communication	RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE; 4G / 3G / 2G via Smart Dongle-4G (Optional)
Weight (incl. mounting bracket)	17 kg (37.5 lb)
Dimension (incl. mounting bracket)	525 * 470 * 166 mm (20.7 * 18.5 * 6.5 inch)
Degree of protection	IP65
Night Time Power Consumption	< 5.5 W

Standard Compliance (more available upon request)	
Safety	EN/IEC 62109-1, EN/IEC 62109-2, IEC62116
Grid connection standards	G98, G99, EN 50438, EN 50549-1, CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, IEC61727, DEWA, MEA(5,10KTL-M0), PEA(5,10KTL-M0)

^{*1} The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.
^{*2} Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

Smart Energy Controller



Active Safety

AI Powered
Active Arcing Protection



Higher Yields

Up to 30% More Energy
with Optimizer



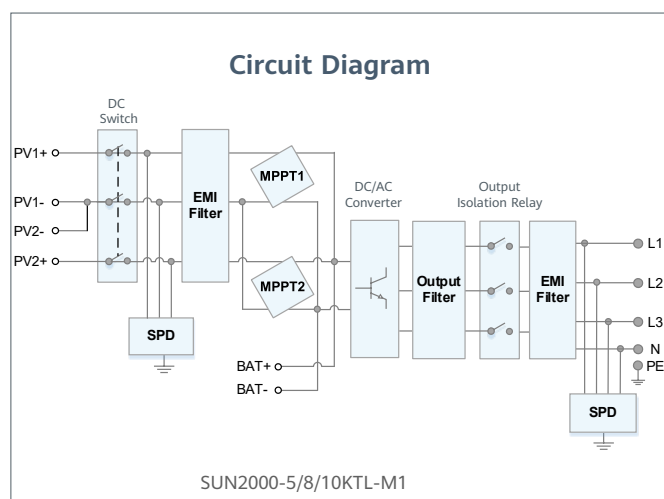
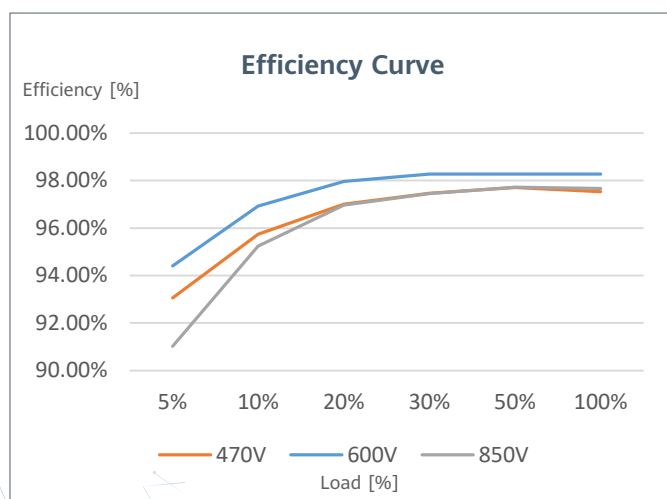
Battery Ready

Plug & Play battery interface ¹



Flexible Communication

WLAN, Fast Ethernet, 4G
Communication Supported



*1. Will be compatible with HUAWEI smart string ESS in Q1, 2021

SUN2000-5/8/10KTL-M1

Technical Specification

Technical Specification	SUN2000 -5KTL-M1	SUN2000 -8KTL-M1	SUN2000 -10KTL-M1
Efficiency			
Max. efficiency	98.4%	98.6%	98.6%
European weighted efficiency	97.5%	98.0%	98.1%
Input (PV)			
Recommended max. PV power ¹	7,500 Wp	12,000 Wp	15,000 Wp
Max. input voltage ²		1,100 V	
Operating voltage range ³		140 V ~ 980 V	
Start-up voltage		200 V	
Rated input voltage		600 V	
Max. input current per MPPT		11 A	
Max. short-circuit current		15 A	
Number of MPP trackers		2	
Max. input number per MPP tracker		1	
Input (DC Battery)			
Compatible Battery	HUAWEI Smart String ESS 5kWh – 30kWh		
Operating voltage range	600 V ~ 980 V		
Max operating current	16A		
Max charge Power	10,000 W		
Max discharge Power	5,500 W	8,800 W	10,000 W
Output (On Grid)			
Grid connection	Three-phase		
Rated output power	5,000 W	8,000 W	10,000 W
Max. apparent power	5,500 VA	8,800 VA	11,000 VA ⁴
Rated output voltage	220 Vac / 380 Vac, 230 Vac / 400 Vac, 3W / N+PE		
Rated AC grid frequency	50 Hz / 60 Hz		
Max. output current	8.5 A	13.5 A	16.9 A
Adjustable power factor	0.8 leading ... 0.8 lagging		
Max. total harmonic distortion	≤ 3 %		
Output (Backup Power via Backup Box-B1)			
Maximum apparent power	3,300 VA		
Rated output voltage	220 V / 230 V		
Maximum output current	15 A		
Power factor range	0.8 leading ... 0.8 lagging		
Features & Protections			
Input-side disconnection device	Yes		
Anti-Islanding protection	Yes		
DC reverse polarity protection	Yes		
Insulation monitoring	Yes		
DC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11		
AC surge protection	Yes, compatible with TYPE II protection class according to EN/IEC 61643-11		
Residual current monitoring	Yes		
AC overcurrent protection	Yes		
AC short-circuit protection	Yes		
AC overvoltage protection	Yes		
Arc fault protection	Yes		
Ripple receiver control	Yes		
Integrated PID recovery ⁵	Yes		
Battery reverse charging from grid	Yes		
Nighttime Power Consumption	< 5.5W ⁶		
General Data			
Operating temperature range	-25 ~ + 60 °C (-13 °F ~ 140 °F)		
Relative operating humidity	0 %RH ~ 100 %RH		
Operating altitude	0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m)		
Cooling	Natural convection		
Display	LED Indicators; Integrated WLAN + FusionSolar App		
Communication	RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE; 4G / 3G / 2G via Smart Dongle-4G (Optional)		
Weight (incl. mounting bracket)	17 kg (37.5 lb)		
Dimension (incl. mounting bracket)	525 x 470 x 146.5 mm (20.7 x 18.5 x 5.8 inch)		
Degree of protection	IP65		
Optimizer Compatibility			
DC MBUS compatible optimizer	SUN2000-450W-P		
Standard Compliance (more available upon request)			
Certificate	EN/IEC 62109-1, EN/IEC 62109-2, IEC 62116		
Grid connection standards	G98, G99, EN 50438, CEI 0-21, VDE-AR-N-4105, AS 4777, C10/11, ABNT, UTE C15-712, RD 1699, TOR D4, NRS 097-2-1, IEC61727, IEC62116, DEWA 2.0		

^{*1} Inverter max input PV power is 20,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.

^{*2} The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.

^{*3} Any DC input voltage beyond the operating voltage range may result in inverter improper operating.

^{*4} C10 / 11: 10,000 VA

^{*5} SUN2000-3~10KTL-M1 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly).

^{*6} <10 W when PID recovery function is activated
Version No.:01-(20190716)