

# Dimensionering solcellsanläggning

## Förslag dimensionering Solcellsanläggning

Här ser du designförslaget för din anläggning. Ett system enligt förslaget ger dig följande förutsättningar. För mer specificerade uträkningar, se separat produktionsberäkning.

Adress: Drottning Kristinas Esplanad 59-65  
170 67 Solna

Standardsoltimmar/år: 1000  
Vinkel på paneler: 8-12  
Riktning från söder: 0  
Förluster från skuggning: 3%

237  
Antal paneler



114 360 kWh  
Årlig produktion solel

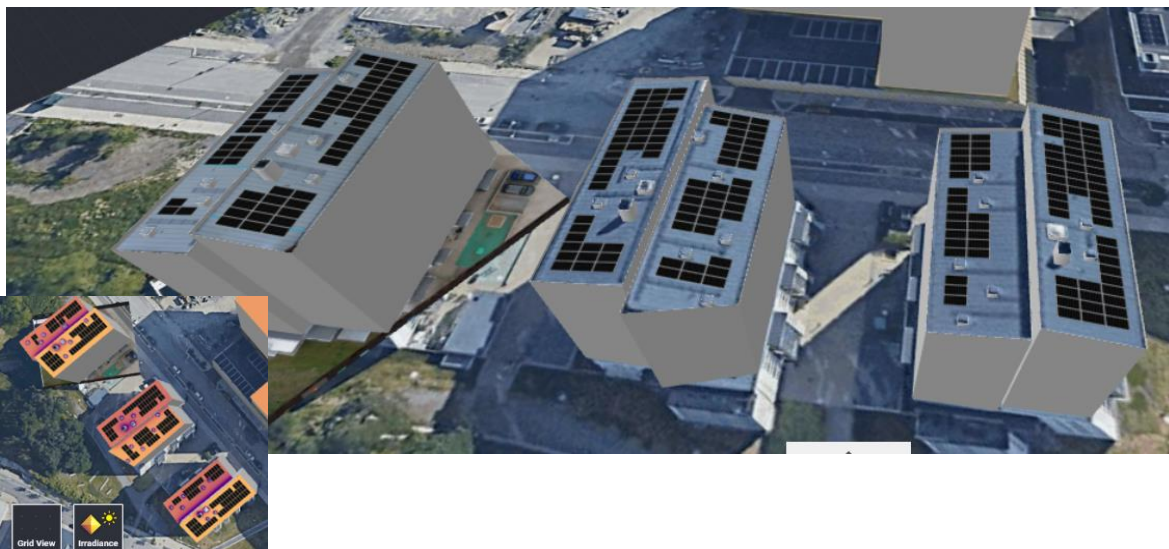


491 000 kWh  
Årlig elförbrukning i fastighet



90,97%  
Egenanvändning av solel

166 919 kr  
Årlig besparing solel



## SIMULATION RESULTS



Installed DC Power  
137,46 kWp



Max Achieved AC Power  
108,57 kW



Annual Energy Production  
114,36 MWh



CO2 Emission Saved (Annually)  
1,49 t



Max Achieved DC Power <sup>?</sup>  
111,96 kW



DC/AC Oversizing  
93 %



Max Active AC Power  
120,00 kW



Performance Ratio  
87 %

# Förutsättning

## Tekniska uppgifter

## Garantier

### Solcellsanläggning

Paneltyp:	Bifacial - 580W	Installation:	5 år
Antal paneler:	237	Fri service:	5 år
Leverantör växelriktare:	Huawei	Produktgaranti solceller:	12 år
		Produktgaranti växelriktare:	5 år
Takmaterial:	Falsad plåt	Produktgaranti montagesystem:	10 år
		Effektgaranti solceller efter 30 år:	87,4%



**137,46 kW**

Installerad effekt solceller

**166 919 kr**

Årlig besparing solceller



**114360 kWh**

Produktion solenergi



**0 kW / 0 kWh**

Stolek på batteri

### Elpris baserat på egenkonsumtion

Egenkonsumtion\* 91% 1,54 kr/kWh

Såld el\*\* 9% 0,70 kr/kWh

**Totalt viktat elpris 1,46 kr/kWh**

\*Består av rörligt elpris, skatt, moms och nätöverföring

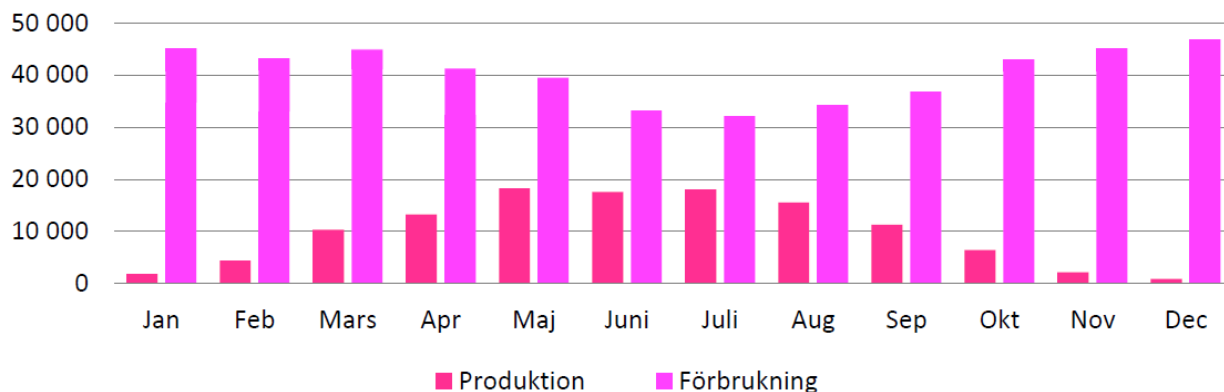
\*\*Består av elpris och nätnytta


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# Uppskattad produktionsberäkning




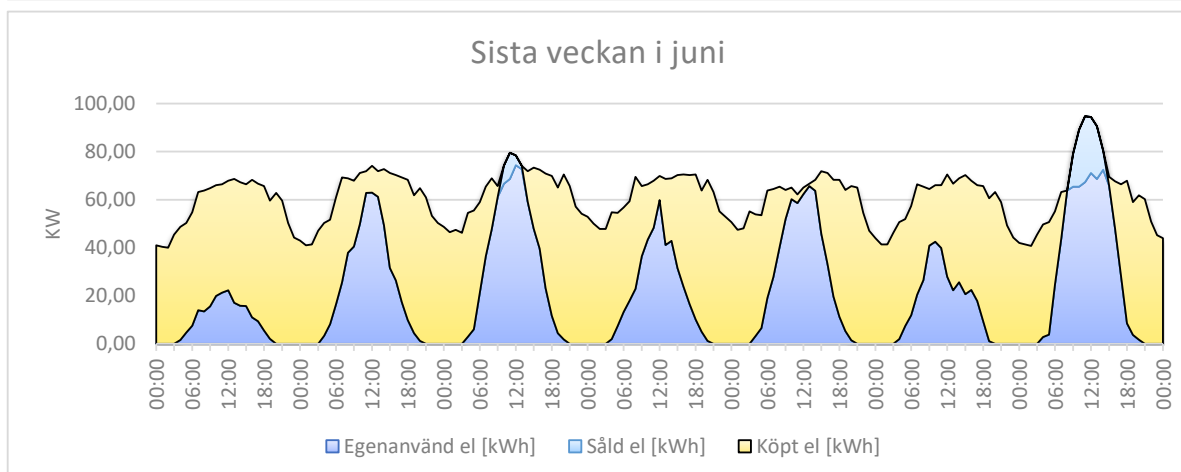
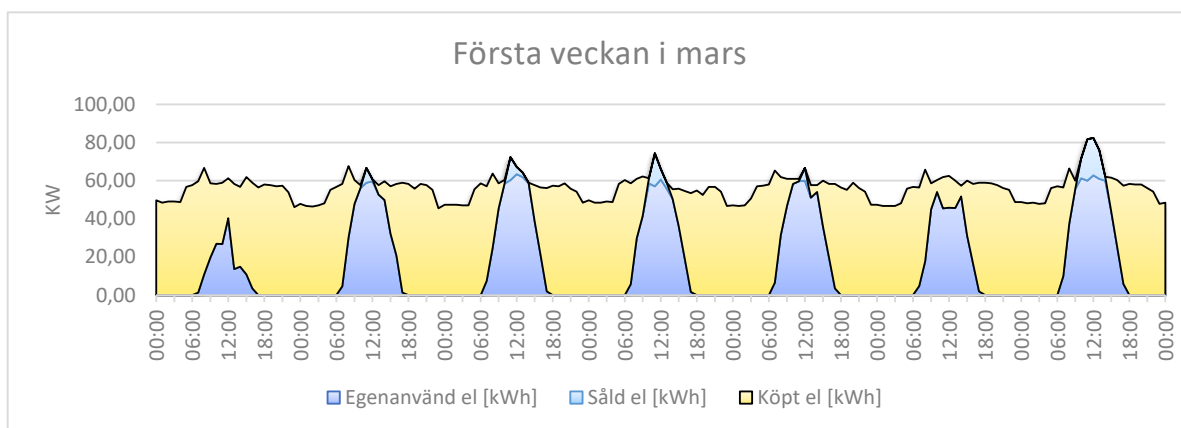
  
491 000  
kWh  
Konsumtion

  
114 360  
kWh  
Produktion

  
104 032  
kWh  
Egenkonsumtion

  
10 328  
kWh  
Såld el

  
386 968  
kWh  
Köpt el



Graferna ovan illustrerar hur produktion och förbrukning förhåller sig till varandra under en vecka i mars respektive i juni. Datan baseras på timdata för produktion och konsumtion i detta specifika fall för att på så sätt komma så nära verkligheten som möjligt.

## DEEP BLUE 4.0

**Mono**

580W n-type Bifacial Double Glass  
High Efficiency Mono Module  
JAM72D40 555-580/MB Series

### Introduction

Power by the fastest MBB n-type solar cell, half-cell configuration, these modules have higher output power, lower LID, better weak illumination response, and better temperature coefficient.



Higher power generation  
better LCOE



n-type with very Lower LID



Better weak illumination response



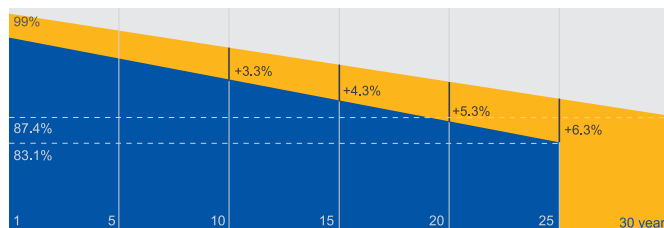
Better Temperature Coefficient

### Superior Warranty

- 12-year product warranty
- 30-year linear power output warranty

1% 1st-year Degradation

0.4% Annual Degradation  
Over 30 years



■ n-type Bifacial Double Glass Module Linear Performance Warranty

■ Standard Module Linear Performance Warranty

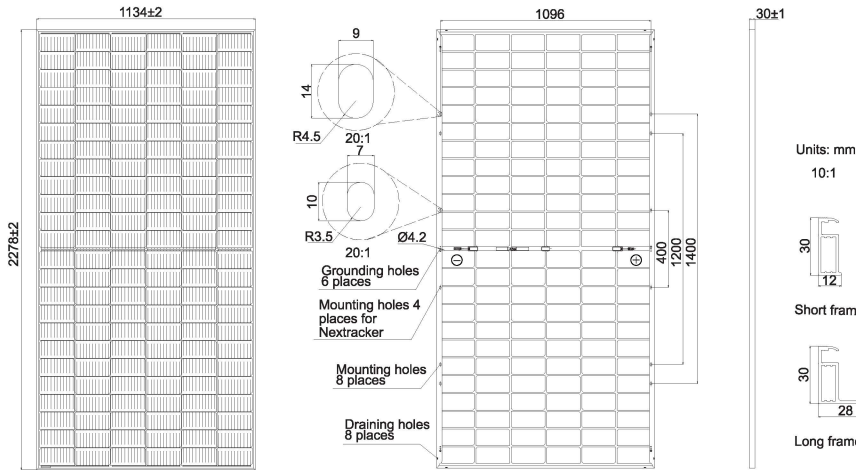
### Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC 62941: 2019 Terrestrial photovoltaic (PV) modules - Quality system for PV module manufacturing



**MECHANICAL DIAGRAMS**

**SPECIFICATIONS**



Cell	Mono
Weight	31.8kg
Dimensions	2278±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm <sup>2</sup> (IEC), 12 AWG(UL)
No. of cells	144(6×24)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-351/ MC4-EVO2A
Cable Length (Including Connector)	Portrait: 200mm(+)/300mm(-); 800mm(+)/800mm(-)(Leapfrog) Landscape: 1300mm(+)/1300mm(-)
Front Glass/Back Glass	2.0mm/2.0mm
Packaging Configuration	36pcs/Pallet, 720pcs/40HQ Container

Remark: customized frame color and cable length available upon request

**ELECTRICAL PARAMETERS AT STC**

TYPE	JAM72D40 -555/MB	JAM72D40 -560/MB	JAM72D40 -565/MB	JAM72D40 -570/MB	JAM72D40 -575/MB	JAM72D40 -580/MB
Rated Maximum Power(Pmax) [W]	555	560	565	570	575	580
Open Circuit Voltage(Voc) [V]	50.55	50.70	50.85	51.00	51.15	51.30
Maximum Power Voltage(Vmp) [V]	42.24	42.40	42.55	42.70	42.85	43.03
Short Circuit Current(Isc) [A]	14.02	14.09	14.16	14.23	14.30	14.36
Maximum Power Current(Imp) [A]	13.14	13.21	13.28	13.35	13.42	13.48
Module Efficiency [%]	21.5	21.7	21.9	22.1	22.3	22.5
Power Tolerance						0~+5W
Temperature Coefficient of Isc(α <sub>Isc</sub> )						+0.046%/°C
Temperature Coefficient of Voc(β <sub>Voc</sub> )						-0.260%/°C
Temperature Coefficient of Pmax(γ <sub>Pmp</sub> )						-0.300%/°C
STC	Irradiance 1000W/m <sup>2</sup> , cell temperature 25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

**ELECTRICAL CHARACTERISTICS WITH 10% SOLAR IRRADIATION RATIO**

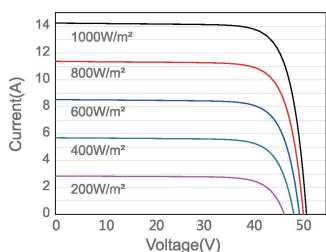
**OPERATING CONDITIONS**

TYPE	JAM72D40 -555/MB	JAM72D40 -560/MB	JAM72D40 -565/MB	JAM72D40 -570/MB	JAM72D40 -575/MB	JAM72D40 -580/MB	Operating Conditions
Rated Max Power(Pmax) [W]	599	605	610	616	621	626	Maximum System Voltage 1500V DC
Open Circuit Voltage(Voc) [V]	50.58	50.73	50.88	51.03	51.16	51.30	Operating Temperature -40°C~+85°C
Max Power Voltage(Vmp) [V]	42.24	42.39	42.55	42.70	42.86	43.02	Maximum Series Fuse Rating 30A
Short Circuit Current(Isc) [A]	15.14	15.22	15.29	15.37	15.44	15.51	Maximum Static Load,Front* 5400Pa(112 lb/ft <sup>2</sup> ) Maximum Static Load,Back* 2400Pa(50 lb/ft <sup>2</sup> )
Max Power Current(Imp) [A]	14.19	14.27	14.34	14.42	14.49	14.56	NOCT 45±2°C
Irradiation Ratio (rear/front)	10%						Bifaciality** 80%±10%
							Fire Performance UL Type 29

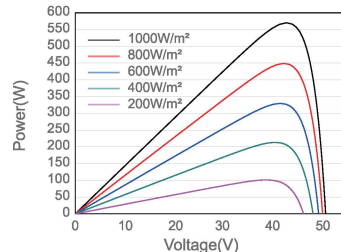
\*For Nextacker installations, maximum static load please take compatibility approve letter between JA Solar and Nextacker for reference.  
\*\*Bifaciality=Pmax,rear/Rated Pmax,front

**CHARACTERISTICS**

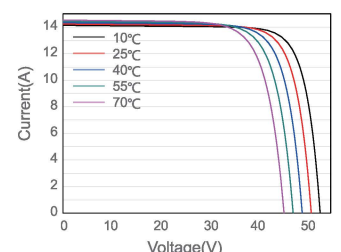
Current-Voltage Curve JAM72D40-570/MB



Power-Voltage Curve JAM72D40-570/MB



Current-Voltage Curve JAM72D40-570/MB



# SUN2000-30/36/40KTL-M3 Smart PV Controller



## Smart

8 strings intelligent monitoring



## Efficient

Max. efficiency 98.7%



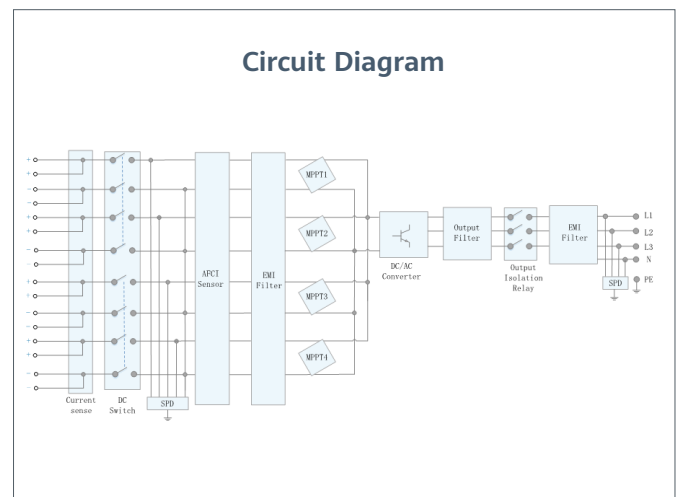
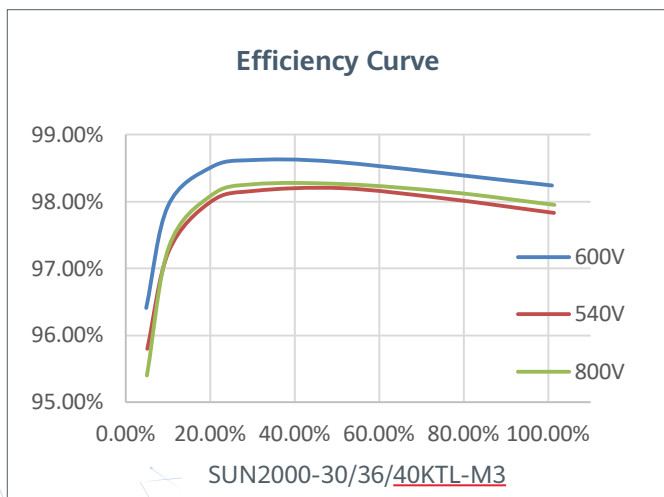
## Safe

Fuse free design



## Reliable

Type II surge arresters for DC & AC



SUN2000-30/36/40KTL-M3  
**Technical Specification**

Technical Specification	SUN2000-30KTL-M3	SUN2000-36KTL-M3	SUN2000-40KTL-M3
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Efficiency	
Max. Efficiency	98.7%
European Efficiency	98.4%

Input	
Max. Input Voltage <sup>1</sup>	1,100 V
Max. Current per MPPT	26 A
Max. Short Circuit Current per MPPT	40 A
Start Voltage	200 V
MPPT Operating Voltage Range <sup>2</sup>	200 V ~ 1000 V
Rated Input Voltage	600 V
Number of Inputs	8
Number of MPP Trackers	4

Output			
Rated AC Active Power	30,000 W	36,000 W	40,000 W
Max. AC Apparent Power	33,000 VA <sup>3</sup>	40,000 VA	44,000 VA
Rated Output Voltage	230 Vac / 400 Vac / 480 Vac, 3W/N+PE		
Rated AC Grid Frequency	50 Hz / 60 Hz		
Rated Output Current	43.3 A	52.0 A	57.8 A
Max. Output Current	47.9 A	58.0 A	63.8 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD		
Max. Total Harmonic Distortion	< 3%		

Protection	
Input-side Disconnection Device	Yes
Anti-islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Monitoring	Yes
DC Surge Arrester	Yes
AC Surge Arrester	Yes
DC Insulation Resistance Detection	Yes
Residual Current Monitoring Unit	Yes
Arc Fault Protection	Yes
Ripple Receiver Control	Yes
Integrated PID Recovery <sup>4</sup>	Yes

Communication	
Display	LED Indicators, Integrated WLAN + FusionSolar APP
RS485	Yes
Smart Dongle	WLAN/Ethernet via Smart Dongle-WLAN-FE (Optional) 4G / 3G / 2G via Smart Dongle-4G (Optional)
Monitoring BUS (MBUS)	Yes (Isolation Transformer required)

General Data	
Dimensions (W x H x D)	640 x 530 x 270 mm (25.2 x 20.9 x 10.6 inch)
Weight (with mounting plate)	43 kg (94.8 lb)
Operating Temperature Range	-25 ~ + 60 °C (-13 °F ~ 140 °F)
Cooling Method	Natural Convection
Max. Operating Altitude	4,000 m (13,123 ft.) (Derating above 2000 m)
Relative Humidity	0% RH ~ 100% RH
DC Connector	Staubli MC4
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP 66
Topology	Transformerless
Nighttime Power Consumption	≤ 5.5W

Optimizer Compatibility	
DC MBUS Compatible Optimizer	SUN2000-450W-P

Standard Compliance (more available upon request)	
Safety	EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 60068, IEC 61683
Grid Connection Standards	IEC 61727, VDE-AR-N4105, VDE 0126-1-1, BDEW, G59/3, UTE C 15-712-1, CEI 0-16, CEI 0-21, RD 661, RD 1699, P.O. 12.3, RD 413, EN-50438-Turkey, EN-50438-Ireland, C10/11, MEA, Resolution No.7, NRS 097-2-1, AS/NZS 4777.2, DEWA

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.  
3. For Austria, German, Belgium & Ukraine the Max. AC Apparent Power will not exceed 30,000 VA (with regard to grid code: VDE-AR-N-4105, C10/11 & Austria)  
4. SUN2000-30~40KTL-M3 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), N-type (nPERT, HIT)

# Det här är Svea Solar

Svea Solar är en trygg partner och har funnits i Sverige sedan 2013 där vi har hjälpt mer än 25 000 kunder att börja producera egen grön el. Vi designar ditt system efter dina takförutsättning, och levererar därefter med högsta kvalitet från sälj och projektering till färdig anläggning. Kundnöjdhet är av yttersta vikt för oss varför vi alltid sätter kundens önskemål först.



## Lokal närvaro

Egna installationskontor över hela Sverige

## 700+ Företagsinstallationer

Svea Solar har sedan starten 2013 genomfört över 700 solcellsinstallationer till företag och bostadsrättsföreningar



## Långsiktig aktör

Marknadsledande, trygg och långsiktig partner till alla våra kunder



## Trygg installation

Certifierad av Svensk Solenergi. Godkänd av Elsäkerhetsverket.



## Partnerskap IKEA

Sedan 2019 har Svea Solar varit exklusiv partner med IKEA.



## 1 000+ medarbetare

Engagerade medarbetare på våra 6 marknader

SVEA  
SOLAR

