

# Smart PV Optimizer



One-Fits-All Optimizer  
Easier Business



<5s Module Auto-Mapping



Arc Fault Pinpoint  
Positioning Along PV Cable

Technical Specification	SUN2000-450W-P2	SUN2000-600W-P		
<b>Input</b>				
Rated Input DC Power <sup>1</sup>	450 W	600 W		
Absolute maximum input voltage	80 V			
MPPT operating voltage range	10 - 80 V			
Maximum Short Circuit Current (Isc)	14.5 A			
Max. efficiency	99.5 %			
Weighted efficiency	99.0 %			
Overvoltage category	II			
<b>Output</b>				
Max. output voltage	80 V			
Max. output current	15 A			
Output bypass <sup>2</sup>	Yes			
Shutdown output voltage per optimizer <sup>3</sup>	0 V			
Shutdown output impedance per optimizer	1k ohm ± 10 %			
<b>Communication</b>				
Communication Method	MBUS			
<b>Standard Compliance</b>				
Safety	IEC62109-1 (class II safety)			
RoHS	Yes			
<b>General Data</b>				
Dimension (W x H x D)	75 x 140 x 28 mm (3.0 x 5.5 x 1.1 inch)			
Weight (including cables)	0.6 kg (1.3 lb.)			
Installation part (optional)	Frame Mounting Bracket / T-shaped Bolt <sup>4</sup>			
Input connector	MC4			
Input wire length	0.15m (0.49 ft.)			
Output connector	MC4			
Output wire length	1.3 m (4.3 ft.) <sup>5</sup>			
Operating temperature / humidity range	-40 °C ~ 85 °C <sup>5</sup> / 0 %RH ~ 100 %RH			
Degree of protection	IP68			
Compatible product	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-3/4/5/6/8/10KTL-M1, SUN2000-12/15/17/20KTL-M2, SUN2000-30/36/40KTL-M3			
Long String Design (Full Optimizer)	SUN2000-2-6KTL-L1	SUN2000-3-10KTL-M1	SUN2000-12-20KTL-M2	SUN2000-30-40KTL-M3
Minimum optimizer number per string <sup>6</sup>	4	6	6	6
Maximum optimizer number per string	25	35	35	25
Maximum DC power per string	6,000 W	10,000 W	12,000 W	12,000 W

<sup>\*1</sup> In the STC environment, The rated power of the module shall not exceed 1.05 times of the optimizer rated input power.

<sup>\*2</sup> Power optimizer is bypassed in the string connected to an operating inverter when it fails to work

<sup>\*3</sup> Power optimizer output 0Vdc when disconnecting to the inverter or inverter is shutdown.

<sup>\*4</sup> Allow PV module frame installation / extruded aluminum profile installation

<sup>\*5</sup> Fits PV module in landscape and portrait installation.

<sup>\*6</sup> Require standard 60 cells module to meet the inverter minimum startup voltage

<sup>\*7</sup> Full power capability refers to online smart design tool.

# Backup Box



## Simple

Automatic detection & switchover



## Reliable

Provide Reliable backup power



## Solar Reloading

Battery reloading from sun in backup mode



## Black start

Restart the system after battery shutdown

Technical Specification	Backup Box-B0	Backup Box-B1
<b>AC Output (On grid)</b>		
Grid connection	Single Phase	Three Phase
Rated voltage	220 V / 230 V	380 V / 400 V
AC frequency	50Hz / 60Hz	
AC output voltage range	198 V ~ 253 V	342 V ~ 440 V
<b>AC Output (Backup)</b>		
Load connection	Single Phase	Single Phase
Rated voltage	220 V / 230 V	220 V / 230 V
AC frequency	50Hz / 60Hz	
Maximum apparent power	5,000 VA	3,300 VA
Maximum output current	22.7 A	15.2 A
Switchover time	< 3 s	
<b>AC Input (Inverter)</b>		
Rated voltage	220 V / 230 V	380 V / 400 V
AC frequency	50Hz / 60Hz	
Compatible inverter	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1	SUN2000-3/4/5/6/8/10KTL-M1
<b>General Specification</b>		
Operating temperature range	-20 °C to +45 °C (-4 °F to 113 °F)	
Relative humidity range	0 %RH ~ 100 %RH	
Dimensions (W * H * D)	400 x 350 x 130 mm (15.8 x 13.8 x 5.1 inch)	
Weight	11 kg	
Degree of protection	IP 65	