SUN2000-450W-P2/600W-P

Smart Module Controller

One-fits-all Optimizer for Easier Business

<5s PV Module Physical Layout Auto-mapping

Pinpointing Open-circuit Fault for Quick Troubleshooting

Technical Specification	SUN2000-450W-P2	SUN2000-600W-P
Input		
Rated Input DC Power 1	450 W	600 W
Absolute Maximum Input Voltage	80 V	
MPPT Operating Voltage Range	10 ~ 80 V	
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5 A	
Maximum Efficiency	99.5 %	
Weighted Efficiency	99.0 %	
Overvoltage Category	II	
Output		
Maximum Output Voltage	80 V	
Maximum Output Current	15 A	
Output Bypass [2]	Yes	
Output Voltage during Standby [3]	0 V per Optimizer	
Output Impedance during Standby	1kΩ ± 10 % per Optimizer	
Communication		
Communication Method	MBUS	
Standard Compliance		
Safety	IEC62109-1 (class II safety)	
RoHS	Yes	
Fire Safety	VDE-AR-E 2100-712:2018-12	
General Data		
Dimensions (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 [4]	
Input Connector	Staubli MC4	
Input Wire Length	0.15 m (0.49 ft.)	
Output Connector	Staubli MC4	
Output Wire Length	1.3 m (4.3 ft.)	
Operating Temperature / Relative Humidity Range	-40 °C ~ 85 °C [5] / 0 % ~ 100 %	
Protection Rating	IP68	
Compatible Inverters	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, SUN2000-12/15/17/20/25KTL-M5, SUN2000-30/36/40KTL-M3	

PV System Design [6]	SUN2000-2~6KTL-L1	SUN2000-3~10KTL-M1	SUN2000-12~20KTL-M2 SUN2000-12~25KTL-M5	SUN2000-30~40KTL-M3
Minimum String Length (Power Optimizers)	4	6	6	6
Maximum String Length (Power Optimizers)	25	35	35	25
Maximum DC power per string	6,000 W	10,000 W	12,000 W	12,000 W

*1 The maximum power of PV module at STC shall NOT exceed the "Rated Input DC Power" of the power optimizer. PV Modules with up to +5% power tolerance are allowed.
*2 Any power optimizer, which is connected to an operating inverter in a PV string, will be bypassed when it fails.
*3 Once the power optimizer stops working, its output voltage remains 0Vdc.
*4 It is for PV module frame / extruded aluminum profile racking system installation.
*5 When the operating temperature of the SUN2000-450W-P2/600W-P reaches 70℃ to 85℃, it may shut down due to over-temperature protection and report an over-temperature alarm. After the temperature decreases, it can automatically resume working without causing any damage.
*6 SUN2000-450W-P2/600W-P and MERC-1100/1300W-P can NOT be used in mixture in single Smart Energy/PV Controller.