

# MERC-1100/1300W-P Smart Module Controller



Long String Design  
C&I Better Fit



20A Input Current  
Fit All Type Module



<5s  
Module Auto-Mapping



Temperature Detection  
Safety Enhanced



1V Safe Voltage Shutdown  
Easier for Detection



Arc Fault Pinpoint Positioning Along PV  
Cable



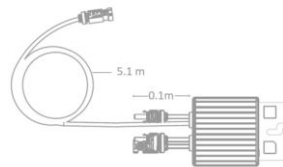
# MERC-1100/1300W-P

## Smart Module Controller



Technical Specification	MERC-1100W-P	MERC-1300W-P
<b>Input</b>		
Rated Input DC Power <sup>1</sup>	1100 W	1300 W
Absolute maximum input voltage	125 V	
MPPT operating voltage range	12.5 - 105 V	
Maximum Short Circuit Current (Isc)	20 A	
Max. efficiency	99.5 %	
Weighted efficiency	99.0 %	
Overvoltage category	II	
<b>Output</b>		
Max. output voltage	80 V	
Max. output current	22 A	
Output bypass <sup>2</sup>	Yes	
Shutdown output voltage per optimizer <sup>3</sup>	1 V	
<b>Standard Compliance</b>		
Safety	IEC62109-1 (class II safety)	
RoHS	Yes	
<b>General Data</b>		
Dimension (W x H x D)	149 x 104 x 49mm (5.9 x 4.1 x 2.0 inch)	
Weight (including cables)	1.0 kg (2.2 lb.)	
Installation part (optional)	PV Module Frame Plate, T-shaped Bolt	
Input connector	MC4	
Input wire length	0.1 m (short cable version) <sup>4</sup>	
Output connector	MC4	
Output wire length	0.1 m (+), 5.1 m (-) (short cable version) <sup>4</sup>	
Operating temperature / humidity range	-40 °C ~ 85 °C <sup>5</sup> / 0 %RH ~ 100 %RH	
Degree of protection	IP68	
Compatible product	SUN2000-8/10/12/15/17/20KTL-M2 SUN2000-20/29.9/30/36/40KTL-M3 SUN2000-12/15/17/20/23/25KTL-M5 SUN2000-50KTL-M3	

String Configuration (Full Optimizer)	SUN2000-12-20KTL-M2		SUN2000-12-25KTL-M5		SUN2000-20-40KTL-M3		SUN2000-50KTL-M3
* MERC-1100/1300W-P support full optimizer only							
Minimum optimizer number per string	6		6		6		6
Maximum optimizer number per string	25		25		25		20
Inverter minimum string number	12KTL	15-20KTL	12KTL	15-25KTL	30/36KTL	40KTL	4
* Each MPPT only support connect to 1 string only	1	2	1	2	3	4	
Maximum DC power per strings * Recommend to have the equal string capacity and string capacity difference <2kW, otherwise might affect energy yield	20,000 W		20,000 W		20,000 W		20,000 W



- \*1 Rated power of the module at STC shall not exceed "Rated Input DC Power" of power optimizer. Modules with power up to +5% power tolerance are acceptable.
- \*2 Power optimizer is bypassed in the string connected to an operating inverter when it fails to work.
- \*3 Power optimizer output 1Vdc when disconnecting to the inverter or inverter is shutdown.
- \*4 Optimizer input cable 0.1m (+/-), output cable 0.1m (+), 5.1m (-), please ensure the PV module cable length to connect to the optimizer. For split junction box module with short module cable, the long input cable optimizer available on request (Input cable 1.3 m (+/-), output cable 0.1m (+), 2.9m (-)).
- \*5 When the operating temperature of the optimizer ranges from 70°C to 85°C, the optimizer may shut down for over-temperature protection and report an over-temperature alarm. After the operating temperature decreases, the optimizer automatically recovers with no risk of damage.
- \*6 SUN2000-450/600W-P is not allowed to mixed in use with MERC-1100/1300W-P.
- \*7 The temperature detection function is only enabled on the short cable (0.1m).
- \*8 The MERC-1100/1300W-P is allowed to connect to 1 PV module only and operate.