

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



Long String Design  
to Reduce BOS



Maximum 20A Input Current  
Suit All Type of PV Module



<5s PV Module  
Auto-mapping



Identify Inefficient PV Module  
Effectively



1V Safe Voltage Shutdown  
Friendly to Inspection



Pinpointing Open-circuit Fault  
for Quick Troubleshooting

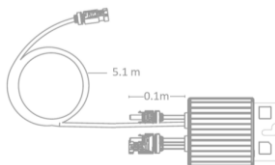


# MERC-1100/1300W-P

## 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) of Connected PV Module	20 A							
Maximum Efficiency	99.5 %							
Weighted Efficiency	99.0 %							
Overvoltage Category	II							
	<b>Output</b>							
Maximum Output Voltage	80 V							
Maximum Output Current	22 A							
Output Bypass <sup>2</sup>	Yes							
Safety 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 48.8 mm (5.9 x 4.1 x 1.9 inch)							
Weight (including wires)	1.0 kg (2.2 lb.)							
Installation Part (optional)	PV Module Frame Plate / T-shaped Bolt <sup>4</sup>							
Input Connector	Staubli MC4							
Input Wire Length	0.1 m (+/-) (short-input-cable version) <sup>5</sup>							
Output Connector	Staubli MC4							
Output Wire Length	0.1 m (+), 5.1 m (-) (short-input-cable version) <sup>5</sup>							
Operating Temperature	-40 °C ~ +85 °C <sup>6</sup>							
Relative Humidity	0 % ~ 100 %							
Protection Rating	IP68							
Compatible Inverters	SUN2000-12/15/17/20KTL-M2, SUN2000-30/36/40KTL-M3, SUN2000-12/15/17/20/25KTL-M5, SUN2000-50KTL-M3							
	<b>PV System Design <sup>7/8/9</sup></b>							
	SUN2000-12~20KTL-M2		SUN2000-12~25KTL-M5		SUN2000-30~40KTL-M3		SUN2000-50KTL-M3	
Minimum String Length (Power Optimizers)	6		6		6		6	
Maximum String Length (Power Optimizers)	25		25		25		20	
Recommended Qty of Input Strings per Smart Energy/PV Controller (Only 1 PV string can be connected to each MPPT.)	12KTL	15-20KTL	12KTL	15-25KTL	30/36KTL	40KTL	4	
	1	2	1	2	3	4		
Maximum DC Power per String	20,000 W		20,000 W		20,000 W		20,000 W	

Short-input-cable Version



<sup>\*1</sup> The maximum power of PV module at STC shall NOT exceed the "Rated Input DC Power" of MERC-1100/1300W-P. PV Modules with up to +5% power tolerance are allowed.

<sup>\*2</sup> Any power optimizer, which is connected to an operating inverter in a PV string, will be bypassed when it fails.

<sup>\*3</sup> When the MERC-1100/1300W-P is disconnected from inverter or when the inverter is off, its output voltage will become 1Vdc each.

<sup>\*4</sup> It is for PV module frame / extruded aluminum profile racking system installation.

<sup>\*5</sup> Please be cautious of the PV module wire length. To match with split junction box PV module with short output wire, the long-input-cable version (input wire: 1.3 m (+/-); output wire: 0.1m (+)/ 2.9m (-)) of MERC-1100/1300W-P is available upon request.

<sup>\*6</sup> When the operating temperature of the MERC-1100/1300W-P reaches 70°C to 85°C, 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.

<sup>\*7</sup> It is compulsory to equip all PV modules with MERC-1100/1300W-P under single inverter.

<sup>\*8</sup> SUN2000-450W-P2/600W-P and MERC-1100/1300W-P can NOT be used in mixture in single Smart Energy/PV Controller.

<sup>\*9</sup> It is recommended to split string capacity equally under single inverter. Moreover, it is compulsory to keep string capacity difference in single inverter no more than 2kW, otherwise the power generation yield can be reduced.