

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



Long String Design  
Better for C&I Scenarios



Up to 20 A Input Current  
Fit All Type Module



< 5s  
Module Auto-Mapping



Temperature Detection  
Safety Enhanced



1V Safe Voltage Shutdown  
Easier for Detection

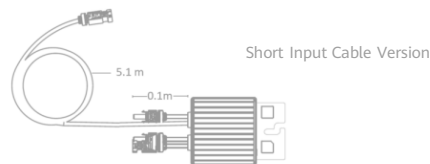


Arc Fault Pinpoint Positioning  
Along PV Cable

# 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					
Max. input voltage	125 V						
MPPT operating voltage range	12.5 – 105 V						
Max. 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>Standards Compliance</b>							
Safety	IEC62109-1 (class II safety)						
RoHS	Yes						
<b>General Data</b>							
Dimension (W x H x D)	149 mm x 104 mm x 49 mm (5.9 in. x 4.1 in. x 2.0 in.)						
Weight (including cables)	1.05 kg (2.2 lb.)						
Installation part (optional)	PV Module Frame Plate, T-shaped Bolt						
Input connector	MC4						
Input wire length	0.1 m (short input cable version) <sup>4</sup>						
Output connector	MC4						
Output wire length	0.1 m (+), 5.1 m (-) (short input cable version) <sup>4</sup>						
Operating temperature/humidity range	-40°C to +85°C <sup>5</sup> / 0%–100% RH						
Degree of protection	IP68						
Compatible Inverter	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 Configuration) * MERC-1100/1300W-P support full optimizer configuration only	SUN2000-12-20KTL-M2	SUN2000-12-25KTL-M5	SUN2000-20-40KTL-M3	SUN2000-50KTL-M3			
Minimum optimizers per string	6	6	6	6			
Maximum optimizers per string	25	25	25	20			
Recommend strings per inverter	12KTL	15-20KTL	12KTL	15-25KTL	30/36KTL	40KTL	4
* Only one string can be connected to each MPPT. * The DC/AC ratio is 1.0 to 1.3 for this recommended configuration. For other ratios, refer to the user manual.	1	2	1	2	3	4	
Maximum DC power per string	20,000 W	20,000 W	20,000 W	20,000 W			
* It is recommended that strings have equal capacity. The capacity difference between strings should ≤ 2 kW. Otherwise, the energy yield might be adversely affected.							



\*1 The rated power of modules under standard test conditions (STC) shall not exceed the rated DC input power of optimizers. The module power can be 5% higher than the rated optimizer power.

\*2 Failed optimizers will be bypassed so that other optimizers and inverters will not be affected.

\*3 When the optimizer output is an open circuit or the inverter connected to the optimizer is shut down, the default optimizer output is 1 V DC voltage.

\*4 For the short input cable version (input cable 0.1m (+/-), output cable 0.1m(+), 5.1m(-)), ensure that the PV module cables are long enough to connect to the optimizers. For split junction box module with a short cable, the long-input cable version of optimizer is available (input cables: 1.3 m (+/-); positive output cable: 0.1 m; negative output cable: 2.9 m) on request.

\*5 When the operating temperature of the optimizer is 70°C to 85°C, the optimizer may shut down for overtemperature protection and report an overtemperature alarm. After the operating temperature drops to 70°C or below, the optimizer automatically recovers with no risk of damage.

\*6 The SUN2000-450/600W-P cannot be mixed with the MERC-1100/1300W-P under the same inverter.

\*7 The temperature detection function is only available on the short output cable (0.1 m).

\*8 It is allowed to connect single PV module to the MERC-1100/1300W-P.