

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



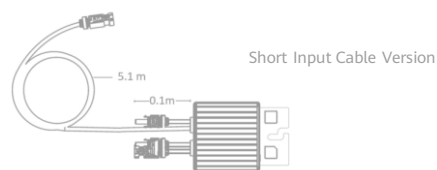
Arc Fault Pinpoint Positioning
Along PV Cable



MERC-1100/1300W-P Smart Module Controller



Technical Specification	MERC-1100W-P	MERC-1300W-P					
Input							
Rated Input DC Power ¹	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						
Output							
Max. output voltage	80 V						
Max. output current	22 A						
Output bypass ²	Yes						
Shutdown output voltage per optimizer ³	1 V						
Standards Compliance							
Safety	IEC62109-1 (class II safety)						
RoHS	Yes						
General Data							
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) ⁴						
Output connector	MC4						
Output wire length	0.1 m (+), 5.1 m (-) (short input cable version) ⁴						
Operating temperature/humidity range	-40°C to +85°C ⁵ / 0%–100% RH						
Degree of protection	IP68						
Compatible Inverter	SUN2000-12/15/17/20KTL-M2 SUN2000-12/15/17/20/23/25KTL-M5 SUN2000-30/36/40KTL-M3 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	SUN2000-30-40KTL-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.							
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 0.1 m (+/-), output cable 0.1 m(+), 5.1 m(-)), 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.