

MERC-1100/1300W-P

Smart Module Controller



Higher Yields

Module-level Optimization
Increase System Energy
Yield by 5% to 30%



Flexible Design

Long String Design
to Reduce Bos



Active Safety

Safe Voltage Shutdown
Ensure Firefighting and
Maintenance Safety



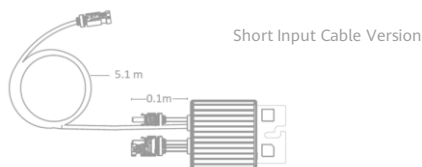
Smart O&M

Pinpointing Open-
Circuit Fault for Quick
Troubleshooting

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 1.9 in.)			
Weight (including cables)	1.0 kg (2.2 lb.)			
Installation part (optional)	PV Module Frame Plate/T-shaped Bolt ⁴			
Input connector	Staubli MC4			
Input wire length	0.1 m (short input cable version) ⁵			
Output connector	Staubli MC4			
Output wire length	0.1 m (+), 5.1 m (–) (short input cable version) ⁵			
Operating temperature/humidity range	–40°C to +85°C ⁶ / 0%–100% RH			
Degree of protection	IP68			
Compatible Inverter	SUN2000-8/10/12/15/17/20KTL-M2 SUN2000-30/36/40KTL-M3 SUN2000-12/15/17/20/23/25KTL-M5 SUN2000-50KTL-M3			
String Configuration (Full Optimizer Configuration) ^{7/8/9} * MERC-1100/1300W-P support full optimizer configuration only	SUN2000-8~20KTL-M2	SUN2000-12~25KTL-M5	SUN2000-30~40KTL-M3	SUN2000-50KTL-M3
Minimum optimizers per string	8	8	8	8
Maximum optimizers per string	25	25	25	20
Maximum DC power per string	20,000 W	20,000 W	20,000 W	20,000 W



^{*1} 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.

^{*2} Any power optimizer, which is connected to an operating inverter in a PV string, will be bypassed when it fails.

^{*3} When the MERC-1100/1300W-P is disconnected from inverter or when the inverter is off, its output voltage will be 1 V.

^{*4} It is for PV module frame/extruded aluminum profile racking system installation.

^{*5} Pay attention to PV module wire length. To match PV modules with a split junction box and 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.

^{*6} 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 any damage.

^{*7} Each PV module under the same inverter must be equipped with a MERC -1100/1300W-P.

^{*8} SUN2000-450W-P2/600W-P and MERC -1100/1300W-P can NOT be used in mixture under the same Smart Energy/PV controller.

^{*9} It is recommended that strings under the same inverter have an equal capacity. If it is not feasible, the capacity difference between strings under the same inverter must not exceed 2 kW. Otherwise, the energy yield will be reduced.