

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



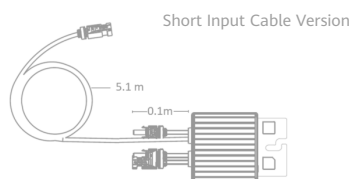
Active Safety
Safe Voltage Shutdown
Ensure Firefighting and
Maintenance Safety



Smart O&M
Pinpointing Open-
Circuit Fault for Quick
Troubleshooting

MERC-1100/1300W-P
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Technical Specification		MERC-1100W-P		MERC-1300W-P	
Input					
Rated Input DC Power	1100 W		1300 W		
Max. Input DC Power	1155W ¹		1430W ¹		
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					
Rated Output DC Power	1100W		1300W		
Max. Output DC Power	1155W		1430W ²		
Max. output voltage	80 V				
Max. output current	22 A				
Output bypass ³	Yes				
Shutdown output voltage per optimizer ⁴	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 ⁵				
Input connector	Staubli MC4				
Input wire length	0.1 m (short input cable version) ⁶				
Output connector	Staubli MC4				
Output wire length	0.1 m (+), 5.1 m (-) (short input cable version) ⁶				
Operating temperature/humidity range	-40°C to +85°C ⁷ / 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) ^{8/9/10} * 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} MERC-1100W-P can connect to PV modules with power ≤605W at STC. MERC-1300W-P can connect to PV modules with power ≤800W at STC.

^{*2} When the ambient temperature around the optimizer is ≤60°C and the module STC power is ≤715W, the MERC-1300W-P has no DC output power limit.

^{*3} Any power optimizer, which is connected to an operating inverter in a PV string, will be bypassed when it fails.

^{*4} When the MERC-1100/1300W-P is disconnected from inverter or when the inverter is off, its output voltage will be 1 V.

^{*5} It is for PV module frame/extruded aluminum profile racking system installation.

^{*6} 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.

^{*7} 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.

^{*8} Each PV module under the same inverter must be equipped with a MERC-1100/1300W-P.

^{*9} SUN2000-450W-P2/600W-P and MERC-1100/1300W-P can NOT be used in mixture under the same Smart Energy/PV controller.

^{*10} 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.