HUAWEI

SMART MODULE CONTROLLER

MERC-1100/1300W-P



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

Flexible Design
Long String Design to Reduce Bos

Active Safety
Firefighting and O&M Safety with Module-level Rapid Shutdown

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

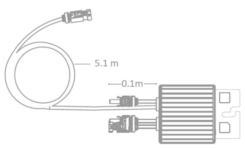
Version No.: 03-202403

MERC-1100/1300W-P
Technical Specification

Technical Specification	MERC-1100W-P	MERC-1300W-P
Input		
Rated input DC power [1]	1100 W	1300 W
Absolute 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	
Safety output voltage [3]	1 V	
Standards Compliance		
Safety	IEC62109-1 (class II safety)	
RoHS	Yes	
General Specification		
Dimension (W X H X D)	149 mm x 104 mm x 48.8 mm (5.9 in. x 4.1 in. x 1.9 in.)	
Weight (including wires)	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	-40°C to +85°C [6]	
Relative humidity	0% ~ 100%	
IP rating	IP68	
Compatible inverters	SUN2000-8/10/12/15/17/20KTL-M2, SUN2000-30/36/40KTL-M3, SUN2000-12/15/17/20/25KTL-M5, SUN2000-50KTL-M3	

PV System Design [7/8/9]	SUN2000-12~25K-MB0	SUN2000-12~25KTL-M5	SUN2000-30~40KTL-M3	SUN2000-50KTL-M3
Minimum String Length (Power Optimizers)	8	8	8	8
Maximum String Length (Power Optimizers)	25	25	25	20
Maximum DC Power per String	20,000 W	20,000 W	20,000 W	20,000 W

Short-input-cable Version



*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 become 1 V.
*4 It is for PV module frame/extruded aluminum profile racking system installation.
*5 Pay attention to the 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 causing 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 this is not feasible, the capacity difference between strings under the same inverter must not exceed 2 kW. Otherwise, the energy yield will be reduced.

Disclaimer: the preceding values are measured by an internal laboratory of Huawei in a specific environment. The actual values may vary with products, software versions, usage conditions, and environmental factors.