

MERC-1100/1300W-P Smart Module Controller



Long String Design
C&I Better Fit



20A 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

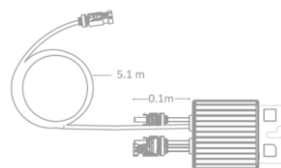
MERC-1100/1300W-P

Smart Module Controller



| Technical Specification | MERC-1100W-P | MERC-1300W-P |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------|
| Input | | |
| Rated Input DC Power ¹ | 1100 W | 1300 W |
| Absolute maximum input voltage | 125 V | |
| MPPT operating voltage range | 12.5 - 105 V | |
| Maximum 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 | |
| Standard Compliance | | |
| Safety | IEC62109-1 (class II safety) | |
| RoHS | Yes | |
| General Data | | |
| Dimension (W x H x D) | 149 x 104 x 49mm (5.9 x 4.1 x 2.0 inch) | |
| Weight (including cables) | 1.0 kg (2.2 lb.) | |
| Installation part (optional) | PV Module Frame Plate, T-shaped Bolt | |
| Input connector | MC4 | |
| Input wire length | 0.1 m (short cable version) ⁴ | |
| Output connector | MC4 | |
| Output wire length | 0.1 m (+), 5.1 m (-) (short cable version) ⁴ | |
| Operating temperature / humidity range | -40 °C ~ 85 °C ⁵ / 0 %RH ~ 100 %RH | |
| Degree of protection | IP68 | |
| Compatible product | 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) | SUN2000-12-20KTL-M2 | | SUN2000-12-25KTL-M5 | | SUN2000-20-40KTL-M3 | | SUN2000-50KTL-M3 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|---------------------|----------|---------------------|-------|------------------|
| * MERC-1100/1300W-P support full optimizer only | | | | | | | |
| Minimum optimizer number per string | 6 | | 6 | | 6 | | 6 |
| Maximum optimizer number per string | 25 | | 25 | | 25 | | 20 |
| Inverter minimum string number | 12KTL | 15-20KTL | 12KTL | 15-25KTL | 30/36KTL | 40KTL | 4 |
| * Each MPPT only support connect to 1 string only | 1 | 2 | 1 | 2 | 3 | 4 | |
| Maximum DC power per strings * Recommend to have the equal string capacity and string capacity difference <2kW, otherwise might affect energy yield | 20,000 W | | 20,000 W | | 20,000 W | | 20,000 W |



- *1 Rated power of the module at STC shall not exceed "Rated Input DC Power" of power optimizer. Modules with power up to +5% power tolerance are acceptable.
- *2 Power optimizer is bypassed in the string connected to an operating inverter when it fails to work.
- *3 Power optimizer output 1Vdc when disconnecting to the inverter or inverter is shutdown.
- *4 Optimizer Input cable 0.1m (+/-), output cable 0.1m (+), 5.1m (-), please ensure the PV module cable length to connect to the optimizer. For split junction box module with short module cable, the long input cable optimizer available on request (Input cable 1.3 m (+/-), output cable 0.1m (+), 2.9m (-)).
- *5 When the operating temperature of the optimizer ranges from 70°C to 85°C, the optimizer may shut down for over-temperature protection and report an over-temperature alarm. After the operating temperature decreases, the optimizer automatically recovers with no risk of damage.
- *6 SUN2000-450/600W-P is not allowed to mixed in use with MERC-1100/1300W-P.
- *7 The temperature detection function is not enabled on the short cable (0.1m).
- *8 The MERC-1100/1300W-P is allowed to connect to 1 PV module only and operate.



Densys pv5

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