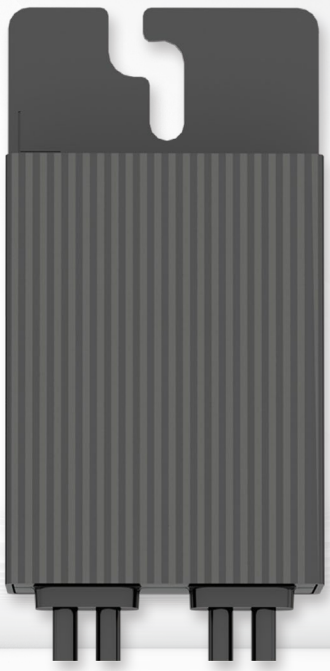
HUAWEI

SMART MODULE CONTROLLER

MERC-600W-PA0



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

Saferoof
Multiple-protection technologies always keeps rooftop safe

Flexible Design
Easer Module Layout and 30% Higher Installed Capacity on Average

Smart O&M
Module-level Visibility and Refined Management

Version No.: 02-202504

MERC-600W-PA0

Technical Specification

Technical Specification	MERC-600W-PA0
Input	
Rated input DC power [1]	600 W
Absolute max. input voltage	80 V
MPPT operating voltage range	10–80 V
Max. short-circuit current (Isc)	16 A
Max. efficiency	99.5%
Weighted efficiency	99.0%
Overvoltage category	II
Output	
Max. output voltage	80 V
Max. output current	16 A
Output bypass [2]	Yes
Output voltage during standby per optimizer	1 V
Communication	
Communication protocol	MBUS
Standards Compliance	
Safety	IEC62109-1 (class II safety)
EMC	IEC61000-6-1,IEC61000-6-2,IEC61000-6-3, IEC61000-6-4, EN 55011:2016/A2:2021 ,EN62920:2017/A1:2021
RoHS	Yes
Fire Safety	NEC 2020
General Specifications	
Dimensions (W x H x D)	73.8 mm x 145 mm x 27.2 mm
Weight (including cables)	0.65 kg
Installation part (optional)	Frame mounting bracket / T-shaped bolt [3]
Input connector	Staubli MC4
Input wire length	0.1 m
Output connector	Staubli MC4
Output wire length	(+)2.225 m / (-) 0.1 m
Operating temperature/humidity range [4]	–40°C to +85°C / 0%-100%
IP rating	IP68
Compatible inverters	SUN2000-2/3/3.68/4/4.6/5/6KTL-L1, SUN2000-3/3.68/4/4.6/5/6K-LB0, SUN5000-3/6K-LB0 SUN2000-8/10K-LC0, SUN2000-3/4/5/6/8/10KTL-M1, SUN2000-10KTL-BEM1 SUN2000-5/6/8/10/12K-MAP0, SUN5000-8/12K-MAP0, SUN2000-10K-MAP0-BE SUN2000-12/15/17/20/25K-MB0, SUN5000-17/25K-MB0

PV System Design [5]	SUN2000-2–6KTL-L1 SUN2000-8K/10K-LC0	SUN2000-3–6KTL-LB0 SUN5000-3K/6K-LB0	SUN2000-3–10KTL-M1 SUN2000-10KTL-BEM1	SUN2000-5-12K-MAP0 SUN5000-8K/12K-MAP0	SUN2000-12-25K-MB0 SUN5000-17/25K-MB0
Min. string length (power optimizers)	4	4	6	6	6
Max. string length (power optimizers)	20	20	35	35	35
Max. DC power per string	6,000 W	6,000 W	10,000 W	12,000 W	12,000 W

*1 The maximum power of PV module at STC shall NOT exceed the "Rated Input DC Power" of the power optimizer. 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 It is for PV module frame/extruded aluminum profile racking system installation.
*4 When the operating temperature of the MERC-600W-PA0 reaches 70 °C to 85 °C, it may shut down due to over-temperature protection . After the temperature decreases, it can automatically resume working without causing any damage.
*5 SUN2000-450W-P2/600W-P, MERC-600W-PA0 and MERC-1100/1300W-P can NOT be used in mixture under the same Smart Energy/PV Controller.

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.

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