

Power Optimizer

Service Model for Residential Systems

R500 / R600



R-Series Service Power Optimizers for P-Series RMA

Simpler Service and O&M

- Cable layout similar to the P-series power optimizers for faster replacement
- One fits all – one part number can replace multiple power optimizer models for easier logistics

High Safety with Support for All P-Series Features

- Automatic module-level voltage shutdown with SafeDC™, ensuring maximum protection of people and property
- Does not support Sense Connect

Compatibility Table

P-Series Power Optimizer	R-Series Power Optimizer
P3xx / P401	R500
P400 / P500 / P404 / P405 / P485 / P505 / P601	R600

* R-Series power optimizers cannot be used for new installations or for S-Series Power Optimizers for retrofits or RMA purposes. For full inter-compatibility guidelines, refer to the [SolarEdge Residential Power Optimizer Inter-Compatibility Technical Note](#).

** R600 is compatible with P400/P500, not with other 60V output P-Series Power Optimizers. If you have a full string of P400/P500 Power Optimizers, use R600 as RMA. If you have a P400/P500 Power Optimizer in a string of P3xx/P401 Power Optimizers, use R500 as RMA.

/ Power Optimizer

Service Model for Residential Installations

R500 / R600

	R500	R600	UNIT
INPUT			
Rated Input DC Power ⁽¹⁾	500	600	W
Absolute Maximum Input Voltage (Voc)	60	125	Vdc
MPPT Operating Range	8 – 60	12.5 – 125	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module	14.5		Adc
Maximum Efficiency	99.5		%
Weighted Efficiency	98.6		%
Overvoltage Category	II		
OUTPUT DURING OPERATION			
Maximum Output Current	15		Adc
Maximum Output Voltage	60	80	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety Output Voltage per Power Optimizer	1 ± 0.1		Vdc
STANDARD COMPLIANCE ⁽²⁾			
EMC	FCC Part 15 Class B, IEC 61000-6-2, IEC 61000-6-3, CISPR11, EN-55011		
Safety	IEC 62109-1 (class II safety), UL1741		
Material	UL94 V-0, UV Resistant		
RoHS	Yes		
Fire Safety	VDE-AR-E 2100-712:2018-12		
INSTALLATION SPECIFICATIONS			
Maximum Allowed System Voltage	1000		Vdc
Dimensions (W x L x H)	129 x 155 x 30 / 5.07 x 6.10 x 1.18	129 x 165 x 45 / 5.07 x 6.49 x 1.77	mm / in
Weight	720 / 1.6	790 / 1.74	gr / lb
Input Connector	MC4		
Input Wire Length	0.16 / 0.52		m / ft
Output Connector	MC4		
Output Wire Length	1.2 / 3.94		m / ft
Bracket Type	Flat	Bent	
Operating Temperature Range ⁽³⁾	-40 to +85 / -40 to +185		°C / °F
Protection Rating	IP68		
Relative Humidity	0 – 100		%

(1) Rated power of the module at STC will not exceed the Power Optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed.

(2) For details about CE compliance, see [Declaration of Conformity – CE](#).

(3) Power derating is applied for ambient temperatures above +85°C / +185°F for R500, and for ambient temperatures above +75°C / +167°F for R600. Refer to the [Power Optimizers Temperature Derating Technical Note](#) or the [Power Optimizers Temperature Derating Technical Note for North America](#), according to your region.

