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# Power Optimiser For Australia Module Add-On

P401 / P500 / P505



# POWER OPTIMISER

## PV power optimisation at the module-level

- Specifically designed to work with SolarEdge inverters
- High efficiency with module-level MPPT, for maximized system energy production and revenue, and fast project ROI
- Superior efficiency (99.5%)
- Mitigates all types of modules mismatch-loss, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module level monitoring
- Module-level voltage shutdown for installer and firefighter safety

# / Power Optimiser For Australia

## Module Add-On

P401 / P500 / P505

OPTIMISER MODEL (TYPICAL MODULE COMPATIBILITY)	P401 (60&70 CELL MODULES)	P500 (96 CELL MODULES)	P505 (HIGHER CURRENT MODULES)	UNITS
<b>INPUT</b>				
Rated Input DC Power <sup>(1)</sup>	400	500	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	60	80	83	Vdc
MPPT Operating Range	8 - 60	8 - 80	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11.75	10.1	14	Adc
Maximum Efficiency		99.5		%
Weighted Efficiency		98.8		%
Overvoltage Category		II		
Overcurrent Protection	12.5	11	15.25	Adc
<b>OUTPUT DURING OPERATION (POWER OPTIMISER CONNECTED TO OPERATING SOLAREGE INVERTER)</b>				
Maximum Output Current		15		Adc
Maximum Output Voltage	60	60	85	Vdc
<b>OUTPUT DURING STANDBY (POWER OPTIMISER DISCONNECTED FROM SOLAREGE INVERTER OR SOLAREGE INVERTER OFF)</b>				
Safety Output Voltage per Power Optimiser		1 ± 0.1		Vdc
<b>STANDARD COMPLIANCE</b>				
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3			
Safety	IEC62109-1 (class II safety), UL1741			
RoHS	Yes			
Fire Safety	VDE-AR-E 2100-712:2013-05			
<b>INSTALLATION SPECIFICATIONS</b>				
Maximum Allowed System Voltage		1000		Vdc
Dimensions (W x L x H)	129 x 153 x 29.5	129 x 153 x 33.5	129 x 162 x 59	mm
Weight (including cables)	655	750	1064	gr
Input Connector	MC4 <sup>(2)</sup>			
Input Wire Length	0.16 / 0.9 <sup>(3)</sup>	0.16		m
Output Connector	MC4			
Output Wire Length	1.2			m
Operating Temperature Range	-40 to +85			°C
Protection Rating	IP68 / NEMA6P			
Relative Humidity	0 - 100			%

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

(2) For other connector types please contact SolarEdge

(3) Longer inputs wire length are available for use. For 0.9m input wire length order P401-xxxLxxx

PV SYSTEM DESIGN USING A SOLAREGE INVERTER <sup>(4)</sup>		Single Phase HD-Wave	Single Phase	Three Phase Residential	Three Phase Commercial	
Minimum String Length (Power Optimisers)	P401, P500	8		9	16	
	P505	6		8	14	
Maximum String Length (Power Optimisers)		25		25	50	
Maximum Nominal Power per String		5700 <sup>(5)</sup> (6000 with SE8000H, SE10000H)	5250 <sup>(5)</sup>	5625 <sup>(5)</sup>	11250 <sup>(6)</sup>	W
Maximum Nominal Power per String		Yes				

(4) It is not allowed to mix P505 with P401/P500 in one string

(5) It is allowed to install up to 13,500W per string when the maximum power difference between each string is 2,000W

(6) If the inverter's rated AC power ≤ maximum nominal power per string, then the maximum power per string will be able to reach up to the inverter's maximum input DC power. Refer to: <https://www.solaredge.com/sites/default/files/se-single-string-power-optimizer-application-note-us.pdf>