

Power Optimiser For Australia

S440 / S500 / S500B / S650B



POWER OPTIMISER

PV power optimisation at the module level

- / Specifically designed to work with SolarEdge inverters
- / Detects abnormal PV connector behavior, preventing potential safety issues*
- / Module-level voltage shutdown for installer and firefighter safety
- / Superior efficiency (99.5%)
- / Mitigates all types of modules mismatch- loss, from manufacturing tolerance to partial shading
- / Flexible system design and compatible with bifacial PV modules for maximum space utilisation
- / Faster installations with simplified cable management and easy assembly using a single bolt
- / Next generation maintenance with module safety

* Functionality subject to inverter model and firmware version

/ Power Optimiser

For Australia

S440 / S500 / S500B / S650B

	S440	S500	S500B	S650B	Units
INPUT					
Rated Input DC Power ⁽¹⁾	440	500		650	W
Absolute Maximum Input Voltage (Voc)	60	125		85	Vdc
MPPT Operating Range	8 – 60	12.5 – 105		12.5 – 85	Vdc
Maximum Short Circuit Current (Isc) of connected PV Panel	14.5	15			Adc
Maximum Efficiency		99.5			%
Weighted Efficiency		98.8			%
Overvoltage Category		II			
Input Overcurrent Protection		15			Adc
OUTPUT DURING OPERATION					
Maximum Output Current		15			Adc
Maximum Output Voltage		60		80	Vdc
OUTPUT DURING STANDBY (POWER OPTIMISER DISCONNECTED FROM INVERTER OR INVERTER OFF)					
Safety Output Voltage per Power Optimiser		1 ± 0.1			Vdc
STANDARD COMPLIANCE					
EMC		FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3			
Safety		IEC62109-1 (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		129 x 165 x 45	mm
Weight		720		790	gr
Input Connector		MC4 ⁽²⁾			
Input Wire Length		0.1 / 0.9 ⁽³⁾			m
Output Connector		MC4			
Output Wire Length		(+) 2.3, (-) 0.10			m
Operating Temperature Range ⁽⁴⁾		-40 to +85			°C
Protection Rating		IP68 / NEMA6P			
Relative Humidity		0 – 100			%

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

(2) For other connector types please contact SolarEdge. Please note that with other connector types, the wire length will be 0.16m. The Sense Connect feature will not detect thermal events on these connectors.

(3) The Sense Connect feature will not detect thermal events on input connectors when the input wire length is 0.9m.

(4) Power de-rating is applied for ambient temperatures above +85°C for S440 and S500, and for ambient temperatures above +75°C for S500B. Refer to [Power Optimisers Temperature De-Rating Technical Note](#) for more details.

PV System Design Using a SolarEdge Inverter	SolarEdge Home Genesis / SolarEdge Home Hub	Three Phase Residential	Three Phase Commercial	Units
Minimum String Length (Power Optimisers)	S440, S500 S500B, S650B	8 6	9 8	16 14
Maximum String Length		25	50	
Maximum Nominal Power per String ⁽⁵⁾	5700 (6000 with SE8250H / SE10000H)	5625	11250 ⁽⁶⁾	W

(5) 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 the [Single String Design Guidelines Application Note](#) for more details.

(6) In multiple string designs, it is allowed to install up to 13,500W per string when the difference in the connected power between strings is 2,000W or less.

(7) It is not allowed to mix S-series and P-series Power Optimisers in new installations.

