## **Power Optimizer**

# Frame-Mounted Module Add-On For Commercial Installations

For North America



# POWER OPTIMIZER

### Fast mount power optimizers with module-level optimization

- Specifically designed to work with SolarEdge inverters
- Quicker installation Power optimizers can be mounted in advance saving installation time
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of modules mismatch-loss, from manufacturing tolerance to partial shading

- Flexible system design for maximum space utilization
- Next generation maintenance with module level monitoring
- Compliant with arc fault protection and rapid shutdown NEC requirements (when installed as part of the SolarEdge system)
- Module-level voltage shutdown for installer and firefighter safety



### / Power Optimizer

# Frame-Mounted Module Add-On for Commercial Installations For North America

P320 / P401

Optimizer Model (Typical Module Compatibility)	P320 (for high-power 60-cell modules)	P401 (for high-power 60/72-cell modules	)		
INPUT					
Rated Input DC Power <sup>(1)</sup>	320	400	W		
Absolute Maximum Input Voltage (Voc at lowest temperature)	48	60	Vdc		
MPPT Operating Range	8 - 48	8 - 60	Vdc		
Maximum Short Circuit Current (Isc)	11 11.75		Adc		
Maximum Efficiency	99.5				
Weighted Efficiency	98.8				
Overvoltage Category	II				
OUTPUT DURING OPERATION (POWER OPTIMI	ZER CONNECTED TO OPERATING SOL	AREDGE INVERTER)			
Maximum Output Current	15				
Maximum Output Voltage	60				
OUTPUT DURING STANDBY (POWER OPTIMIZER	DISCONNECTED FROM SOLAREDGE IN	VERTER OR SOLAREDGE INVERTER O	FF)		
Safety Output Voltage per Power Optimizer	1 ± 0.1				
STANDARD COMPLIANCE			<b>"</b>		
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3				
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 & 2020				
Safety	IEC62109-1 (class II safety), UL1741				
Material	UL94 V-0, UV Resistant				
RoHS	Yes				
INSTALLATION SPECIFICATIONS					
Maximum Allowed System Voltage	1000				
Compatible Inverters	All SolarEdge Single Phase and Three Phase inverters				
Dimensions (W x L x H)	139 x 165 x 40 / 5.5 x 6.5 x 1.6	129 x 153 x 29.5 / 5.08 x 6.02 x 1.16	mm / in		
Weight (including cables)	630 / 1.4	655/1.5	gr / lb		
Input Connector	MC4 <sup>(2)</sup>				
Input Wire Length	0.16 / 0.52	1.2 / 3.9	m/ft		
Output Wire Type / Connector	Double Insulated / MC4				
Output Wire Length	0.9 / 2.95	1.2 / 3.9	m/ft		
Operating Temperature Range <sup>(3)</sup>	-40 to +85 / -40 to +185				
Protection Rating	IP68 / Type 6P				
Relative Humidity	0 - 100				

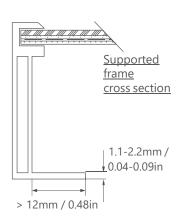
<sup>(1)</sup> Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed

<sup>(3)</sup> For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details.

PV SYSTEM DESIGN USING A SOLAREDGE INVERTER <sup>(4)</sup>		SINGLE PHASE HD-WAVE	SINGLE PHASE	THREE PHASE 208V	THREE PHASE 480V	
Minimum String Length (Power Optimizers)	P320, P401	8		10	18	
Maximum String Length (Power Optimizers)		25		25	50(5)	
Maximum Power per String		5700	5250	6000 <sup>(6)</sup>	12750 <sup>(7)</sup>	W
Parallel Strings of Different Lengths or Orientations		Yes				

<sup>(4)</sup> For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string\_sizing\_na.pdf.

<sup>(7)</sup> For SE30KUS/SE33.3KUS/SE66.6KUS/SE100KUS: It is allowed to install up to 15,000W per string when 3 strings are connected to the inverter (3 strings per unit for SE66.6KUS/SE100KUS) and when the maximum power difference between the strings is up to 2,000W





<sup>(2)</sup> For other connector types please contact SolarEdge

<sup>(5)</sup> A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement

<sup>(</sup>a) A string with the that a optimizer as oes not meet NEC rapid strinds in requirements, safety voltage with be above the Sav requirement.

(b) For SE14.4KUS/SE43.2KUS: It is allowed to install up to 6,500W per string when 3 strings are connected to the inverter (3 strings per unit for SE43.2KUS) and when the maximum power difference between the strings is up to 1,000W