

Power Optimizer Frame-Mounted Module Add-On For Commercial Installations

For North America

P320 / P401



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
- 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 ⁽¹⁾	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 OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)			
Maximum Output Current		15	Adc
Maximum Output Voltage		60	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)			
Safety Output Voltage per Power Optimizer		1 ± 0.1	Vdc
STANDARD COMPLIANCE			
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		Vdc
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 ⁽²⁾		
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 ⁽³⁾	-40 to +85 / -40 to +185		°C / °F
Protection Rating	IP68 / Type 6P		
Relative Humidity	0 - 100		%

(1) 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

(2) For other connector types please contact SolarEdge

(3) 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 SOLAREEDGE INVERTER ⁽⁴⁾		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 ⁽⁶⁾	12750 ⁽⁷⁾	W
Parallel Strings of Different Lengths or Orientations		Yes				

(4) For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf.

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

(6) 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

(7) 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

