

# POWER OPTIMIZER

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

P320



### 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

| Optimizer model<br>(typical module compatibility)   | P320<br>(for high-power 60-cell modules)             |         |
|---|--|---------|
| <b>INPUT</b>  |  |         |
| Rated Input DC Power <sup>(1)</sup>   | 320  | W       |
| Absolute Maximum Input Voltage<br>(Voc at lowest temperature)   | 48   | Vdc     |
| MPPT Operating Range  | 8 - 48   | Vdc     |
| Maximum Short Circuit Current (Isc)   | 11   | Adc     |
| Maximum DC Input Current  | 13.75  | Adc     |
| Maximum Efficiency  | 99.5   | %       |
| Weighted Efficiency   | 98.8   | %       |
| Overvoltage Category  | II   |         |
| <b>OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)</b>                     |  |         |
| Maximum Output Current  | 15   | Adc     |
| Maximum Output Voltage  | 60   | Vdc     |
| <b>OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)</b> |  |         |
| Safety Output Voltage per Power Optimizer   | 1 ± 0.1  | Vdc     |
| <b>STANDARD COMPLIANCE</b>  |  |         |
| EMC   | FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3       |         |
| Safety  | IEC62109-1 (class II safety)                         |         |
| Material  | UL94 V-0, UV Resistant                               |         |
| RoHS  | Yes  |         |
| <b>INSTALLATION SPECIFICATIONS</b>  |  |         |
| 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                     | mm / in |
| Weight (including cables)   | 630 / 1.4  | gr / lb |
| Input Connector   | MC4 <sup>(2)</sup>                                   |         |
| Input Wire Length   | 0.16 / 0.52  | m / ft  |
| Output Wire Type / Connector  | Double Insulated / MC4                               |         |
| Output Wire Length  | 0.9 / 2.95   | m / ft  |
| Operating Temperature Range <sup>(3)</sup>  | -40 - +85 / -40 - +185                               | °C / °F |
| Protection Rating   | IP68 / NEMA6P  |         |
| 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>(2)</sup> For other connector types please contact SolarEdge

<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 SOLAREEDGE INVERTER <sup>(4)</sup> | SINGLE PHASE HD-WAVE           | SINGLE PHASE | THREE PHASE 208V    | THREE PHASE 480V     |   |
|---|--------------------------------|--------------|---------------------|----------------------|---|
| Minimum String Length (Power Optimizers)                    | 8                              |              | 10                  | 18                   |   |
| Maximum String Length (Power Optimizers)                    | 25                             |              | 25                  | 50 <sup>(5)</sup>    |   |
| Maximum Power per String                                    | 5700<br>(6000 with SE7600H-US) | 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](http://www.solaredge.com/sites/default/files/string_sizing_na.pdf).

<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>(6)</sup> 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

<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

