Power Optimiser For Australia Module Add-On

P401 / P500 / P505



POWEROPTIMISER

PV power optimisation at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of modules mismatchloss, 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 Compatibilty) | P401 (60&70 Cell modules) | P500 (for 96-cell modules) | P505 (for higher current modules) | | | | |
|---|---|---------------------------------------|---|--------|--|--|--|
| INPUT | | | ' | ' | | | |
| Rated Input DC Power ⁽¹⁾ | 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 | 11.75 10.1 | | Adc | | | |
| Maximum Efficiency | 99.5 | | | | | | |
| Weighted Efficiency | 98.8 | | | | | | |
| Overvoltage Category | | | | | | | |
| OUTPUT DURING OPERATION (POV | VER OPTIMISER CONNECTED TO | OPERATING SOLARED | GE INVERTER) | | | | |
| Maximum Output Current | | 15 | | Adc | | | |
| Maximum Output Voltage | 60 | 60 | 85 | Vdc | | | |
| OUTPUT DURING STANDBY (POWER | OPTIMISER DISCONNECTED FROM | M SOLAREDGE INVERTER | OR SOLAREDGE INVERTER | R OFF) | | | |
| Safety Output Voltage per Power Optimiser | | 1 ± 0.1 | | | | | |
| STANDARD COMPLIANCE | | | | | | | |
| 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 | | | | | |
| INSTALLATION SPECIFICATIONS | | | | · | | | |
| Maximum Allowed System Voltage | | 1000 | | Vdc | | | |
| Dimensions (W x L x H) | 129 x 153 x29.5 | 129 x 153 x 33.5 | 129 x 162 x 59 | mm | | | |
| Weight (including cables) | 655 | 750 | 1064 | gr | | | |
| Input Connector ⁽²⁾ | MC4 ⁽²⁾ | MC4 ⁽²⁾ MC4 ⁽²⁾ | | | | | |
| Input Wire Length | 0.16 / 0.9 ⁽⁴⁾ | 0.16 / 0.9 ⁽⁴⁾ | | | | | |
| Output Connector | | MC4 | | | | | |
| Output Wire Length | | 1.2 | | | | | |
| Operating Temperature Range | | -40 to +85 | | | | | |
| 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

⁽⁴⁾ Longer inputs wire length are available for use. For 0.9m input wire length order P401-xxxLxxx

| PV System Design Using a Solaredge Inverter ⁽⁵⁾ | | 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 ⁽⁶⁾ (6000 with SE8000H, SE10000H) | 5250 ⁽⁶⁾ | 5625(6) | 11250 ⁽⁷⁾ | W |
| Parallel Strings of Different Lengths or Orientations | | Yes | | | | |

⁽⁵⁾ It is not allowed to mix P505 with P401/P500 in one string

⁽²⁾ For other connector types please contact SolarEdge

⁽³⁾ Dual version for parallel connection of 2 modules; P/N: P485-4RMDMRM. In a case of odd number of PV modules in one string it is allowed to install one P485 dual version power optimiser connected to one PV module. When connecting a single module seal the unused input connectors with the supplied pair of seals

⁽⁷⁾ 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 inverters rated AC power ≤ maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power Refer to: https://www.solaredge.com/sites/default/files/se-single-string-power-optimizer-application-note-aus.pdf