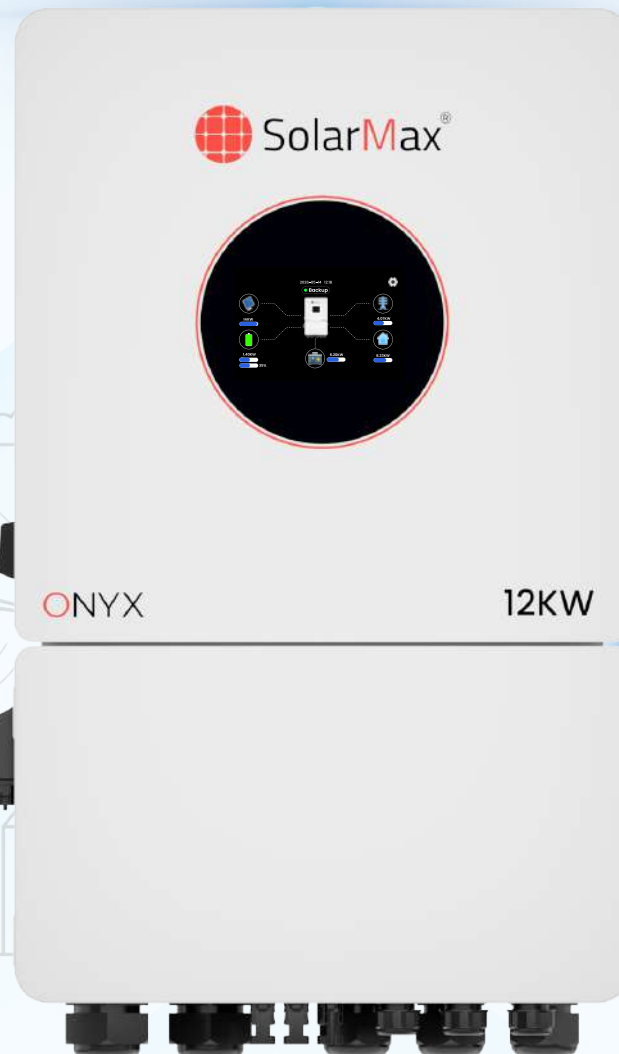


# SM-ONYX-12KW

Single-Phase **IP65** Hybrid Solar Inverter



## 10 YEARS WARRANTY

5 Years Unlimited Parts Replacement  
& 5 Years Service Warranty.

\*Terms & Conditions Apply



### Excellent Performance

3 MPPT's 15KW PV Input  
20A PV Input Current  
Max. 380A Charge/Discharge



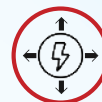
### High Flexibility

40-64V Lithium/Lead-acid  
3-Inverters Parallel for 3 Phase  
Smart Load/Generator/AC Coupling  
Support 9 Units Parallel



### Safety & Reliability

IP65 Indoor / Outdoor  
Multiple Built-in Protections  
Seamless Transition to Backup Mode



### Intelligent Maintenance

HMI Touch LCD Display  
Intelligent Management,  
Local & Remote Monitoring  
with SolarMax Onyx App



## PV INPUT SPECIFICATIONS

|                                     |             |
|-------------------------------------|-------------|
| Max. Efficiency                     | 98%         |
| Max. PV Array                       | 18,000W     |
| Max. PV Usable Power                | 15,000W     |
| Max. PV Voltage                     | 600V        |
| Start-up Voltage                    | 90V         |
| MPPT Operating Voltage Range        | 70V-540V    |
| String per MPPT                     | 1/1/1       |
| Max. Input Current per MPPT         | 20A/20A/20A |
| Max. Short Circuit Current per MPPT | 30A/30A/30A |
| No. of MPPT                         | 3           |



## INPUT/OUTPUT(BAT)

|                               |                       |
|-------------------------------|-----------------------|
| Battery Type                  | Lithium-ion/Lead-acid |
| Max. Charge/Discharge Power   | 10,000W/10,000W       |
| Battery Rated Voltage         | 48V                   |
| Battery Voltage Range         | 40V-64V               |
| Max. Charge/Discharge Current | 210A/210A             |



## INPUT/OUTPUT(GRID)

|                               |                                                  |
|-------------------------------|--------------------------------------------------|
| Nominal AC Output Power       | 12,000W                                          |
| Max. AC Output Apparent Power | 12,000VA                                         |
| Max. AC Output Power (PF=1)   | 12,000W                                          |
| Nominal AC Output Current     | 52.2A                                            |
| Nominal Grid voltage          | 220V/230V/240V, L+N+PE                           |
| Grid Voltage Range            | 150V-300V (Adjustable)                           |
| Nominal Grid Frequency        | 50Hz/60Hz                                        |
| Grid Frequency Range          | 45Hz-55Hz/55Hz-65Hz (Adjustable)                 |
| Power Factor                  | > 0.99 @rated power (Adjustable 0.8 LD - 0.8 LG) |
| THDi                          | <3% (Rated Power)                                |



## OUTPUT (BACKUP)

|                                 |                        |
|---------------------------------|------------------------|
| Nominal Output Power            | 12,000W                |
| Nominal Output Current          | 52.2A                  |
| Peak Output Apparent Power (Is) | 20,000VA               |
| Nominal Output Voltage          | 220V/230V/240V, L+N+PE |
| Nominal Output Frequency        | 50Hz/60Hz              |
| Transfer Time                   | <10ms (typical)        |
| THDV                            | <3% @100% R Load       |

## PROTECTION

|                                 |                         |
|---------------------------------|-------------------------|
| Protection Category             | Class 1                 |
| DC Switch                       | Yes                     |
| Anti-islanding Protection       | Yes                     |
| AC Overcurrent Protection       | Yes                     |
| DC/AC Overvoltage Protection    | DC Type II, AC Type III |
| AC Short Circuit Protection     | Yes                     |
| Surge Arrester                  | DC Type II, AC Type II  |
| Insulation Resistance Detection | Yes                     |
| Leakage Current Protection      | Yes                     |

## GENERAL

|                             |                             |
|-----------------------------|-----------------------------|
| Max. Operation Altitude     | 4,000m (>2,000m derating)   |
| Ingress Protection Degree   | IP65                        |
| Operating Temperature Range | -25°C~60°C (>45°C derating) |
| Relative Humidity           | 0-100%                      |
| Cooling Method              | Smart Cooling               |
| Mounting                    | Wall Bracket                |
| Dimensions (W*H*D)          | 440mm*725mm*251.5mm         |
| Weight                      | 39kg                        |

## HMI & COM

|                         |                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------|
| Display                 | HMI Touch LCD + LED                                                                     |
| Communication Interface | CAN (for BMS), DRM / RS485 (for Meter), RS485, Built-in Bluetooth & Wifi (LAN Optional) |

## CERTIFICATION

|        |                  |
|--------|------------------|
| Safety | EN IEC 62109-1&2 |
| EMC    | EN IEC 61000     |

Product specifications are subject to change without further notice.

