

SM-ONYX-UL-20KW

Three-Phase IP65 Hybrid Solar Inverter



Excellent Performance

3 MPPT's 40KW PV Input
20A PV Input Current
up to **380A** Charge/Discharge
45A Grid Pass Through



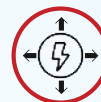
High Flexibility

40-60V Lithium/Lead-acid
3-Phase Unbalanced Output
Smart Load/Generator/AC Coupling
up to **9** Parallel Units



Safety & Reliability

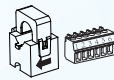
IP65 Indoor / Outdoor
MC4 PV Connectors
Seamless Transition to Backup Mode



Intelligent Maintenance

HMI Touch LCD Display
6 Time Period for Battery Charge/Discharge
Local & Remote Monitoring

Inside the Box

 A	 B	 C	 D	 E	 F	 G
	 H	 I	 J	 K	 L	 M

SN.	Quantity	Description
A	1	Inverter
B	1	Mounting Bracket
C	1	File Package
D	3/3	PV Connector Group (PV+/PV-)
E	1	14-Pin Terminal
F	1	10-Pin Terminal
G	2	4-Pin Terminal
H	4	M10 Expansion Bolt
I	1	M4 Security Screw
J	1	CT Pack (3pcs. CT + 1pc. 6-Pin Terminal)
K	1	Meter Pack (3pcs. CT + 1pc. meter) (Optional)
L	1	Built-in Wi-Fi / (LAN Optional)
M	1	Removal Tool for PV Connector
N	1	Lead-acid Battery Temperature Sensor (Optional)

Monitor Your Energy Any Time
Any where with the **SolarMax** Onyx App



Scan QR Code to Install App



Scan QR Code to Install App





PV INPUT SPECIFICATIONS

Max. Efficiency	97.60%
Eur. Efficiency	97.00%
Max. PV Access Power	40,000W
Max. PV Usable Power	30,000W
Max. PV Input Voltage	1000V
Start-up Voltage	120V
MPPT Operating Voltage Range	160V~980V
Max. Input Current per MPPT	20A/20A/20A
Max. Short Circuit Current per MPPT	30A/30A/30A
No. of MPPT	3
String per MPPT	1/1/1



INPUT/OUTPUT(BAT)

Battery Type	Lithium-ion/Lead-acid
No. of Battery Input	2 *
Battery Rated Voltage	48V
Battery Voltage Range	40V-60V
Max. Charge/Discharge Current	380A/380A
Max. Charge/Discharge Power	20,000W/20,000W



INPUT/OUTPUT(GRID)

Nominal AC Output Power	20,000W
Max. AC Output Apparent Power	22,000VA
Nominal AC Output Current	3*30.3A/3*29A/3*27.8A
Max. AC Output Current	3*33.3A
Max. Single Phase Power	8,500W
Max. Continuous AC Passthrough (grid to load)	45A
Nominal Grid Voltage	220V/380V; 230V/400V, 240V/415V 3W+N+PE
Nominal Grid Frequency	50Hz/60Hz
Power Factor	>0.99@rated power (Adjustable 0.8 LD - 0.8LG)
THDi	<3% @rated power



OUTPUT (BACKUP)

Nominal AC Output Power	20,000W
Max. AC Output Apparent Power	22,000VA
Nominal AC Output Current	3*30.3A/3*29A/3*27.8A
Max. AC Output Current	3*33.3A
Peak Output Apparent Power	150%, 10s
Nominal Grid Voltage	220V/380V; 230V/400V, 240V/415V 3W+N+PE
Nominal Grid Frequency	50Hz/60Hz
Transfer Time	<10ms (Typical)
THDV	<3% @100% R Load



INPUT (GENERATOR)

Max. Input Power	30,000W
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PROTECTION

Protection Category	Class 1
DC Switch	Yes
Anti-islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse Protection	Yes
Overvoltage Protection	Yes
Surge Arrester	DC Type II, AC Type II
Insulation Resistance Detection	Yes
Leakage Current Protection	Yes

GENERAL

Max. Operation Altitude	4000m (>2000m derating)
Ingress Protection Degree	IP65
Operating Temperature Range	-25oC-60oC (>45oC derating)
Relative Humidity	0-100%
Cooling Method	Smart Cooling
Mounting	Wall Bracket
Dimensions (W*H*D)	460mm*742mm*266mm
Weight	50Kg

HMI & COM

Display	HMI Touch LCD + LED
Communication Interface	RS485/CAN (for BMS), RS485 (for Meter), DRMs, CAN (for parallel), 2*DO, 2*DI, USB, Built-in Bluetooth & Wifi (LAN Optional)

CERTIFICATION

Safety	IEC/EN 62109-1/-2
EMC	IEC/EN 61000-6-1/-2/-3/-4, IEC/EN 62920
Grid	IEC 61727/62116, IEC 60068, IEC 61683, NRS 097-2-1, EN 50549-1/10

Product specifications are subject to change without further notice.

