

ON/OFF GRID HYBRID SOLAR INVERTER

ES-HY12KW-48-3PH Series

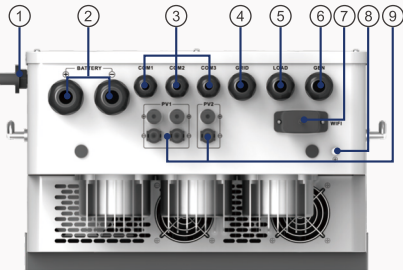
12KW | Three Phase | 380VAC

ES-HY12KW-48-3PH is brand new three phase hybrid inverter with low battery voltage 48V, ensuring system safe and reliable. With compact design and high-power density, this series supports 1.3 DC/AC ratio, saving device investment. It supports three phase unbalanced output, extending the application scenarios. Equipped with CAN port (x2) BMS and parallel, x1 RS485 port for BMS, x1 RS232 port for remotely control, x1 DRM port, which makes the system smart and flexible.



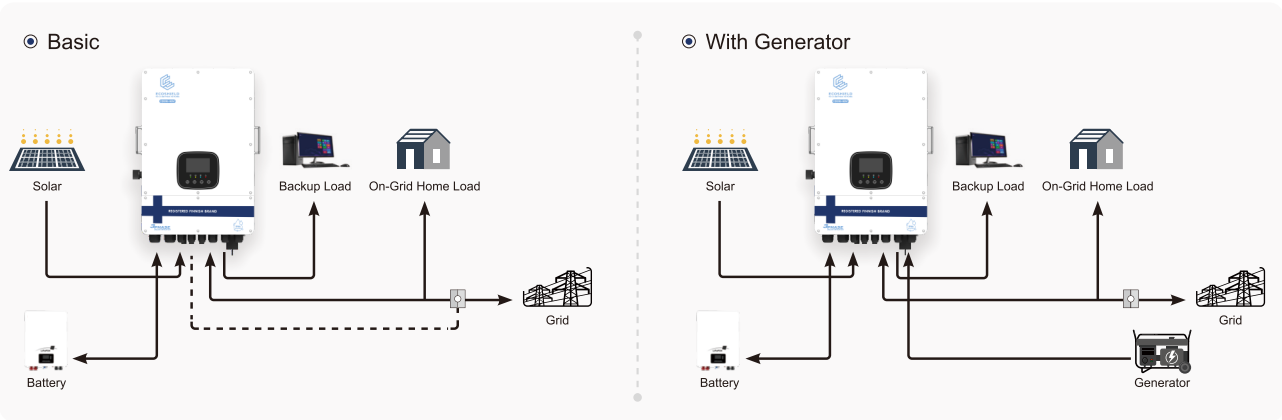
- 100% unbalanced output, each phase max. output up to 50% rated power
- Max. 6 pcs parallel for on-grid and off-grid operation
- AC couple to retrofit existing solar system
- Support multiple batteries parallel
- Max. charging/discharging current of 240A
- Support storing energy from diesel generator
- 48V low voltage battery, transformer isolation design
- IP66 water-proof and dust-proof
- "Time of use" function: a maximum of 6 time segments can be set
- Wifi monitoring

Back panel description



1. DC switch
2. Battery input connectors
3. BTS terminals, BMS terminals, load monitor terminals, dry contact terminals, CAN communication terminals, USB terminal and cover
4. Circuit breaker of Grid
5. Load
6. Generator input
7. WiFi Interface
8. Ground
9. PV input with two MPPT

Solar system connection



MODEL	ES-HY12KW-48-3PH
Rated power	12000W
BATTERY INPUT DATA	
Battery type	Lead-acid battery / Lithium battery
Battery voltage	48V
Battery voltage range	40~64V
Charging curve	3-stage adaptive with maintenance/Equalization
Charging Strategy for Li-Ion Battery	Self-adaption to BMS
Over-current protection/ Over-temperature protection	Yes / Yes
Maximum charging/discharging power	12000W
Maximum charging/discharging current	240A
PV STRING INPUT DATA	
Max. DC Input Power	15600W
Rated PV Input Voltage	550V
Maximum DC voltage	800V
Start-up Voltage	160V
Minimum voltage for grid connection	310V
Full Load DC Voltage Range	350-650V
Enter high voltage error recovery point	800V
MPPT voltage range	200~650V
Maximum input current	30A/15A
No.of MPP Trackers	2
No.of Strings per MPP Tracker	2+1
AC INPUT/OUTPUT DATA	
Rated AC Input/ Output Power	12000W
Max AC Input/ Output Power	13200W
AC Input/ Output Rated Current	18.2/17.4A
Max AC Input/ Output Current	20/19.1A
Max. Three-phase Unbalanced Output Current	27.3/26.1A
Power Factor Adjustment Range	0.8 leading to 0.8 lagging
Rated Input/Output Voltage	220/380,230/400Vac
Rated Input/Output Grid Frequency/Range	50/60;45~55/55-65
Grid Type	Three Phase
Total Harmonics Current Distortion (THDi)	<3% (of nominal power)
DC Current Injection	<0.5% In
EFFICIENCY	
Max. Efficiency	≥97.6%
Euro Efficiency	97.0%
PROTECTION	
Integrated	Islanding protection, PV input polarity reverse protection, insulationresistance detection, surge protection,leakage current monitoringprotection,output current protection, output short circuit protectionoutput overvoltage protection
Surge Protection	DC Type III/AC Type III
Overvoltage Category	DC Type II/AC Type III
GENERAL DATA	
Operating Temperature Range (°C)	-25°C to +60°C, >45°C Derating
Cooling	Fan cooling
Noise (dB)	≤55dB
Communication with BMS	RS485/CAN
Machine Dimension (W*H*D)(mm)	446*692*260 (excluding connectors and racks)
Package Dimension (W*H*D)(mm)	567*816*404
N.W(kg)	38
G.W(kg)	42
Protection Degree	IP66
Installation Style	Wall-mounted
Warranty	5 Years the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy
CERTIFICATION & STANDARDS	
CE-EMC+LVD (EN6100-6-3, EN6100-6-1+EN IEC 62109-1, EN IEC 62109-2); CE-LVD(EN 62477-1) ; IEC 60529; EN50549-1; Poland Type A, (NC RfG:2016, PSE:2018, PTPIREE:2021)C10/C11; UNE217001-2020; UNE217002-2020, NTS-631 (Type A); G98+G99 www.ecoshieldfi.com	

*The technical specifications of this document are subject to change without any notice