

EssenSolar C Off Grid Inverter



- Pure sinewave PV inverter
- Output power factor = 1 & wide MPPT range
- Selectable input voltage range for PC or home appliances
- Smart battery charging algorithm to optimize battery life.
- Configurable AC/Solar input priority via LCD panel
- Compatible to mains or generators
- Auto restart while AC back and cold start function available
- Inverter running without battery, CFS model available
- Anti-Dust kits (optional) for harsh environment

Model Number	FSP302PV-230CF-24	FSP302PV-230CFS-24	FSP502PV-230CF-48	FSP502PV-230CFS-48
Grid system	Single Phase, 230Vac			
Rated power	3,000VA/ 3,000W		5,000VA/5,000W	
Parallel Capability	No			
Max. PV input power	1,000W	4,000W	3,000W	4,000W
MPPT voltage range	30 - 80Vdc	120 - 450Vdc	60 - 115Vdc	120 - 450Vdc
Max. PV input current	33A	33A	50A	33A
Max. PV voltage (OC)	102Vdc	500Vdc	145Vdc	500Vdc
Number of MPPT	1			
Input Characteristic				
AC voltage	Single Phase, 230Vac			
Selectable Voltage Range	170-280 Vac (For PC/ SPS applications) 90-280 Vac (For Home facilities)			
Frequency range	6,000VA	50 Hz/ 60 Hz (Auto)	10,000VA	
Output Characteristic				
AC voltage regulation @ backup mode	230Vac ± 5%			
Surge ability				
Transfer time	10 ms (For PC/ SPS) ; 20 ms (For home facilities)			
Output waveform	Pure sinewave			
Peak Efficiency	90 - 93%			
Charging Characteristic				
Max. charging power	1,440W	1,920W	5,760W	3,840W
Max. charging current	60A	80A	120A	80A
Max. PV charging current	40A	80A	60A	80A
Max. AC charging current	25A	60A		
Nominal Battery voltage	24Vdc		48Vdc	
Over charge protection	33Vdc		63Vdc	
Battery floating voltage	27Vdc		54Vdc	
Rated backup time w/ 100Ah (min)	28		40	
Standby power consumption	<2W			
Operating Environment				
Operating ambient temp range	-10 °C - 50 °C			
Humidity	5 - 95% RH, non-condensing			
Altitude	0 - 1000m*			
Dimensions (W x H x D)	285 x 334 x 100 mm		300 x 440 x 100 mm	
Net weight	6.5kg	9.0kg	9.7kg	10.0kg
Protect function	Overload, short circuit, over voltage, high temperature			
Cooling	Air forced			
Enclosure environmental rating	IP20			
Interface				
HMI	LCD display			
Communication port	USB/ RS232			
Dry contact port	NA			
Features				
Monitoring software	Yes			
Compliance	IEC 55022 Class A, IEC 60950			
Certification	CE			

*Power derating 1% per 100m while higher than 1000m
*Product specification are subject to change w/o further notice

Rating

Series	Type	Phase (input/out)	1 kVA	2 kVA	3 kVA	4 kVA	5 kVA	5.5 kVA	10 kVA
HySpirit	Hybrid	3/3	—	—	—	—	—	—	●
HySpirit	Hybrid	1/1	—	—	—	●	●	●	—
Expert	Off grid	1/1	●	●	●	●	●	—	—
Essensolar	Off grid	1/1	●	●	●	—	●	—	—
Expert C	Off grid	1/1	●	●	●	—	●	—	—
Essensolar C	Off grid	1/1	—	—	●	—	●	—	—
Essensolar C plus	Off grid	1/1	—	—	●	—	●	—	—

note: ● Standard — None

Function

Function	HySpirit 3/3	HySpirit 1/1	Expert	Essensolar	Expert C	Essensolar C	Essensolar C Plus
PVI type	Hybrid/ Grid-tied		Off grid				
Output waveform	Pure Sinewave						
Power configuration (Input)	Three phase		Single phase				
Power configuration (Output, STD)	Three phase		Single phase				
Power configuration (Output, three phase)	Yes	—	Yes, with parallel kits		—		
Form factor	Wall mount						
Built-in MC4	●	●	—	—	—	—	—
Built-in PV switch	●	●	—	—	—	—	—
Parallel redundancy	●	●	● / ○	● / ○	—	—	—
Feed into grid	●	●	—	—	—	—	—
AC Charger	●	●	●	●	●	●	●
PV Charger with MPPT	●	●	—	●	—	●	●
PV Charger with PWM	—	—	●	—	●	—	—
Energy Storage	●	●	●	●	●	●	●
Without battery operation	●	●	—	● / ○	—	● / ○	●
intelligent slot	●	●	—	—	—	—	—
2nd LCD control panel (Optional)	—	—	●	●	—	—	●
Detachable LCD control panel	—	—	—	—	—	—	●
EMS port (External relay control)	●	● / ○	—	—	—	—	—
Emergency power off	●	● / ○	—	—	—	—	—
Battery thermal sensor	●	● / ○	—	—	—	—	—
Dry contact port	●	● / ○	●	●	—	—	●
USB/ RS232	●	●	●	●	●	●	●
Reserved comm. port CAN/ RS485	●	—	—	—	—	—	●
Application SW	SolarPower			WatchPower			

note: ● Standard ○ Option — None