

Single-phase Hybrid Inverter



Introduce

Solar energy storage inverter features an industrial design with a modern aesthetic, easy to install and operate. It supports pure sine wave output and MPPT intelligent management for stable and reliable power supply, ideal for home energy storage, emergency power backup and household electrical appliances.



Supports up to 12 units in parallel operation, meeting the demands of small-scale industrial and commercial energy storage applications.



Compatible with diesel generators for battery charging and load power supply.



Grid-to-off-grid switching time is less than 10 ms, ensuring uninterrupted power supply to critical equipment.



High system efficiency with intelligent air-cooling topology for long overall service life.



Allows configuration of up to 6 battery charging time periods and cut-off thresholds.



Integrated communication interfaces including RS485, CAN, and WiFi (via App/PC cloud monitoring).

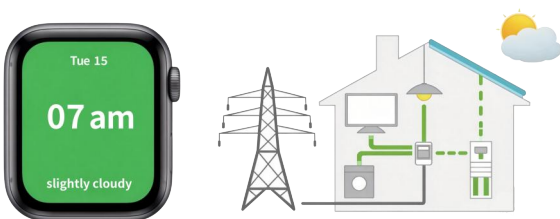
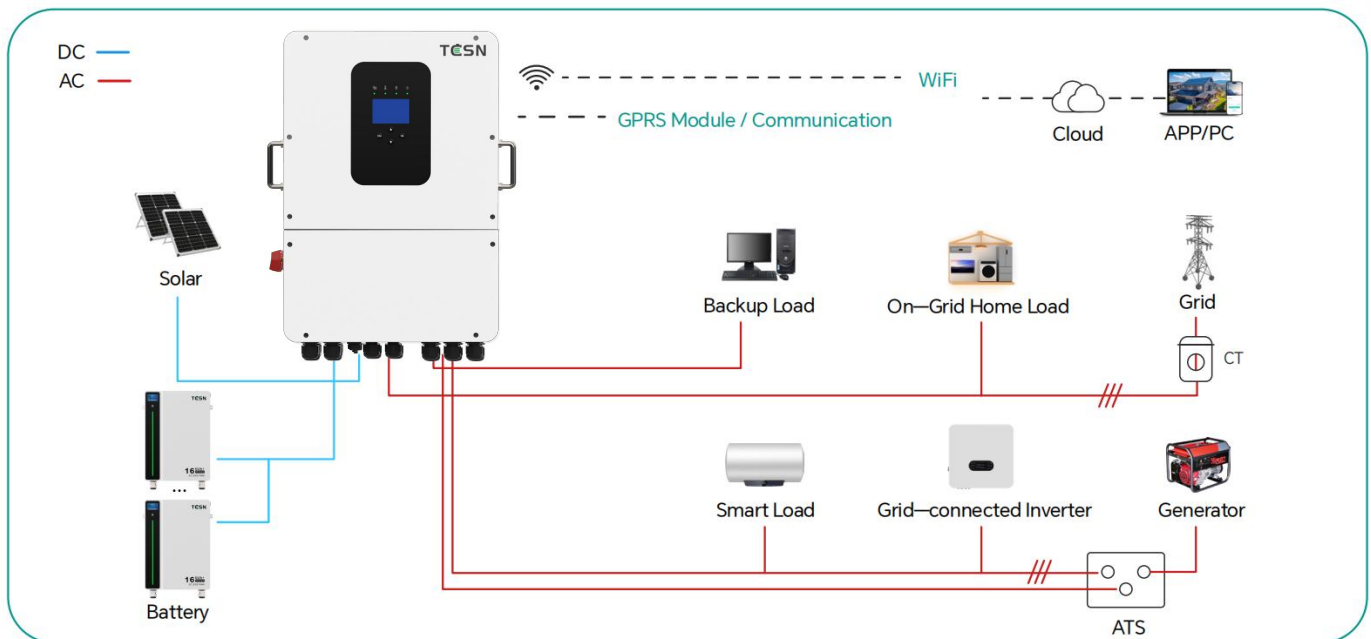


Supports maximum power charging and discharging modes.

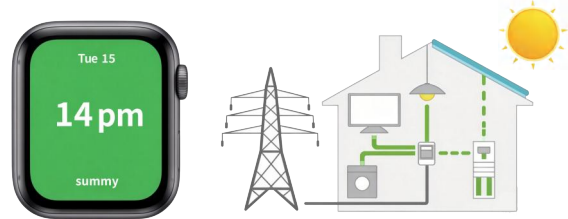


Smart load management, CT sensing, ATS support, and optional GPRS module for remote con-n activity.

System Management Diagram



Solar energy is best used to power household appliances, with any excess energy stored in the battery.



During the day, when the battery is fully charged, any surplus solar energy can be sold to the public grid.



At night, the energy stored in the battery powers household appliances.



When the stored energy in the battery is depleted, the public grid supplies power to household appliances.

Specifications

Model	TCGPI-P1M12K-EU
Battery Input Data	
Battery Type	Lead-acid or Li-ion
Battery Voltage Range(V)	40~60
Max. Charging Current(A)	250
Max. Discharging Current(A)	250
External Temperature Sensor	yes
PV String Input Data	
Max DC input Power(W)	15600
PV Input Voltage(V)	370V(125V-500V)
MPPT Range(V)	150-425V
Full Load DC Voltage Range	300~425V
Start-up Voltage(V)	125V
PV input Current(A)	26+26+26
Max.PV Isc(A)	34+34+34
No. of MPPT Trackers	3
Number of Strings per MPPT Tracker	1+1+1
AC input/Output Data	
Rated AC Output and UPS Power(W)	12000
Max. AC Output Power(VA)	13200
Peak Power(off grid)	2 times of rated power, 10S
AC Input/output Rated Current(A)	54.6/52.2
Max. AC input/Output Current(A)	60/57.4
Max. Continuous AC Passthrough(A)	70
Power Factor	0.8 leading to 0.8 lagging
Output Frequency and Voltage	50/60Hz; 220/230Vac
Grid Type	Single Phase
Total Harmonic Distortion (THD)	<3% (of nominal power)
DC Current injection	<0.5% In
Efficiency	
Max. Efficiency	97.60%
Euro Efficiency	96.50%
MPPT Efficiency	>99%
Certifications and Standards	
Grid Regulation	EMC/SAFETY REGULATION
EMC/Safety Regulation	EN61000-6-2/-4;EN62109-1,EN62109-2
General Data	
Operating Temperature Range(°C)	-40~60°C,>55°C Derating
Cooling	Smart cooling
Noise(dB)	<50 dB
Communication with BMS	RS485; CAN
Monitoring mode	WiFi+APP
Protection Degree	IP65
Installation Style	Wall-mounted
Weight(kg)	36
Cabinet size(mm)(WxHxD) (Excluding connectors and brackets)	430x629.9x256