

i-Sol

True Hybrid Solar PCU

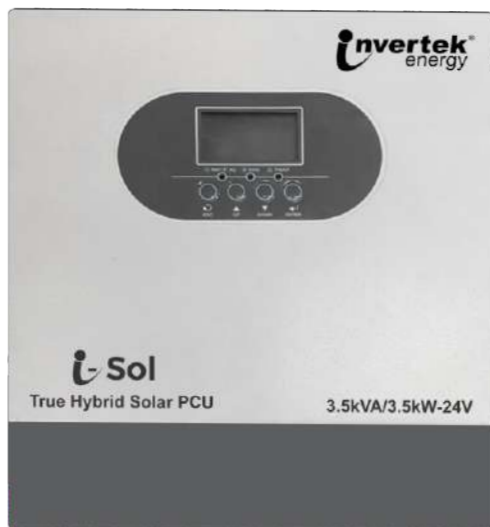


**3^{In}
ONE**

Off-Grid | On-Grid | Hybrid
3.5kVA/3.5kW-24V

Model No : IE3.5KVA-24V
Rated Power : 3500VA/3500W
DC Input : 24VDC, 157A
AC Input : 230VAC, 50/60HZ, 1PH

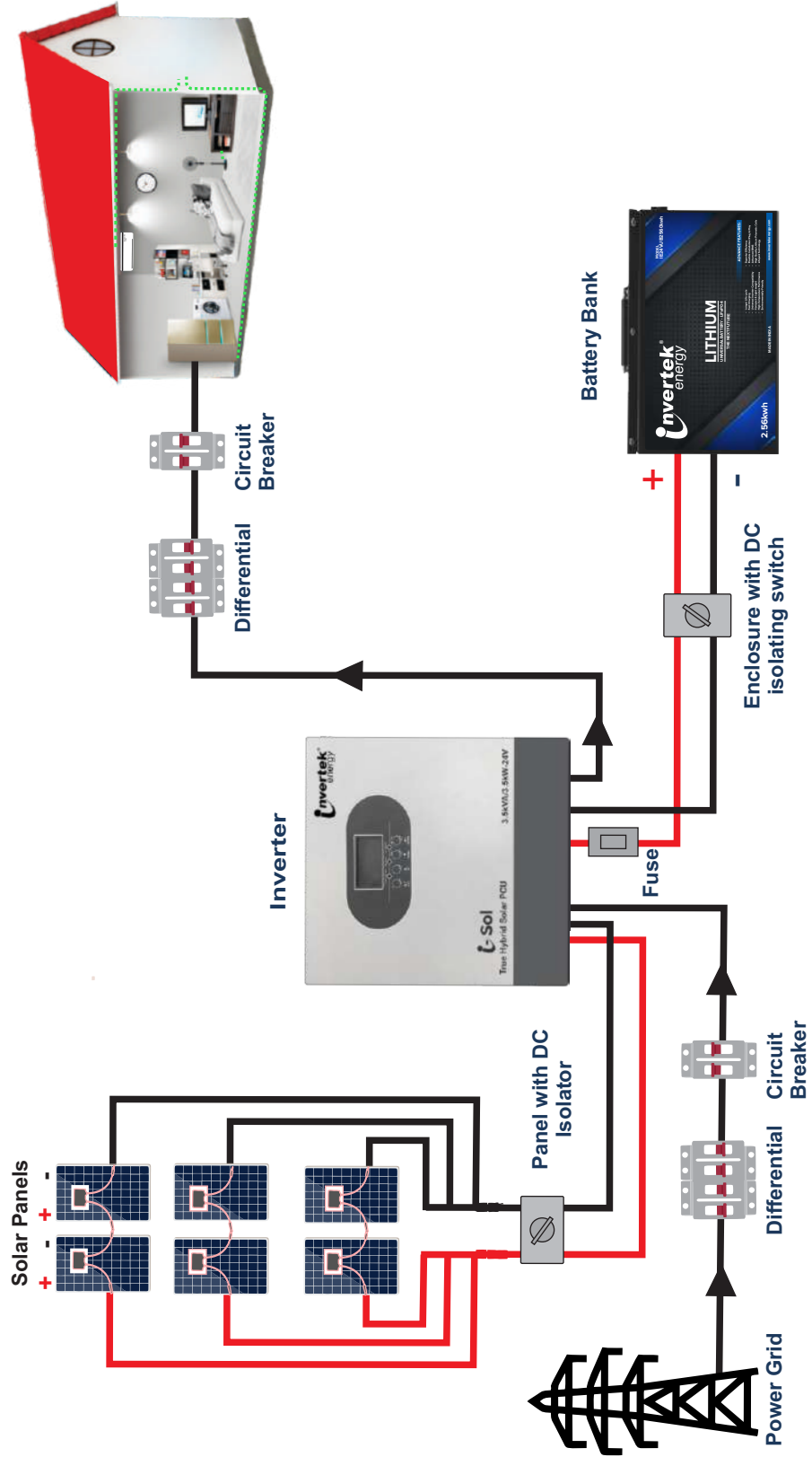
Built-in MPPT Controller
3-in-1: Off-Grid | On-Grid | Hybrid
Detachable Dust Cover
Multi-Mode Output: SBG | SGB | GSB
BIS Certified
Wi-Fi Remote Monitoring (Optional)



Features

- Self-consumption and Feed-in to the Grid
- Programmable multiple operation modes : Grid-tie, Off-Grid and Grid-tie with backup.
- Back-flow prevention via external CT sensor and grid connection function.
- Parallel operation up to 12 units in 1 phase.
- Direct Plug Wi-Fi Dongle Supported.
- Output power factor 1.0
- High PV input voltage range 500Vdc Max.
- Built-in MPPT solar controller 100A.
- Wi-Fi remote monitoring optional.
- Detachable dust cover for harsh environment.
- User-adjustable charging current and voltage.
- Programmable supply priority for PV, Battery or Grid.
- Support multiple output priority: SBU / SUB / SUF / ZEC.
- EQ function to optimize battery performance and extend lifecycle.

Hybrid Inverter Diagram



SPECIFICATIONS

Line Mode Specifications

INVERTER MODEL	3.5KVA	6.2KVA
Input Voltage Waveform	Sinusoidal (utility or generator)	
Nominal Input Voltage	230Vac	
Low Loss Voltage	170Vac±7V (UPS) 90Vac±7V (Appliances)	
Low Loss Return Voltage	180Vac±7V (UPS); 100Vac±7V (Appliances)	
High Loss Voltage	280Vac±7V	
High Loss Return Voltage	270Vac±7V	
Max AC Input Voltage	300Vac	
Nominal Input Frequency	50Hz / 60Hz (Auto detection)	
Low Loss Frequency	40±1Hz	
Low Loss Return Frequency	42±1Hz	
High Loss Frequency	65±1Hz	
High Loss Return Frequency	63±1Hz	
Output Short Circuit Protection	Battery mode: Electronic Circuits	
Efficiency (Line Mode)	>95% (Rated R load, battery full charged)	
Transfer Time	10ms typical (UPS); 20ms typical (Appliances)	
Output power derating: When AC input voltage drops to 95V or 170V depending on models, the output power will be derated.		

Inverter Mode Specificati

INVERTER MODEL	3.5KVA	6.2KVA
Rated Output Power	3.5KVA 3.5KW	6.2KVA 6.2KW
Output Voltage Waveform	Pure Sine Wave	
Output Voltage Regulation	230Vac±5%	
Output Frequency	50Hz or 60Hz	
Peak Efficiency	94%	
Surge Capacity	2* rated power for 5 seconds	
Nominal DC Input Voltage	24Vdc	48Vdc
Cold Start Voltage	23.0Vdc	46.0Vdc
Low DC Warning Voltage Just for AGM and Flooded @ load < 20% @ 20% ≤ load < 50% @ load ≥ 50%	22.0Vdc 21.4Vdc 20.2Vdc	44.0Vdc 42.8Vdc 40.4Vdc
Low DC Warning Return Voltage Just for AGM and Flooded @ load < 20% @ 20% ≤ load < 50% @ load ≥ 50%	23.0Vdc 22.4Vdc 21.2Vdc	46.0Vdc 44.8Vdc 42.4Vdc
Low DC Cut-off Voltage Just for AGM and Flooded @ load < 20% @ 20% ≤ load < 50% @ load ≥ 50%	21.0Vdc 20.4Vdc 19.2Vdc	42.0Vdc 40.8Vdc 38.4Vdc

Charge Mode Specifications

Utility Charging Mode		
INVERTER MODEL	3.5KVA	6.2KVA
Max Charging Current (PV+AC) (@ VI/P=230Vac)	100Amp	120Amp
Max Charging Current (AC)(@ VI/P=230Vac)	80Amp	
Bulk Charging Voltage	Flooded Battery	29.2Vdc
	AGM / Gel Battery	28.2Vdc
Floating Charging Voltage	27Vdc	54Vdc
Overcharge Protection	32Vdc	63Vdc
Charging Algorithm	3-Step	
Charging Curve	<p>The graph plots Battery Voltage (per cell) on the left y-axis and Charging Current (%) on the right y-axis against Time on the x-axis. The voltage curve starts at 2.25Vdc, rises linearly to 2.43Vdc (labeled as 2.35Vdc), remains constant during the Absorption phase, and then gradually declines to a Maintenance level. The current curve starts at 100% and decreases as the voltage rises, then remains constant during the Absorption phase, and finally drops to a low level during the Maintenance phase. The graph is divided into three stages: Bulk (Constant Current), Absorption (Constant Voltage), and Maintenance (Floating). A time interval T0 is marked, and a note indicates T2 = 10 * T0, minimum 10mins, maximum 8hrs.</p>	
Solar Input		
INVERTER MODEL	3.5KVA	6.2KVA
Rated Power	4000W	6500W
Max. PV Array Open Circuit Voltage	500Vdc	
PV Array MPPT Voltage Range	60Vdc~500Vdc	
Max. Input Current	15A	27A
Max. Charging Current(PV)	100A	120A

General Specifications

INVERTER MODEL	3.5KVA	6.2KVA
Operating Temperature Range	-10°C to 55°C	
Storage temperature	-15°C~ 60°C	
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Dimension(D*W*H), mm	358x295x105	438x295x105
Net Weight, kg	6.2	8.7

GLOBAL PRESENCE



Manufactured By:
INVERTEK ENERGY SOLUTIONS PVT. LTD.

Factory Address:

Plot No. 445 Kh. No. 9/20,10/16, Laxmi Vihar, Najafgarh,
Near DTC Bus Depot Dichaon Kalan, UER2 Expressway,
South West Delhi-110043 (INDIA)

www.invertekenergy.com, info@invertekenergy.com

Customer Care No.: +91 9311369797

Dubai Address

Office no. 34, 26th Floor, Al Moosa Tower 2, Sheikh Zayad Road, Dubai, **UAE**

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